OCS Study
BOEM 2022-077

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Volume 3: The Secret of the Sea: Offshore Oil and Gas Revenue Collection, Valuation, and Royalty Relief, 1973–2010

US Department of the Interior
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Authors

Tyler Priest
Joel Hewett
Diane E. Austin
Morgan Lundy

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DISCLAIMER

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REPORT AVAILABILITY

To download a PDF file of this report, go to the US Department of the Interior, Bureau of Ocean Energy Management Data and Information Systems webpage (http://www.boem.gov/Environmental-Studies-EnvData/), click on the link for the Environmental Studies Program Information System (ESPIS), and search on 2022-077. The report is also available at the National Technical Reports Library at https://ntrl.ntis.gov/NTRL/.

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ABOUT THE COVER

President Barack Obama flies along the Louisiana shoreline, aboard Marine One on May 28, 2010, after visiting residents in Grand Isle affected by the *Deepwater Horizon* blowout and subsequent oil spill. Source: official White House photo by Chuck Kennedy via Flickr. Accessed April 27, 2017.

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List of Abbreviations and Acronyms

Short form	Long form
AEOT	Average evaluation of the tract
AFS	Auditing and Financial System database
bbl	Barrel of oil
bbl/d	Barrel of oil per day
bcf	Billion cubic feet of gas
BLM	Bureau of Land Management, US Department of the Interior
bnboe	Billion barrel of oil equivalent
boe	Barrel of oil equivalent
BOEM	Bureau of Ocean Energy Management, US Department of the Interior
BRASS	Bonus and Rental Accounting Support System database
BTU	British thermal unit
C-SPAN	Cable-Satellite Public Affairs Network
CBO	US Congressional Budget Office
CEIP	Coastal Energy Impact Program
CEQ	Council on Environmental Quality, US Executive Office of the President
CRS	US Congressional Research Service
CZMA	Coastal Zone Management Act of 1972
CZMP	Coastal Zone Management Plan
(D)	Democratic Party
DC	District of Columbia
DEIS	Draft Environmental Impact Statement
DMROV	Discounted Mean Range of Values
DOI	US Department of the Interior
DOJ	US Department of Justice
DWRRA	Deep Water Royalty Relief Act of 1995
E&P	Exploration and production
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EIS	Environmental Impact Statement
EPA	US Environmental Protection Agency
EPCA	Energy Policy and Conservation Act of 1975
FEA	US Federal Energy Administration
FEIS	Final Environmental Impact Statement
FMP	Facility measurement point
FOGRMA	Federal Oil and Gas Royalty Management Act of 1982
G&G	Geological and geophysical
GAEOT	Geometric average evaluation of the tract
GAO	US GAO (1921–2004) US Government Accountability Office (2004–present)
IPAA	Independent Petroleum Association of America
MAR	Maximum attainable rate
MARAD	US Maritime Administration
MC	Mississippi Canyon (U.S. Gulf of Mexico)
MER	Maximum efficient rate
MIT	Massachusetts Institute of Technology
mmbbl	Million barrels of oil
mmboe	Million barrels of oil equivalent
MMS	Minerals Management Service, US Department of the Interior
MPR	Maximum production rate
MREDA	Marine Resources and Engineering Development Act of 1966
MROV	Mean range of values
NAS	National Academy of Sciences
NEPA	National Environmental Policy Act of 1969
NOAA	National Oceanic and Atmospheric Administration, US Department of Commerce

Short form	Long form
NRC	National Research Council
NRDC	Natural Resources Defense Council
NYMEX	New York Mercantile Exchange
OCS	Outer Continental Shelf
OCSLA	Outer Continental Shelf Lands Act of 1953
OCSLAA	Outer Continental Shelf Lands Act Amendments of 1978
OIG	Office of the Inspector General
OMB	Office of Management and Budget, US Executive Office of the President
ONRR	Office of Natural Resources Revenue, US Department of the Interior
OPEC	Organization of Petroleum Exporting Countries
OTA	US Office of Technology Assessment
PAAS	Production Accounting and Auditing System database
PAY-GO	Pay-as-you-go
PRESTO	Probabilistic Resources ESTimates Offshore database
(R)	Republican Party
RAS	Royalty Accounting System database
RIK	Royalty-in-kind
RMAC	Royalty Management Advisory Committee
RSV	Royalty Suspension Volume
SLA	Submerged Lands Act of 1953
SP	South Pass (US Gulf of Mexico)
SPR	US Strategic Petroleum Reserve
tcf	Trillion cubic feet of gas
TLP	Tension-leg platform
TLWP	Tension-leg well platform
UERR	Undiscovered economically recoverable resources
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
US	United States of America
USGS	US Geological Survey, US Department of the Interior
UTRR	Undiscovered technically recoverable reserves
VLCC	Very large crude carrier
WTI	West Texas Intermediate

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The University of Houston (UH) and University of Arizona (UA) teams extend special thanks to the men and women who have worked in the Gulf of Mexico (Gulf) offshore oil and gas industry. During their careers, they performed difficult and sometimes dangerous jobs, under demanding time pressures and adverse environmental conditions, to develop oil and gas resources from federal lands to supply the nation. This study is especially indebted to the dozens of individuals who shared their time, knowledge, and perspectives with the research teams.

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List of Authors

Volume	Authors and affiliation	Volume title
Volume 1	Joel Hewett University of Houston	History of the Gulf of Mexico offshore oil and gas industry during the deepwater era: Volume I: the shape of these monsters: from fixed to floating offshore oil and gas production, 1976–2006.
Volume 2	Tyler Priest University of Houston	History of the Gulf of Mexico offshore oil and gas industry during the deepwater era: Volume II: Shell Oil's deepwater mission to Mars

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Volume 3	Joel Hewett University of Houston	History of the Gulf of Mexico offshore oil and gas industry during the deepwater era: Volume III: the secret of the sea: offshore oil and gas revenue collection, valuation, and royalty relief, 1973–2010
Volume 4	Morgan Lundy University of Arizona Diane E. Austin University of Arizona Editors	History of the Gulf of Mexico offshore oil and gas industry during the deepwater era: Volume IV: a guide to the interviews

Overview of This Four-Volume Study (History III)

Offshore oil is the subject of one of the most important energy stories of the last 75 years, and the move into deepwater (usually defined as 1,300 feet or 400 meters) is its crowning achievement. From negligible production after World War II, offshore oil has grown to account for 30 percent of total global conventional oil production. Deepwater makes up only seven percent of the total, but this percentage is growing (U.S. Energy Information Administration, 2016). By 2006, the industry had discovered 60 billion barrels (bbl) of oil in deepwater, production from which is still coming online (Williams, 2006). During 2007–2012, 50 percent of the 170 billion bbl of global conventional oil (and natural gas equivalent) discovered by the industry was in deepwater. Many of those discoveries are yet to be developed (Nelson et al., 2013). From 6 million barrels of oil per day (b/d) in 2017, oil analysts project deepwater output to grow as high as 14 million b/d by 2030 (Seeking Alpha, 2017). The International Energy Agency (IEA) estimates that nearly half of the 2.7 trillion bbl of remaining recoverable reserves are offshore, 25 percent of which—or 340 billion bbl—will be found in deepwater (IEA, 2013). Rather than merely stemming production declines, deepwater oil has provided a substantial addition to global supply, an increase that few other sources in recent years have matched (Miller, 2014).

At current (April 2017) oil prices ($50/barrel), the present value of deepwater oil discovered in 2007–2012 is worth more than $4 trillion. Despite the sobering upfront costs of projects extending into 10,000 feet of water, the prolific per-well flow rates of 10,000–20,000 b/d (compared to 1,000–2,000 b/d for wells onshore or on the continental shelf) in many reservoirs often make them the most profitable investments for a large oil company. Royal Dutch Shell's Mars field, one of the largest in the Gulf of Mexico (Gulf) , started producing in 1996 and will earn an estimated average annual net cash flow (gross revenues minus costs, royalties, and taxes) of $1.5 billion each year until 2027.

Such economic value was by no means assured when companies began exploring in unprecedented water depths. Why did they do so? Journalists and scholars often explain the deepwater push as a response to one or more of the following: "peak oil" supply constraints, the locking up of all the "easy" oil overseas by National Oil Companies, the Deep Water Royalty Relief Act signed by President Bill Clinton in 1995, rising oil prices in the 2000s, or the reckless charge of BP into unprecedented water depths beginning in the late 1990s (Bower 2009: 18-22; Jacobsen 2011: 38-40; Klare 2012: 44-49; Lustgarten 2012: 168-172).

These interpretations all miss the mark. Deepwater oil is the result of a longer process of historical development, going back at least to the early 1970s, when leading offshore companies began to peer beyond the edge of the continental shelf in search of new reserves. The industry's move off the shelf in the Gulf emerged from an even longer history of offshore oil exploration and development in that region that had its start in the 1930s. Although technological change and innovation in the offshore industry often took great leaps forward, it usually proceeded gradually. Each new phase built on the previous phase. In a constant search for new reserves to replace declining onshore production, explorationists and engineers adapted prevailing concepts and techniques to new demands and made incremental improvements that nudged offshore operations into deeper waters. Making sense of deepwater requires an understanding of the historical evolution of the industry.

Still, the "deepwater era" (1974–present) is different in several ways from what we might call the "formative era" (1938–1973) of the offshore sector. Leasing policies and exploration strategies evolved to meet new geologic, economic, and technological challenges. Fabrication and installation practices had to be modified to address new water depths, metocean conditions, and the increasing scale of deepwater projects. Over time, more of the infrastructure installed in the Gulf was built overseas, marking the internationalization of the Gulf offshore business. The nature of work changed with increasing automation on both platforms and drilling rigs, and with the geographic dispersal of workers. Finally, the oil price collapse of the mid-1980s forced the radical restructuring of the offshore business and uniquely affected communities all along the Gulf Coast and every in aspect of the industry. New deepwater discoveries

beginning in the mid-1990s revived the business and set off a new rush for leasing and development, but in a way that differed markedly from earlier periods of expansion.

The Gulf remains the primary laboratory for offshore technological innovation and regulatory practices worldwide. As offshore oil assumes a high profile in national development strategies around the globe, any effort to analyze the political, social, and economic aspects of offshore exploration and development must recognize and use the Gulf as a historical precedent or basis of comparison. This study, History III, of the history of the deepwater era in the Gulf both builds on histories of the earlier period and provides the first in-depth historical investigation of important new trends over the last thirty years. It will be valuable to those who are responsible for planning and managing the development of offshore oil and gas reserves and for more broadly understanding the impacts of such development on the Gulf Coast region.

Background of History III

The cooperative agreement for this study was awarded on June 1, 2008. Researchers from the University of Houston C.T. Bauer College of Business (UH) and the University of Arizona Bureau of Applied Research in Anthropology (BARA) organized and carried out the study. Principal investigator Dr. Tyler Priest led the research and writing for the UH team. UH History Ph.D. student Jason Theriot (who earned his degree in 2011), assisted in managing the study, conducting oral histories, and drafting preliminary reports. Consultant Joel Hewett, who had served with Dr. Priest as an analyst on the President's National Oil Spill Commission (2010–2011), contributed intensive research, edited oral histories and volumes, and authored two of the three final technical reports. Other UH History graduate students, Juan Galván Rodríguez and Natalie Schuster, assisted with research and oral history edits. John Holt and Pedro Paulo Gedda provided research and insights on the North Sea and Brazil, respectively, that helped place the deepwater Gulf in global and comparative context. Anthropologists Dr. Diane E. Austin and Dr. Thomas McGuire led the BARA team in carrying out fieldwork and oral histories in Louisiana and Mississippi.

Two previous history studies, funded by the Minerals Management Service (now the Bureau of Ocean Energy Management), laid the foundation for this research study.

- History I: Assessment of historical, social, and economic impacts of OCS development on Gulf Coast communities (MMS 2001-026, MMS 2001-027)
- History II: History of the offshore oil and gas industry in Southern Louisiana (MMS 2004-049)

These studies produced substantial documents, and they generated more data than could be analyzed in the study period. History II, the second study, for example, produced audio recordings and transcripts of more than 450 oral history interviews by the time of its conclusion. History I, the first study, looked across the Gulf with comparisons among east Texas, south Louisiana, and south Alabama, but provided only a general overview of historical patterns and periods. History II provided a deeper look, but was focused on southern Louisiana and the period from the 1930s through the 1960s, although a significant amount of data was also collected on later decades, as well.

History III, the current four-volume study, broadens the inquiry both spatially and temporally by mining the rich oral histories and documents collected in the previous study and expanding the oral history interviews into Mississippi and to cover recent decades. It rounds out and deepens research on the 1970s–1990s, when exploration and development of oil and gas continually moved into deeper waters (now routinely exploring in 10,000 feet and producing in 5,000 feet) and into new offshore environments (from the Gulf and the North Sea to Brazil, West Africa, and elsewhere).

In 1974 in the Gulf, oil companies acquired the first leases in 1,000 feet of water, extending from the upper continental slope to the abyssal plain. Reaching the symbolic water depth of 1,000 feet marked the beginning of what we might call the "deepwater era." To operate in these depths and beyond, the industry had to develop fundamentally different development concepts and commercial strategies.

The ground for History II was also prepared by several other MMS and BOEM studies.

- MMS 2002-071, Effect of the oil and gas industry on commuting and migration patterns in Louisiana, 1960–1990, establishes some of the basic effects over time of the offshore petroleum industry on the communities and region within which it operates.
- MMS 2002-022, Social and economic impacts of OCS activities on individuals and families, Vol. I, highlights differences in offshore oil's effects on various Gulf of Mexico region subareas.
- Three study reports provide essential data and preliminary historical analysis of the deepwater era: Labor migration and the deepwater oil industry (MMS 2004-057), The economic impact in the US of deepwater projects: a survey of five projects (MMS 2004-041), and Deepwater Gulf of Mexico 2004: America's expanding frontier (MMS 2004-021).
- BOEM 2014-609 through BOEM 2014-612, The study report Gulf Coast communities and the fabrication and shipbuilding industry: a comparative community study, volumes I through IV, offer important information on demographic and labor market shifts in recent years relating to two key onshore support sectors.
- Two volumes–BOEM 2014-617, Offshore oil and Deepwater Horizon: social effects on Gulf Coast communities, vol. I: methodology, timeline, context, and communities, and BOEM 2014-618, volume II: key economic sectors, NGOs, and ethnic groups–were the culmination of emergency fieldwork carried out by anthropologists from BARA in the afternath of the 2010 *Deepwater Horizon* blowout and oil spill. The findings from this study are an important adjunct to History III.

Objectives and Methods

History III was launched with objectives similar to those of the previous history studies:

- to document the strategies and objectives of the companies involved
- to ascertain the cumulative effects of offshore development on the coastal landscape, and community and family relationships
- to describe how technology and managerial innovations enabled the development of reservoirs in deeper and deeper water depths
- to study how the policies and regulations of the government agencies with responsibilities in state and the federal jurisdictions were developed
- to explore how these aspects of the story were related and effected each other
- to make the data collected and the findings from the study widely available to the public and easily accessible to those who have worked in the industry and live in the region

There were three primary tasks for the History III project:

1) further process and analyze research data collected in the Histories I and II projects;

2) conduct, transcribe, process, and archive targeted interviews on the deepwater era to fill historical gaps; and

3) extend historical analysis from the formative era.

The emphasis of History II was on gathering and archiving the stories of the people, mostly from Louisiana during the formative era, who participated in the industry. The History III study aimed to continue gathering stories and information, but concentrated on industry-involved people who were from outside Louisiana, and on key individuals who could speak about the deepwater era. Greater emphasis was placed on providing historical analysis of the research data collected in Histories I and II and in other MMS-funded studies and on providing historical interpretations of the deepwater era.

The research for this study was wide-ranging. It first involved processing and analyzing abundant materials collected in the Histories I and II projects and consulting other government studies and scholarship on the deepwater offshore oil industry. Researchers undertook a comparative review of historical literature on other regions of offshore development around the world, especially the North Sea,

Gulf of Guinea, and offshore Brazil. New research was collected in government archives, trade journals, technical papers, newspapers, periodicals, and videos. The study participants engaged in extensive informal discussions and correspondence with industry veterans and experts. They also conducted 253 formal oral history interviews; 48 by the UH team and 205 by the UA BARA team. This brings the total number of transcribed oral histories collected in History II and History III to 739. All are coded, compiled in a database, and include biographical and/or ethnographic prefaces. The audio and transcripts will be provided to BOEM and archived at UH, with copies deposited with six other archives and universities in Louisiana (see list below).

As they had done in History II, the UH team focused on the corporate and governmental side of the history, interviewing managers, entrepreneurs, engineers, scientists, and government officials. They targeted individuals involved in deepwater production (especially tension-leg platforms, floating platforms, and subsea wellhead systems), along with government officials active during changes in the federal leasing and regulatory regime. The BARA team gathered community-focused oral histories, concentrating on those in Alabama, Mississippi, and Lafayette, Louisiana, which had not been the subject of previous studies. They interviewed local entrepreneurs, workers, family members, community leaders, and others who can share information about how this industry developed and evolved. Locating this history within the context of the specific social, political, economic, and environmental changes occurring during the era, the BARA team focused its analysis on changes in the offshore petroleum workforce, the impacts of the evolving industry on local landscapes, and community-level responses to the industry.

Technical Reports

This study produced four technical reports, each published in a separate volume.

I) The shape of these monsters: from fixed to floating offshore oil and gas production, 1976–2006

II) Shell Oil's deepwater mission to Mars

III) The secret of the sea: offshore oil and gas revenue collection, valuation, and royalty relief, 1973–2010

IV) Guide to the interviews

Volume I, The shape of these monsters, traces how the semi-submersible platform design went from being the deepwater development concept of choice during the mid-1980s to being a pariah among Gulf operators during the boom years of the 1990s. The November 1988 start-up of the world's first floating offshore oil and gas production platform in deepwater, Placid Oil's *Green Canyon 29* semi-submersible, seemed to herald a "new era" in petroleum development in the US Gulf of Mexico. Instead, the project folded in just 18 months and was decommissioned over 1990 at a huge loss. Thirteen years would pass before a successful semi-submersible production facility would return to the deepwater Gulf. By resurrecting the all-but-forgotten story of the Green Canyon 29 debacle, and by re-assessing the hopes expressed by many industry soothsayers during the 1980s that the semi-submersible production vessel was the technological marvel of the future, Volume I comments on the ways in which non-technical, un-economic factors—like the specter of failure—can haunt the minds of firms and managers enough to influence technological outcomes. Specifically, the dominance across the 1990s of the tension-leg platform (TLP) in deepwater is shown to be as much a consequence of the dramatic failure of Placid's Green Canyon 29 semi-submersible as the natural result of the tension-leg platform's ostensibly "superior" technology.

Volume II, "Shell Oil's deepwater mission to Mars," is a case study of Shell Oil's greater Mars project in the 3,000-foot waters of the Mississippi Canyon. Mars was the second deepwater TLP installed in the Gulf. The volume provides a detailed, step-by-step historical reconstruction of the greater Mars project, from the acquisition of the original leases in 1985 to the installation of the Mars B, or *Olympus*, TLP in 2014. The report draws on oral history interviews, technical papers, and Shell publications, both internal and external, to provide a unique perspective on the unprecedented challenges to managing a frontier

project of this magnitude and duration. The aim is an in-depth understanding of the interrelated investment, operational, and technical decision-making that went into the development of one of the largest and most valuable assets in the Gulf. A lifecycle narrative of a deepwater oil project like Mars demonstrates how a technically and commercially successful organization learns and innovates in one of the most challenging physical and commercial environments in the world. A close examination of such a project through time provides insight into the evolution of corporate exploration and production strategy and the development of technical competencies.

Volume III, The secret of the sea, lays out a comprehensive history of the federal offshore oil and gas program in the US since the late 1960s. Focusing on the ways in which the desire to boost federal revenue receipts resulted in major policy changes as the industry moved into the deepwater Gulf, the report details how disagreements over the seemingly mundane particulars of Outer Continental Shelf revenue policy served as a proxy for wider partisan wars over the wisdom of government administration of publicly-owned resources in the "fair" or open marketplace. The oil shocks of the 1970s, combined with the ever-improving ability of offshore firms to drill and produce petroleum deposits in water depths beyond 1,000 feet, only reaffirmed the program's importance to the country's security and well-being during the Nixon, Ford, and Carter administrations. However, the economic imperative to expand deepwater drilling soon collided with the desire of many coastal states in the 1980s to see their shores and coastal zones adequately protected from the threat of offshore oil spills and onshore industrial development alike. Part and parcel of achieving that aim was the demand from the coastal states that they receive an ample cut from the sale of the nation's offshore resources—funds that would ultimately tally in the many hundreds of billions of dollars.

Volume IV, Guide to the interviews, provides summaries of oral histories conducted between 2007 and 2015 with men and women who lived and/or worked in southern Louisiana, Texas, or Mississippi in the decades that mark the deepwater era of the offshore petroleum industry in the Gulf (from the 1970s to the end of the 20th century). These summaries have been combined with interviews conducted in 2001–2006 for the History II study, MMS 2004-049, History of the offshore oil and gas industry in Southern. The summaries are arranged in alphabetical order by last name of the interviewee. Section 4.1 of Volume IV lists the interviews conducted for History III, and section 4.5 lists the interviews conducted for both History II and History III.

Study Depositories

The materials produced from History III, "History of the Gulf of Mexico Offshore Oil and Gas Industry during the Deepwater Era," are archived at the locations listed below. Each depository has the four volumes produced in the study, digital copies of all audio files and transcripts, and digital copies of all consent forms.

University of Houston Houston History Archives Repository Suite 261, Special Collections Department MD Anderson Library-2000 Houston, TX 77204-2000 http://archon.lib.uh.edu/index.php?p=collections/controlcard&id=231	Nicholls State University Allen J. Ellender Archives Ellender Memorial Library PO Box 2028 Thibodaux, LA 70310 http://www.nicholls.edu/library
University of Louisiana Lafayette Special Collections and Archives Edith Garland Dupré Library PO Box 40199 Lafayette, LA 70504 http://library.louisiana.edu/collections	Louisiana State University Center for Energy Studies Energy, Coast and Environment Building Nicholson Drive Extension Baton Rouge, Louisiana 70803 http://www.enrg.lsu.edu/
Morgan City Archives 501 Federal Ave. Morgan City, LA 70380	South Lafourche Library 16241 East Main St. Cut Off, LA 70345 www.lafourche.org

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Chapter 1. Introduction: The President and the Shark

VAUGHN: What kind of a shark did you say it was?

HOOPER: *Carcaradon carcharias*. [It's] a Great White.

VAUGHN: Well, I'm not going to commit economic suicide [and close the town's beaches] on that flimsy evidence. We depend on the summer people for our lives, and if our beaches are closed, then we're all finished.

BRODY: We have got to close the beaches. We have got to get someone to kill the shark, we need non-corrosive mesh netting, we need scientific support...

VAUGHN:I don't think either of you is familiar with our problems...

HOOPER: I'm familiar with the fact that you are going to ignore thisthing until it swims up and bites you on the ass!

—Benchley and Gottlieb, Screenplay for JAWS (1974)

1.1. Prologue: Yorktown Zapata

A bright and sunny day awaited Jimmy Carter as he awoke in southern Louisiana on the morning of July 22, 1977. The good weather held as the President traveled to the New Orleans international airport, walked across the tarmac and climbed aboard Marine One. Carter's schedule for that Friday morning called first for a short flight of eighty-eight miles, projected to last just a few minutes over an hour. It was a typical length for a transport lift aboard the presidential helicopter, but the aircraft's destination that morning was anything but routine. The President plus a small retinue of advisors and local officials were set to fly out over the open waters of the Gulf of Mexico (Gulf) towards the *Yorktown Zapata*: a massive, 214-by-228-foot-wide "semi-submersible" oil and natural gas drilling rig that sat floating atop the calm waves of the Gulf (Carter Presidential Papers 1977; Kobus, Meyers, and Bounds 1977, 169).

After the glossy-green and white Sikorsky VH-3D helicopter landed on the rig's under-sized helipad—the landing spot's 65-foot diameter nearly matched the footprint of the chopper's five blades—and its rotor wound down to a stop, Carter and his companions emerged to meet the rig crew. The visitors were greeted by William Flynn, CEO of the Zapata Corporation, and Zapata Off-Shore President Thomas McIntosh; together the two firms owned *Yorktown Zapata*. They gave Carter—a former engineer himself—a brief tour of the rig (see Figures 3.1. and 3.2.). Impressed with the upkeep and cleanliness of a workspace that, after all, houses heavy machinery, tanks of oil-based drilling "mud" and volatile hydrocarbons, all while braving the salty spray of the high seas, Carter asked of his hosts, is "it always this clean?" (US Congress 1980, 34; US President 1977b). "Yes, Sir!" came the response from a roughneck. "Every time the President of the United States comes aboard, it's exactly this clean!"

Figure 3.1. Marine One lands aboard the *Yorktown Zapata* offshore drilling rig at 9:13 a.m. on the morning of Friday, July 22, 1977.

The rig sat moored in 505 feet of water, roughly 88 miles southeast of New Orleans in South Pass Block 51. Courtesy: Jimmy Carter Presidential Library

Figure 3.2. Two Zapata Off-shore executives accompany President Jimmy Carter (*in red*) on an hour-long tour of the *Yorktown*.

To Carter's immediate left is Senator J. Bennett Johnston (D-LA). Pictured in the powder-blue suit is Edwin Edwards, Governor of Louisiana (D). Courtesy: Jimmy Carter Presidential Library.

Moored that morning in five hundred feet of water, *Yorktown Zapata* was a near-state-of-the-art offshore drilling vessel at its delivery just a few months earlier. Designed to operate in up to 3,000 feet of water and capable of sinking a well to 23,000 feet below that, the rig had cost an estimated $38 million—or approximately $150 million in current figures—to engineer, fabricate, and commission for seafaring work (*Maritime Reporter and Engineering News* 1974). Able to remain secured to one position in waves up to 75 feet high, the rig and its crew could continue to drill safely even in 40-foot-high seas, thanks to the eight massive 40,000-pound anchors that held it in place (National Academy of Sciences 1980, 21; Kobus, Meyers, and Bounds 1977, 167). President Carter marveled at the rig's advanced drilling equipment while on board, telling the press that he found the rig "extraordinary," and writing in his diary that night after returning to Washington that *Yorktown*'s "electronic and engineering features were very impressive" (Carter 2010, 72; US President 1977b). He even took a turn that morning at one of the 7,352-ton vessel's array of joysticks and digital control terminals, operating an underwater television

camera pointed at the subsea wellhead, monitoring the progress of steel drillpipe as it pierced the seafloor (*Maritime Reporter and Engineering News* 1977). "As an engineer," Carter remarked a week later, back in the comfort of the West Wing, "it made me proud of what our country's technological ability could produce" (US President 1977c). On that warm summer morning in July, *Yorktown Zapata* was forty-nine days into drilling an exploration well for Texaco inside a nine-mile-square section of the Gulf known as South Pass Block 51, searching for natural gas at 11,000 feet below the mudline (US DOI 2014a). Unfortunately for the oil and gas firm, the well would prove to be a dry hole (US Congress 1980, 34).

Nevertheless, the President's visit came at an opportune time for the Zapata Corporation and the offshore oil and gas industry in the US as a whole. Seven days before the trip to Louisiana, the US Senate approved sweeping amendments to the Outer Continental Shelf Lands Act of 1953 (OCSLA), the legislation that established the framework for the Outer Continental Shelf oil and gas leasing program, and had governed it since the earliest days of offshore drilling. The President's visit was well timed to promote passage of the Senate bill by the House of Representatives, although that would not occur until February of the following year (Foreman 1977). The swing through Louisiana and Georgia—Carter's first visit to his native South in the six months since his inauguration—was in small part intended to build support for the measure then before the lower chamber.

The White House also hoped to refute a number of (specious) claims that Carter planned to restrict oil and gas development off the eastern seaboard. As a candidate during the 1976 presidential campaign, former Georgia Governor Carter had indeed criticized the aggressive leasing policies put into place by President Richard Nixon and his successor, Gerald Ford. As President, however, Carter supported the offshore industry's continued—but careful—growth. Speaking that evening in Yazoo City, Mississippi, after the *Yorktown* tour, Carter stated before the press that he wanted to "continue with an aggressive exploration policy on the Atlantic seaboard, as has been the case in the Gulf [of Mexico] area" for many years—provided, of course, that such an approach would protect the environment and make use of the best drilling and safety technology available (Foreman 1977). Roger Mudd surmised during the *CBS Evening News* that night that the image of a Democratic President perched atop a working offshore oil rig was framed just so, in order to reassure environmentalists that a modern rig like *Yorktown Zapata* would not, in fact, cause a major oil spill off their coasts (Mudd 1977).

Presidential and congressional interest in pursuing an "aggressive" offshore oil and gas exploration policy dated back to at least 1971. The year before, Libya and a handful of other petroleum-producing nations began the process of nationalizing their oil and gas reserves, and the threat of a severe energy crisis soon loomed over the horizon (Gramling 1996, 92). The rise of what became known as "producer power" severely restricted the number of global petroleum provinces still accessible to a western-based international oil company like Texaco, Shell Oil, or Exxon (Pratt 2013, 72). With each passing year, US drillers were discovering fewer and fewer oil and gas fields at home. Where new domestic reserves were found, they were simply too small to meet the rising demand for petroleum products in the US. Even a spate of recent oil discoveries in the Gulf, one of the nation's most prolific oil and gas basins since the 1930s, could not fill the growing gap between supply and demand (Priest 2012, 241).

In response to the rising sense of dread that an energy shortage was imminent, President Nixon directed his Secretary of the Interior in June 1971 to expand the oil and gas industry's access to domestic offshore lands for exploration, and quickly. The "accelerated" leasing program that emerged was designed to conduct more frequent lease sale auctions for offshore tracts, open new areas of the Outer Continental Shelf (OCS) for leasing for the first time, and offer up more acreage for sale than ever before (US President 1971). As the country's reliance on foreign imports of crude oil surged in 1973 to reach 35% of its annual domestic oil consumption (US Federal Energy Administration 1974b, 2), Nixon pressed on the OCS accelerator again and commanded that the amount of offshore leasing be "tripled" by the beginning of 1979 (US President 1973). Because the previous year had witnessed a total of 970,000 acres offered for sale and about 826,000 of that total leased, Nixon's order in 1973 to offer 3 million acres amounted to an extraordinarily ambitious goal (US DOI 2014c).

Nine months later, on January 23, 1974, after an oil embargo on the US by the Arab members of the Organization of the Petroleum Exporting Countries (OPEC) had sent oil prices skyrocketing, Nixon proposed a further tripling of offshore acreage, this time raising his goal to 10 million offshore acres by 1975 (US President 1974). Confusion abounded inside the Department of the Interior (DOI) and even among White House staff as to whether Nixon meant his 10 million figure to refer to the number of acres to be offered for lease, or the amount of acreage actually leased by the oil and gas companies, and within what time frame (US Congress 1974a, 84). One DOI official later told government investigators that the administration had intended to lease 10 million acres annually all along, which would have required offering somewhere between 16 and 26 million offshore acres for new leasing during 1975 alone (US Comptroller General 1975a, 9). Regardless of which figure the President meant, Nixon's main message in 1974 was clear: he wanted the Atlantic and Pacific coasts open for (the oil) business.

The prospect of 10 million acres leased in a single year was a tantalizing one, as it would have represented nearly as much acreage as had been leased in the two decades since the Outer Continental Shelf program was launched in 1954. Nixon announced the new leasing goal during the same January 23, 1974 speech in which he unveiled the details behind Project Independence, his landmark energy strategy for ending the supply crunch. Organized to forecast domestic oil and gas supply levels well into the future and to generate recommendations for reducing national vulnerability to a cut in crude oil imports, the lengthy Project Independence report would not be completed until November 1974. The path it prescribed for achieving self-sufficiency in fossil fuels by 1980 leaned heavily on the development of as-yet-undiscovered hydrocarbon fields in the Arctic and Atlantic to boost domestic oil and gas production.[1] The plan acknowledged that "literally all" of its projected supply increases through 1985 would have to come from just two offshore areas (US Federal Energy Administration 1974a, 13, 29).

Members of Congress and the governors of several coastal states were outraged, however, when it came to light that the 10-million-acre goal had been set by DOI staff long before Project Independence was even in a draft stage. In other words, the accelerated acreage goal was not the outcome of a systematic review of the nation's energy options. A government oversight investigation later concluded that Nixon's acreage goal and the inner workings of the Project Independence team had "no relationship" at all to each other (US Comptroller General 1975a, 15). Under pressure from the Federal Energy Administration (FEA) to speed up leasing on offshore lands—and concerned that its OCS management responsibilities were about to be stripped away and placed under FEA control—the DOI had proposed offering 10 million acres for sale a year, each year, between 1975 and 1979 (ibid., 8). When presented with the idea on January 19, 1974, the director of the President's Executive Office of Management and Budget (OMB) and the head of the FEA found it favorable to the administration's aims, and took the proposal to Nixon just four days before he was scheduled to address the nation on the energy crisis (ibid., 10). The new leasing target was quickly written into the President's address.

Nixon's eagerness to approve a bombastic, sufficiently large-sounding 10-million-acre figure is in line with the motif of high drama that permeated Project Independence from its start. As energy expert and historian Jay Hakes has uncovered in the archives, early drafts of Nixon's November 1973 speech first announcing the initiative grew increasingly grandiose in their rhetoric as speechwriters wrote and re-wrote the address. References to the crash-engineering programs of the Apollo moon missions and the nuclear Manhattan Project soon cropped up in the text. Herbert Stein, chairman of the President's Council on Economic Advisors, saw to it that a note was passed to Nixon suggesting that the President harness the public's patriotism, swelling ahead of the 1976 bicentennial celebration, by naming the program Energy Independence. Nixon liked the slogan so much that he scribbled it into the final version of his speech, changing the name only slightly to *Project* Independence (Hakes 2013). The new name

[1] The Project Independence report was more sensible in its use of energy "independence" rhetoric than President Nixon was. "The figures did not lie," explain Pratt, Becker, and McClenahan (2002, 83). "Zero imports by...1985 was not an option."

deftly hinted at the interlocking meanings of energy independence. The phrase referred both to the US's independence from energy supply constraints, but also to the independence of US private enterprises to operate free of oppressive government regulation (Jacobs 2008, 199). Apposite to those dual aims, one of the project's charges was to push for deregulatory reforms in several spheres of the energy economy. Still, the unleashing of the oil and gas sector remained the Nixon administration's primary target. The Comptroller General of the United States (1975a, 4) later derided the hastily-decided choice to lease 10 million acres as the "most critical policy decision" to date in the history of the Outer Continental Shelf (OCS). It was an apt description.

Dramatic shifts in OCS policy like the setting of these "aggressive" leasing targets affect much more of the population than just those fortunate enough to have an oceanfront view. It is not immediately apparent from glancing at a map of the US, but the saltwater sea borders a full 23 of the country's 50 states. Submerged lands on the US OCS underlay parts of the Atlantic and Pacific Oceans, the Gulf, and the Arctic, and also bump up against the subsea land claims of Canada, Mexico, and the Russian Federation. The Exclusive Economic Zone (EEZ) of the US is spread out over more than 3.9 billion acres, an area nearly twice the size of the nation's dry land (National Research Council 1989, 1), and is deeper than 17,000 feet of water at its outer edge (Boué 2006, 13). The OCS has also played an increasingly important role in the national economy since Nixon's days. In 1970, shortly before the first oil crisis hit, 88.5 million Americans lived in a coastal shoreline county. By 2010, the US coastal population had increased by 39% to total 123.3 million, nearly 40% of the nation (US Department of Commerce 2013, 4). Today, five of the ten largest cities in the US are located on or adjacent to the coast, and the population density of the average coastal county today is about four times greater than the average county nationwide (ibid., 3). The Gulf Coast has grown so much as a tourist attraction since the 1970s that roughly five times as many of its residents are employed by tourism-related services than by the petroleum industry (Jacobsen 2011, 148).

It is important to note that across the spacious skies and shining seas of the US, the federal government stands as the single largest owner of hydrocarbon resources. Much of that natural resource endowment lies offshore. During 2013, facilities on the OCS produced more than 478 million barrels of oil (mmbbl), and 1.38 trillion cubic feet of natural gas (tcf) in total, representing 17.6% and 4.4% of domestic production for the year, respectively (US DOI 2014e; US Department of Energy 2014). Today, almost all OCS offshore production—96% of it in 2013—comes from the Gulf. Since the start of production from federal waters in 1953, approximately 51 billion barrels of oil equivalent (bnboe) has flowed from Gulf waters (US Department of Energy 2014). An estimated 15 billion boe has been discovered but not yet produced from the Gulf. Though forecasts of undiscovered or yet-to-find reserves in the offshore basin differ widely and often fluctuate, they all reflect a very bright outlook for the Gulf's petroleum future. Even when firms drilling in the offshore basin struggled to remain profitable during the late 1980s and early 1990s, the Gulf remained the "Old Faithful" of US petroleum regions. (See Volume II, "The Shape of These Monsters: from Fixed to Floating Offshore Oil and Gas Production in the Deepwater Gulf of Mexico, 1979–2005.") Though the Gulf has historically accounted for somewhere between 10% and 21% of total oil and gas production in the US since 1970, the boom in onshore production of tight oil and shale gas growing since 2003 has pushed that figure down of late (see Gold 2014). Of the offshore basin's remaining proved reserves (reservoirs already discovered and likely to be commercialized), about 90% are located in deepwater. This ratio is only projected to increase, as the industry is continuing to follow past practice by expanding into ever-deeper waters to pursue new geological plays many thousands of feet below the surface.

Technical measures of oil and gas volumes, like proved reserves, probable reserves, yet-to-find volumes, 1–P, 2–P, and 3–P reserves, and undiscovered technically recoverable reserves, are highly specific, subject to change, and often confuse a majority of those who wield the most power over the OCS program: the US Congress. For obvious reasons, its members are far more interested in production figures of mmbbls and tcfs after their translation into jobs for their constituents, revenue for US oil and

gas companies, and checks made out to the federal treasury for its share of the cut. The amount of federal revenue generated annually by OCS operations is just as staggering as the volumes of oil and gas removed from it. From 1953 through the end of 2013, the OCS program has cumulatively deposited over $228.5 billion (nominal) into the federal treasury, averaging about $5.7 billion accrued every year since 1980 (see Figure 3.3.). Mirroring the production figures outlined above, the bulk of OCS revenue has also come from the Gulf region, and since the early 1990s, increasingly from its deepwater oil and gas fields.

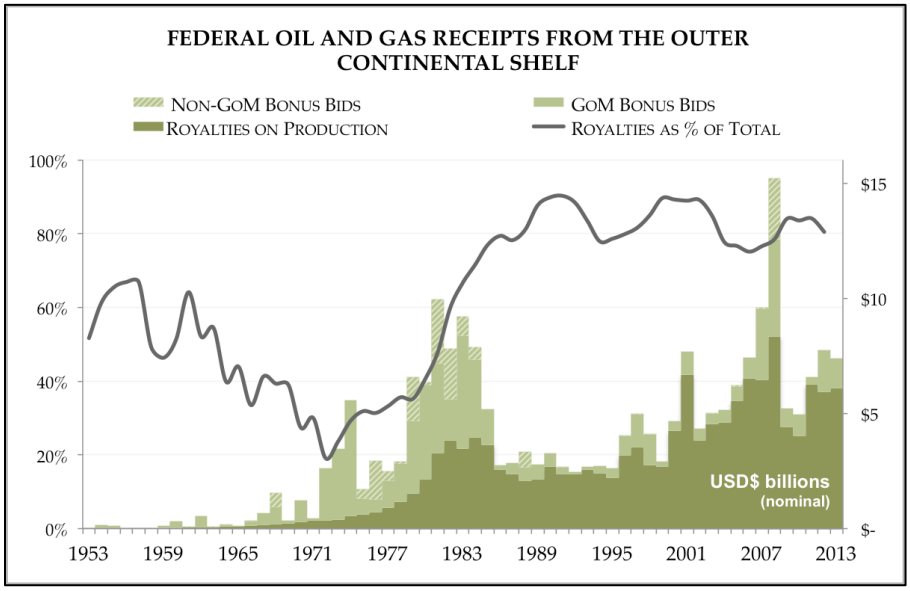

Figure 3.3. Federal Oil and Gas Receipts from the Outer Continental Shelf, 1953–2013.

The percentage of total receipts made up by royalties (*grey line*) is shown as a five-year rolling arithmetic average. Since 1986, royalty payments have consistently made up between 80% and 90% of Outer Continental Shelf revenues.

Source: US DOI 2014f. Note: Included in "bonus bid" figures are de minimis acreage rentals and other selected fees. Receipts are displayed by calendar year, 1953–2000; and by fiscal year, 2001–2013.

When President Carter landed on *Yorktown Zapata* in 1977, deepwater drilling in the Gulf was still in its infancy. Offshore production there would not pierce the symbolic water depth threshold of 1,000 feet for two more years, when Shell Oil's Cognac platform began to pump oil in September 1979 (Priest 2014, 2101). The industry was contributing about $2.8 billion in annual receipts to the treasury at that time, a sum that oilmen expected would grow as crude prices seemed likely to remain high, and oil and gas companies continued to take tentative steps into deeper waters in the Gulf. The legislation approved by the Senate just days before the presidential trip to the offshore rig would end up as law in September 1978, when Carter signed the OCSLA Amendments of 1978 (known as the OCSLAA). The amendments were crafted to fix the biggest problems in the offshore program that had emerged since OPEC had redrawn the world map of energy supplies. The OCSLAA also aimed at setting the stage for an expansion of drilling into new, unexplored "frontier" areas like the Atlantic, Arctic, and deepwater Gulf. Congress focused its criticism of the 1953 law on four major issues: concerns that the federal government was being denied fair market value for its offshore resources as the result of an uncompetitive leasing system; a desire for the federal government to expand its environmental protection and multiple-use planning role in offshore development; complaints by the governors of coastal states that they had insufficient influence over the location, timing, and scope of federal leasing and development decisions;

and the frustration felt by coastal states and a myriad of coastal organizations that near-shore communities received no revenues from the OCS program, yet bore all its locally-concentrated economic, social, and environmental risks and consequences (Mead et al. 1985, 16–22).

In many ways and for multiple reasons, the OCSLAA would fall short of its aim of resolving these and other conflicts over the location and pace of offshore petroleum development. At their core, the political battles waged over offshore oil and natural gas since 1973 have centered on the bursts of federal revenue that come from auctioning off OCS leases, and the royalty stream that is derived from their production. The OCSLA that President Eisenhower signed into law in 1953 granted 0% of revenues generated from federal waters to the adjacent coastal States. This created little controversy at first, since the magnitude of revenues collected in the first two decades of the OCS program was not large enough to garner significant Congressional or public attention (apart from one blockbuster sale in 1962 that raised a few eyebrows on both ends of Pennsylvania Avenue). As crude oil prices rose in the 1970s and annual receipts from the OCS began to exceed $100,000 on a routine basis, offshore revenues grew from an average of 0.3% of all federal receipts (funds brought in to the treasury) during the 1960s to reach over 2.1% in 1974—a jump of nearly 600% (see Figure 3.10.). Increasingly, the federal legislature and executive branch saw the offshore program as a cash cow; but unlike other major sources of federal income like individual or corporate income taxes, this livestock was especially amenable to executive control. The executive branch could schedule lease sales and adjust the terms of contracts for new leases largely at will. One thing the OCSLAA amendments did not change in 1978 was the broad authority and discretionary power given to the Secretary of the Interior in 1953 to manage the nation's offshore lands.

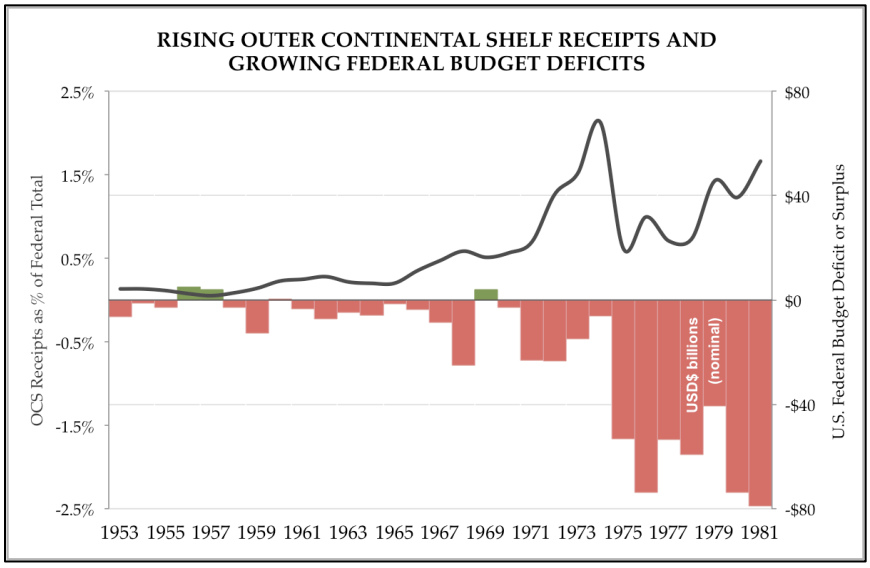

Figure 3.10. Rising Outer Continental Shelf Receipts and Growing Federal Budget Deficits, 1953–1981.

OCS receipts grew larger relative to the federal budget just as annual spending deficits began growing dramatically. The blockbuster lease sales of the early 1970s brought in billions of dollars and heralded the significance of the OCS program on a national scale.

Source: US DOI 2014f; US Executive Office of the President 2014. Note: The percentage of OCS receipts relative to total federal receipts is presented as a rolling arithmetic average.

That the government began racking up major budget deficits in the late 1960s further inflated the relative importance of OCS program funds to the federal budget. At issue was that for more than fifty years,

states had been receiving a sizeable 37.5% cut of federal revenues derived from onshore oil, gas, and mineral production on federal lands located within a state's borders. That provision, in force since the passage of the Mineral Leasing Act of 1920, was amended in 1976, nudging the percentage up to a full 50% of revenues[2] (US DOI 2007a, 100). Though some early drafts of the legislation that became the OCSLAA provided for the creation of a federal-state offshore revenue sharing arrangement—one bill would have granted 70% of gross proceeds to the coastal states—the final version of the Act did not alter the destination of federal funds established by the original law. One hundred percent of OCS proceeds were to be deposited in the federal treasury, under the heading, "miscellaneous receipts."

1.2. A Foreboding Image

That evening, President Carter returned to the White House and retired to the residence's movie theater with the First Family to watch the film "Jaws" (Carter Presidential Papers 1977). In addition to being a fact of mere historical curiosity, the blockbuster hit from 1975 also gives us a salient analogy by which to evaluate the politics of offshore oil and natural gas development in the US witnessed since the end of the Carter administration.

In the movie, a massive, 25-foot-long, three-ton human-eating shark terrorizes the small New England coastal town of Amity during the peak of the summer vacation season. After the shark claims its first victim, the town's chief of police, Martin Brody, orders the beaches closed to swimmers until he and his deputy can figure out how to deal with the situation. Brody can't believe his luck; a recent transplant to Amity, he has just retired from the New York City police force to work a quiet island job, far away from the bustle of the "mainland." Brody quickly relieves the local art supply store of most of its blank canvases and its stock of paintbrushes, ordering his deputy to post signs along the beach that read, "NO SWIMMING, BEACH CLOSED"—their edict put in force by order of the Amity Police Department.

The police chief's directive is barely an hour old before Brody finds himself cornered on the island's ferryboat by Amity's "smoothly corrupt but genuinely sincere" mayor, Larry Vaughn (Gottlieb 2005, 61). Mayor Vaughn's approach towards Brody is conciliatory, at first. "Martin, you're gonna shut down the beaches on your own authority?" Vaughn asks politely, albeit with a tone that undermines the chief's authority. Brody replies, "Well, what other authority do I need?" Naïve to the insular ways of Amity, Brody receives a crash course in small-town politics from Vaughn right then and there on the ferry. "I'm only trying to say that Amity is a summer town," the mayor explains, dressed in a necktie and grey suit jacket dotted with stitchings of boat anchors. "We need summer dollars," Vaughn continues. "If the people can't swim here, they'll be glad to swim at the beaches of Cape Cod, the Hamptons, [or] Long Island" (Benchley and Spielberg 1975). Once Brody grasps that the town's medical examiner—who earlier in the day confirmed to Brody that the deceased was indeed killed by a shark bite—has succumbed to pressure from the mayor to rule the cause of death a boating accident, Brody backs off.

After the shark claims a second victim—this one a child, eaten in broad daylight, no less—fear begins to mount in the idyllic town. At a community meeting called immediately after the second attack, Chief Brody outlines his plan to deal with the menace before a crowded room of townsfolk. I've called in outside deputies to help act as shark spotters, Brody says, as well as recruited a shark expert from the Oceanographic Institute on the mainland. And yes, Brody adds, the beaches would need to be closed indefinitely.

This news elicits an immediate uproar from the crowd. Mayor Vaughn booms his voice over the din to reassure his constituents that any beach closure happening on his watch would last no more than twenty-

[2] The Federal Land Policy and Management Act of 1976 set the revenue reimbursement rate for federal lands within the State of Alaska at 90% (90 Stat 2771).

four hours. "I didn't agree to that," Brody meekly protests. Agitated at the prospect of her tourism-based business being practically shut down because of the beach closures, one woman yells at Brody, "twenty-four hours is like three weeks!" Her back-of-the-hand calculation is not far off. Just like its real-world analogue, Martha's Vineyard, the town of Amity likely takes in around 90% of its annual business during the 12 short weeks of the summer season alone (Gottlieb 2005, 46). By Vaughn's order, the beaches remain open.

Before long, Brody's oceanographic expert arrives, Matt Hooper. After a flotilla of local fisherman armed with rifles and plenty of beer catch a large shark in nearby waters, their triumphant belief that they've found the monster seems to infect even the cautious police chief himself. A skilled ichthyologist and marine scientist, Hooper knows full well that the tipsy vigilantes have fingered the wrong culprit. This shark—a tiger shark, Hooper informs them—is too small to have caused the damage found on the first victim's body. Hooper suspects that the man-eater is instead a far more fearsome great white. Later that day, Hooper slices open the shark's belly for confirmation that no human remains were to be found inside. Besides a few fish bones, the only thing that falls out is a blue-and-white license plate that reads, "Louisiana ~ Sportsman's Paradise. "Ah, just like I thought," Hooper says as the license plate clatters to the deck, still sawing his knife through the guts of the slung-up shark on the Amity dock. "He came up with the Gulf Stream."

At this point in the film, the scene reprinted in the epigraph takes place. In a lengthy shot framed by a billboard advertising Amity's upcoming Fourth of July celebrations, Brody and Hooper pelt Mayor Vaughn with all the facts and arguments they can muster as to why the beaches must be closed immediately, in the interest of public safety. Past incidents with similarly aggressive great white sharks, they explain, have not gone well; there might be no limit to how long the shark would prey on Amity's swimmers. Exasperated, Vaughn seems capable only of reprising his performance on the ferryboat a few days earlier: "Look, we depend on the summer people here for our very lives," he says, "and if you close those beaches, we're finished!" (Benchley and Spielberg 1975). You mainlanders simply do not understand the sort of economic problems that Amity has to face, Vaughn spits out. This prompts the otherwise-civil Hooper to yell at the mayor, "I think that I am familiar the fact that you are going to ignore this particular problem until it swims up and bites you on the ass!" Still the beaches remain open, the town's businesses humming with tourists.

The tide turns after a third fatal attack. In a dramatic showdown inside the local hospital, a newly authoritative—and livid—chief Brody all but forces Mayor Vaughn away from the emergency ward's hallway and into an empty room. Looking sick almost unto death, pallid and shaking as he struggles to place a cigarette between his lips, Vaughn mumbles to himself, "...Sorry...I'm truly sorry...I was...I was...acting in the town's best interest...I thought I was acting in the town's best interest" (ibid.). Brody shakes Vaughn back into reality: he thrusts a $10,000 voucher in front of the mayor for him to sign, authorizing the chief to hire local Ahab-esuqe shark hunter turned old salt Quint to hunt down and kill the beast. "Sign it, Larry," Brody says. "Summer is over; you're the mayor of Shark City [now]! These people think *you* want the beaches open!" The scene is significant in that it is the last time Vaughn shows up in the film. As film critic Antonia Quirke has pointed out, "Jaws" becomes an action film only after the mayor cooperates and grants Brody the funds he needs. The real problem for the town is "not the shark at all," but the recalcitrant Mayor Vaughan and his city council (Quirke 2012, 57; Britton 2009, 239).

"Jaws" would prove oddly prescient of the political battles over the Outer Continental Shelf program that would come to plague it soon after Carter left office. Immediately after Ronald Reagan assumed the reins of government in January 1981, his Secretary of the Interior, James G. Watt, initiated a plan to dramatically increase the pace and scope of the offshore leasing program to a degree far beyond the acceleration promised by Nixon. Concerned that the relatively small size of past lease sales was constraining access to offshore prospects and driving up acreage prices, Watt's own brand of speeding up the OCS program had a geographic, as well as temporal, aspect to it. In addition to boosting the number

and frequency of auctions for acreage, Watt opened up entire swaths of the OCS for lease at each sale. Watt brazenly pledged to offer a billion acres of the offshore for sale within five years—utterly dwarfing Nixon's 10-million-acre goal—and managed to outrage nearly every political constituency he had in the process. Before long, few such constituencies remained. Wary that Watt's policy moves were simply bringing too much change, too fast, some in the Reagan administration warned the Watt command that the public saw his new policy as a massive threat to the environmental and recreational health of US coastlines. Watt was intent on closely shepherding his "area-wide leasing" plan into effect, to the delight of administration officials who believed that his changes to the leasing program were long overdue, as well as to those who simply wanted as little federal involvement on the OCS as possible (US DOI 1981c, 4). Little did the Watt command realize that by so brazenly ignoring public opinion, popular sentiment would soon swim up and take a bite out of the Reagan administration.

The tourism-dependent communities of the Atlantic and Pacific coasts viewed the specter of offshore oil and gas as a menacing threat, one that—like the tiger shark killed early on in "Jaws"—had migrated a bit too far from its territorial waters in the Gulf. The risk of a devastating oil spill off the pristine coasts of Nantucket Sound or Big Sur, accompanied as it was with no guarantee that federal funds would materialize to help mitigate its impacts, was too much for the coastal States to accept. With their efforts at cooperation with the federal government on OCS matters stonewalled by Watt's DOI, the coastal states (through their representatives in Congress) began asserting their authority in 1983 and banned new petroleum leasing off both coasts indefinitely. First California, and then several of the Atlantic states added annual stipulations to Congressional appropriations bills that prohibited any funds to be spent by the DOI to conduct oil and gas leasing activities off a majority of the US coast (US Department of Energy 2005, 11). With a Congressional and then a supplementary executive moratorium in place, the Outer Continental Shelf program by the end of the decade was a national one in name only (Freudenberg and Gramling 1994, 21; Goldstein 1982, 179). In the space of just a few years, offshore drilling on US coastlines was pulled from the cusp of a rapid expansion back to its ancestral home in the Gulf.

Part of the genius of "Jaws" is the manner in which Steven Spielberg keeps the shark out of sight for nearly half the film. Cinephiles point out that the shark's long absence from the screen only serves to amplify the viewer's sensation of fear once the Leviathan is finally revealed. This is true. It is also true that Spielberg's direction works so well because in many ways, the economic plight of Amity is the true core of the "Jaws" story. Most of the tension and tragedy in the film stems from the failure of the town's competing authority figures to agree on a moderated course of action to prevent another death (like partially closing the beaches, or swiftly hiring Quint). Vaughn's decision to leave the beaches open keeps the dollars flowing, in but also invites the possibility of another attack. And sure enough, news that the shark has taken a third victim crowns Vaughn the mayor of Shark City and destroys the town's summer season.

Literary critic Jeffrey Jerome Cohen theorizes that one can learn a good deal about a given society or historical period by examining the monsters that it engenders (Cohen 1996, 3). And indeed, writers and pundits have used the "Jaws" shark to stand in as a symbol for seemingly everything under the sun—from Watergate to loose sexual morals (Jameson 1992, 27). Comparing the killer shark of "Jaws" to the threat of an offshore oil spill is a strained endeavor, to be sure. However, the economic hazards that each poses to a town like Amity are not dissimilar. Indeed, the shark has been explicitly likened to the massive plume of oil that emanated from BP's Macondo well for 87 days straight in the summer of 2010 (see Figures 3.4. and 3.5.).

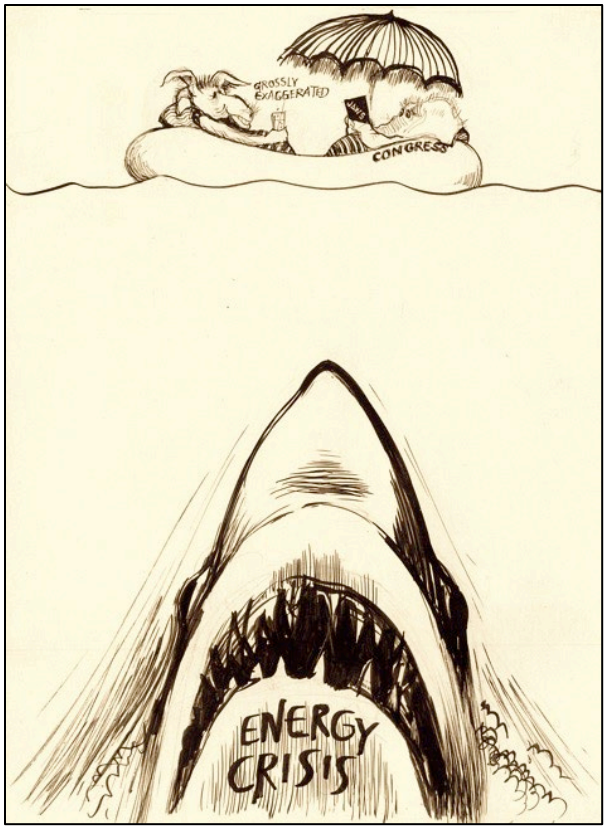

Figure 3.4. Political cartoon by Jane Clark Brown, published in the Vermont *Suburban List*, 1975.

Mimicking the visual imagery of the *JAWS* movie poster, the cartoon depicts the toothy monster of the "Energy Crisis" rising from the deep to attack members of Congress lounging on an inner tube. While the Republican elephant sits reading Benchley's book, the Democratic donkey says simply, "GROSSLY EXAGGERATED."

Source: The Suburban List, Essex Junction, Vermont, reprinted in de Seife 2014.

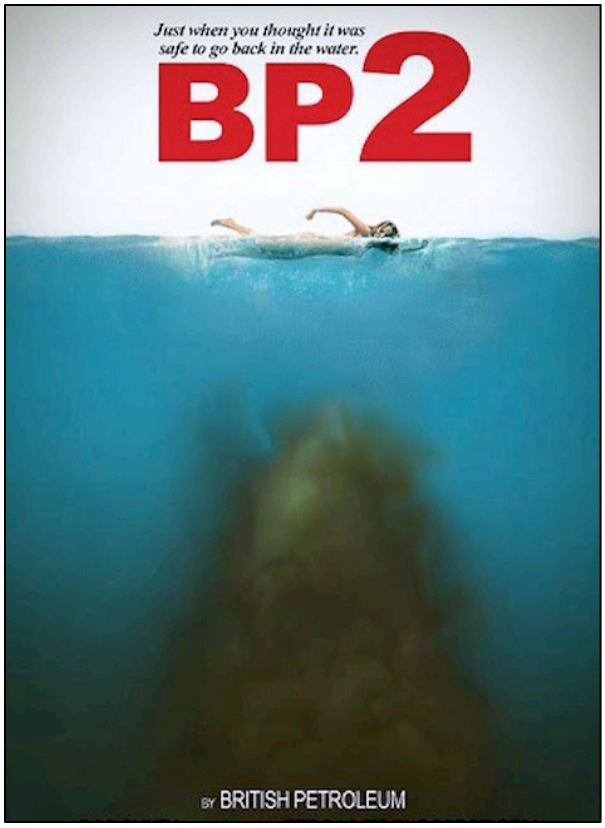

Figure 3.5. Poster, "BP2," parodies *Jaws*.

As crude oil from the BP *Deepwater Horizon* oil spill fouled Gulf of Mexico beaches during 2010, one online commenter reimagined the *JAWS* movie poster with the plume of oil from the blowout in place of the deadly shark. The poster's title, *BP2*, makes light of the famous tagline used to promote the sequel to the 1975 blockbuster: "Just when you thought it was safe to go back in the water...".

Source: Shane Parker, "Gulf Oil Spill/JAWS mashup," SuperPunch online forum. All rights reserved

That the citizens of Amity appear to be more frightened of financial ruin at the hands of skittish would-be tourists than they are of death at the jaws of an actual shark, hints at the complex and at times seemingly irrational reasons why the townsfolk opposed any of Brody's beach closures, and why Congress in the 1980s was so eager to oppose all of James Watt's policy changes, lock, stock, and barrel.

1.3. "Fair Value" and "Free Markets"

Three issues have dominated the policies and politics of OCS revenues since the early 1970s. First, the federal government has had an increasing interest in (and after 1978, a statutory obligation for) receiving the "fair market value" of the offshore oil and gas resources it holds in trust for the American people. Second, as seen above, tensions between the wishes of the federal government and coastal states to control offshore decision making (and receive its benefits) have embroiled the OCS program in controversy for decades. Third, and perhaps most important, the fiscal terms of access to OCS resources have served as a proxy battleground for wider partisan wars over the role that publicly-owned assets should play in the open marketplace. Where these skirmishes have been fought over the fiscal terms of offshore lease sales, the conservative stance has been that the government should act dispassionately with

respect to getting a good deal when selling tracts, as the misguided "fair market value" standard only serves to hinder the growth of private enterprise. This view has been in ascendance since 1983, when the area-wide leasing reforms of James Watt altered the structure of the OCS marketplace and slashed the price of an offshore lease, all while the most exciting and dynamic period of offshore activity has pushed oil and gas firms into deeper—and thus costlier—waters. Those two trends have functioned symbiotically: relaxed access has promoted new deepwater discoveries, the daunting development capital costs of which convinced lawmakers to further reduce the amount of money the public receives for the oil and gas it collectively owns. Though the last half-decade has seen a slight uptick in offshore lease royalty rates (see Figure 3.24.), the conservative approach to the disposition of Outer Continental Revenues has been a fixture of the leasing program since its implementation in the early 1980s.

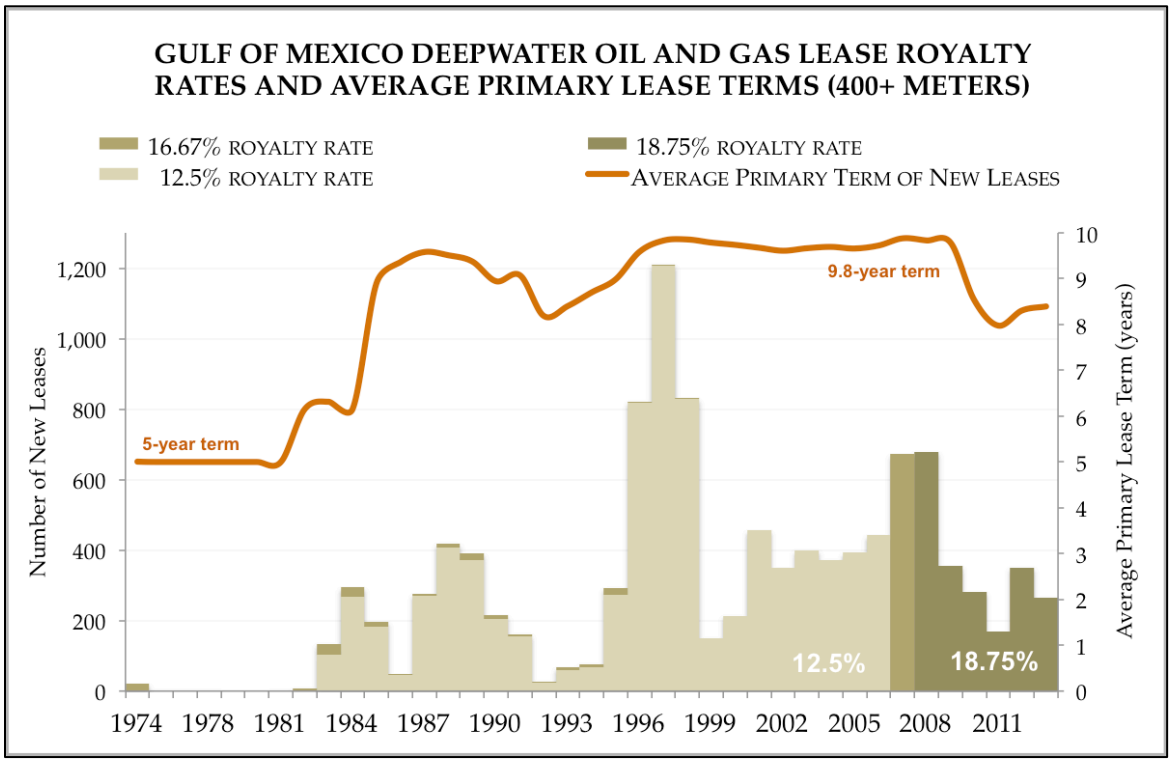

Figure 3.24. Gulf of Mexico deepwater oil and gas lease royalty rates and average primary lease terms (400+ meters), 1974–2013.

The fiscal terms of deepwater Gulf leases were relaxed as far as possible in the 1980s and 1990s. Virtually every new lease issued in 400 meters of water or more after 1983 was awarded with the lowest-possible royalty rate of 12.5% (*light tan columns*). Only with the record crude oil prices of the late 2000s did royalty rates increase (*darker tan columns of two shades*) and the primary terms of some lease decline to 5-year or 8-year lengths (*orange line*).

Source: US DOI 2014a; US DOI 2014c.

The broad political tensions outlined above have manifested themselves in the details of the OCS program along two axes: first, significant and chronic shortcomings in the collection of oil and gas royalties have twice (in 1982 and 2010) prompted a reorganization of the DOI agencies that administer OCS activity. Second, but no less important, as the economics of oil and gas have changed over time and the structure of the upstream petroleum industry with it, government has struggled, often unsuccessfully, to adjust in tune with those changes. Congress, the White House, and executive agencies have together made two significant alterations (in 1983 and 1995) to the method of awarding offshore oil and gas leases, each done in an effort to boost the industry's financial health. Both policies have had mixed results, and in each instance the DOI seemed surprisingly caught off-guard by the outcomes—even though the results

were directly in line with industry predictions. Elsewhere (although with far less fanfare), the set of complex formulae that are used to measure the volume of oil and gas flowing from federal lands and to calculate the dollar value of sales—collectively known as "valuation" rules—have undergone two major revisions since 1978. Even though each valuation effort caused the offshore industry little financial pain, neither was completed easily or without complaints of unfair regulation.

The conflict inherent in the mission of the DOI with regard to the OCS—to promote and regulate the petroleum industry—is enshrined in the law itself. The 1978 amendments to the OCSLA direct the Secretary of the Interior to simultaneously "insure [for] the public a fair and equitable return" on offshore resources, while making them available for "expeditious and orderly" development "as rapidly as possible" to meet national energy needs (92 Stat 631, 635). It is a daunting policy challenge, to say the least. The agencies in charge of offshore leasing and development have had to translate the occasionally inchoate aims of Congress and the executive branch into workable federal policies applicable to one of the most profitable and technologically dynamic industries anywhere in the world. Thus, it is not surprising that the history of the department's efforts to pursue its contradictory goals is a colorful one, characterized by oversized personalities like James Watt, remarkable technical achievements like those embodied in *Yorktown Zapata*, lease sales that collect billions of dollars in a single day's work, and more recently, instances of ethical malfeasance within the Minerals Management Service's (MMS) efforts to value and collect royalty revenues.

It is difficult to overstate the importance of Gulf deepwater[3] oil and gas to the OCS program and to the course that its development has followed (see Figure 3.16.). Notably, the only mention of the word "deep" in either the OCSLA or its amendments appears in Section 205 of the 1978 law, in which the Act authorizes the Interior Secretary to offer offshore oil and gas leases with an extended primary term of ten instead of the standard five years on tracts that sit underneath "unusually deep water" (99 Stat 644). This special dispensation for deepwater leases expressly acknowledges the unique economic and technical challenges posed by searching for and producing oil and gas in the harsh deep-sea environment. The singular status of deepwater drilling written into the 1978 amendments established a pattern of special (and at times overly preferential) policy treatment given by Congress and the DOI to foster the industry's growth. Moreover, it is a pattern that, once established, is politically difficult to dial back even slightly, even after economic conditions have improved. As a result, it recurs throughout the deepwater Gulf's history.

[3] Definitions of "deepwater" vary among firms and even between different branches of the DOI. For qualitative purposes, this paper defines it as those water depths beyond 1,000 feet of water (305 meters). For quantitative purposes, this paper sets the 400-meter isobath as the dividing line, in order to conform to policies implemented in the 1990s by MMS.

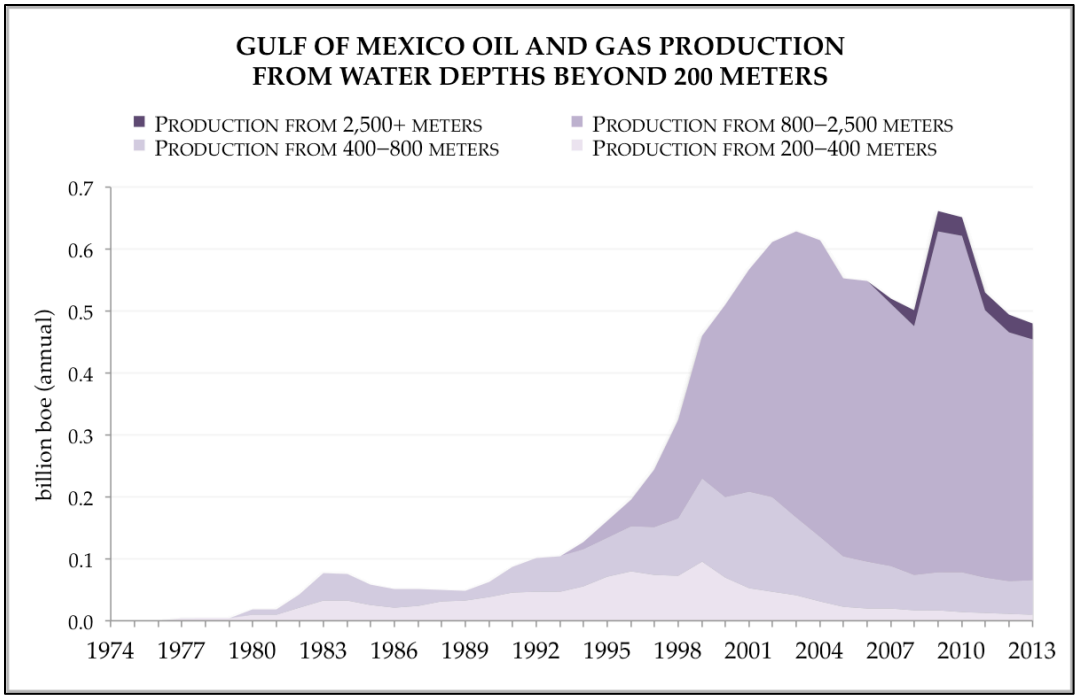

Figure 3.16. Gulf of Mexico oil and gas production from water depths beyond 200 meters, 1974–2013.

Deepwater production began in the Gulf soon after the Outer Continental Shelf Lands Act Amendments of 1978 were enacted; first oil flowed from the deepwater in 1979 at Shell's Cognac development.

Source: US DOI 2014a.

In order to receive the "fair and equitable return" for OCS resources mandated by the original OCSLA, the DOI developed a series of sophisticated methods between the 1960s and 1980s to appraise the value of an offshore tract in advance of holding a lease sale auction. Hand-in-hand with this capability came the occasional practice of comparing that value against the highest "bonus bid" submitted for the tract—and rejecting the high bid. The agencies rejected a fair number of high bids—some of them exceeding many tens of millions of dollars—as insufficiently high to convey to the public the "fair market value" standard enshrined in the OCSLAA. Beginning in the early 1970s, the department investigated the feasibility of using an auction system different from the traditional variable-bonus, fixed-royalty rate method. This grew out of concern that the standard method was pushing up the magnitudes of bonus bids to such high levels that smaller oil and gas operators were being priced out of the offshore market—an affront to the law's directive that the lease sales be made "competitive" (Priest 2014, 2397; 67 Stat 468; 92 Stat 640).

After Watt's area-wide leasing initiative expanded the scope and pace of leasing in the Gulf in 1983, MMS faced the unenviable task of setting a value for deepwater leases that can sit beneath a two-mile-deep column of water. With limited geological and geophysical (G&G) information to go by, and with the industry bidding on leases in water depths that production technology had not yet mastered, appraising a deepwater tract for fair market value proved exceedingly difficult. It remains so today. Still, even in deepwater, bid adequacy review and rejection remains an important fiscal tool for the DOI. Elected officials and career bureaucrats alike are wary of giving away a lease over a massive oil field for just tens of thousands of dollars.

Collecting royalty payments has a long history of poor management by the DOI. Watt's major consolidation of parts of two agencies in 1982 into MMS was intended to correct organizational and technical deficiencies in the royalty system that dated back to the 1960s. It was largely unsuccessful in

achieving those goals, however, and similar problems continued to plague MMS well into the 2000s and up to its dissolution in 2010. Agency competency aside, determining the location and exact manner of assessing and calculating offshore production showed itself to be an almost intractable maze of pricing, regulatory, physical and organizational factors. The selling of petroleum products among subsidiaries of a single holding company at artificially low prices defrauded the government of billions of dollars.

As deepwater production expanded in the 1980s and 1990s, these bookkeeping and valuation challenges were compounded by the unique structure of subsea pipeline infrastructure. Industry voices argued vociferously for the classification of certain deepwater pipelines as "transportation" lines rather than "gathering" lines. It was a seemingly minor technical distinction, but one that could reduce annual government revenue by many millions of dollars. In an attempt to make an end run around these valuation complexities, industry and the government worked together in an attempt to establish an option to pay royalties "in kind" instead of "in value"—allowing, in other words, an oil company to literally direct the flow of physical oil and natural gas into the hands of government agents. It was a well-intentioned but ultimately ill-advised endeavor, as it actually decreased federal OCS revenue totals, and suffered from exceedingly poor management. The many opportunities for theft, fraud, and ethical misconduct that the Royalty-in-Kind (RIK) program offered employees soon mired the agency in scandal.

MMS was hit by another revenue scandal in 2006, this one unique to the deepwater Gulf. When the offshore industry was stuck in the economic doldrums caused by low crude oil prices in the early 1990s, Louisiana Senator J. Bennett Johnston (D) crafted a bill to "encourage the production" of deepwater leases by granting them a temporary reduction in royalties during the early period of a deepwater project's development. Johnston's avowed goal was to stimulate operators to develop deepwater oil and gas fields that had already been discovered, but were not commercially viable without a reduced royalty payment (US Congress 1992a, S. 3127). As the bill churned its way through the legislative meat mincer of Washington, it was expanded to grant relief for every lease newly awarded during the five years following the law's enactment. The Deep Water Royalty Relief Act of 1995 (DWRRA) was passed late that year, more than three years since the low price climate of 1991 and 1992 had piqued Johnston's concern. The worst of the downturn had long since lifted by the time the first DWRRA lease sales were held in 1996; in fact, major deepwater projects like Shell's Auger and Mars tension-leg platforms (TLP) came onstream in the Gulf during the interim, to fantastic results. By mid-decade, there was little economic hardship left to merit the granting of "relief" from royalties, which are best understood as a normal or standard cost for extractive industries. Yet the critics who thundered against the royalty relief as a "giveaway" to Big Oil were painted as anti-business obstructers of domestic job creation.

Ultimately, the most durable outcome of the royalty relief law is that its legislative language rendered moot any debate over whether it reflected fiscal folly or wisdom on the part of Congress. As originally designed, royalty relief for deepwater projects would cease to apply if the price of crude oil and natural gas rose above certain thresholds—levels high enough to negate the need for economic "relief" from royalty payments. However, an error in the law's writing led the Supreme Court in 2009 to rule the price thresholds unlawful for all DWRRA leases issued between 1996 and 2000. As a result, it is likely that the federal treasury will lose upwards of $60 billion dollars on royalty relief granted to deepwater leases that have proved to be wildly profitable (U.S. Government Accountability Office 2007, 3).

In sum, the changes made to the OCS program's fiscal terms between 1983 and 1995 dramatically shifted the makeup of its revenue stream. From the start of the OCS program in 1954 until the full implementation of Watt's area-wide leasing system in 1983, royalties made up an average of 39% of total offshore revenues. As Figure 3.3. shows, that percentage has since hovered somewhere between 80% and 90%. In striking contradistinction to the 1970s, today's revenue totals from the OCS are nearly indistinguishable from the sum of just its royalty revenues. It is a tragic irony that the DOI's long history of subpar royalty management did not preclude Watt from placing an increased reliance on their diligent collection, when area-wide leasing decimated the amount ponied up for bonus bids by firms competing for lucrative offshore leases. A royalty-weighted revenue system can have its benefits, of course. It

reduces the up-front capital expenditures needed for a firm to acquire new leases, easing entry offshore and freeing up funds for costly exploration activities. It also permits government—typically the Office of Management and Budget (OMB)—the chance to more accurately project future revenue streams. But royalty payments have extremely high transaction costs. Ensuring that royalties owed on every hydrocarbon product from every offshore well is paid in full is far more difficult than, say, cashing the bonus bid checks received on the morning of an OCS lease sale.[4]

The approach to offshore fiscal policy outlined above is not unique to one political party or presidency. Rather, it is a product of the dominance of an economic worldview that, as economist and Nobel Prize Laureate Joseph Stiglitz writes, holds a "simplistic view of competitive markets [as functioning] with perfect information" (Boué 2002, 110). This policy approach emerged from a Panglossian belief that the OCS leasing market is entirely free, nearly perfectly competitive, mostly fair, and will by definition generate economic growth for the nation and return the fair market value of its resources to the public—as long as it is left unencumbered by burdensome government regulation. The outright dominance of this economic worldview over OCS policymaking since 1973 is most readily evident where it relates to the challenges of producing oil and gas from below the deep waters of the Gulf.

A key justification made by the Reagan administration for its area-wide leasing program was that the restriction of offshore lease supplies during the 1970s had driven up bonus bid prices so much, and created inter-firm competition so ruinous, that it threatened to limit the industry's expansion into the prospective deepwater. This view has great merit. However, once the new area-wide system expanded the supply of leases and dramatically decreased the per-acre cost of an OCS tract (see Figures 3.19. and 3.20.), yet another complaint emerged from offshore operators. Not satisfied with the dramatic expansion of the OCS lease market in 1983, the industry successfully coined a new definition for the value of a lease, as implied in the fair market value standard of the OCSLAA. No longer the right to exclusively exploit and profit from the oil and gas resources within a given offshore tract, operators said, a lease's value—especially in the time-intensive and economically risky deepwater—was best understood as only a license to explore. Put simply, the offshore oil and gas companies hoped to further reduce the cost of acreage in the Gulf by arguing that a lease in deepwater does not convey the same legal rights or economic benefits as a lease in shallow water.

This line of argument was brilliantly in sync with the basic premise behind area-wide leasing, one similar to the logic underlying the Reaganomic supply-side fiscal tax cuts of the 1980s. Even if the area-wide lease sales caused bonus bid revenues to decline, administration officials reassuringly explained, the reduction would more than be made up for by future increases in royalty payments. By cutting up-front acreage costs, area-wide leasing would stimulate more offshore drilling, and lead inexorably to more oil and gas production, larger royalty receipts, and eventually to higher overall federal revenue totals. Industry groups piped up in support of the policy, agreeing with Watt that royalties on production are the proper venue for a landlord to collect economic rent from its ownership of natural resources. In fact, industry advocates said, the federal government was often extracting in excess of fair market value at the lease sale stage of development, each time it accepted a bonus bid on a tract higher than what the DOI estimated its worth to be.

However, like a mirage or a mountaintop that only recedes from view as an onlooker makes progress towards it, before the predicted rise in royalty revenues could come to pass, Congress and the administration—this time a Democratic one—pushed back the arrival of this source of public value indefinitely when they enacted the DWRRA of 1995. Supporters of the royalty-cutting law warned that unless the royalty rate in deepwater was slashed, offshore activity would shift abroad, killing jobs, eliminating federal revenue flows, and likely destroying the industry for good in the US. The DWRRA

[4] Only one-fifth of a high bid amount is due at bid submission. The remainder of the balance is due within ten days of bid acceptance, at the execution of the lease contract.

made the same promise that area-wide leasing had, only in reverse: decreasing the amount of money that firms would pay in royalties to produce offshore resources in the short-term (rather than decreasing bonus bid amounts) would serve to boost overall revenues in the long run. Legislators were seemingly oblivious to the fact that area-wide leasing and the royalty relief initiative were designed to work at cross-purposes to each other, and that the combination of the two was akin to highway robbery of the federal treasury.

Even more than area-wide leasing, the notion that deepwater firms require "relief" from a standard (and at 12.5%, very low) royalty payment fundamentally changed the ethos of the OCS program and its management. The centuries-old notion that the owner of a natural resource is due a royalty payment when title of its resource changes hands has been transformed—as far as federal offshore lands are concerned—from a fundamental and non-controversial economic fact into an affront to private enterprise. Even after becoming embroiled in scandal, the concept of royalty relief has remained remarkably "sticky" in Washington as a policy tool: it has been reprised several times since 1995, and it appears to be here to stay.

Because OCS resources are owned by the federal government and managed by bureaucrats, those hostile to any form of regulation or public resource ownership have viewed Washington's efforts to receive just compensation for offshore oil and gas reserves as an oppressive exercise of public power, one that harms those firms already beset by the difficult operating environment of the Gulf's deepwater. The fair market value standard enshrined in the OCSLAA has been significantly diluted as a result: Once pegged to a dollar-value estimate made by the DOI of the amount of oil and gas present under a tract, what constitutes a fair value on the OCS is now wholly contingent on the market value set by the marketplace for bids. In other words, whatever dollar amount oil and gas firms place on a tract by submitting a bid for it—regardless of whether 1 barrel or 1 billion barrels of oil lie underneath, and whether 10 or 100 firms compete for the lease—is its fair market value by fiat.

Because the market for offshore oil and gas services has globalized and grown more competitive since the OCSLAA was enacted in the 1970s, this redefinition of fair market value has become more difficult for opponents of rapid OCS development to counter. As Mayor Vaughn reminds his chief of police halfway through "Jaws," any action that might reduce the attractiveness of his beach threatens to send tourist money—or here, offshore oil drilling capital— to other shores. Vaughn explains to Brody that "Amity is a summer town....If the people can't swim here, they'll be glad to swim at the beaches of Cape Cod, the Hamptons, [or] Long Island" (Benchley and Spielberg 1975). Failing to take concerted action to compete with other offshore petroleum basins would be to risk "economic suicide."

Chapter 2. Avast, Treasure! Early Federal Revenues from the Outer Continental Shelf

At its most basic level, the creation in 1954 of the federal offshore leasing program in the US followed from a practice deeply rooted in US history: the surveying and disposal of uninhabited frontier land claimed by the national government. Even before the ratification of the US Constitution in 1789 founded the nation proper, the national government asserted sovereignty over western lands under the authority of the Articles of Confederation (Farrow 1990, 8). The Confederation Congress passed the 1785 Land and 1787 Northwest Ordinances in quick succession, authorizing teams of surveyors to divide up the western territories into townships, each containing 36 sections of 640 acres. The durability of their work is immediately apprehensible to anyone flying over the Midwest who peers out the window of the airplane: "Everyone recognizes checkerboard America," historian and photographer John Stilgoe writes. "Like a great geometrical carpet, like a Mondrian painting, the United States west of the Appalachians is ordered in a vast grid" (Stilgoe 1982, 87).

This vast grid, though not visible underneath the seas, was extended to offshore lands wherever necessary. By the start of the twentieth century, maritime sovereignty had traditionally been limited in the Western hemisphere and US alike to three leagues, or three nautical miles (Hollick 1981, 19). Oil and gas firms with names like Superior, Pure Oil, and Humble Oil began drilling in the 1930s in the outmost reaches of the swampy marshes and wetlands of southern Louisiana, and others had been plying the shallows off California at Summerland Beach since as early as 1896. An oil and gas lease would be issued whenever a firm requested permission from the state to drill in its shallow waters, which remained a rare occurrence for a short while. With the conclusion of the World War II, the oil-patch states in the Gulf began organizing competitive lease sale auctions in their waters for the first time, issuing leases off Louisiana in 1945 and near the Texas shore in 1947 (Fitch 1956, 228). Both states had drawn their onshore maps according to the grid overlain by the Lambert Conformal Conic Projection, an eighteenth-century cadastral system originally developed by Swiss-French mathematician Johann Lambert for artillery ranging (Priest 2008a, 96). The states soon extended its meridians past the beach sands and into the offshore shallows. When the federal government won confirmation of its legal claim to the lands of the geologic continental shelf surrounding its shores in 1953, it adopted the Lambert grid and its division of the seabed into offshore blocks no larger than 5,760 acres—nine miles square.

2.1. Establishing Federal Ownership

As it was with the frontier lands west of the Appalachian Mountains, federal ownership of the offshore lands in the US has been a constant—if more contentious—feature of oil and gas development on the continental shelf and in the Gulf. US claims to jurisdiction over the nation's adjacent waters and submerged lands date back to colonial times, but they were often ambiguous in scope (Hollick 1981, 19). Though nobody questioned the federal government's supremacy over coastal waters as it pertained to military matters, the coastal states had traditionally believed that they held title to the lands off their shores, because for years they had been the only entities involved in any appreciable amount of commerce along the coastline (Fitzgerald 2001, 27). And indeed, the national government tacitly affirmed that position for decades, with federal officials relying on state governments to manage and oversee those waters (Wilder 1998, 29).

The dawn of the petroleum age changed that. As Robert Jay Wilder explains, at issue was the question only of ownership of the submerged lands and its non-living resources. "As a constitutional matter," Wilder continues, "it was clear from the start of this controversy that the federal government had

paramount powers over this belt" of offshore lands, but not title to them (ibid., 30). With offshore prospecting activity increasing every year, California enacted legislation in 1921 allowing it to issue leases and drilling permits to its residents to prospect for oil and gas in state-owned tidal waters—and to collect royalties on production (Priest 2008b, 68). Texas issued its first offshore oil and gas state lease in 1926, and Louisiana followed suit in 1938 (Fitzgerald 2001, 28).

At first, top-ranking officials in the administration of Franklin D. Roosevelt seemed to agree with California and Louisiana that offshore lands appertained to the coastal states. For most of the 1930s, the DOI assiduously rejected any application it received from an individual hoping to prospect offshore (Wilder 1998, 38–39). That changed in 1937, when influential Secretary of the Interior Harold Ickes reversed his department's course, instructing it to hold such applications in abeyance instead of rejecting them automatically (ibid., 40). As a key cabinet member, close confidant to President Roosevelt, and the soon-to-be wartime coordinator for petroleum (starting in 1941), Ickes grew to believe that the federal government had, in his words, at least "enough color of title" over the continental shelf that it should seek affirmation of such authority (ibid., 39). Legislation soon emerged in Congress to secure federal control of all submerged lands seaward of the low-tide water mark, but none advanced into law during the decade (Fitzgerald 2002, 4; Wilder 1998, 42).

As armed conflict in Europe loomed on the horizon, Secretary Ickes, undeterred, began plotting other ways for the federal government to secure ownership offshore—and began positioning his own DOI to be named the agency charged with its administration. Ickes found a willing ear in Franklin D. Roosevelt, who himself was enthusiastic about the prospect of expanding federal control. In 1938, Roosevelt charged the office of legal counsel at the DOI with investigating the legality of creating an offshore naval oil reserve that would begin "with the shore line and [extend] halfway across the oceans" (Wilder 1998, 44). It was clear that Roosevelt wanted to extend the US' claim to offshore lands far out into the sea, while simultaneously overriding state claims to the lands within the three-mile boundary. In response to what it saw as alarming news, Louisiana immediately broadened its claim to the Gulf, out to 27 nautical miles (31.5 statute, or land, miles) from its shore. Next, California in 1939 ended its years-long moratorium on issuing new offshore oil and gas leases. In 1941 Texas did as Louisiana had, and then in 1947 again extended its offshore claim all the way to the edge of the continental shelf, to a water depth of roughly 100 fathoms, or 600 feet (Fitch 1956, 18). Given the gently sloping contours of the northern Gulf, Texas' action amounted to a massive land grab: one has to travel about seventy miles away from the edge of Texas to reach an average water depth of just 100 feet (ibid., 13).

Clear battle lines had been drawn. But in 1938 word came from DOI's lawyers that Roosevelt lacked the authority to claim lands beyond the three-mile boundary (Hollick 1981, 30). Still, Roosevelt persisted in the belief not only that the presidency did indeed invest such a power in his office, but that all submerged lands beyond the low-water mark should fall under federal jurisdiction (ibid.). Roosevelt convened an "Interdepartmental Committee to Study Title to Submerged Oil Lands" to review the issue. In March 1940, they concluded that judicial review would grant the White House the strongest claim to ownership. The committee pointed out that while legislation would be helpful to their case, it was not necessary to settle the issue. Roosevelt concurred. More to the point, the presidential election season of 1940 and the war itself put legislative action on hold for some time (Hollick 1981, 30–31; Wilder 1998, 45).

After several years of internal politicking and wrangling among the Departments of Interior, Justice, and State, in March 1945 Roosevelt approved the issuance of two proclamations on oceans policy, to be accompanied by two executive orders on the same. With Congress considering several bills on the ownership issue, Roosevelt's attorney general had warned in 1944 against pressing a lawsuit to resolve the question, the recommendation of the Interdepartmental Committee notwithstanding (Wilder 1998, 52). Moreover, the exigencies and sentiments of wartime had heightened the political capital of the presidency to make a unilateral claim offshore. In fact, it was an DOI memorandum written for Ickes in May 1943 that most persuaded the White House that it should "assert exclusive jurisdiction" in the "interest of national and domestic security" (ibid., 51).

Left unissued until September 1945 due to Roosevelt's death, the two texts that emerged became known as the Truman Proclamations. The proclamation on submerged lands asserted national "jurisdiction and control" over the subsea resources of the continental shelf (Wilder 1998, 50–55; US President 1945; Hollick 1981, 45), and the other reaffirmed that such ownership did not alter the "high seas" character of the waters above. Though both Roosevelt and Truman believed strongly in total federal control, the proclamation was careful to state that it was to have no bearing on "the determination by legislation or judicial decree...relating to the ownership or control of the subsoil and seabed of the continental shelf within or outside of the three-mile limit" (Hollick 1981, 52, 104). As a result, the Truman Proclamations did not settle the federal-state dispute, but they did pre-empt other coastal states from following Louisiana's precedent in expanding their own claims (Wilder 1998, 56). Curiously, the Truman Proclamation asserted the opposite of what Roosevelt's lawyers had been advising since 1938, which was that his authority should be used to claim lands within the three-mile seaward boundary, but did not apply beyond.

The remainder of 1945 brought with it victory in Europe and additional legislative proposals regarding the submerged lands of the US, but now aimed stridently in support of coastal States gaining definite ownership. Truman vetoed a bill in 1946 that would have returned ownership of offshore lands within the three-mile limit to the coastal states, even though both public sentiment and the evidence reviewed by Congress during its hearings on the bill seemed to support the claims of the state governments (ibid., 58).

The faction organized to persuade the federal government to abandon or "quit" its claim to offshore lands (known as the quitclaimers) wanted Congress to recognize the "historic boundaries" of the states' claims at their admission to the Union (Fitzgerald 2002, 4). Much of the debate centered on an arcane legal issue—originally put forth by the Northwest Ordinance, interestingly—known as the equal footing doctrine. This referred to the practice of admitting new states into the Union "on an equal footing with the original states, in all respects whatever" (ibid., 5). Seeking to definitively settle the issue, the Truman administration first sought judicial consent to supersede state claims of ownership in the case of *United States v. California* (332 US 19), decided by the US Supreme Court in June 1947. The decision, combined with those in *United States v. Louisiana* (339 US 699), and *United States v. Texas* (339 US 707), both decided on June 5, 1950, became known as "the tidelands cases." Use of the term "tidelands" was technically a misnomer, as it refers to the tiny strip of coastal land covered in water at high tide but bare at low tide (Fitzgerald 2002, 4; Priest 2008b, 77); but given the daily exchange of political barbs thrown by the federalists against the quitclaimers and back again, its evocation of the continually-changing tide seems an appropriate shorthand for the controversy.

California argued unsuccessfully before the Supreme Court that the equal footing clause granted it the same rights over submerged lands as those enjoyed by the thirteen confederation states at the time they ratified the Constitution. The Court rejected this claim in part by citing a 1793 diplomatic communiqué sent from Secretary of State Thomas Jefferson to a British foreign minister to the effect that the US would defend by force its territorial protection over a three-mile band of the marginal sea (*United States v. California* 332 US 19 [1947]; Wilder 1998, 18). Though scholarly debate continues as to whether the Court's historical and legal judgments were correct, its ruling in *California* and elsewhere that the federal government had "paramount rights in and power over" the offshore lands did not settle the stubbornly resilient issue. Though the Court declared that the US' "full dominion over the resources of the soil under that water area, including oil" was an incident of its paramount rights there, the ruling was unclear as to whether it conveyed full ownership of and legal title to the natural resources below the seabed (Fitch 1956, 36). The dominant interpretation was that indeed, full dominion did not encompass legal title to the continental shelf lands (Priest 2008b, 77; Craig 2013, 62).

The *California* decision did allude to the submerged lands as "Government property" over which Congress had constitutional control, but such a juridical aside was a tenuous leg on which to perch such a consequential legal interpretation (Craig 2013, 62). Political sentiment shifted against the quitclaimers; after 1950, only one bill was filed in Congress to grant control of the continental shelf to the coastal Sates

(C.Q. Almanac 1953). New legislation was still needed to affirmatively establish federal legal title. In August 1947, two months after the *California* ruling, Attorney General Thomas C. Clark issued an executive determination that the Mineral Leasing Act of 1920 (as amended) was inapplicable to offshore lands because they were legally not public lands; as a consequence, their subsea mineral and petroleum deposits could not be leased or managed by the federal government under the Act's authority (Fitch 1956, 36). Even after the joint rulings in favor of the federal government in *United States v. Louisiana* and *United States v. Texas* were handed down in 1950, the disposition of the submerged lands was understood by the court and policymakers in Washington alike to be a political question at core, to be properly decided by the President and Congress, not the courts (Priest 2008b, 75, 77).

The incidents that sparked all three tidelands cases were ones of financial trespassing. The administration's suit against California in 1945 came after the state issued leases for the extraction of oil and gas off its coast and garnered "large sums of money in rents and royalties for the petroleum products taken" as a result (*United States v. California* 332 US 19). The cases against Louisiana and Texas proceeded from similar revenue-related incidents, and all three decisions commanded the states to return the monies to the federal treasury. Meanwhile, Congress continued to hotly debate the ownership of submerged lands between 1950 and 1953. By one count, over one million words were spoken in the Senate on the topic in 1953 alone (Fitch 1956, 4). As the *California* case intimated, political debates over the issue acknowledged that with the outcome, significant sums of money rested in the balance. Senator Paul Douglas (D-IL) said on the Senate floor that it would take at least "fifty stacks of $1,000 bills, each higher than the Washington Monument," to equal the value of the minerals stored under the continental shelf (C.Q. Almanac 1953). Douglas' estimate—which can be reliably estimated at about $77 billion, or $683 billion in currently figures—was clearly a vast understatement of the value of the OCS. President Truman had said in 1952 that the advocates for the states wanted to turn a "vast treasure over to a handful of states, where the powerful private oil interests hope to exploit it to suit themselves" (Priest 2008b, 86). Truman himself estimated that treasure topped $100 billion (US President 1953a). President Eisenhower shared similar if more terse comments when he signed the Submerged Lands Act (SLA) into law on May 22, 1953. Eisenhower remarked that offshore lands beyond the historic boundaries of the states "should be administered by the Federal Government and income therefrom should go into the Federal Treasury" and nowhere else (US President 1953b).

The Submerged Lands Act (SLA) settled the tidelands issue by effectively dividing up the nation's offshore lands into two segments: a narrow strip owned by the coastal states (generally set at three statute miles, with exceptions for Texas and a part of Florida[5]), and the remainder owned by the US federal government (Priest 2008b, 88). Although struggles over the exact placement of the landward cadastral baseline and the matter of "drainage" from reservoirs straddling state and federal boundaries would linger for years, the tidelands controversy was definitively settled by 1953.[6] Still, the developments of 1947 to 1953 outraged advocates for state ownership. Just weeks before President Eisenhower approved the Submerged Lands Act, one Texas newspaper opined that in doing so, the Republican president's assertion

[5] In *United States v. Louisiana* 363 U.S. 1 (1960), the Supreme Court ruled that Texas and Florida were entitled "to the lands, minerals, and other natural resources underlying the Gulf of Mexico" out to three marine leagues from certain lengths of their respective coasts. The ruling validated the boundary claimed by Texas at its readmission to the Union in 1870, as well as a boundary claim present in the state constitution of Florida that Congress approved at its readmission in 1868 near the start of Congressional Reconstruction.

[6] Disagreements between the coastal states and the federal government over the placement of the federal-state "Fixed Offshore Boundary" crop up periodically; most recently, the U.S. Supreme Court issued a supplemental decree regarding the boundary with California on December 15, 2014 (Fifth Supplemental Decree, *United States v. California* 332 U.S. 804 [1947]).

of federal ownership "would give the trend towards socialism its biggest forward 'creep' in American history" (Fitch 1956, 14).

Three months later, on August 7, Eisenhower signed a companion bill to the SLA that contained portions deleted from the first bill. The OCSLA of 1953 sailed through the House of Representatives but barely squeaked by in the Senate, with a vote of 44–43 (Fitzgerald 2001, 34). In light of General Clark's 1947 determination, the Act was written expressly to serve as the marine equivalent of the Mineral Leasing Act of 1920, to grant authority for federal management of natural resources. (In drafting its 1921 offshore leasing law, California had expressly translated part of the Mineral Leasing Act to apply to submerged lands [Wilder 1998, 35].) The law extended the US Constitution and its codified statutes to the OCS, "to the same extent as if the outer Continental Shelf were an area of exclusive Federal jurisdiction located within a State: provided, however, that mineral leases on the outer Continental Shelf shall be maintained or issued only under the provisions of this Act" (67 Stat 462; emphasis in the original). These lands were rendered "decidedly federal" by the two laws, as Robin K. Craig writes (2013, 90). Moreover, the OCSLA was designed to provide the architectural framework needed to govern the uniquely complicated operations of marine petroleum activity (US Congressional Research Service 1976, 13). Together the SLA and OCSLA grandfathered-in leases previously issued by the coastal states that found themselves in waters newly under federal jurisdiction. Even the provisions of the approximately 350 "validated" leases under the laws rankled the former quitclaimers.[7] Still smarting from the tidelands defeats, Senator Russell B. Long (D-LA) wanted his state to retain the right to collect the severance tax owed to Louisiana from leases that were transferred to federal control. That measure was defeated, and the DOI simply collected the equivalent amount of the severance tax in addition to the royalty due it under the OCSLA. Senator Long—who, incidentally, would accompany Jimmy Carter to *Yorktown Zapata* twenty-four years later—thundered that the deal served to "extract the last ounce of flesh" from his state (Fitch 1956, 250; Carter Presidential Papers 1977).

OCSLA was an innovative document in part for its concatenation of the word "outer" with the term "Continental Shelf." Truman's September 1945 presidential proclamation on offshore lands had only stated that the US regarded itself as having jurisdictional control over "the natural resources of the subsoil and sea bed of the *continental shelf* beneath the high seas but contiguous to the coasts of the United States" (US President 1945; emphasis added). Though Truman's orders had not specified where a boundary between the continental shelf and its outer or seaward bound might be set, or by what process, a non-legally binding press document issued by the White House communications office on the same day (and a legal memorandum submitted to Truman beforehand) noted that the continental shelf was "generally" considered to be those submerged lands covered by no more than 100 fathoms (or 600 feet) of water (US President 1945). The legislative histories of OCSLA and SLA suggest that Congress consciously avoided any reference to a seaward distance (of 100 or 150 miles) or water depth-based limit to the new "outer Continental Shelf" so as not to commit the US to a small or overly restrictive claim (US DOI 1985c, 5; Hollick 1981, 49). The addition of the word "outer" to the "continental shelf" would prove to be a small but significant change.

2.2. Setting the Parameters of Market Value

Although OCSLA did sketch out an architecture for its eponymous leasing program, the image it outlined was closer to an artist's conceptual drawing than a draftsman's detailed blueprint. There were precious

[7] "Validated" leases under OCSLA are those mineral leases covering submerged lands of the OCS issued by a state before December 21, 1948, and in force and effect in accordance with state lease terms and provisions on June 5, 1950. Additionally, any lease issued between June 23, 1947 and December 21, 1948 seeking validation must have been awarded competitively. By one count, twenty-four oil and gas operations existed beyond the three-mile boundary line at the enactment of OCSLA in 1953 (Gramling 1996, 49).

few hard-and-fast details that OCSLA stipulated plainly. The Act set a minimum royalty rate on produced hydrocarbons of 12.5%, the term of an oil and gas lease at no less than five years, and required that leases be awarded to the "highest responsible qualified bidder" by competitive bidding. Otherwise, the law gave wide discretion to the Secretary of the Interior to implement the Act. Its primary statutory directive was to lease offshore lands while providing for "the prevention of waste and conservation of the natural resources of the outer Continental Shelf" in order to "meet the urgent need for further exploration and development of the oil and gas deposits of the submerged lands" of OCS (67 Stat 468). While its programmatic goals were clear enough, OCSLA was vague on defining two terms critical to the DOI's charge to collect—like California had before the tidelands dispute—the large sums of money due in exchange for the rights to offshore petroleum: the meaning of "competitive bidding" and "market value."

Much as Louisiana and Texas had extended the Lambert projection grid from its onshore lands into the Gulf, the federal government was able to crib for its administrative agencies many organizational practices and policies already in use by the two states. The DOI adopted the basic competitive leasing rules used by Louisiana—a variable cash bonus bid with a fixed royalty rate—which the industry was familiar with, and preferred over other alternatives. The 16.67% offshore royalty rate informally used as the federal standard was similarly derived from Louisiana's precedent; the rate was simply the sum of the minimum OCSLA royalty rate of 12.5% and the state severance tax of 4.17%, the same tax that had so enraged Senator Long (Priest 2008a, 95). The clarity of the OCSLA ended there. In promulgating any additional regulations or guidelines for administering the offshore program, officials at the DOI had to extrapolate meaning from the brief passage in the OCSLA that mentions revenues explicitly. That passage of the law reads, "...the rules and regulations prescribed by the Secretary [of the Interior] may provide...for the sale of royalty oil and gas accruing or reserved to the United States at not less than market value" (67 Stat 464).

Leasing officials at DOI soon decided that their department would require lessees to pay rent on their offshore holdings, to be assessed annually on a per-acre basis. Collecting such a fee makes good fiscal sense for any natural resources owner. It was fairly standard petroleum industry practice for the period; for example, Louisiana charged an annual rental of one-half of the cash bonus bid paid for a lease (Priest 2008a, 96). It also made sense given the unique nature of offshore petroleum development, in which many years might pass between the awarding of a lease and the start of oil and gas production (if any) from the ground underneath it. Annual rentals provided a modicum of continuing revenue that helped cover administrative costs, as well as provide a small incentive to firms to either engage in drilling activity on a lease or to relinquish it (thereby obviating further rental payments on the lease, and possibly allowing for a tax write-off on the loss). With the maximum size of an offshore tract set by the OCSLA at no more than 5,760 acres, the DOI initially set a rental rate of $3 per acre, or a $17,280 annual maximum. The rental rate has increased sporadically since 1953, but the $3-per-acre rate remained in use for decades. John Rankin, who later served as the regional director of the Bureau of Land Management (BLM) office for OCS issues in New Orleans, recalled in 2000, "Never have I known where the $3 per acre came from" (ibid., 95). Regardless of its origin, it was a modest fee at best. The $3-per-acre rental rate was retained as a minimum level for use in deep or wildcat (i.e., undrilled) areas, but was later upped to $10 per acre in areas already proven as containing commercial amounts of oil and gas (US DOI 1975b, 4).

Rankin and the BLM team also agreed that it was prudent to establish a minimum bid level for lease signature or bonus bids, also as a per-acre dollar figure. The minimum bid level was designed to serve two purposes: first, it would prevent oil and gas companies from idly acquiring offshore tracts at ridiculously low rates—without a minimum bid threshold, a $0.01 bid would in theory be valid to win a lease—while tying up scarce departmental resources in awarding and signing lengthy lease contracts for a tract guaranteed to remain undrilled. This reduced the incentive for a firm to acquire offshore acreage on pure speculation or for the express purpose of preventing competing firms from gaining a favorable lease foothold in the Gulf. The minimum bid was also aimed at discouraging speculative bidding in deeper

waters; its imposition would force companies interested in expanding into greater water depths to pay at least a nominal bonus bid amount in areas where they were likely to face little or no competition. At the time of the first federal OCS lease sale in October 1954, "deepwater" was at most any depth beyond 120 feet of water. Wells had already been drilled in up to 61-foot water depths by the lease sale date, but the 120-foot water depth contour line was the maximum distance seaward represented on the BLM's lease sale maps for the Gulf (Priest 2008a, 96). The BLM soon extended that vast invisible grid further out into Gulf waters.

Still, even with an anti-speculative rental fee and a minimum bid threshold set, some industry watchers chafed that the size of the 5,760-acre standard offshore tract was exceedingly large and thus excessively generous to the industry. Although oil and gas companies would later deride OCS tracts as frustratingly small compared to other offshore basins across the world, at the time, the tracts were indeed large compared to other US leases. Texas had capped the size of its offshore leases at just 640 acres each (Kreidler 1997, 214). In the federal Mineral Leasing Act of 1920, one provision prohibited an individual firm or person from owning more than three federal leases within one state, and further limited it to no more than 640 acres spread over a contiguous subterranean geologic structure or hydrocarbon field (Fitch 1956, 216). Its purpose was to prevent anti-competitive behavior from cropping up among the onshore exploration and production (E&P) firms, especially by the wheeling-and-dealing Texas firms notorious for ethically questionable behavior. The restriction was relaxed in 1946 and again in 1954, but at the passage of the OCSLA a company was restricted to owning leases over a maximum of 46,080 acres on federal land within one state—the equivalent of just eight offshore blocks on the OCS. Neither of these restrictions was considered unduly restrictive to commerce or in restraint of trade on dry land by 1953 (ibid.), yet no similar stipulation or limitation on a company's total ownership offshore was written into the OCSLA. Government power to preserve a free and competitive leasing market environment offshore (including by fighting market consolidation) was limited to the proper and fair administration of lease sale auctions.

OCSLA charged the DOI with regulating one other realm of offshore activity in the interest of upholding federal ownership rights. "In the interest of conservation" of the resource and to prevent its wanton "waste," OCSLA authorized the department to write rules providing for:

> [U]nitization, pooling, drilling agreements, suspension of operations or production, reduction of rentals or royalties, compensatory royalty agreements, subsurface storage of oil or gas in any of said submerged lands, and drilling or other easements necessary for operations or production. (67 Stat 464)

The mandatory combination of multiple leases into a single "unit" was an early and important policy measure in the evolution of offshore drilling in the Gulf. Regardless of whether OCS tracts were too big or not, oftentimes the areal extent of an oil or gas reservoir extended underneath two or more leases. The blocks of the Lambert grid, after all, bear no relationship to the geological structures deep below them. If two companies, having discovered the same hydrocarbon deposit on adjacent leases, began to produce from it simultaneously, basic economics (not to mention decades of industry experience) predicted that each would attempt to rush the oil and gas to the surface as quickly as possible, to both maximize cash flow and returns, and obtain the petroleum before the other firm could drain it dry. Known as the rule of capture, or as drainage, such situations and their hydrocarbon reservoirs were appropriately called "competitive." However, the biggest loser in such a scenario was not the second-place company but the resource owner: rushing production will inexorably damage a reservoir, decreasing pressure around the wellbore(s) so quickly that it makes it too costly to extract a significant amount of otherwise-recoverable oil or gas reserves. If oil is withdrawn too rapidly, the water and gas intermingled with it in the geologic formation can form "flow channels" to the well, leaving behind wasted pockets of oil that become practically irrecoverable. This also rapidly depletes the reservoir's pressure or drive mechanism, the engine that lifts oil and gas to the surface (McDonald 1979, 54).

Not only would the Treasury be deprived of royalty payments from lost production from competitive reservoirs, bonus bids for leases likely to be in competitive situations would be reduced, and the natural bounty of the oil and gas deposits wasted. Under a unitization agreement, the terms and ownership structures of the unit's constituent leases are maintained, but production totals accrue to the unit as a whole. As a result, one firm rushing barrels out under unitization will damage its profits it as much as the other firm. Accordingly, OCSLA endowed DOI with authority to unilaterally unitize offshore leases. Furthermore, the same concept applies to a single firm extracting oil and gas from a non-competitive reservoir. Overspeeding a well's production can yield a quicker and temporarily higher cash flow and perhaps a field's total net present value—a critical concern for any commercial enterprise—but will also depress its overall recovery. Indeed, this practice was the target of OCSLA's dictate on the prevention of waste. As the offshore landlord, DOI claimed the authority to set a "maximum efficient rate" (MER), the maximum rate of withdrawal allowed from a reservoir, across one or multiple wells. In other words, the MER is the rate at which increasing the production flow any more will reduce the total amount of the resource that can be recovered (McDonald 1979, 54). A similar figure, the "maximum production rate," or MPR, applies to specific wells (US Office of Technology Assessment 1975, 162). A "maximum attainable rate" (MAR) can be determined for the largest fields in the Gulf, but it is a hypothetical and rarely-used number. The GAO has since questioned the necessity of using the MER and MAR in light of the MPR's usefulness, but they remain important tools available to regulators.

Finally, more mundane details had to be ironed out before binding lease contracts could be awarded and signed. It was determined that natural gas removed from below the seafloor but used to power production operations offshore could be extracted royalty-free, for example. Lease contracts from the period reveal that while royalty payments and rental fees were payable to the US Geological Survey (USGS), bonus bid payments, miscellaneous permit application charges, and the rental fee for the first year were to be paid to the Bureau of Land Management (US Congress 1974b, 114–117). Along with setting a minimum per-acre bid and requiring a rental payment, these early decisions by the DOI succeeded in setting up a robust framework for stymying waste of the nation's newly-acquired offshore oil and gas resources, promoting competition so that the largest firms didn't dominate the market, and ensuring that the US public received the share of its value, as instructed by Congress. Many of the precedents established in this period are still in use.

2.3. Presto-Change-O

Though it could adopt some of the leasing practices used by Louisiana and Texas in the Gulf's shallow waters, the DOI could not simply appropriate their organizational structures and staff wholesale. As directors of the BLM and USGS, Edward Woozley and W.E. Wrather had to create "from scratch" an entire administrative program for the OCS, covering everything from surveying for leasing maps of the Gulf to ensuring that offshore operators complied with its rules for setting maximum efficient rates, unitizing, and, in later decades, for following minimum standards of well control and worker safety (Priest 2008a, 94–95). They turned to the industry for help wherever it was available. Using the same division of responsibilities in place for onshore federal lands, Interior delegated management of the OCS to the BLM and the Conservation Division of the USGS. BLM's set of tasks could be generally described as "back office" responsibilities; its staff managed leasing practices and contracts administration, and oversaw the granting of pipeline rights-of-way. In preparing a lease sale, BLM was responsible for evaluating the number of nominations received for a tract; whether to initiate leasing in unproven, overly deep, or wildcat areas; keeping track of individual tract and overall leasing histories; assessing nomination patterns (including whether they hinted at any collusion in nominating practices); and achieving for a lease sale a mix of tracts across water depths and distances from shore (US Congressional Research Service 1976, 25). The USGS was to serve in a more operational or "front-office" role, ensuring compliance with post-lease rules and regulations, issuing permits when necessary, and, curiously, collecting the rental fees and royalties on production due to the government. The USGS would

also perform the geological and technical evaluation and resource valuation of offshore tracts (US Congress 1974b, 114–117).

Offshore royalty collection would not command much of the USGS's attention for some time, of course, because production from federal waters would be limited to the validated leases transferred from state contracts until oil and gas companies began drilling on newly-issued federal leases (see Figure 3.3.). For governing offshore revenues, the text of OCSLA was clearest regarding the government's responsibilities for royalty collection. It was to guarantee that the public received payment for its cut of offshore production at "not less than market value" (67 Stat 464). The market implied in this directive was straightforward and easy to apprehend (unlike the market for the offshore leases themselves, which was a de facto creation of the lease sale auctions and their terms). Royalties were to be paid on no less than 12.5% of the sales value of the volumes produced, calculated at a price comparable to an open market transaction if traded internally. The key challenge in calculating a royalty payment was to accurately determine the volume of oil and gas produced by each company or joint venture from each of its producing leases. Measured volumes were then compared with variables like the product's posted price, the price actually paid, and the highest price paid (if different) for a portion of production of like or similar quality from the same field or reservoir[8] (US DOI 1975b, 25). Belying the chronic royalty accounting and collection difficulties that would plague DOI for decades, at least a few followers of OCS policy believed that royalties would be the least troublesome revenue task to administer offshore. "The advantages of a royalty system lie primarily in its administration," Hayne Leland wrote of OCS leasing in the Quarterly Journal of Economics in 1978. "Production on a lease is relatively easy to monitor, as are wellhead prices. Batteries of accountants and inspectors are not needed" (Leland 1978, 423).

Potentially the most lucrative component of the newly established program was the high bonus bids that DOI expected to receive for offshore leases. The lease sales were also the most visible part of the OCS program, both for the large sums they generated on a single day, and for the political backlash guaranteed to foment if Interior sold off a lucrative Spindletop-like oil field for just a few thousand dollars. The OCSLA was perhaps most vague on the revenue component of the lease sale auction, requiring only that offshore lease sales be "competitive." The "market value" clause in Section 5 of the Act refers expressly to royalties from oil and gas alone. With poorly placed punctuation reminiscent of the errant comma in the Second Amendment to the US Constitution, the law said that regulations "may provide for the assignment or relinquishment of leases, for the sale of royalty oil and gas accruing or reserved to the United States at not less than market value" (67 Stat 464). Regardless of whether Congress intended for the "no less than market value" standard to be applicable to the assignment of leases, or whether the "royalty oil and gas...reserved" could be construed to include as-of-yet undiscovered reserves, other sections of the law gave the DOI Secretary broad authority to set rules and regulations as he or she saw fit.

Armed with a minimum bid threshold and per-acre rental rates, the BLM set off roughly a year after OCSLA's enactment to hold its first federal lease sale on October 13, 1954. Under a leasing system known as tract nomination, the agency solicited voluntary nominations of prospective tracts from interested bidders several months in advance of a sale, and then added additional tracts to the offering. DOI officials were pleased with the result of the first two sales, both held in 1954, and the one that followed in 1955. They pointed out that despite having a higher royalty rate than adjacent state waters—not to mention the location of its leases at a greater (costlier) distance from shore—the tracts in the sale put up some impressive numbers. Though the average winning bid was $310 per acre (Priest 2008a, 197), Forest Oil paid a whopping $1,220 per acre for a 5,000-acre Louisiana tract located an incredible

[8] Posted and spot prices for crude oil and natural gas differ. The former is used in valuing non-market exchanges, and is typically the price paid for a product by a field's primary purchaser. Spot prices are used in short-term contracts that commit to taking future delivery; as a result, spot prices are usually a few percentage points higher than posted prices.

thirty-two miles off the coast in the Gulf's open waters (Fitch 1956, 230). In fact, the difference in the federal and state royalty rates offshore seemed so inconsequential to the magnitude of industry interest that after the 1954 sale, both Louisiana and Texas upped their royalty rate for new leases from 12.5% to 16.67% (ibid., 223).

True to its historical foundation in the earth sciences and geophysics, in 1959 the USGS began evaluating the geology of select offshore tracts before they were offered for sale. This was done in order to generate an estimate of their value. The process was easiest and most successful when applied to drainage lease sales, those tracts adjacent to actively producing leases or a confirmed oil or gas discovery. The drainage lease sale held in 1959 also brought with it a major economic and political test for the OCS program, when BLM for the first time rejected a bid submitted for a tract. The bid's dollar amount was equal to or greater than the minimum bid required for consideration, but the BLM rejected it on grounds that it insufficiently remunerated the public for the oil and gas presumed to lie underneath. Several more bid rejections in the February 1960 lease sale—at which industry submitted $285 million in high bids—elicited grumbles and complaints from the affected companies: how, they asked, was the government deciding when to reject a high bid, and when to accept it?

A good answer to that question was not readily forthcoming. As Tyler Priest (2008a) has extensively chronicled, the absence of a pattern to the bid rejections in the 1960 sale made it clear to the oil and gas firms that the BLM was making decisions with little or no reliable information at hand (107). In the words of the departmental solicitor, the bidding companies well knew that BLM had nothing approaching "precise yardsticks" with which to evaluate bid adequacy. DOI officials soon began to use what they called the "Bierne Eyeball" method, named after the BLM's assistant director for administration of the OCS (ibid., 108). Jim Bierne would literally eyeball the leasing maps up close and carefully, comparing high bid values and the number of bids submitted for a given tract against the values of adjacent or structurally similar blocks. Unsurprisingly, this approach yielded fewer bid rejections in deeper waters, where geological data and bidding histories were almost entirely nonexistent. Secretary of the Interior Fred A. Seaton upheld every bid rejection decision made at the 1960 sale, firmly establishing the department's right to apply the "no less than market value" standard from Section 5 of the OCSLA beyond royalty rates alone, to help delineate what qualified as "competitive bidding" under Section 8 (ibid.). It was an unreliable and unwieldy system, to be sure, but it was a necessity "until the Conservation Division acquired a larger staff and developed analytical methods for pre-sale tract evaluation in the late 1960s" (ibid.). To ensure a competitive market and the receipt of market value, USGS looked to keep bonus bid dollar amounts high, and make sure that too many tracts were not sold off simply because they received a single—and by definition, uncompetitive—bid.

As the offshore basin heated up in the 1960s, the pressure mounted rather quickly for USGS to develop a capability to systematically assess bid adequacy. The wildly successful, breakthrough lease sale in March 1962 took in an unprecedented $445 million dollars in high bids, and for many marked the arrival of the Gulf as a truly world-class hydrocarbon province. Departing from the typical practice of submitting rounded bid figures such as $1,500,000 for a lease, the oil and gas companies in the March 1962 sale began submitting very specific bids for a tract (more akin to $1,524,823). It was clear that the companies had found religion in regards to closely estimating the geologic and economic risk of an offshore tract, determining its value to themselves *and* predicting what amount rival firms might bid for it. They accordingly set their bid levels with a high degree of specificity (ibid., 111). Jim Parrish, chief of the Offshore Resource Evaluation division of MMS in the 1980s, recalled that sometime in the mid-1960s, "a decision was made that government needed an independent capability to judge the value of OCS lands to be leased. Prior to that time," Parrish continued, the Geological Survey "had neither the data nor the staff to make any really meaningful assessments of value of OCS tracts" (US DOI 1982e, 3). Building that capability would not be easy.

The Conservation Division soon joined the industry choir in singing the praises of using innovative methods for tract value estimation. Along with the shift to specific bid figures, officials had noticed that

the 1962 sale brought with it a lower number of average bids per tract, most likely due to an increase in the total amount of acreage offered (Crommelin 1974, 461). Officials feared that a similar decline in competition at future lease sales would harm the competitive vibrancy of the offshore industry, as well as jeopardize Interior's receipt of market value. The department's first attempt at performing standardized pre-lease evaluations came with the June 1967 sale off Louisiana, but officials (having moved on from the eyeball method) ultimately deemed the geological data to be too incomplete to allow for defensible estimates (ibid., 460). Sometime between 1962 and 1967, DOI restructured its system by setting an unannounced dollar value on each tract (Beu 1988, 5), and by the following year, the USGS debuted a sophisticated system for use in both tract value assessment and bid adequacy evaluation. It was named the Probabilistic Resources ESTimates Offshore system, or PRESTO.

PRESTO was a remarkably powerful tool for its time. It was an all-in-one methodology, database, computational program and mathematical model. In its earliest and simplest form, the PRESTO software would assess estimates of several variables, including: the expected ratio of oil to gas in a reservoir; the density or amount of oil and natural gas expected to be present in a given volume of the underground formation; the estimated ultimate recovery factor of all the hydrocarbons in place (stated as a percentage); how thick the hydrocarbon "pay zones" or intervals of productive sands were expected to be; and a tract's minimum distance to shore or to the nearest pipeline (Cooke 1985; US Congressional Research Service 1976, 25). Assessing these and other factors, the PRESTO model would generate an estimate of how much oil and gas a given tract might contain. Then, using a discounted cash flow analysis (which adjusts for the time-value of money, since oil and gas reservoirs produce over many years), PRESTO spit out a single dollar estimate of a tract's value. With this figure in hand, USGS personnel could directly compare and evaluate the high bids submitted in a lease sale, much more confident that they were not about to be fleeced by accepting a small bid for a massive hydrocarbon deposit.

As the offshore industry progressed into deeper waters, geological science also advanced, and the USGS routinely updated and expanded its tract evaluation methodology accordingly. The supply crunch and oil price fluctuations of the early 1970s caused legislators and DOI officials alike to doubt whether the original methodology was still sufficient. The estimate of a tract's hydrocarbon potential that PRESTO produced is known in technical circles as its UERR, or undiscovered economically recoverable resources. In the DOI's parlance, UERR refers to the undiscovered oil and gas reserves that "can be explored, developed, and commercially produced at given cost and price considerations using present or reasonably foreseeable technology" (US DOI 2014b). The price volatility wrought by the oil shock in 1973 severely hindered the effectiveness of UERR as a basis for bid adequacy evaluation, and its shortcomings soon showed. For instance, during a December 1973 lease sale in the Gulf, DOI received high bids on 89 tracts, for a total amount of just over $1.49 billion. Using the PRESTO system, DOI had estimated the value of the same 89 tracts to be just $192 million—ten times smaller than what industry was willing to pay, at a difference of nearly $1.3 billion dollars (US Office of Technology Assessment 1975, 274).

Regulators were already aware of the system's limitations, and knew that it required a major upgrade. They took a number of steps to tweak its capabilities; the first of which was to shift the PRESTO evaluation methodology away from calculating the UERR to the UTRR, or undiscovered technically recoverable reserves. UTRR estimates a resource basin based on the parameters of what is technologically feasible with existing equipment and practices, assuming that production projects were unconstrained by economic pressures. This change allowed for the maintenance of resource volume estimates that were unaffected by sudden changes in commodity prices. Second, DOI moved to provide USGS staff with better information on which to assess prospects offshore and provide input into PRESTO. Until 1974, employees evaluating an offshore tract had access only to publicly available—and thus grossly inferior—geological and geophysical information about offshore areas (Cooke 1985, 7). USGS occasionally purchased marine survey and seismic data on the open market to supplement its public data, but that was unrealistic as a long-term fix: word came from the highest levels in Washington that purchasing enough data early in the leasing process to significantly improve USGS's estimation

ability would be “quite costly” and not worth pursuing on a wider scale (US Congress 1977a, 255; US Comptroller General 1977a, 44, 55).

The department attempted to gain access to proprietary geological and geophysical data on all offshore prospects when it issued an administrative regulation in 1974 mandating information sharing. Placing such a requirement on all OCS lessees and permittees would give USGS access to critical exploration data like seismic survey interpretations and well logs. To the USGS’s surprise, the agency received less than stellar compliance from the offshore companies: only 22% had cooperated with the order by the middle of 1975 (US Congress 1977a, 255–256). The department would not gain guaranteed access to better data until the OCSLA Amendments of 1978 made such information sharing an impossible-to-flaunt statutory requirement, and not just an administrative one (92 Stat 664).

The most significant change to the PRESTO system and the bid evaluation process came in 1972 (US Congress 1974b, 14). The change involved making technical computing upgrades that facilitated more accurate pre-sale estimates, and using better and broader qualitative methods to evaluate bids after a sale. Of course, DOI staff recognized that even with access to the best possible G&G data, the first version of PRESTO was inadequately structured to account for the risk inherent in prospecting for oil and gas. To fill this lacuna, USGS altered its mathematical model to use Monte Carlo analytical methods and employ a “range of values” approach. Under the range of values method, the mathematical software allowed the user to input for one variable a range of numbers, instead of a single-point estimate. For example, when inputting an estimate of an oilfield’s volume, an employee could type in that the field held between 10 and 150 million barrels, instead of being restricted to picking a single number (US DOI 1982e, 5). The “range of values” term also referred to PRESTO’s output, as the program now generated both an estimate of a tract’s value and a probability distribution of that estimate’s reliability (see Figure 3.6.). The value estimate produced came to be known as the MROV, or mean range of values. It was reached through a three-step method: agency analysts would estimate a range of values for each variable used; PRESTO would calculate a tract value estimate by selecting one value from each variable at random, and then recalculate the same procedure after selecting a new value for each variable; finally, those values were averaged together based on the overall quality of the G&G data and the USGS’s assessment of the hydrocarbon basin’s overall resource potential (US GAO 1985, 93).

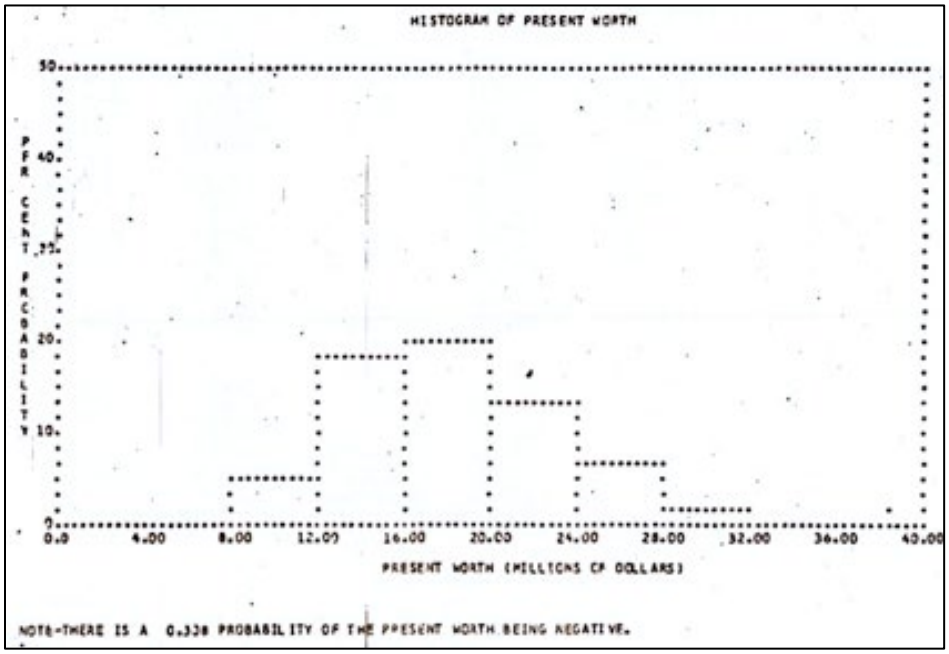

Figure 3.6. Facsimile of a PRESTO-generated probability histogram for the value of a tract in the Gulf, circa 1973.

The target tract assumed the presence of natural gas pay sands at 8,500 feet below the seabed, in approximately 350 feet of water. PRESTO valued the tract at $17,399,200, and estimated a 3.5-year duration between lease award and first production.

Source: US Congress 1974b, 9.

The PRESTO model simulated an offshore development drilling program, incorporating anywhere from 2,000 and 5,000 trials in each tract analysis (Cooke 1985, 9). PRESTO would spit out a range of estimated volumes of oil or gas reserves for a given tract, a forecast of the probability that it contained hydrocarbons in commercial quantities, and a profit-loss distribution that was "representative of the set of outcomes a lessee may expect" (Cooke 1985, 3; US DOI c.1977b, C-1). The final outcome used by staff evaluators, a DOI analysis explained,

Is a distribution of the profits and losses which reflects the relative likelihood of no deposits, moderate deposits, or large deposits of hydrocarbons . . . and so on. From this distribution, a mean or expected profit may be extracted. Simultaneously, distributions and expected values of other important variables (e.g., oil/gas production) are also generated. (US DOI c.1977b, C-1)

The Monte Carlo method of statistically sampling uncertain variables is a commonly-used way to reach better "subjective judgments" in circumstances where available data is limited (Cooke 1985, 8). As the model was expanded and improved, by the late 1970s it came to encompass many known variables—like water depth, the deepest likely drilling target, royalty rates and depreciation of assets—and over twenty "uncertain" variables. The uncertain variables covered four attributes of an offshore tract: determinants of reserves, determinants of daily production, determinants of the production profile for the life of the field, and determinants of costs and prices (US DOI c.1977b, C-2).

These changes significantly enhanced the quality of PRESTO's output (US Office of Technology Assessment 1975, 274–275). Before long, the software was also equipped to evaluate tracts on a "sub-area" basis: given the assumption of commercial hydrocarbons on one tract within an moderately-sized area, PRESTO would accordingly adjust and re-calculate the probability that oil or gas were present nearby. The final estimate of a tract's economic value compared against submitted bids thus incorporated geological, risk-based, and economic elements. In evaluating a bid, USGS economists also came to discount a tract's mean value by 20% to account for the fact that unsold tracts were typically reoffered within two years (US DOI 1977a, 33). Department policy analysts later recommended that the delay in royalty payments associated with a bid rejection should be treated in a similar fashion (US DOI 1978a, 1). In the first two years using the range of values approach, 18% of high bids submitted at lease sales were rejected as too low to convey fair market value (US Congress 1974b, 11), a rate significantly higher than the 13.9% average of lease sales held between 1969 and 1983 (Lohrenz and Dougherty 1983, 1953).

Nevertheless, those within the Conservation Division were not fooled by the program's clever acronym; they knew that PRESTO could not magically predict volumes of oil in undiscovered areas or reveal the "true" dollar value of an offshore lease. If a high bid was larger than the value estimate generated by PRESTO, it was an easy decision to accept the bid, and this indeed was DOI's policy (US DOI 1977a, 33). But USGS staff needed a firmer criterion with which to evaluate a high bid that was lower than their valuation, but also accompanied by several other similarly lower bids. DOI decided that it should not simply reject these bids out of hand, but evaluate them in a second stage of analysis, considering all bids made on a tract together as a unit to be the reflection of the marketplace value of that lease. Generally speaking, the more bids received, the easier the decision to accept or reject. "The government's [value] estimate becomes relatively less important as the number of bids submitted on a particular tract increases," read an economic analysis prepared by DOI staff in 1977 (ibid., 34). The USGS developed a number of other ways to assess these situations, like comparing the number of bids received on such a tract to the average number of bids per tract for the entire lease sale.

The assessment methods could grow very complicated very quickly. Recognizing that two equally skilled and knowledgeable USGS bid evaluators could produce different tract value estimates, in 1974 DOI

began calculating a dollar value called the "average evaluation of the tract" (AEOT), to use in addition to the mean range of values generated by the software. The AEOT was simply an average of the bids received and the government's value estimate, and the USGS turned to this tool when the government's value estimate was higher than the highest bid received, but they judged that the block had attracted a "significant amount" of competition (US DOI 1982e, 6). The department authorized the discretionary use of the GAEOT, or geometric mean of the AEOT, starting in 1977. The AEOT was later discounted, as the mean range of values was, and was fully replaced by the GAEOT in October 1982 (ibid.). The new MMS concluded that the GAEOT was more sensitive to the total number of bids received in a sale and their magnitude, and would balance out "overly-optimistic Government evaluations" to obtain a better estimate of the "central tendency" of bidding in a sale (US DOI 1983c, A-1). Bid rejection procedures for these situations were expanded and made more precise in the 1980s, but given the small and overworked staff present during the accelerated leasing of the 1970s, the changes outlined above seemed to work well more than enough. As an OCS policy analyst in the 1970s and head of MMS Economic Division in the 1980s, Marshall Rose intimately knew the ins-and-outs of combining PRESTO's mathematical prowess with the tacit, subjective knowledge of the bid evaluators within USGS. "Although lacking a rigorous quantitative foundation," Rose and his colleague Donald Bieniewicz wrote to their superiors in 1977, "the current procedure for evaluating and rejecting bids has a strong intuitive apparel" (US DOI 1977a, 34). The mere existence of the system helped to deter collusion, and prevented companies with the best geological knowledge from submitting artificially low bids just to lock up acreage on the cheap (Boué 2006, 271).

Even armed with the updated PRESTO at its command, the USGS was always under scrutiny when it evaluated and rejected high bids. Most bid rejections predictably frustrated the offshore companies. Industry was rankled by rejections in the 1970s, claiming as they had in the previous decade that they could discern no logic behind the process. As evidenced by Rose's quotation above, PRESTO's users in the DOI were aware of its limitations and its perhaps-outsized reliance on the expert knowledge of the employees operating it. Notably, a handful of tracts listed in lease sales between 1968 and 1978 were offered, bid upon, and rejected multiple times, at a higher dollar value estimate for each lease sale—a maddening and inexplicable trend for those bidding to win these highly competitive leases (Lohrenz and Dougherty 1983, 1953). One oil company representative spoke for the entire offshore fraternity when he anonymously lamented to the *Oil & Gas Journal* in 1978 that if the government was "trying to run private industry off the OCS," he could not "think of a better way to do it" than by rejecting so many bids (1978b). Nevertheless, the impact of PRESTO's development on the offshore lease market in the Gulf was a marked one. From 1954 to 1967, about 5.8% of all high bids were rejected. From the first use of the PRESTO methodology in the early 1970s until the leasing system fundamentally changed under President Reagan in 1983, that rate more than doubled (Lohrenz and Dougherty 1983, 1951).

Clearly, an ability to systematically scrutinize the market value of offshore leases altered the perception within the DOI of what it meant to create a "competitive" market for lease sale auctions. With the advantage of hindsight, many bid rejections from this period under tract nomination procedures have proven themselves prudent administrative decisions. A Congressional task force later concluded that up until 1983, the government received an average of 13 times more value for a tract when it was re-offered after an initial high bid was rejected (Boué 2006, 271). It has indeed been a favorite pastime of OCS policy pundits to comment on the discrepancies between industry high bids and USGS valuations. One Congressional report published in 1976 pointed out just how extreme these differences in dollar values could be:

For example, in the December 1973 sale [in the MAFLA region of Mississippi, Alabama, and Florida] tract number 032005 had a presale USGS evaluation of $3,625,432 but the winning bonus bid was $32,232,000 (the next highest bid was $8,067,600). In the same sale, tract number 032077 was valued at $144,000 but sold for $76,827,600. (US Congressional Research Service 1976, 24)

The MAFLA sale later gained notoriety for garnering massive bonus bids but yielding exceedingly poor exploration results. Offshore operators drilled 18 consecutive dry holes before giving up on the area. Studies conducted in the mid-1970s on the correlation between USGS's presale estimates and high bids concluded that—as the above examples illustrate—the government's value estimates were very conservatively biased. USGS value estimates were more often smaller than they were larger than the high bid that finally won a lease. A study by the Los Alamos National Laboratory seconded that finding in 1980 (US GAO 1985, 32). Yet another study conducted in 1979 by the USGS and National Academy of Sciences compared the pre-sale valuations of tracts that eventually produced oil and gas to their gross revenues, and found DOI's estimates to be rather accurate, and that DOI in fact "employed state-of-the-art techniques" in their valuations (US GAO 1985, 32). Other studies run between 1979 and 1980 found that pre-lease estimation of offshore prospects that later went into production were between one-tenth and ten times the value actually realized, a very wide range (Farrow 1990, 45). Questions persisted as to whether DOI was using proper discount rates and oil price assumptions in its calculations, and whether the department properly accounted for changes in production unit costs over the life of a tract (US Office of Technology Assessment 1975, 277). Not everyone concurred, of course; the authors of a separate study concluded that there was not even a "decent correlation" to be found between tract estimates and high bids received (Lohrenz and Dougherty 1983, 1955). More notably, off-the-mark forecasts of several high-profile lease sale totals in the mid-1970s threw into question the department's ability to adequately assess the nation's offshore resource endowment.

Nevertheless, the establishment of a systematic bid evaluation system for a dynamic hydrocarbon frontier was a success in and of itself, not to mention a cornerstone of fulfilling the "market value" charge of the OCSLA. Together, the BLM and the USGS Conservation Division faced the unenviable task between 1954 and 1978 of establishing and managing a complex economic and regulatory program—one caught in the conflux of multiple statutory obligations, interest groups at odds with each other, and the constant changes in the business wrought by rapid technological innovation. "Neither oppressors of the oil business nor its captive instruments, federal regulators weathered many controversies" in this formative period, Tyler Priest writes (2008c, 93), all while "managing to give the industry enough access to make offshore development viable."

2.4. "The sea—yes, the great sea"

According to an old US diplomatic adage "domestic politics stop at the water's edge." The SLA, OCSLA, and Supreme Court tidelands cases together delineated the water's edge between state and federal waters, the landward boundary. Left unbroached was where the outermost or seaward boundary of federal submerged lands would be set. As seen above, the Outer Continental Shelf Lands Act of 1953 represents one of the first official uses of the legal term "outer" alongside the geological phrase "continental shelf." With this key addition, and the absence in the OCSLA of any stated or even suggested seaward limit to federal offshore lands, the stage was set during the 1960s to extend the US' full dominion over them well past the shallows and into what is now known as deepwater. However, two jurisdictional issues in the first half of the 1970s threatened to significantly diminish the scope and size of the federal OCS and its revenue potential, particularly in the Gulf. The first, prompted by the continued claims of several coastal states in a seeming replay of the tidelands controversy, concerned ownership of and title—again—to submerged lands off the Atlantic coast. The second, a product of an internationalist foreign policy crafted by President Nixon, could have resulted in the voluntary ceding of much of the US's claim to the oil and gas off its shores in water depths beyond 656 feet. This would have come much to the detriment of the federal treasury and the estimated 51 billion barrels of oil equivalent produced to date by the Gulf over its long history.

Convinced that the tidelands cases in the Supreme Court had rejected the claims of only those states that were party to the suits brought by the federal government, the former colonies of the English (or Dutch, for New York) crown pushed their claim for the expansion of coastal State ownership in February 1975

before the US Supreme Court. The federal government had requested the Court's permission to file suit against the states in April 1969 after Maine leased to an energy exploration firm 3.3 million offshore acres that were between 10 and 88 miles offshore (Fitzgerald 2001, 45). In *United States v. Maine et al.* 420 US 515 (1975), Maine, New Hampshire, Massachusetts, Rhode Island, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, and Georgia argued that they held title to lands far beyond the state seaward boundaries set by the Submerged Lands Act. Even though the decision in *United States v. California* (1947) had specifically explained that those colonies had not inherited offshore lands from the English or the Dutch, the Atlantic states persisted (Craig 2013, 60). They argued that as original creations of the monarchies, the charters of each colony conveyed to each full sovereignty over its adjacent continental shelf. The Court agreed with the federal government that the findings of fact reached in the three tidelands cases correctly governed the case, and thus refused to open them for re-examination. Referring back to *United States v. California* and its citation of Jefferson's communiqué as the first American assertion of jurisdiction over the marginal sea, the Supreme Court ruled decisively for the federal government in 1975 (Fitzgerald 2001, 45).

Though this decision remains controversial for its refusal to re-examine the (not inconsequential) historical evidence that the charters did indeed convey such sovereignty well out to sea (ibid., 46–48), it seems unlikely that the Court was ready to overturn the tidelands cases and the Submerged Lands Act in one fell swoop. The decision in *United States v. Maine et al.* noted that the "doctrine of *stare decisis* is still a powerful force in our jurisprudence," as Associate Justice Byron White wrote in the opinion (emphasis in the original). The *stare decisis* legal doctrine held that constitutional decisions like that made in the SLA should be less subject to re-examination when doing so could overturn long-accepted commercial practice. The Court was unwilling to upend the "great deal of public and private business" that had been transacted since 1953 on the OCS as authorized by two laws approved by Congress and signed by the President (the constitutionality of which the Court had previously upheld[9]). The Court made a point of reminding the defendants that the Submerged Lands Act was enacted in part to foreclose the "interminable litigation" that had been the hallmark of the tidelands controversy and thus conclude the issue. The *stare decisis* doctrine as applied in *United States v. Maine et al.* highlights an important political trend also at play in the episode discussed below: the advance of offshore drilling into greater water depths and distances from shore at times served as a sort of informal "precedent-in-progress" that bolstered national claims to submerged lands.

Though the former colonies built their claim cases during the late 1960s, the White House was actively seeking to resolve a much larger jurisdictional issue. During a period in foreign affairs marked by a high level of activism and international cooperation, several major domestic interest groups pushed the US to establish a body under the auspices of the United Nations to act as a trustee for continental shelf lands worldwide. President Truman's September 1945 Proclamation on the Continental Shelf had asserted federal ownership of submerged lands contiguous to the US out to the 600-foot isobath, but it was unclear whether rival nations would assert similar rights. Whether international law would recognize such claims was also a murky question. After the OCSLA superseded Truman's proclamation by establishing a depth- and distance-free legal territory named the "outer continental shelf," a number of other countries followed its example and extended their own seaward claims. Some derided the law as an "exploitive quest" by the US to colonize the oceans. For evidence, they pointed out that the US had already issued leases in continental shelf waters out to 4,000 feet of water (Krueger 1971, 605). The concept set out in the OCSLA became enshrined in international law in 1958, when the United Nations Convention on the Continental Shelf adopted the 200-meter isobath (656 feet) as the seaward limit of the legal "Continental

[9] See *Alabama v. Texas*, 347 U.S. 272 (1954).

Shelf"[10]—as the treaty did not use the term "outer" (United Nations 1958, Article 1). It was a definition widely understood as both unsatisfactory and temporary, as it was a compromise among conflicting views, and since advances in drilling technology were sure to soon render it obsolete (Archer and Beazley 1975, 10). By the end of 1958, operators were drilling wells in the Gulf out to a 140-foot water depth, and in 1966 Shell Oil drilled in 626 feet of water in the Gulf at Grand Isle Block 144. That well was sunk in water depths just thirty feet short of the 200-meter international boundary (US DOI 2014a).

Sensing the acceleration in offshore industrial and scientific activities, US political leaders took steps to bolster the nation's burgeoning marine capabilities. President Lyndon B. Johnson signed the Marine Resources and Engineering Development Act (MREDA) on June 17, 1966, the first legislation passed by Congress that explicitly recognized the importance of non-military oceanography and marine science to the twin goals of economic and national security (80 Stat 203). Some glossed that the purpose of the law was to stand in as a sort of "Sputnik moment" to spur US leadership in the deep sea (or "hydrospace," as it was increasingly called). Caught up in Cold War anxieties over a "missile gap"—or as in Peter Sellers' dark "Dr. Strangelove" pastiche, a "mine-shaft gap!"—pundits worried that the Soviets were on course to have a three-to-one lead over the US in oceanographic engineers in 1968 and an even wider gap in marine scientists (Cox and Woodson 1968, 88). President John F. Kennedy had asked Congress in 1961 to increase federal funding for ocean science, and the MREDA fulfilled the fallen President's wish by expanding federal research and development efforts in the discipline. The law also established a temporary cabinet-level council on marine issues chaired by Vice President Hubert Humphrey (Merrell, Katsouros, and Bienski 2001, 12).

Even as some feared an "oceanographer gap" opening up between the two superpowers, many Cold War–era efforts to assert national superiority in the 1960s were pursued in practice with an avowedly internationalist bent, if also in pursuit of US aims (see Krige, Callahan, and Maharaj 2013). While christening the 3,800-ton and $9.3 million dollar scientific survey and research ship USC & GSS *Oceanographer* in 1966, President Johnson spoke forcefully from beside its white hull at the ship's dock in the historic Washington Navy Yard (see Figure 3.7.). *Oceanographer*'s maiden voyage was a six-month research trip around the globe with a crew of several international scientists aboard. Such displays enhanced the nation's scientific prestige, which the US State Department stressed was a critical component of the country's heft in international relations (Doel and Harper 2006, 67). Senior White House advisors saw the launch as a chance for the President to "talk not only about the resources of the sea but in broader terms about worldwide peace, higher standards of living throughout the world, feeding a rapidly growing population, etc." (ibid., 74). Johnson's address matched the mission's cooperative tenor. In a passage often quoted since, President Johnson declared the day "the beginning of a new age of exploration." He continued,

> We greatly welcome this type of international participation. Because under no circumstances, we believe, must we ever allow the prospects of rich harvests and mineral wealth to create a new form of colonial competition among the maritime nations . . . . We must ensure that the deep seas and the ocean bottoms are, and remain, the legacy of all human beings. The sea—yes, the great sea—in the words of Longfellow, "divides and yet unites mankind." (US President 1966)

The selection from Longfellow's oeuvre was a fitting one, as it already had a long presidential pedigree. It comes from the poet's 1850 work, "The Building of the Ship," best remembered today for its line, ". . . . Sail on, O Ship of State!" and for being one of Lincoln's favorite verses. (Walt Whitman drew inspiration

[10] The 1958 treaty reads: "For the purpose of these articles, the term 'continental shelf' is used as referring (a) to the seabed and subsoil of the submarine areas adjacent to the coast but outside the area of the territorial sea, to a depth of 200 metres or, beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources of the said areas..." (United Nations 1958). The US ratified the convention in 1961.

from Longfellow's poem when writing his 1865 elegy, "When Lilacs Last in the Dooryard Bloom'd," for the fallen sixteenth president.) FDR quoted from the Longfellow poem in a letter handwritten to Winston Churchill and sent to London at a critical turning point early in the Second World War (Dana 1950, 209).

Figure 3.7. President Lyndon Johnson speaking at the commissioning ceremony of the Coast and Geodetic Survey Ship *Oceanographer* at the Washington Navy Yard on the afternoon of July 13, 1966.

Also pictured are Lady Bird Johnson (first row, second from left); Washington Senator Warren G. Magnuson (first row, far right); chaplain of the Senate Rev. Dr. Frederick Brown Harris (second row, third from left); and Secretary of Commerce John T. Connor (first row, third from left). Obscured behind Magnuson sits Donald F. Hornig, presidential science advisor and head of the White House Office of Science and Technology Policy. While he did not join the White House speechwriting staff in time to write this address, starting in the spring of 1967 as Johnson's scribe for oceans-related speeches was Peter Benchley, the future author of *"Jaws*."

Source: US National Oceanic and Atmospheric Administration 2014; US President 1966; thanks to the staff of the Lyndon Baines Johnson Presidential Library for providing Benchley's employment dates.

Other parts of the law sought to strengthen the US ship of state alone. Indeed, the MREDA is best remembered for the changes it effected in domestic policy. Its banner provision was the chartering of a blue-ribbon commission charged with reviewing marine policy across the entire executive branch. In its January 1969 final report, the panel known as the Stratton Commission recommended a slew of policy changes and called for the reorganization of several oceanic- and atmospheric-related agencies to help the nation maintain its leadership atop and below the high seas.

The Act established the Commission on Marine Science, Engineering, and Resources, and Julius Stratton was soon selected as its chairman. He was the natural choice. Stratton was a respected electrical engineer, former President of the Massachusetts Institute of Technology (MIT), and current head of the Ford Foundation at his nomination. His commission was independent of Congress and the Executive Office of the President, and LBJ gave it a broad charge to make recommendations on any matter it deemed important to promote American leadership in marine science (US Commission on Marine Science 1969a, vi). Service as a commissioner was a highly desirable job; over 900 people were nominated to fill just 15 slots (Merrell, Katsouros, and Bienski 2001, 14). The Stratton Commission wound up extremely effective in getting the rusty machine of bureaucracy to act on its recommendations. It called for the centralization of all federal marine activities within a National Oceanic and Atmospheric

Administration (NOAA); it was an idea mostly adhered to at the establishment of NOAA within the Department of Commerce in 1970. (The Commission's reorganization plan would have subsumed the US Coast Guard under NOAA as well—a move Nixon rejected—and made the agency independent from the cabinet.) Stratton's work also championed the need for new coastal zone management legislation that would fund coastal protection efforts pursued at the state level (US Congress 1969a, 10). Congress responded by passing the Coastal Zone Management Act, or CZMA, enacted in October 1972 (86 Stat 1280). The Commission's influence remained palpable in marine affairs even after its forced dissolution thirty days after submitting its report. President Nixon made Stratton commissioner Robert M. White the inaugural head of NOAA.

The Commission made a number of recommendations that would have directly affected the OCS, if adopted. Some were more fanciful than others. It suggested siting nuclear power plants underwater off the coasts of major US urban centers, to provide electricity for the urban cores of the cities and to power nearby subsea oil, gas and mineral extraction operations (US Congress 1969a, 18). Still with atomic energy in mind, the report also hinted that nuclear weapons should be used to carve out large subterranean cavities deep below the ocean floor to store oil and gas during production operations (US Commission on Marine Science 1969b, 176). Specific to the OCSLA, the panel made a handful of more mundane observations. First, the Commission reiterated the standing advice of industry groups that the DOI issue notices for lease sales much further in advance and that it set a schedule several years ahead to facilitate the more effective use of industry capital. Second, the panel proposed amending the OCSLA to allow for the granting of longer primary lease terms in hostile environments like the icy Arctic and deepwater basins in the Gulf (ibid., 13, 25). This idea became law in the OCSLAA. And perhaps with an advance nod towards the growing desire to accelerate offshore leasing, the Stratton Commission wisely noted that "the pressures to maximize short-run Federal income from [outer] continental shelf lands may lead to exploitation that is too rapid from the standpoint of the industry's welfare and the national interest" (US Commission on Marine Science 1969a, 124). In short, setting a schedule would help the industry better budget its investment capital, and temper the government's temptation to trade future revenues for a short-term infusion of cash.

Turning to the issue of the seaward boundary of the OCS, the Stratton Commission displayed a strong fealty to Longfellow's poetic charge to unite mankind around the great sea. The Commission and Stratton himself argued forcefully that the US must "take the initiative" and convene a new Geneva Convention on the matter as soon as possible (ibid., 203). The Commission reasoned that it was in the national interest to pursue an international agreement on a "narrow" continental shelf, with its outer limit clearly defined as the 200-meter isobath (or 50 nautical miles from the start of the territorial sea). The commission was keenly concerned that an American claim to submerged lands beyond that point would trigger a global offshore land grab. After word got out of President Truman's claim in 1945 via unilateral proclamation, Chile, Ecuador, and Peru made their own assertions of economic sovereignty over a zone extending out to 200 nautical miles (US Commission on Marine Science 1969a, 145; Sutherland 1972, 138; Archer and Beazley 1975). The panel acknowledged the strong appeal that scooping up these lands held for many Americans, but maintained that doing so would lock away far more hydrocarbons worldwide to exploitation by domestic firms than it would secure oilfields off the US coast for the nation's exclusive use (US Commission on Marine Science 1969a, 145). Moreover, unlike Truman's joint proclamations, these new foreign claims to territorial seas made no distinction between fishery rights and non-living resources (US Congress 1969b, 266). Worried about securing the right of free naval passage through international waters, and access to foreign fisheries for US business concerns, the US Department of Defense had taken (an alarmed) note of the writs in Latin America. As Scoop Jackson and Warren Magnuson learned in 1960, the priorities of the US nuclear submarine fleet easily trumped concerns over access to international fisheries (Doel and Harper 2006, 69; Osgood 1976, 13).

Stratton's proposed solution was a revised Geneva Convention that would set the seaward limit of national sovereignty at the 200-meter isobath. Beyond would sit a new "intermediate zone" to extend to

an approximate water depth of 2,500 meters (8,202 feet). This zone was to be administered by an as-of-yet unchartered United Nations trustee agency. Past the 2,500-meter depth, all subsea oil, gas, and other minerals would be communally owned as the "legacy of all human beings," as Lyndon Johnson waxed at the commissioning of *Oceanographer* in 1966 (Krueger 1971, 606). The intermediate zone was the crux of the plan. It would remain under the jurisdiction and control of the adjacent coastal nation, and that littoral country alone would retain power over the exploitation of the zone's resources. However, the issuance of any leases over lands in the intermediate zone would have to be registered (after the fact) with a United Nations International Registry Authority. Thus, for example, for the 200–2,500 meter water depth band in the Gulf, the OCSLA would continue to govern offshore leasing and drilling operations, but the DOI would report those actions to the International Registry Authority (see Figure 3.8.).

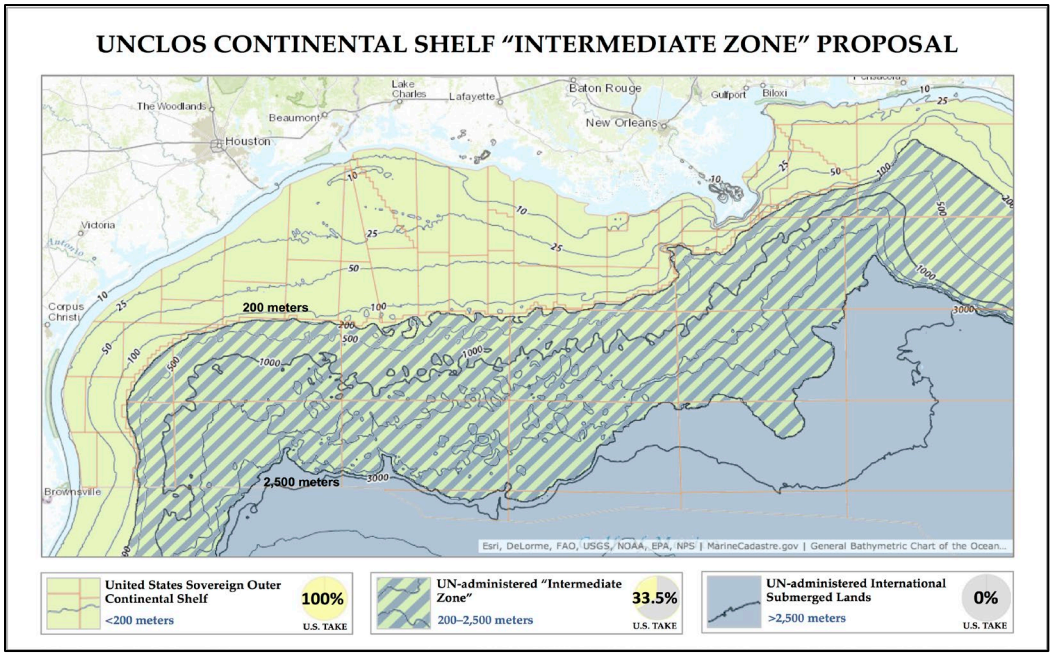

Figure 3.8. UNCLOS Continental Shelf "intermediate zone" proposal map.

The fiscal regime envisioned by the Stratton Commission and pursued by the Nixon administration would have conceded the vast majority of the federal government's dominion over revenues from oil and gas deposits in water depths beyond 200 meters (656 feet).

Source: US Commission on Marine Science 1969a; Krueger 1971. Note: Map generated via MarineCadastre.gov and edited with GIMP open-access photo editing software. All rights reserved.

If this was not controversial enough, the proposed International Registry Authority was also to take a percentage of all government oil and gas revenues from the intermediate zone, receiving between 50% and 66.5% of earnings from the area (ibid., 617). The DOI would further have to pay filing fees and an additional fixed annual rent to fund the body. All monies accruing to the International Registry Authority would go towards international development and relief agencies similar to the World Bank or the United Nations Development Program. Realizing that the destination of these funds would be as controversial as their taking, Stratton stressed the point before Congress that his "Commission's proposals for an International Fund do not constitute just another way for the rich nations to aid the poor nations. They are intended to compensate the common owners of the mineral resources of the deep seas by using the 'economic rent' for purposes that the international community agrees will promote the common welfare" (US Congress 1969a, 149). The UN authority would directly oversee all mineral extraction projects worldwide beyond the 2,500-meter mark, have an independent staff and hold limited police powers to ensure it was getting the proper market value of the world's shared marine wealth.

Congress was decidedly cool to the proposal. One high-ranking Nixon official for oceans policy remembered years later that it was an "extraordinarily generous proposal" (Viswanathan 2009, 31), probably overly so. Members were instead generous only with their scathing comments that the plan would "abrogate some of our sovereignty," as Rep. Thomas Pelly of Washington State (R) remarked in a hearing on the Stratton idea. "I think the definition [of our submerged lands] is pretty clear," Pelly said, "and I...[am not in favor] of turning over our Continental Shelf to underprivileged countries for the international good or some such thing. It seems to me that we had better stick fast by the definition we now have" (US Congress 1969a, 154). Other lawmakers likened the call for an International Registry Authority to the early days of the lawless US frontier, where homesteaders would file "paper" mining claims over lands they had no hope of ever legitimately owning. Concerned that the US was poised to forever cede millions of offshore acres, influential Senator Henry M. "Scoop" Jackson (D-WA) gaveled into session a special subcommittee at the end of December 1969 to review the proposal. Meanwhile, Nixon's DOI and State department worked to determine a joint policy position on the intermediate zone. Scoop Jackson's witnesses balked not so much at the concept of an International Registry Authority for the ocean's abyssal plain (which could, in theory, help protect American access to subsea minerals elsewhere), but at the proposed relinquishment of the nation's "paramount rights" over OCS lands and its "full dominion" over its resources.

Washington attorney and law of the sea expert Northcutt Ely, speaking before Jackson's committee on behalf of the American Bar Association, summarized the issue:

> Shall we, or shall we not, yield the control of the resources in our own continental margin, and...yield royalties and bonuses from them in order to obtain for American oil companies advantages [access to hydrocarbons] off the coast of Spain [or elsewhere]? I say no. The control that is involved here is *even more important than the money*. It is the right to say whether the resource shall be developed at all or not. (US Congress 1969b, 129; emphasis added).

Scoop Jackson's coterie agreed wholeheartedly with Ely. When the subcommittee met again in the spring of 1970 after the holiday recess, it adopted a "wide-shelf" interpretation. A wide-shelf interpretation preserved national jurisdiction over subsea lands extending outward "to the limit of exploitability existing at any given time within an ultimate limit of adjacency" to a neighboring nation (Kash et al. 1973, 212). Several senators questioned whether under that strained definition a Soviet drillship could sail right up to the Santa Barbara coast and began drilling, if it laid anchor "just beyond" the limit of exploitability, whatever that was. The answer to the question, if there was one, was never provided. And so the United Nations itself did in the plan for good when it proposed a halt to any new drilling beyond 200 meters until an accord could be signed in Geneva. With that, any chance of Congressional support for the "wide-shelf" or the Stratton "narrow-shelf" idea was sunk. The 200–2,500-meter zone was far too large to "casually abandon" for some vague international goal as Northcutt Ely had parsed it (ibid., 144).

Debates over seabeds can make for strange bedfellows. Nixon announced a new oceans policy firmly in support of the Stratton proposal on May 23, 1970. It would be a fitting achievement for the twenty-fifth anniversary of the United Nations' founding, Nixon said, to have the world collectively "renounce all national claims over the natural resources of the seabed beyond the point where the high seas reach a depth of 200 meters" (US President 1970). Naturally, the oil and gas industry opposed the idea. Perhaps counter-intuitively, the US Department of Defense was the strongest supporter of the intermediate zone proposal (Sebenius 1984, 76). The Pentagon believed that the extension of offshore mineral claims across the globe could jeopardize the government's progress on resolving several more pressing diplomatic issues, like free passage of both merchant and military vessels (Panand 1975, 120–121). The military's fears were validated when Canada unilaterally expanded its territorial sea in 1970 (see Miles 1977). Brazil and Iceland took similar steps in 1971.

Stratton's recommendation that the US push for a new Geneva Convention was a timely one. The Malta delegation to the United Nations first raised the seaward boundary issue during the 1967 general session.

Primarily concerned with the mining of seabed metal nodules in waters far deeper than 2,500 meters, Malta proposed that the UN declare the seabed located past national jurisdictions to be "the common heritage of mankind" (Marstan 1973, 25; Knight 1974, 160). The UN General Assembly created an Ad Hoc Seabed Committee in response to the request. As the new committee looked into the deep-sea issue, the scope of its implications ballooned. Since the last UN Convention on the Law of the Sea (UNCLOS) had adjourned in 1960, rapid changes in the economics and technology of seafaring commerce made clear the need for a new Law of the Sea, so the UN prepared to merge the two efforts (Murphy 2004, 228). The State Department drafted a proposal to establish Nixon's three-tiered resource zone policy in late 1970, just as Stratton had advocated. The UN Seabeds Committee considered it in August, but tabled the proposal (Sutherland 1972, 143). The administration's pitch was characterized by onlookers as a more "liberalized version" of the Stratton Commission proposal, and only somewhat more palatable to the oil and gas industry. It stressed that revenue payments from any intermediate zone would come from federal and not industry coffers, so that the cost of operating offshore would not change (Krueger 1971, 659).

As the Malta delegation alluded to, the developing nations were more concerned about the advance of deep-sea mining for scarce and rare earth metals than about deepwater petroleum. For those industrialized nations that already possessed the technology, free and unlimited access to deep-sea minerals would be an unalloyed economic windfall. For almost all other nations the possibility of open access "symbolized yet another instance of developed nations enriching themselves at the expense of the rest of the world" (Viswanathan 2009, 27). Others reasoned that the concept was a way for US and international oil companies to gain guaranteed and tariff-free access to submerged lands around the world (Sanger 1987, 61). Still more surmised that the US was pursuing the intermediate zone concept only to use it as a bargaining chip for other ongoing diplomatic negotiations.

Indeed, at least one pundit contended that this was the true purpose behind the intermediate zone proposal and its germination in the Stratton Commission all along: to serve as a "quite clever" ploy to aid the US in negotiations held in advance of the UNCLOS meeting, primarily regarding national defense interests (Krueger 1971, 661; Miles 1977, 174). It is more likely that the proposal was abandoned when international interest shifted away from a depth- based definition to a geographic one, smoothly evolving from a 200-meter to a 200-nautical-mile boundary. Once Chile, Ecuador, and Peru claimed a 200-nautical-mile "economic resource zone" off their coasts, that concept morphed into the "exclusive economic zone" (EEZ) framework that replaced the intermediate zone idealized by Stratton. The UNCLOS finally adopted the EEZ structure in the 1980s (Knight 1973, 247). Developing nations were also wary of the US proposal for a trusteeship, fearing that it had darker, more nefarious national security objectives as ulterior motives (US Department of State 1972, 4). The developing countries favored an internationally administered resource extraction zone that would cover only the very deep sea.[11] As H. Gary Knight explained in 1974:

> The [200-nautical-mile economic zone] proposal was considered quite appealing by many less developed countries who now perceived that their short term economic interest might be best served by ensuring continued jurisdiction...rather than taking a chance on sharing future revenues to be generated from the exploitation of resources located beneath deeper waters. (Knight 1974, 167)

[11] The third United Nations Convention on the Law of the Sea (UNCLOS) was signed on December 10, 1982, and came into force on November 16, 1994. The Convention established an Exclusive Economic Zone extending 200 nautical miles seaward from a nation's coastline. The geological continental shelf was also re-defined to recognize where its "natural prolongation" exceeds 200 nautical miles, but the text limits national claims to 350 nautical miles (Vann 2010, 1). The EEZ and continental shelf under UNCSLOS III are usually, but not always, fully overlapping. Although the US was instrumental in shepherding the treaty to passage in the UN, President Reagan did not sign it, against the recommendations of many of his advisors (Anderson 2001, 79). Reagan established the American EEZ by proclamation in 1983 (3 C.F.R. 22), and extended the U.S. territorial sea from 3 to 12 miles offshore in 1988. The Senate declined again in 1994 to bring the UNCLOS III treaty to a vote for ratification.

Nixon remained true to the Stratton proposal as late as his April 1973 order to "triple" the rate of OCS leasing to 3 million acres per year. A proviso in the tripling order reaffirmed that any new leases issued in water depths past 200 meters would have to be consistent with the administration's 1970 oceans policy statement in support of Stratton. The slow demise of

Nixon's hopes for an intermediate zone—whether he truly hoped for it at all—was the casualty of national security concerns, primarily (see Fine 1983), but electoral reasons figured in as well. Nixon's reliance (whether perceived or real) on southern oil states for his reelection in 1972 also changed his political calculus in the wake of the first oil price spike. Despite Nixon's April 1973 proviso, the OPEC embargo and oil crisis made the wisdom of making a unilateral claim to OCS oil and gas deposits abundantly clear. Only with historical hindsight, of course, can we be astonished at the magnitude of the 3.5 bnboe in production from 200–2,500 meters of water and its attendant revenues that would have been lost to federal coffers (see Figure 3.9.). Furthermore, the 2,500-meter outer limit of national jurisdiction would have sliced out of US waters several major deepwater oil and gas reservoirs, like those at the Cascade, Chinook, and Stones (see Table 3.1.).

Table 3.1. Deepwater Gulf of Mexico Fields Located in 2,500+ Meters of Water, by Discovery Year

Field Name	Gulf of Mexico Area	Water Depth (feet)	Est. Reserves (mmboe)	Discovery Year	Bonus Bid (USD$ M)	Est. Value (USD$ B)‡	Operator
Trident	Alaminos Canyon	9,745	85	2001	$66.30	$6.8	Shell*
Cascade	Walker Ridge	8,203	220	2002	$1.05	$17.6	Petrobras
Vortex	Atwater Valley	8,344	35	2002	$0.31	$2.8	Anadarko
Jubilee	Atwater Valley	8,778	48	2003	$13.19	$3.8	Anadarko
Chinook	Walker Ridge	8,842	395	2003	$1.52	$31.6	Petrobras
Atlas NW	Lloyd Ridge	8,807	5	2004	$2.02	$0.4	Anadarko
Cheyenne	Lloyd Ridge	8,986	41	2004	$33.25	$3.3	Anadarko
Tiger	Alaminos Canyon	9,004	35	2004	$12.49	$2.8	Chevron
Tobago	Alaminos Canyon	9,624	55	2004	$1.28	$4.4	Shell
Mondo NW	Lloyd Ridge	8,351	21	2005	$0.36	$1.7	Anadarko
Stones	Walker Ridge	9,571	375	2005	$0.64	$30.0	Shell
Phobos	Sigsbee Escarpment	8,553	275	2013	$15.18	$22.0	Anadarko

Source: US DOI 2014a; online company investor presentations. *Shell's leases over the Trident field lapsed in 2008: they were re-leased in 2009 to Focus Exploration, LLC, for a total of $1.07 million. ‡Estimated gross value of each development assuming listed reserves estimates, crude oil-only reservoirs, and a constant crude oil price of $80 per barrel.

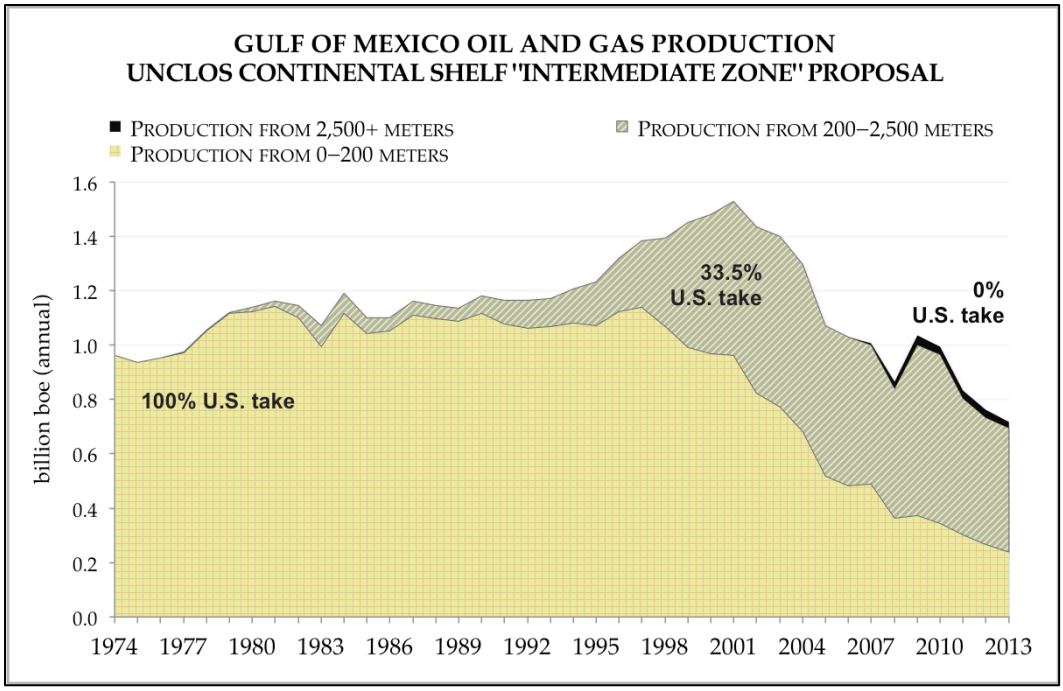

Figure 3.9. Gulf of Mexico Oil and Gas Production Profile under the UNCLOS Continental Shelf "Intermediate Zone" proposal, 1974–2013.

Each percentage reflects the amount of federal royalty revenue derived from offshore oil and gas production that the US would not have to cede to the United Nations authority. Proponents of the plan later raised the proposed US take percentage for oil and gas revenues beyond 200 meters to 90%. Still others called for an international take percentage derived only on production that began at 1% per year, and increasing annually to a cap of 10%. Compare to the geographic zones corresponding to each production band in Figure 3.8.

Source: US DOI 2014a; Eckert 1979, 292.

Nevertheless, as had happened in 1966 when Shell Oil began drilling right up to the 200-meter water depth limit, the march of offshore technology ultimately mooted the issue. The water depth drilling record in the Gulf remained steady at around 600 feet for several years until 1975, when eight different companies sunk wells past that depth and as deep as 1,793 feet of water (US DOI 2014a). Moreover, successful lease sales held in 1974 led the following year to exploratory drilling by Shell in 1,023 feet of water in blocks 150, 151, and 194 in the Mississippi Canyon at prospect Cognac. As an Exxon official said that year, "[t]he thought of moving into deeper water doesn't scare us. We are ready now" (Pratt, Priest, and Castaneda 1997, 78).

Chapter 3. Reforming OCSLA: Debates over Acceleration in The 1970s

With the Atlantic coast jurisdictional issue finally laid to rest, the idea of an intermediate trusteeship zone scuttled, and the memories of the oil crisis starting to fade, the relative calm present in the OCS program in 1975 belied the multiple controversial issues that simmered just below the surface. There was a general sense during the Nixon and Ford years that the OCSLA had outlived its usefulness, grown no longer capable of accommodating the aftermath of an oil price shock or the flurry of environmental statutes enacted at the start of the decade (National Research Council 1992, 111). One legal scholar took to calling the OCSLA the "lagging law" of the outer continental shelf, as it always seemed to be paced a few years behind the regulatory ball (Sutherland 1972). The OCSLA had successfully served its purpose for over twenty years; one House committee chairman concluded after reviewing the law's history that not a single day of Congressional oversight hearings on OCS issues had been held between 1953 and 1974 (US Congress 1979a, 610).

That sufficient doubt had even existed as to whether the US had title to submerged lands beyond the 200-meter isobath was more than enough cause for many in Congress to consider amending the OSCLA. (Nixon's intermediate zone proposal would have required an amendment to Section 9 of the OCSLA anyway, to allow the redirection of any revenues way from the federal treasury.) To appreciate that the times had changed considerably since 1953, all one had to do was review how much the contribution of offshore lands to the nation's domestic oil and gas production had grown. In 1953, the offshore accounted for just 0.05% of domestic crude oil production, and 0.24% of extracted natural gas. By the time Congress began to seriously consider amending the OCSLA in 1974, offshore production provided 11.76% of domestic crude oil and 14.02% of domestic natural gas production (US DOI 1975b, 25). The OCS had arrived as a major player in domestic energy supply, and a rapidly growing one at that.

The oil crisis that subsided over 1974 and 1975 left its mark on fossil fuel politics in the US, and left a few scars on the US psyche. The transfer of massive amounts of Western "petrodollars" to foreign oil-exporting nations seemed an affront to American independence and ingenuity. The Central Intelligence Agency warily labeled the country's continued dependence on foreign oil an "invitation to national suicide" (Durant 1992, 84). *Time* magazine reported in October 1974 on a diplomatic dinner held at the Iranian embassy in Washington, D.C., at which the menus were printed over facsimile images of the US dollar bill, the British five-pound note, and the currency of thirteen other Western importer nations. The article reported with a palpable mix of censure and jealousy that the dessert served that evening was a fine chocolate mousse topped with miniature gold coins (Hall 2003, 123). The specter of Arab sheiks and Iranian shahs dining on the fruits of American wealth did not sit well with the public, but their discomfort pointed towards no clear solution to the problem. With the majority of domestic undiscovered, yet-to-find reserves believed to rest offshore, policymakers in Washington had to determine which goals should be prioritized on the OCS, and how. Because the mobile offshore drilling units used to drill the seas are true to their name and often move around the world, the rising threat of foreign competition in the drilling market heightened anxieties. *Offshore* magazine reported in November 1972 that policies in the United Kingdom's (UK) North Sea had led to the discovery of more resources there during its short history of exploration than in the Gulf (Kash et al. 1973, 174).

US officials were somewhat wary of the UK's rapid relaxation of its offshore fiscal terms: after all, the Gulf had just chalked up its first 10-figure lease sale, bringing in $1.67 billion in high bonus bids (Schempf 2007, 106; US Department of the role in directing the size and pace of lease sales, mainly to keep demand for continental shelf leases high enough to guarantee a return of fair market value to the government (US Comptroller General 1975a, 6). The oil crisis upended the political consensus that had been the foundation of the OCS program since its start, and new challenges raised new questions for policymakers. Were submerged lands to be used primarily to provide the country with a secure, domestic supply of oil and gas? Or, would drilling the OCS with all cylinders firing only backfire, by defrauding the nation of the full value of its publicly-held resources? Additionally, what changes to the OCSLA

were needed to adapt it to the "statutory and institutional transformation" rendered by federal environmental legislation in the 1970s (Lazarus 2008, 69)?

These questions were further complicated by the rising significance of the Gulf to the nation's petroleum supply and fiscal health. As "stagflation" gripped an economy beset by falling productivity and rising federal outlays, the annual federal budget deficit exceeded $50 billion for the first time in 1975, in part because the $699 billion promissory note for the war in Vietnam started to come due (Boué 2002, 42; Lichtman 2008, 301). Lyndon Johnson reportedly pushed officials in his DOI to hold a lease sale off Southern California in 1968 in order to bring in a large infusion of cash; the sale pulled in $602 million dollars (Fitzgerald 2001, 57). Johnson's reliance on OCS revenues to bolster the national bottom line is understandable. Not long after the Nixon administration dropped its intermediate zone proposal at the United Nations, revenues from OCS activity skyrocketed, pushing the program's revenues as a share of all federal income from well below 1% to more than 2% (see Figure 3.10.).

The dust from the oil crisis had largely settled by late 1975, but the OCS program was no longer the same animal it had been before the price spike. Nixon's back-to-back tripling orders and the new politics of energy independence guaranteed as much. President Gerald Ford's approach to energy policy and his views on offshore drilling differed little from his predecessor. Increasing the amount of offshore acreage put up for lease was still a primary goal of the White House—and Ford truly believed that amending the OCSLA would only add unnecessary hindrances to achieving that goal. As President, Ford was even more committed to an open-market approach to the economy and energy than Nixon was, whose promise to be a Goldwater-esque advocate for deregulation faded after he imposed supply rationing and price controls (Jacobs 2008, 194, 208). Indeed, the deregulatory thrust of Project Independence and Ford's promotion to the presidency seemed to foretell a major change coming in federal energy policy. Ford had to face a conundrum that vexed many conservative politicians during the 1970s: how could they demonstrate to the public that they were taking bold actions on issues like the pinched oil supply and high gasoline prices, without increasing the size and power of the federal government? No stranger to political theater himself, Gerald Ford hitched a helicopter ride on Marine One to a Gulf offshore drilling rig in April 1975, more than two years before Jimmy Carter would make his trip. 1975 also witnessed another key event in offshore history: the convening of a special Congressional committee dedicated solely to reforming the lagging law of the great sea—the OCSLA.

3.1. Accelerated Leasing and Slowed Legislation

The Ad Hoc Select Committee on the Outer Continental Shelf was formed in the House of Representatives on April 22, 1975, charged to produce legislation to "redefine and modernize" the OCS program. The impetus for reform was, at its core, the need to revise the law before offshore activity expanded into untapped areas and deepwater basins (US Congress 1975a, 1–2). By the time the committee's work was finished, its fact-finding missions had taken its members as far away as the North Sea oil communities of Scotland and Norway; but the panel's first destination was a conference room at the Rivergate Exposition Center in New Orleans. In recognition of the major impacts its legislative product would have on coastal Louisianans, the committee traveled there in June 1975 out of respect for the region that had more than "paid its dues as a testing ground" for offshore oil and gas policies (US Congress 1975b, 1).

The ad hoc select committee—the first ever formed in the House of Representatives' long history—benefitted in not having to start from scratch in its research and oversight efforts (Gendler 1979, 350). Several of its members had recently participated alongside Federal Energy Administration (FEA) officials in a lengthy series of public hearings held in Washington, D.C. and around the nation on the Project Independence blueprint, including its plans for increasing offshore production. Hearings held in Boston and Houston proved especially salient for OCS issues. Before the panel in Boston, the head of Exxon's Exploration and Environmental Affairs division told the FEA panelists that oil production was declining faster offshore than onshore, but that new OCS legislation was in no way necessary to stem the decline

(US Federal Energy Administration 1974c, 424–425). Apposite to its location in Texas, the hearing in Houston was decidedly more colorful in nature than the Massachusetts event. One witness trained in petroleum engineering testified that a primary benefit of accelerating leasing was reducing the outrageous sums of money that firms were forced to pay just to acquire an OCS lease offshore. An added benefit was that increasing acreage offerings would ensure that the independent oil and gas companies would remain competitive with the majors. The smaller firms had been effectively "barred from the offshore," he said, "because there is no way they can compete with the great oil and gas corporations in a money stacking contest just to get the right to risk untold millions in an effort to find oil and gas" (US Federal Energy Administration 1974d, 46–47).

The engineer had a point, conceded another witness from Texas, local State Senator A.R. Schwartz. But, he wondered aloud, if the price of these offshore leases was so sky-high, then why were the oil companies—the independents included—even engaged in such a ridiculous money stacking contest in the first place? Nobody had forced their hand to submit bids at lease sales. Surely, he conjectured, if the leases were not profitable, the market would drive bonus bid prices down. Schwartz also plucked at the patriotic heartstrings of his fellow Texan oil-patchers by connecting the embarrassment felt at being subject to OPEC's whims to the amount of revenue collected by the federal government offshore. "John Q. Citizen of the United States is entitled to just as much for his oil and gas as the king of Kuwait," Schwartz said, "and I've never been able to understand why the king of Kuwait has got a better deal than we have in the United States, under a democratic form of government" (ibid., 492). It was not a bad question to ask, even from within the belly of the petroleum beast at Houston, Texas.

The Project Independence hearings also made it clear that if the Ad Hoc Select Committee was going to be successful, any amendments to the OCSLA it might draft would have to achieve aims that were deeply contradictory to one another. First, public opinion polls showed that the country wanted genuine and meaningful environmental reviews performed for offshore actions (to protect living natural resources like blue tuna and shrimp communities), but only if they would not hinder development provided that the final decision was one to drill. Second, the public wanted just as much money for its oil and gas as anyone else, but they didn't want the largest oil companies to be the only ones prospecting offshore. Third, the states had finished contesting federal primacy over OCS lands, true, but they still wanted to play a substantive role in the biggest policy decisions made by the DOI. Finally, state representatives, especially from locales bordering the Gulf, realized that their predecessors had made a grievous error when they allowed the OCSLA to pass in 1953 without the inclusion of a federal-state revenue sharing provision. The states felt they deserved funds to offset the onshore impacts of offshore activity, and a guarantee for special funds to mitigate the effects of a disastrous event should one occur—a risk made all too apparent by the well blowout and oil spill from a Union Oil offshore platform near Santa Barbara, California in January 1969 (see Figure 3.11.).

Figure 3.11. With the tip of his dress shoe, President Richard Nixon (*center*) pokes at a tarball on the beach in Santa Barbara on March 21, 1969.

Nixon visited to review cleanup efforts after a January 1969 offshore well blowout soaked Southern California beaches in 4.2 million gallons of crude oil. He stayed in the area for just thirty minutes. While vacationing at the "Western White House" in August 1971, Nixon felt the effects of an offshore oil spill firsthand when a slick of crude from a leaking naval vessel fouled the beach at his personal home in San Clemente. The oiling was so bad that Chief of Staff H.R. Haldeman had to arrange for his boss to swim at the beach of a nearby Marine Corps base. While en route to Santa Barbara in 1969, Nixon stopped in Missouri to visit with former president Harry S. Truman—the man who two decades earlier pressed the US' first claim to ownership of submerged lands on the continental shelf.

Source: White House Photo Office (Nixon Administration) 2014; Haldeman 1971; Haldeman 1994.

Some of the states began their posturing in pursuit of these aims even before the Select Committee was created. On August 5, 1974, Senator Ted Kennedy (D-MA) convened a joint Senate committee hearing on OCS issues in his native Boston, setting up a makeshift hearing chamber inside the recently built New England Aquarium. The array of marine life was a suitable backdrop for the tenor of a hearing that railed against the possibility of oil development off Massachusetts and other Atlantic states. (The litigation leading up to the decision in *United States v. Maine et al.* was still in progress at that point.) Senator Kennedy gaveled the committee into session by grabbing the thorny issue of federal-state revenue sharing with a full fist. "The number one issue in the Nation today is inflation," he said in his trademark Boston accent, "and food and fuel costs have been the primary item sparking the price spiral." Kennedy continued,

> If offshore drilling will help reduce those costs, and if it can be done without jeopardizing our environment, and if it can be done without destroying our tourist and fishing industries . . . then I doubt that there will be opponents to drilling.
>
> But we want to be sure that all of the facts are known . . . . We want FEA to tell us how much of the $700 million to $4 billion in estimated bonus payments to the Federal Government from Georges Bank leasing is going to arrive in Massachusetts . . . . And we want to know whether the costs from the impact of offshore oil development overshadow the potential benefit, particularly when the best estimates show that offshore oil from Georges Bank will meet only one-thirtieth of our need for oil in New England in 1985. (US Congress 1974a, 2)

The committee then took testimony from Massachusetts Institute of Technology economist and petroleum expert John Devanney. He explained to the senators before him that because crude oil is traded on a global market, the American consumer would not receive the value of the oil and natural gas harvested offshore in the form of lowered gasoline prices. That value, Devanney said, would only accrue to the public through lease and royalty payments, as well as the taxes that would otherwise not be levied if development did not occur (ibid., 10). However, in the absence of revenue sharing between the federal government and the states, Massachusetts would see only its 2.5% per capita share of the federal receipts.

Devanney, who had just finished directing a major study at MIT on the prospects for oil and gas extraction in Georges Bank, threw another wrench into the wishes of those in attendance at the Aquarium who hoped that Georges Bank drilling would be a stimulus to the local economy (see Figure 3.12.). Unless the Bank yielded a series of massive oil finds—which was doubtful, Devanney added—no new refineries were likely to be built nearby. The oil would instead be shipped away from the state for refining, exporting any potential newly-created jobs with it. The number of new jobs created in Massachusetts under such an arrangement would be insignificant. "I have a slide on that," Devanney said, turning to the projector he was using in the ersatz hearing room in the aquarium, "but it is not worth showing. [Job growth] is not where the big economic payoff is. The big economic payoff is in the lease [bonus bids] and royalties" (ibid., 14). Perhaps with the still-pending litigation on the colonial states' land claims on his mind, Kennedy likened the proposed lease sales off Massachusetts to the 1626 purchase of Manhattan Island from the American Indians for just "$24 worth of beads, cloth, and trinkets" by Dutch explorer Peter Minuit (ibid., 80). It was less a purchase than a steal.

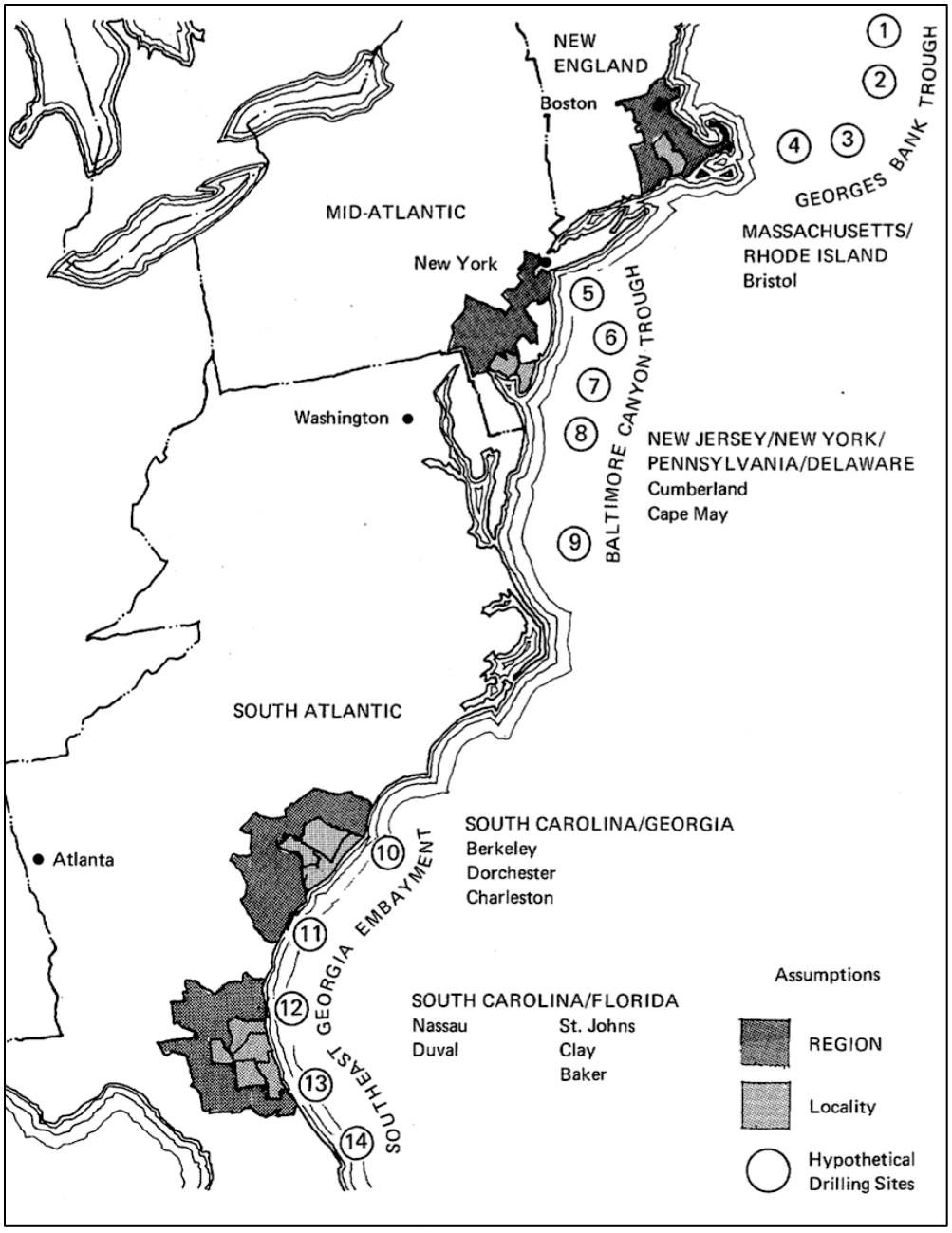

Figure 3.12. Atlantic Hypothetical Drilling Sites and Hypothetical Onshore Development Areas.

Source: US Council on Environmental Quality 1974, 1-9.

The wide gap between the Mineral Leasing Act's revenue sharing rules and the OCSLA's 0% revenue disposition was heightened when Congress raised the onshore petroleum revenue sharing percentage to 50% in 1976. But the Mineral Leasing Act wasn't the only sore thumb in the offshore eye: the OCS program remained the only federal natural resource leasing program that did not share any revenues with the states. The National Forest Revenue Act forwards 25% of proceeds from timber harvesting to state and local governments, for example, and the Taylor Grazing Act directs 12.5% of funds from grazing and stock receipts on federal ground to the state (Fitzgerald 2002, 26). States are prohibiting from assessing property taxes on federal lands within their borders, but Congress has recognized through the Payment in

Lieu of Taxes Act of 1976 that the federal government can compensate states on a basis relative to the amount of federal land within their boundaries (Walls 1993, 791). In Congress, proposing a bill for OCS revenue sharing became a perennial pastime during the second half of the 1970s, and each bill pushed its own unique formula for calculating the federal cut. At least six revenue sharing bills were introduced in 1974 alone (US Congress 1974a, 71–73). One proposed sending 50% of OCS revenues to the adjacent coastal state, 25% to be split among the remaining inland states, and 25% to the federal treasury. Another proposed taking 5% of revenues and establishing a Coastal States Fund (capped at $200 million) for coastal ecosystem remediation. Yet another wanted 60% of OCS revenues from lease bonus bids to go directly to all states, to be spent in any manner they saw fit (ibid., 72). Each bill sank quickly.

State involvement in decision-making offshore was an issue similar to and closely tied up with revenue sharing. Barbara Fegan, an environmental planner based in Boston, told the sympathetic Kennedy committee that the government was trying to force a "Federal size 14" on every state, referring to a dress size measurement requirement made by the Agriculture Department after World War II. Fegan said, "The size 14 [which was] meant to fit everyone did not fit anyone well. You always have to make alterations in Federal requirements" (ibid., 54). Next, a state environmental policy analyst told the committee that the states in fact had a powerful tool with which to make "alterations" to the federal pattern: as long as the states could control what happened on land, they had a great deal of say over what the federal government did offshore (ibid., 59). Most of the states felt that the DOI was stonewalling their requests for cooperation, citing its propensity to announce sweeping changes to the OCS program without so much as seeking coastal state input beforehand. Several senators reminded their colleagues that not all areas could so easily fight back against federal control, as the state analyst had suggested. The political power of the coastal states was not exercised as a bloc, as each had varying amounts of support for countering the federal government. The large and particularly vocal population of California inherently empowered its Congressional delegation in securing active cooperation from the DOI. Naturally, less populous states had less political pull in Washington. As Ted Stevens, senior senator from Alaska (R) said, "our fish do not vote" (ibid., 206).

A handful of legislative changes made since 1953 altered somewhat the OCSLA's ultimate routing of offshore funds into the treasury for general use. The Land and Water Conservation Act of 1965 did not amend the OCSLA, but established an eponymous fund to help states protect and preserve "needed land and water areas and facilities" (78 Stat 897). The fund was furnished by user fees collected by the National Park Service and other agencies, as well as appropriations from the miscellaneous receipts account. The USGS estimated in 1975 that OCS funds, serving as a primary source of federal miscellaneous receipts totals, had provided 1.1 billion dollars to the Land and Water Conservation Fund—or 71% of its total—since 1969 (US DOI 1975b, 7). More notably, the Coastal Zone Management Act of 1972 (CZMA) promised federal grants to those states that voluntarily established management plans for their coastal zones, in an effort to encourage state governments to work in cooperation with federal authorities (86 Stat 1280; Gendler 1979). Federal CZMA monies were to cover up to 80% of the cost of administering a CZM plan, which also needed approval from the Secretary of Commerce (Grosso 1986, 252). Coastal zone management plans had to meet a series of nine performance goals covering points from open access to public beaches to the protection of fragile wildlife habitats (Walls 1993, 790; see Theriot 2014). Many environmental advocates hoped that the process set up by the CZMA could become a vehicle for states and the federal government to jointly plan offshore activity by enhancing state authority, but such hopes never panned out (Gendler 1979, 348). In 1979, the first serious attempt at using the law to mediate between the two sides collapsed in just a few hours (US Outer Continental Shelf Policy Committee 1993, 10). The law's consistency provision (added after Congress amended the CZMA in 1976) requires that major federal activities—even those undertaken hundreds of miles off the coast—be "consistent" with a state's coastal zone management plan, if one exists. Some have argued that the coastal states' success in establishing CZMA management plans indicates that they should similarly control offshore development off their coasts (Walls 1993; Gendler 1979, 348).

The law as passed was simply not designed to be a conflict-resolving mechanism, however (US Council on Environmental Quality 1974, 9-7). Though the OCSLAA and the CZMA were signed by Congress to carry "equal weight" in administering offshore resource development activity, no mechanism was ever put in place to mediate between the two—only leading to conflict, not cooperation (Grosso 1986, 256). One major legal effort to use the CZMA to delay OCS development was quashed by the Supreme Court when it settled *Secretary of the Interior v. California* 464 US 312 (1984) on January 11, 1984. The suit aimed to stop a federal lease sale auction in OCS waters on CZMA grounds, even though no actual offshore activity takes place at that stage. In a decision steeped in a detailed analysis of the legislative history of the Coastal Zone Management Act and its conference committee reports, the Court ruled that actions taken by the federal government on the federal OCS were by definition outside of state waters, and thus did not affect a state's coastal zone (Fitzgerald 2001, 118). Consistency review under the CZMA was thus not required (Grosso 1986, 257). The case hinged on the meaning of the operative phrase "directly affecting."[12] To have ruled otherwise than it did, the Court's 5–4 decision explained, would be to let a "superficially plausible, but ultimately unsupportable construction of two words in CZMA section 307(c)(1)" stymie all development on the OCS[13] (464 US 312). Two years after Nixon signed the CZMA, none of the $42 million dollars expected for disbursement that year in support of the state management plans had yet materialized. The same administration that signed the CZMA in 1972 "with great fanfare" had decided that actually paying out the funds would be too inflationary, Ted Kennedy lamented during the Boston aquarium hearing (US Congress 1974a, 47). Although the CZMA created a non-mandatory system of consultation between the two levels of government, the financial incentives the law promised ultimately proved too small to be of much influence (US Council on Environmental Quality 1974, 9-7).

Environmental issues also received their share of time before the Senate. Sounding more than a little bit like Mayor Vaughn from "Jaws," Senator John Pastore (D) of Rhode Island pleaded with his colleagues to appreciate the massive impact that even a small offshore oil spill would have on his state's economy. "Do you realize what this would do to us?" he asked. "This would ruin the State. The only natural resource that we have in Rhode Island is our beaches. And one of the primary economic benefits that we derive from that resource is tourism" (US Congress 1974a, 85). To those beachside towns like Amity, just twenty-four hours of oil washing onto the beach would bring economic devastation tantamount to many months of boarded-up shops elsewhere. Witnesses at the New England Aquarium derided Nixon's recently announced 10-million-acre leasing plan as the product of a "cowboy economics and mentality" (ibid., 65). Seeking to pre-emptively lessen the political backlash over his accelerated leasing goals, Nixon promised when he announced in April 1973 that he would triple the annual offshore acreage leased to 3 million, that he would not permit drilling in the ecologically sensitive Georges Bank or anywhere else in Atlantic waters "until its environmental impact is determined" (US President 1973). The President directed the chairman of the recently created Council on Environmental Quality (CEQ) and the similarly new Environmental Protection Agency (EPA) to work alongside the National Academy of Sciences (NAS) on the environmental review. Issued a year later in April 1974, the CEQ report concluded that while offshore operations in the Gulf and the North Sea could be conducted safely using existing technology, the unique storm conditions in the Atlantic presented threats more severe "than the petroleum

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[12] In its decision, the Supreme Court noted that Congress in 1972 had considered but voted down four proposals for the CZMA that would have extended a state's "coastal zone" for planning purposes beyond the three-mile ownership boundary (Fitzgerald 2002, 22). Calling the decision "a tortured reading of the 1972 Coastal Zone Management Act," the *Los Angeles Times* ran an editorial lamenting that "[f]ive members of the court succumbed to the notion that a lease is just a piece of paper, not a project" (*Los Angeles Times* 1984). Key amendments to the CZMA were enacted in 1990 in order to overturn the decision, clarifying that the law's consistency provision did in fact apply to *any* federal action regarding the OCS, including a lease sale (Kuhse 2001).

[13] In her majority opinion, Justice O'Connor concluded that "[t]he first two stages [of offshore development under the OCSLAA, the leasing plan and lease sale auction] are not subject to consistency review; instead, input from state governors and local governments is solicited by the Secretary of Interior" (Grosso 1986, 260).

industry has faced before" (US Council on Environmental Quality 1974, 1-25). The Atlantic Ocean—and especially the South Atlantic—not only had a higher probability of hurricanes hitting than other petroleum basins, it was likely to endure stronger winds and larger waves when a storm did strike. The CEQ and NAS agreed that there was limited scientific understanding of the environments in question, and insufficient knowledge at that time to thoroughly assess the impacts of oil and gas development there (ibid., NAS-18).

The White House council also pointed to the experience of North Sea oil communities, which had experienced an all-around economic boom since first becoming a hot oil play in 1969. The rapid build-up of onshore fabrication yards, port terminals and refining facilities along the Scottish coast was done in a hasty and ad-hoc manner. The result was a "highly unpredictable" siting of industrial facilities, to the social detriment of the community as well as environmental quality (Gendler 1979, 384; see Cairns and Rogers 1981). The facilities drew the ire of many locals (ibid., NAS-36). While "onshore impacts' is a frustratingly vague concept, the following passage from a 1969 White House report provides a helpful summary.

> A new area open to development will bring a new use, new conflicts, and new requirements to be superimposed on an existing use pattern. . . . Equipment must be moved out from shore. Pipeline connections, docking facilities, communication links, and similar technological elements tie into shore bases . . . . The development of resources on an offshore federal lease may create both economic improvement and a social burden on the local community. (US Executive Office of the President 1969b, 2-5)

There was no ambiguity in CEQ's conclusions: the main thrust of its study was that the most durable outcome of new offshore development was not the risk of an oil spill, but industrial expansion within the coastal zone—which itself is especially sensitive to the *rate* at which offshore development occurs. Still, the images of Santa Barbara's blackened beaches and especially its oiled birds remained potent in American politics, as they do today (Mitchell 1976, 89; National Commission on the BP *Deepwater Horizon* Oil Spill and Offshore Drilling 2010, 13). The oil companies repeatedly presented legislators with charts generated by data from the US Coast Guard showing that offshore drilling spilled far less oil than the tankers that imported it from foreign sources. The National Research Council later estimated in 1991 that oil tankers spilled 9,000 tons out of 450 million transported in US waters during the 1980s—just 1/500th of one percent (Gorman 2001, 12352). Besting even that small percentage of spillage, the good environmental record of OCS oil and gas production was a truism often overlooked by opponents of accelerated leasing. (In fact, three hours before Jimmy Carter landed on the *Yorktown Zapata* in 1977, the Greek oil tanker *Dauntless Colocotronis* struck a submerged barge in the Mississippi River just a few miles south of New Orleans, spilling more than 600,000 gallons of light crude oil and burning for hours. The burning ship was not visible from Carter's helicopter because of Marine One's flight path, but the President was asked about the incident at his press availability after the flight[14] [US President 1977b]).

It further irked Senator Kennedy that the DOI crafted its 10-million-acre leasing schedule to include northern Atlantic areas months before the CEQ and NAS completed their environmental review work. To him, such suspect timing made the Project Independence hearings held in places like Houston and Atlanta seem as but "the appearance of a public relations show to lend credibility to decisions already reached"

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[14] Litigation over the *Dauntless Colocotronis* incident took more than a decade to resolve. The decision by the US Court of Appeals for the Fifth Circuit became a somewhat-notable case in admiralty law, due to the unique circumstances surrounding the barge's sinking and abandonment. See *Nunley v. M/v Dauntless Colocotronis* 863 F.2d 1190 (1989). In 2013, during the federal civil trial over the Macondo oil spill (*In re: Oil Spill by the Oil Rig "*Deepwater Horizon*" in the Gulf of Mexico, on April 20, 2010*), Transocean cited the decision in *Dauntless Colocotronis* to support its claim that BP's willful misrepresentation of the blown-out well's flow rate was a superseding cause that should relieve Transocean "from liability for oil spilled after the well could and should have been capped" (*In re: Oil* Spill, Document 12040, filed on December 20, 2013: 17–21).

(US Congress 1974a, 80). Though several officials from the Federal Energy Administration and DOI tried to explain to the Senator that the leasing schedule only set the dates of possible sales, and in no way obligated the government to actually hold them, the FEA's wonkish policy explanations fell on deaf ears (ibid., 103). DOI had already admitted that the 10-million-acre figure had been set so high so that DOI could "generate some momentum" for its expanded leasing policies. As a result, many felt that the affirmative decision to lease and drill all over the OCS had already been made (ibid., 79–80).

Although Secretary of the Interior Morton Rogers Morton walked back the 10-million-acre goal in November 1974 when he said offhandedly that his team was more "wedded" to finding oil and gas than meeting an arbitrary leasing goal, his department's behavior under the Ford administration seemed to suggest otherwise (US Congress 1974c, 20). Interior held Lease Sale 35 off Southern California—the first conducted under the new accelerated program—on December 11, 1975, offering 231 tracts covering 1,258,189 acres for sale. The department received bids on 33% of the tracts. Expectations in Washington for the sale were extremely high: the DOI had predicted bonus bid totals would top $2 billion, an incredible sum. When the sale closed with just $417 million in hand, five times lower than the official estimate and well below the symbolic $1 billion threshold, lease sale observers were dumbfounded as to why so little demand seemed to materialize on auction day. The culprit, not surprisingly, was the pressure placed on the department from the White House and OMB to meet their accelerated acreage targets. In complying, Morton's operatives within the DOI had added to the blocks nominated by the oil companies as prospective tracts a whole host of blocks that the department believed had no chance of containing oil and gas, or were in waters too deep to exploit in the near future. As a result, operators simply didn't bid on them, while Interior arrived at its $2 billion estimate assuming that they would. The Comptroller General's office estimated in 1977 that of the 231 tracts offered for sale, 55% were set in waters far too deep to be produced with present or under-development marine technology, and that another 22% of the tracts had been chosen seemingly at random for the sole purpose of meeting the acreage goal handed down by OMB (US Comptroller General 1977a, ii). Not falling short of that goal seemed to be the "primary concern" of the department. The Comptroller General faulted the DOI for basing its over-optimistic forecast on insufficient geological data, and by lazily extrapolating leasing trends from shallow areas and applying it to the deepwater tracts (ibid., 11).

Finally, the complicated issues of competition and resource evaluation that had cropped up at the Project Independence FEA hearing in Houston were reiterated before Kennedy's joint Senate committee in Boston. As expected, most attention turned to the recent surge in the bonus bid sums offered up by the companies to gain access to offshore tracts. In addressing the bonus bid situation, M.I.T.'s John Devanney first tried to cut through the smoke blurring the hazy concept of "competition." Devanney scoffed at those who complained that the bonuses had grown so large that they caused the offshore drilling industry at large to actually lose money, and that the high bids were limiting the amount of capital available to the firms to bring oil to the surface. The government's position was that the high bonus prices simply reflected the belief of the companies that the value of OCS oil was much higher than the cost of obtaining it (US Congress 1974b, 2; see Mead 1993, 236). Devanney seconded this position. "As long as offshore prospects appear profitable to the Nation's capital market," Devanney said, "capital will be made available to these projects." The economist from Cambridge explained that the competitive bonus bidding system had in no way slowed development, describing how the oil and gas companies were instead "falling all over each other to obtain rigs and platforms" to place offshore. However, Devanney continued, there was one growing problem posed by bonus bidding:

> Top bids for single 5,000-acre tracts are now climbing over $200 million . . . . Only a very few companies with extremely large capital bases can raise this kind of dough given the risks involved. As a result, a single company bid on a premium tract has become a rarity. Combines of even very large majors are common. These combines not only decrease the number of potential bidders but are also interlocking in the sense that a company may be a member of one combine on

> one tract and another on another tract. In such situations, it would be almost unnatural if both combines did not know what the others' basic strategy was.
>
> In short, without hypothesizing or intimating intentions of collusion on the part of the bidders, I foresee that it is going to be increasingly difficult to maintain effective competition among bidders in future lease sales. And once you lose effective competition, the whole argument for bonus bidding goes down the drain. (US Congress 1974a, 11–12)

Devanney's explication of the economics of OCS bidding defined competition along two planes. One, there was competition among bidders for an offshore lease: a tract receiving just one or two bids was very likely not awarded under genuinely competitive circumstances. Analysis of OCS sales up to 1975 have shown a statistically significant relationship between the number of bidders on a tract, and the ratio of the winning high bid to Interior's pre-sale valuation estimate (ibid., 157–158). Preserving a strong presence of independent operators in the leasing market was in fact a stated goal of the government; but while you can lead a firm to water, you definitely can't force it to submit million-dollar bids. Two, there was competition within the makeup of participating bidders: as Devanney posited, high bonus bids were potentially reducing competition by keeping the independent oil and gas companies off of the Outer Continental Shelf. Preservation of the status quo in the bonus bidding system was in the interest of the larger oil companies, for several reasons: they had spent money and time developing sophisticated bidding models to perform well in the sales; they typically possessed higher-quality G&G information with which to guide their bids; and they have the luxury of operating with a higher tolerance for risk than the independents. This allowed the majors to "bid a higher proportion of the estimated tract value compared to the smaller firms" (US DOI 1977e, 4), which increased their chances of winning a coveted lease during an auction.

To prevent large joint ventures or "combines" of the richest companies from dominating the Gulf, the DOI administratively banned joint bidding by the largest producing firms starting in September 19, 1975. Officials had grown especially concerned by a significant jump in 1974 in the number of leases bid upon by a group involving two or more of the largest operators, like Amoco, Exxon, Gulf Oil, Mobil, Shell, Standard Oil and Texaco (US DOI 1975a). Recognizing the potential for information sharing spillover benefits to accrue among the major firms, Interior wanted to forestall any chance for collusion in the marketplace, as well as boost the total number of bidding entities—a classic regulatory intervention in the market to *protect* free enterprise (US DOI 1987d, 40). It was recognized that joint bidding could marginally reduce the total number of bids submitted, but it was expected to "equalize" the amount of competition over all tracts in a sale, lessening the clustering of bidding on only a few tracts (Smith 1977, 38). No longer able to bid together, a firm like Amoco or Shell Oil would opt to bid with smaller companies, thus creating new ventures and giving the independent in the partnership ready access to pricey and enormously important G&G information on offshore prospects (US DOI 1975a). Congress codified the action into law three months later (Krueger and Singer 1979, 917) in the Energy Policy and Conservation Act of 1975, which was Gerald Ford's biggest legislative success in energy policy, although it changed nothing else with regards to offshore drilling (89 Stat 871). Curiously, although it contained five of the provisions Ford had called for in his State of the Union address at the beginning of the year, many within his administration thought it a mistake, and chalked it up as a battle lost to Congress (Mieczkowski 2005, 250). Error or not, it defined the threshold for the joint bidding prohibition as those companies (and their affiliates) that produced over 1,600,000 barrels of oil equivalent a day (boe/d) for an extended period. Exceptions were carved out for high-risk, frontier areas (Mead et al. 1985, 14). The OCSLAA amended the joint bidding statute in 1978, granting the Secretary the authority to exempt entitles from the prohibition at his discretion (92 Stat 646). A later examination of joint bidding prohibition outcomes from 1973 to 1979 by the Federal Trade Commission found that the ban's effects had been relatively minor (Ashton, Upton, and Rothkopf 2004b, 26), but others have contended that it indeed allowed smaller firms the chance to acquire expensive drainage tracts just as designed, marginally

improving competition overall (Mead, Moseidjord, and Sorensen 1985; Hendricks and Porter 1992; Iledare and Pulsipher 2007).

Together, these hearings and a slew of investigations by the GAO and Comptroller General in the mid-1970s laid bare the myriad of problems that were starting to boil over as an aging organizational structure built in 1954 strained under the pressures of growing energy demand, and a newly competitive global market. Still, the OCSLA had been largely successful in guiding the system to a place where it faced the "good problem" of eagerly chomping at the bit to expand. Waxing poetic in March 1975 about the proposed amendments before his committee, Senator Lee Metcalf (D-MT) leaned back in his chair in the hearing room and reminisced on his tenure in Congress in the 1950s. "I can remember the first [OCSLA] Act," he said. "I was a Member of the House of Representatives at that time. We were thinking about States' rights provisions and talking about whether Federal or State ownership was appropriate. Now we are thinking about environmental controls, and protecting the public interest in the leasing of the Nation's resources." There was ample cause for reforms to the law, Metcalf concluded. ". . . I don't think that Congress was so wise and so farseeing that we anticipated all these things" (US Congress 1975a, 25).

3.2. "I'm having a little trouble with Congress . . . ."

Lee Metcalf wasn't just caught up in a nostalgic reverie as he remembered his early days in Congress. Rather, he was in the middle of pressing Nixon's Interior Secretary to explain the reasons why the administration opposed any and all amendments to the OCSLA. Secretary Morton (who would stay on in the position under Gerald Ford) countered Metcalf, replying that the department had made many changes since 1954 to its method of offering leases, without the need for amending legislation. He pointed to the recent adoption of the "range of values" method for assessing the adequacy of high bids in conveying fair market value. The USGS's safety and inspection program had certainly been overhauled since the 1969 Santa Barbara spill. Between 1970 and 1972, the USGS increased the number of inspections it performed on offshore platforms, and also began independently leasing helicopters for the first time. (Previously, inspectors had to rely on snagging a seat on an oil company flight in order to conduct an inspection tour.) They debuted in 1970 the infamous "PINC" and "INC" lists, an index of regulatory violations used to assess and penalize Potential and verified Incidents of Non-Compliance (Krahl and Moody 1972, 159; Priest 2010, 3). A GAO report published three months after Morton's exchange with Senator Metcalf detailed that even though USGS's engineering staff had increased threefold since 1969, its inspectors did not always perform the steps required in an inspection, often falsified compliance checks of equipment and sometimes did not file inspection reports at all (US Council on Environmental Quality 1974, 9-20). Morton pointed out that although the OCSLA had not been amended since its enactment in 1953, a number of environmental law requirements—too many, in his opinion—had since been added to the books. The National Environmental Policy Act, CZMA, Magnuson-Stevens Fishery Conservation and Management Act, Marine Sanctuary Act, Endangered Species Act and others had brought about "a great change in the procedures and in the systems" used at every single step of offshore operations, the Secretary said (US Congress 1975a, 26). A more fundamental divide between the legislature and the executive branch put the OCSLA amendments in the balance. "I have never gotten out of any of these [amendment] bills what the goals are," Morton said. "We [the Ford administration] have specific goals. I would like to get 4 million barrels a day net improvement or net production on the OCS by 1985" (ibid., 29). It was the administration's belief that Congress was meddling with the minutiae of lease sales and permitting practices while those at DOI were trying to deal with the real-world problems of economic growth and national security by boosting offshore production.

As the legislative language floated to amend the OCSLA matured and expanded over the course of 1976, the administration began to oppose the bills more vocally. Succeeding Morton as Interior Secretary, Thomas S. Kleppe wrote in February 1976 to John Murphy, chairman of the OCS select committee, that

the House bill was of "deep concern" to the administration (US DOI 1976a, 1). Five months later, Kleppe upped his rhetoric in expressing his dismay with Scoop Jackson's similar bill in the Senate, calling it "objectionable to the Administration in almost every section" in a letter to Jackson. Kleppe continued: "Its deficiencies are so many and so serious that only complete revision would make it acceptable" (US DOI 1976b, 1). President Ford and Interior Secretary Kleppe rejected nearly every proposal in Scoop's bill: its proposed limitation on the total amount of acreage leased under the cash bonus bid system; mandated experimentation with fixed-bonus, variable-royalty bidding and other alternative leasing schemes; compulsory submission of well log and other G&G data to the department; and a requirement that the department prepare an overarching Exploration Plan for a planning area before any drilling commenced.

The administration was especially resistant to that final proposal. Kleppe wrote to Rep. Murphy that the section of the bill appeared to "assume if not require Federal exploration for oil and gas," which conservatives believed was the first step towards socialism or the wholesale nationalization of the industry (US DOI 1976a, 2). The idea of a federal oil and gas company (or FOGCO) had been floated by some critics of the OCS program, who proposed that if government did not directly operate offshore, it should at least establish a quasi-government entity (similar to the Tennessee Valley Authority [TVA]) to protect its economic interests there (Wilkinson 1979, 253). Even this was anathema to many in the Republican Party, whose stalwarts had long called for divestment of the TVA. In comparison, most countries with offshore drilling provided for at least minimal government participation in exploration and development (US DOI 1977c). Senator John Tunney (D-CA) remarked on this point, "I don't know why the Federal Government doesn't apply good business practices to the sale of those leases the same way that any major oil company would do it...the Federal Government ought to have a much better idea of what is out there before they sell it" (US Congress 1975a, 67). The administration most of all opposed a provision in the Senate bill which would require the department to accept the recommendations of coastal State Governors and Regional Advisory Boards on leasing and development decisions, unless they directly conflicted with national security objectives or an "over-riding" national interest. Kleppe wrote to Scoop Jackson that not only had the tidelands cases, Submerged Lands Act and OSCLA long settled that issue, the provision was "inconsistent with the balanced objectives of the Act and could seriously hamper the achievement of the national benefits of developing this federally owned resource by making its management subservient to regional and local interests" (US DOI 1976b, 3).

Routinely frustrated by a recalcitrant Congress during his short tenure as President, Gerald Ford early on called for the deregulation of natural gas and the elimination of price controls on crude oil (Mieczkowski 2005, 217–219). The byzantine system of price controls and oil allocations erected by Richard Nixon had only protracted the oil "shortage" and made its pains more acute (Hall 2003). Ford announced in his 1975 State of the Union address that he wanted a $1-per-barrel import fee levied on crude oil. This measure would reduce foreign imports while stimulating domestic oil exploration, Ford assured Congress. That night the White House switchboard was lit up by a cascade of angry phone calls opposing Ford's idea. A general feeling of suspicion among the public that the oil companies had somehow rigged the market to keep prices high gave Congress the political cover it needed to counter the President. They kept in place the rationing of crude and its two-tiered pricing as either "new oil" or production from an "old" field (if it had started up before 1973). Ford's frustration with Congress—his former institutional home, as a House member—peaked on May 27 during a primetime address to the nation delivered from the Oval Office. With a tear-away monthly calendar in hand, Ford said, "Now, what did the Congress do in February about energy? Congress did nothing" (US President 1975). His icy glare seemed to pierce straight through the screen. Ripping off the calendar page for February, Ford repeated, "Nothing." Ford spoke slowly and deliberately; he repeated the process for March, April, and May, four times saying Congress had done "Nothing."

There was one area where Ford was easily able to act unilaterally on energy: the OCS. He endorsed Nixon's infamous 10-million-acre leasing goal during his 1975 State of the Union, for starters (Fitzgerald

2001, 62). Ford was also guaranteed to get a hero's welcome from anyone he met in the oil industry, a welcome change from the poor reception his energy plan received in Congress. Many in Washington whispered that the calendar speech was childish and petulant, and an embarrassment to the Presidency (Mieczkowski 2005, 235). A month before the "Nothing" speech, Ford took a day trip to the Gulf Coast of Louisiana, and flew on the afternoon of April 23 to visit the offshore drilling rig *New Era* (see Figures 3.13. and 3.14.). Owned by Diamond Offshore Drilling and busy boring a well under contract with Gulf Oil, the semi-submersible rig was moored 35 miles off the coast in Grand Isle Block 88 (Ford Presidential Papers 1975b, 1). As with Carter in 1977, a member of the Louisiana congressional delegation and a small coterie of advisers accompanied the President to the rig. Along for the flight on Marine One was Frank Zarb, head of the FEA and Ford's chief energy policy advisor, and Richard "Dick" Cheney, then a deputy special assistant to the President (Ford Presidential Papers 1975a, 1). They were given a five-minute briefing on the rig's capabilities and a forty-minute tour, during which the rig crew presented the President with a hardhat signed by the rig hands, and a geologic core sample cut from deep underground the Gulf in 1965 by a different drilling rig (Ford Presidential Papers 1975b, 1). Standing before his on-looking crew and a seafood buffet spread, Gulf Oil executive Z.D. Bonner pleaded with the President for "all the help from you we can get." Ford replied that he would do all that he could, but asked Bonner to understand, "I'm having a little trouble with Congress . . . we ought to bring them down here to educate them" (ibid.).

Figure 3.13. Marine One lands aboard the *New Era* offshore drilling rig at 3:38 p.m. on the afternoon of Wednesday, April 23, 1975.

The rig is moored in 341 feet of water 35 miles off the Louisiana coast, in Grand Isle Block 88.

Courtesy: Gerald R. Ford Presidential Library.

Figure 3.14. President Gerald Ford reviews the *New Era*'s controls as Gulf Oil employees look on.

Pictured directly above Ford's right shoulder is Frank Zarb, chief energy advisor and head of the Federal Energy Administration.

Courtesy: Gerald R. Ford Presidential Library.

Increasing production from Outer Continental Shelf wells was a major premise of Ford's national energy policy (Mieczkowski 2005, 219). A continued barrage of critical reports from the GAO and the Comptroller General during 1975–1977 sharply hindered that aim. They focused their criticism on the pressures emanating from Frank Zarb's FEA and the White House to increase leasing and production, saying that their influence had caused the DOI to follow ill-advised practices. GAO especially singled out the department's inability to estimate the value of offshore tracts with any level of consistency or credibility. Recall that the ill-starred Lease Sale 53 off Southern California in December 1975 offered a multitude of tracts for seemingly no reason. The bad projections of bonus bid totals and the needless addition of worthless tracts aside, it was clear that competition also suffered at Lease Sale 53. Only about 55 of the 231 tracts offered were eventually leased, but over 70% of those only received one or two bids—a *prima facie* indicator of an uncompetitive auction in the eyes of the Comptroller General's economic analysts (US Comptroller General 1977a, 30). The presence of adequate competition at a lease sale would obviate the need for reliable estimates of a tract's value beforehand, but "[s]ince market conditions were not perfectly competitive," the Comptroller reported, "the only way to assure the public receives the fair market value for the sale of national resources is to improve the reliability of the valuations by obtaining and using better information" (ibid., 31). This placed the onus squarely on the department to produce more accurate estimates, to effectively monitor the shape of the market and preserve it as free and fair.

The difficulties inherent in setting a value on a tract before offering it for sale was again thrust under the klieg lights with Lease Sale 40. Covering tracts in the mid-Atlantic off of New Jersey, Delaware and Maryland, the August 1976 sale was a bona fide whopper. Total high bids topped $1.1 billion, and the industry collectively exposed a total of $3.5 billion. While some had accurately predicted this result—OMB projected a $1.2 billion sale—others were flabbergasted by its success. Two days before the sale, the Interior Secretary had forecast that high bonus bids would total between $400 and $600 million. GAO later concluded that the department's estimate was so embarrassingly low because it had performed only a cursory review of the area's potential, and used "insufficient data" in the review at that (US Comptroller General 1977b, 1). Without access to better geotechnical data, Interior was forced to rely on "geological inference" and mere "speculation" to gauge a tract's prospectivity (US Comptroller General 1975b, 4). For all its analytical strength, PRESTO's usefulness was still premised on the presence of high-quality data inputs if it was to produce worthwhile estimates.

In addition to triggering a lengthy lawsuit, the results of Lease Sale 40 helped raise a critical question in the acceleration debate that was frequently overlooked, more often than not by Democrats in Congress. What, exactly, is the "fair market value" of a lease over an offshore tract? And why should the government care? The second question was not an idle one when asked prior to the passage of the OCSLA amendments in 1978. The word "fair" does not appear at all in the OCSLA of 1953.[15] As discussed above, the OCSLA directly applied the "no less than market value" standard explicitly to royalty payments, and only possibly to the auctioning off of leases. "Competitive" was the only clear statutory standard for holding lease sales. In a plain reading of the law, the more germane concept for the awarding of leases was ensuring that they were offered in a transparent, fair, and open process. The Act gave the Secretary broad discretion and administrative power in implementing this mandate. Somewhere between the first bid rejection in 1959 and the mid-1970s, it became departmental policy to explicitly

[15] Neither does the word *auction*. The OCSLA of 1953 describes the awarding of offshore oil and gas leases as neither an auction nor a market; it reads only that the Interior Secretary is authorized "to grant [oil and gas leases]" by "competitive bidding" (67 Stat 468). The OCSLA's use of the word "market" refers to the receipt of "market value" and authorizes the Secretary to purchase oil and gas at "market price" during war.

consider the "receipt of fair market value" when evaluating bonus bids for value adequacy, even though the law did not require such a judgment (US DOI 1975b, 8). Known in government circles as the "fairness issue," encouraging enough independent companies to participate in lease sales (in the face of high bonus bids) was a departmental goal long before the OCLSAA amendments formalized the mission (Kash et al. 1973, 172).

Before long, the DOI's lowballing of the results of Sale 40 by 55% and the election of a new President in 1976 combined to focus attention on the cash bonus bidding system as a likely culprit for all the wayward pre-sale bonus bid forecasts. Was the customary variable-bonus, fixed-royalty bidding method properly understood as an auction, or as a market? Internal records from the DOI dating to before the 1978 amendments routinely called the lease sale event an "auction" or a "bid auction" (US DOI 1977a). Before the amendments passed, oil companies agreed that the lease sale was an auction. One oilman queried an Interior official on this point when he asked, "[w]hy doesn't the government state the minimum bid it will accept for each tract in advance of a lease sale? We can't understand why you reject bids," he lamented to the department. "After all, we *are* bidding in an auction" (US Congress 1974b, 110; emphasis in the original).

The auction and market point was most difficult to resolve when a tract received a solo bid in a lease sale. The reception of only one or two bids on a tract would trigger an adequacy review, unless the solo high bid was above the USGS's value estimate. Interior and FEA officials would explain to anyone who stopped long enough to listen that vibrant competition was the "prime source" of ensuring the receipt of a fair return for leases, not the bid adequacy evaluation performed by the USGS (US Congress 1974a, 112). Between 1954 and 1974, however, such vibrant competition was perhaps lacking: nearly 50% of all tracts leased were awarded to either a sole bidder or to the higher of just two bids (Reece 1978, 370). Even so, this fact did not provide an answer as to why bid evaluation was a legal necessity or a beneficial practice for maintaining a competitive environment. With a minimum per-acre bid requirement in place, and with access to participate in a lease sale guaranteed to be open and non-discriminatory, why did it matter if a tract received one bid? If the auction itself was competitive, didn't it follow that every bid received at the sale was *de facto* competitive? Here, the oilman's concern made sense: how could the government simultaneously uphold the validity of a lease sale auction, while impugning some bids as "inadequate" even though they were duly submitted according to its rules? If the agency expected to receive higher bids overall, critics maintained, then it should simply set a higher minimum bid amount.

Rep. John Dingell (D) of Michigan helped illustrate the answer. Dingell held flatly that leases issued to a solo bidder were by definition not competitive (US Congress 1974a, 193–194). At the August 1974 Kennedy hearing at the New England Aquarium, Dingell held the floor and then showed why anyone outside of Congress knew that bid adequacy evaluation was a programmatic necessity: to help stave off criticism that the government was giving away leases at bargain-basement prices. Dingell quite fairly derided the DOI's bid estimates as "phantom numbers." Dingell then read part of his written testimony aloud before the committee, questioning an FEA official on the detailed value estimates made for specific tracts. "[L]et us look to a single lease sale, the December 20, 1973, sale," Dingell said. The sale covered the MAFLA region of the Gulf of the Mexico. "In that sale," Dingell said, putting his witness on the spot, Tract No. 32-6, had a presale valuation of $38,822 established by the Department of the Interior. The high bid for the tract was $32,332,000. The industry's evaluation was 826 times greater than the Interior Department's evaluation. Interior would have willingly leased this tract for something on the order of $32,000. An oil industry bidder was willing to plunk down in excess of $32 million; keep in mind the fact that these oil companies are not known for their altruism. (US Congress 1974a, 193–194)

For a witness sitting below a House of Representatives committee dais, there is no good response to such a question. DOI's boilerplate response that they trotted out whenever a gross undervaluation of a tract occurred stated that on the aggregate, the costs to society are greater in overestimating offshore resources

values and preventing their entry into the market, than in underestimating them[16] (US Comptroller General 1975b, 16–17). This was especially true in a period of constrained oil and gas supply. Bid adequacy evaluation gave political cover to a program that by its nature must grapple with a great deal of uncertainty. Even those offshore oilmen who were most vocal in their opposition to government regulation recognized the political "reality" of the need for adequacy review (Beu 1988, 6). Massive underpayments like that made for Tract No. 32-6 and similar leases are the bread and butter of oversight attention by members of Congress. Note that Dingell did not ask about any instances in which, after bidding far above the government's tract estimate, an offshore oil company then drilled a dry hole on a lease and came up empty-handed.

In fact, the lease sale that Dingell cited would become infamous for just that reason. The MAFLA sale over the Destin Dome had garnered $1.49 billion in high bids submitted on 89 tracts, and led firms to expose more than $3.4 billion in total bids. Only two high bids were rejected (US DOI 2014c). The sale was the first in the Gulf to offer leases beyond the break between the continental shelf and continental slope (ibid.), but the MAFLA sub-region yielded only poor exploratory drilling outcomes through 1978. Many in the industry touted the Destin Dome as the most promising OCS area (second only to the Gulf of Alaska) until operators drilled 18 straight dry holes there, to their great disappointment and at great cost. A series of dry holes off Alaska soon took the shine off the Arctic offshore by 1978 (*Oil & Gas Journal* 1978d). About half of the MAFLA leases were voluntarily relinquished before their term expired (ibid.). In its reports on the OCS program for many years to follow, the Comptroller General would repeatedly point to the circumstances of the MAFLA sale to underscore its point that high bonus bid totals are an extremely poor measure of either economic efficiency or the receipt of fair market value. If they were a good measure of either, the Comptroller General said, then the $1.5 billion MAFLA sale should be deemed a roaring success; clearly it was not (US Comptroller General 1977b, ii, 40).

The offshore operators themselves provided government officials and pundits with a different justification for the usefulness of bid adequacy evaluation: the companies fervently opposed it. Mobil Oil's chief of Exploration and Production said before the House Ad Hoc Select Committee that "pure" bonus bidding alone (without bid adequacy review) was by definition guaranteeing fair market value. In a bonus bidding lease market, he said, "the Government is guaranteed the highest value perceived by every bidder on every tract" (US Congress 1977b, 1442). By that logic, it follows that rejecting any high bid was a rejection of an offer of fair market value. This argument marked a major shift in the industry's strategy of gaining concessions from the DOI on the terms of access, moving away from agreeing with the government that the lease sale was an auction, and towards calling it a market. This position would become a cornerstone of OCS leasing policy in 1983 under the Reagan administration. The official policy for bid rejection under the new Republican administration was "that the high bid on a tract will generally represent fair market value for that tract, absent collusion or other irregularities in the bidding process" (Lohrenz and Dougherty 1983, 1951). Under James Watt's DOI, absent an anti-trust injunction from the Department of Justice, an offshore lease sale was deemed more a market than an auction, and was thus competitive by definition. Though bid adequacy evaluation has never been abandoned, its significance and salience to leasing officials and Congress has significantly diminished over time. Watt might well have said that offshore operators *were* bidding in a market, after all.

[16] At least one high-ranking DOI official felt otherwise, telling the U.S. Comptroller General in 1975, "If we reject a bid when we should not, the consequences are usually not too serious because we can reoffer the tract later. If we make the opposite mistake, and lease when we should not, there is almost no way we can retrieve our error. This says that if we lean in either direction, it should be toward rejecting bids in close cases, not toward accepting them" (1975b, 17).

3.3. Key Changes under the OCSLA Amendments

Before taking office in January 1977, Jimmy Carter agreed to a request from Congressional Democrats to delay several lease sales scheduled during the Nixon era, give his support to the ongoing reform work of the House Ad Hoc Select Committee, and initiate a high-level review of the OCS program and its procedures at large (US Congress 1977a, 3). The incoming Secretary of the Interior, Cecil Andrus (who would serve for Carter's full term) ordered a comprehensive review of how lease sales were scheduled in order to "ensure compatibility with the Administration's environmental and energy objectives" (US DOI 1977f, 1). Andrus ended the practice of making official pre-sale estimates of a sale's total financial haul, and their use by OMB and Interior for budgeting ahead using projected receipt totals (US Comptroller General 1977a, 59). The move aimed to eliminate as much as possible the political headaches caused by the widening divergence between lease sale estimates and actual bonus bid totals. To the press, Andrus described the five-year plan[17] he inherited from Nixon and Ford as a "piece of paper someone must have scribbled out at the breakfast table. It was a list of arbitrary dates that no one was prepared to meet" (Heatherly 1981, 351).

Andrus' review began in April and divided itself into two phases, intending to decide on an immediate leasing schedule for the next two years by May 1977, and then to revise the full five-year schedule by the end of July (US DOI 1977f, 1). As a result of Andrus' efforts, his DOI published new regulations allowing for increased coastal State involvement in the review of exploration and development plans, requiring that exploration plans submitted by an operator be reviewed by the governor of the affected coastal State (US DOI 1977g; Gendler 1979, 358). Andrus made a controversial move and raised the ire of offshore operators when he asserted the right to suspend or terminate leases in the face of possible "significant damage" to the environment (Fitzgerald 2001, 66; Silva and King 1986, 89).

The revised five-year leasing schedule was released in August 1977, and Andrus was hopeful at first that its moderated scope would lead to a decrease in the lawsuits against the OCS program that lately seemed to arrive at DOI headquarters on a weekly basis. The sale schedule provided for a three-year interval between sales held in the same planning area, in order to allow exploratory drilling data gained after one sale to guide tract selections for a following sale (Gendler 1979, 358). Andrus described his schedule above all as "realistic"—not least because none of the previous lease sale schedules came close to meeting their goals, due to litigation over their arbitrary and wildly fluctuating terms (Bachman 1978). Only about 60% of the lease sales planned for the 1970s were ever held. The total acreage leased was but a small fraction of the department's goals; and nine frontier areas still remained closed to leasing (US Comptroller General 1981a, i). The Andrus plan was set to open nearly every OCS planning area over the following four and a half years, with an average of four sales annually. The schedule emphatically did not include a numerical goal for tracts offered or leases awarded, stressing instead that increased oil and gas production was its primary goal (ibid., 19). Attempting to hold six sales a year, as the schedules under Nixon and Ford had planned, was "folly" anyway in Andrus' eyes, as the most sales held in a year was indeed four (*Oil & Gas Journal* 1978c). Despite representing a reduction from the "accelerated" leasing goals of those before it, the new Andrus plan was by no means a throwback to the pre-oil-crisis pace of the 1960s. Before a December 6, 1979 meeting of the Outer Continental Shelf Advisory Board, Interior Undersecretary James A. Joseph described the plan to his audience as an "aggressive but balanced" leasing schedule, "ambitious" in its aims "because it has to be. We cannot afford a leisurely pace of exploration" (US DOI 1979, 20).

Carter also directed Andrus' department in May 1977 to begin writing rules laying out what information about its operations the industry had to submit to the department, and to start working with the

[17] The DOI began issuing five-year sale schedules in June 1971, on the advice of a management firm hired in 1968 to highlight flaws in the department's lease sale procedures. Both the Public Law Land Review and Stratton Commission had also recommended that DOI adopt the practice.

Department of Transportation on assessing the impacts of onshore receiving pipelines—offshore oil has to come onshore somewhere, after all (US President 1977a; Eddy 1978, 731). The new Democratic president also wanted clear procedures established so that the review of OCS development plans was sure to be fully compliant with NEPA requirements (Eddy 1978, 731). Regulations issued shortly thereafter required operators to conduct in-depth analyses of their offshore facilities, including briefly detailing to regulators what risks they might encounter and the environmental and safety standards they planned to use. Before that, the approval of such plans by the DOI had been but "a rather cursory administrative process" (ibid., 737).

While Carter and Andrus busied their branch of government with administrative changes, the bills to amend the OCSLA put forward by Rep. Murphy in the House and Scoop Jackson in the Senate received a warm welcome at the White House. Carter called for their swift passage in his 1978 State of the Union address (Fitzgerald 2001, 70). Letters exchanged between Andrus and Senator Jackson reveal that they agreed on the general framework of the changes proposed to update the law to meet modern environmental and energy needs, and on nearly every detail of the proposed legislative text.[18] Andrus argued for just a handful of tweaks to the legislative text: he wanted more leeway in administering the alternative bidding experiments made mandatory by the bill, for instance. One disagreement between Andrus and Congress stood out. As Secretary Kleppe and Ford had before them, Andrus and Carter opposed the Senate provision that would require the DOI Secretary to accept the recommendation of a coastal State Governor or Regional Advisory Board on OCS decisions. Andrus wrote to Jackson that the requirement makes "unnecessarily adversarial a process which should be as cooperative as possible." The Secretary also pointed out that no mechanism existed to resolve disagreements if the recommendation of a Governor and Regional Advisory Board countermanded each other (US DOI 1977d, 3). Interestingly, Carter had been tipped off while still President-Elect to this growing disease between DOI and the coastal states. After his boss lost the election, FEA Administrator Frank Zarb wrote a lengthy background policy memorandum for Carter (Zarb is pictured immediately above Ford's right shoulder in Figure 3.14.). Zarb mailed the report on December 3, 1976 to Plains, Georgia, where the inner circle of the incoming administration was huddled, planning the transition (Zarb and Richardson 1976). Zarb's assessment of the four years to come explained that there was a growing recognition of the role that must be played by state and local governments in managing all energy projects, not just in offshore oil and gas. Zarb also warned of "a growing regionalism in energy, which often conflicts with national policy interests". Zarb pointed the President-Elect's attention in particular towards the jurisdictional and environmental debates over OCS drilling on the Atlantic coast. The newfound interest in coastal State control "cannot be ignored," Zarb warned Carter (Zarb and Richardson 1976, 50).

As signed into law in September 1978, the OCSLA Amendments made sweeping—but by no means radical—changes to the procedures and tenor of the Outer Continental Shelf program and the manner of its implementation. To begin with, the new law was long: at 70 pages, the OCSLAA far outstripped the terse 10 statute pages of its predecessor. It was in some measure an "almost complete rewriting" of the original Act (US Comptroller General 1981a, 8). "Balance" could be called the watchword of the amendments. The Secretary of the Interior is instructed to "obtain a proper balance between the potential for environmental damage, the potential for discovery of oil and gas, and the potential for an adverse impact upon the coastal zone" when making leasing decisions (92 Stat 650; emphasis added). Following

[18] Such comity between Scoop Jackson and the Carter administration was unusual. Energy Secretary James R. Schlesinger recalled in a 1984 oral history interview that "there was a special kind of bitterness towards Jackson" in the Carter White House—bad blood left over from the 1976 presidential primaries. When Carter chief of staff Hamilton Jordan was asked in an autumn 1977 interview about Jackson's opinion on an unrelated issue, he replied, "Well, Jackson, hell, that doesn't matter, we whipped his ass in Pennsylvania." After that, Schlesinger recalled, Senator Jackson "carried our freight" on Carter's energy bill with much less enthusiasm (Schlesinger 1984, 5–6). Carter had beaten Jackson's second place showing in the April 27 primary with 37% of votes to Jackson's 25%, a wide margin for a crowded primary race.

Frank Zarb's admonition to not ignore the desire for state involvement in OCS decisions, the amendments also instruct the Secretary to consider "a reasonable balance between the national interest and the well-being of the citizens of an affected State" when making decisions regarding lease sales or development and production plans (92 Stat 653). Critically, however, this provision kept the counsel and preferences of coastal state governors as non-binding; the bi-partisan position of Kleppe and Andrus won out. The Secretary is given full discretion to consider and reject such recommendations, the Act stating that he "shall accept" them only "if he determines" that they will achieve the overlapping series of balances mentioned above. When rejecting such recommendations, the Secretary is required only to detail in writing the reasoning behind the decision (92 Stat 653).

Still, the OCSLAA and its legislative history make clear that a major purpose pushing the law was ensuring involvement of the coastal states in OCS decisions at every step of the process. Heavy coastal state involvement and the separation of exploration and development decisions was a major goal of the states, a priority even higher perhaps than revenue sharing (Kash et al. 1973, 137). As the House conference report on the OCSLAA pointed out, working together "from the beginning should avoid time-consuming lawsuits later" (Jones 1990, 37). The law's most durable imperative is its setting as national policy that the OCS "should be made available for expeditious and orderly development, subject to environmental safeguards, in a manner which is consistent with the maintenance of competition and other national needs" (92 Stat 635). The Carter administration was ahead of its time in pursuing legislation and policies that balanced environmental protection, job growth, and increases in energy supply.[19] The word "balance" was indeed a "rudder" for much of the Carter presidency (Stine 2001, 195). Although the inherent need for policy trade-offs among the multiple needs of the nation is implicit in the text, the OCSLAA has been interpreted by the DOI and the courts largely as elevating the "expeditious and orderly development" clause over the other goals competing with it (National Commission on the BP *Deepwater Horizon* Oil Spill and Offshore Drilling 2011a, 255).

The new Act required lessees and permittees of offshore lands to share all data and information generated or analyzed during the course of OCS operations to the DOI. (G&G data is acquired before the leasing stage, but still requires a permit to conduct.) As outlined above, this provision was largely a codification of what the USGS had done since 1974, when it began requiring information sharing via regulation. Congress was keen to include the provision into the OCSLAA anyway, as testimony from the Kennedy hearing at the New England Aquarium uncovered that although the department wrote the information sharing regulations in 1971, they were not published and made binding until after the committee took umbrage about the delay in 1974. Its inclusion in the Act was important for what it precluded: authorization for the federal government to lease an offshore rig and begin drilling to acquire geological knowledge of oil and gas plays. This idea, not surprisingly, elicited an especially elevated level of vitriol from its opponents. Not unlike at the passage of the OCSLA in 1953, the idea was called the first step in a rising tide of socialism that threatened to usurp the free enterprise system in the US. It remained in the Senate bill as late as July 1977 (Krueger and Singer 1979, 913), but never had much chance of passage.

In addition to amending the joint bidding prohibition statute in the Energy Policy and Conservation Act of 1975, the OCSLAA made several other changes of note. It gave the oil industry important reassurance that its G&G data would remain proprietary (Gendler 1979, 354). It codified the practice of establishing a lease sale schedule five years in advance, to allow offshore operators to confidently plan ahead. It allowed firms to pay their bonus bids in installments, if the Secretary deemed it "expeditious" for a

[19] While President, Carter routinely traveled to his hometown of Plains, Georgia, to relax and spend time outdoors. One such trip in August 1979 led to a curious episode in which a "killer rabbit" reportedly threatened to capsize Carter's canoe. (The "killer" tagline was in fact an inebriated exaggeration of Jody Powell that was soon repeated.) Taking a line from the classic *JAWS* movie poster, *Washington Post* cartoonist William Coulier lampooned the story by drawing a large submerged bunny swimming up to the surface from below Carter's canoe; Coulier titled the cartoon *Paws* (Jackson 1979). Another political cartoon in 1980 pictured Carter in the role of the shark itself, riffing on the President's trademark toothy grin.

project. As mentioned above, leases in "unusually deep water" were singled out for longer lease terms to encourage their development. The law also defined "frontier" areas of the OCS to be essentially every planning area outside of the Gulf. Many of the procedural changes made under the Carter administration were also codified; for example, onshore impact statements for production and development activities were made a statutory and not just regulatory requirement.

Finally, the OCSLAA made no changes to the disposition of 100% of OCS revenues to the federal miscellaneous receipts account.[20] As it was extraneous to their welfare, the petroleum industry generally steered clear of the issue. Offshore oil legend Doc Laborde weighed in at one point in 1975, saying, "I think basically [revenue sharing] is only fair. There is no doubt the [coastal] States have to make an accommodation for our activities. I think it is only fair they should enjoy some of the proceeds from this thing" (US Congress 1975a, 271). As a presidential candidate, Jimmy Carter actually supported revenue sharing during the campaign, saying to a rally in New Orleans just days before the 1976 election, "I think it's time we had a fair allocation of Federal funds to give to local and state governments so you can still have a good quality of life and still supply oil and natural gas to the country" (US Congress 1977a, 176). "It's not right," Carter said to a roar of approval from the crowd, "for eastern seaboard states to refuse to explore for oil and put all the responsibility on states like Louisiana" (ibid.). The next day, senior campaign advisor and future White House Press Secretary Jody Powell stepped in to clarify Carter's perhaps semi-ambiguous words. Powell confirmed that the former Governor of Georgia was indeed calling for the sharing of revenues earned from offshore drilling between the federal treasury and local government. Senator J. Bennett Johnston, Carter's campaign chairman for the state, hailed the comment as a boon for Louisianans. Once in office, though, Carter's policy position moderated. DOI Secretary Andrus told the House Ad Hoc Select Committee in 1977 that revenue sharing with the states was in fact already in place. "The public is in Louisiana," Andrus explained. "It is in Idaho, it is in all 50 States" (ibid., 177). The Congressional delegations from Louisiana and Idaho were not amused. Not one accused of adopting convenient policy stances or to waver in his convictions, it should be noted that Carter's remarks did come during his final campaign swing through the Deep South and in the high heat of the final campaign stretch. Expressing support for revenue sharing was perhaps in small part a gambit to win Louisiana; Carter carried the state by a comfortable margin of 6%, however.

Before meeting in conference, the two bills in their penultimate stage were to one critical eye full of "lofty goals" set out in the "purposes section of the bill[s]" (Craft 1977, 745). The Senate bill (and the OCSLAA as enacted) indeed contained a lengthy preamble that promised the American people the moon: the amendments hoped to "achieve national economic and energy policy goals, assure national security, reduce dependence on foreign sources, and maintain a favorable balance of payments in world trade"—no small task (ibid.). While in conference, a few minor provisions of note were dropped or changed. The "Findings" section of the House bill had opined that OCS development had impacts on policies and programs that specifically affected coastal state and local governments. The Senate version of the bill (and the Act) clarified that there was "no independent basis for legal action by a local government" against federal actions, but rather that they would have to act through the states as their stakeholders in the Act in order to have legal standing (US Congress 1978, 76). Both bills allowed for a review of the competitiveness of a lease sale, but the Senate bill would have included an automatic trigger of a

[20] The OCSLAA did require the Secretary to deposit all revenues generated from reservoirs straddling the federal-state boundary into an escrow account, until the states and federal government could agree (or a district court ordered) on a "fair and equitable disposition" between them. After years of disagreement and controversy over the funds, amendments to the OCSLAA passed in 1986 mandate that an adjacent coastal state receive 27% of royalties from production within the first three miles seaward of federal waters, known as the 8(g) zone after its place in the statute. These funds were to compensate for drainage, and later, a federal judge ruled, to compensate the states for the "enhanced" bonuses that the federal government received due to discoveries in state waters. An agreement brokered by the Reagan administration in 1986 resulted in a lump sum payment of $1.5 billion (Farrow 1990, 37). On the relationship between the 8(g) boundary line and coastal land loss, see Theriot 2014.

determination or hearing by the Federal Trade Commission for every sale. The lower chamber's version won out. Conferees jettisoned a House provision that would have required an antitrust review by the Department of Justice under the Antitrust Civil Process Act (ibid., 96). Also jettisoned was a House provision authorizing Congress to withdraw areas on the OCS from leasing by "passing a concurrent resolution so declaring." Here, the Senate bill won out, and the clause was removed (ibid., 102). Both bills contained as a requirement of the OCS program the receipt of due value for lands, but they differed on what phrase to use. The House amendments provided that leasing activities convey "fair value," a phrase not present in the OSCLA of 1953. The Senate bill added the word "fair" before the extant phrase "market value." The Senate bill prevailed, resulting in the enactment of Section 18(4) as follows: "Leasing activities shall be conducted to assure receipt of fair market value for the lands leased and the rights conveyed by the Federal Government" (92 Stat 650). This resolved any ambiguity around the "market value" text of the OCSLA and its applicability to bonus bids, not just royalty payments.

Signing the OCSLA Amendments of 1978 into law, Carter expressed concern with one provision. Carter wrote in his signing statement, "there is a substantial increase in the annual appropriation authorization for coastal energy impact formula grants to States affected by OCS activities. While this is an essential program and I support it, in the annual appropriation process I will have to carefully weigh budget limitations . . . ." (US President 1978). Title V of the OCSLAA amendments altered the Coastal Zone Management Act (CZMA)(as amended), boosting the amount of grants for impact assistance to coastal states to $50 million through fiscal year 1978, and up to $130 million each year for the following decade (92 Stat 692). The previous maximum appropriation for grants had been set at $50 million annually, and was scheduled to end in 1984 (90 Stat 1031). Impact funds were rising because the CZMA was not regarded at this point as merely a law incidental to the continental shelf, but as one to play a major role in OCS activities. As noted above, the consistency review provision within the OCSLAA (which seemingly requires that federal actions at the production stage of OCS development be "consistent" with a state's coastal zone management plan) was intended to ensure cooperation between coastal state governors and the DOI. The House conference report accompanying the amendments explained that the consistency review provision, imposed at the production stage, "is intended to provide the mechanism for review and evaluation of, and decision on, development and production in a leased area, after consultation and coordination with all affected parties. The committee considers this one of the most important provisions of the [1978] amendments" (US Congress 1977c, 167). Carter's concern for the budget deficit notwithstanding, the long-gestating amendments had finally become law twenty-five years after the start of the federal OCS program, and after nearly half a decade of deliberation. The OCSLAA was enacted with the hope that by expanding the decision-making process among the federal government, states and other stakeholders, the new law—while retaining federal primacy—would boost public and coastal State confidence in the program (Gramling 1996, 120).

The debate over alternative bidding systems probably generated the most heat and light during the long process of amending the OCSLA. Intuition and a sweep of economic studies questioned whether the federal government was capturing a sufficient amount of the economic rent generated by offshore reserves, most answering with a definitive "no" (Reece 1978). The oil crisis at the start of the 1970s spawned investigation into other alternatives. Driving this were three general beliefs, or suspicions, rather: that the bonus bid system deprived the government of revenues because the private sector was averse to their up-front, risky nature; that the petroleum industry as a whole was soon to be facing a shortage of capital; and that the same up-front payments in the form of large bonus bids kept the offshore industry monopolistic and uncompetitive (Patterson 1979, 189). Many were indeed concerned that the money stacking contest identified with the traditional bonus bidding system used since the 1960s was impairing offshore development by the independent oil and gas companies. The fear that the federal treasury was missing out on revenues due to its heavily reliance on the cash bonus bid system was of only secondary importance. The investigations into alternative leasing systems also sought to boost the number of bids received per tract, especially since it was increasingly understood that the best way to receive fair market value was to increase true competition in that market. Gallons upon gallons of ink

have been spilled since in debating the merits of each system, explaining their complexities and variants, and statistically determining just how superior (or inferior) they are to the traditional system.

These investigations only modestly affected the enacted amendments. The OCSLAA ultimately required the Secretary to offer a minimum of 20% (and no more than 60%) of acreage under an alternative system during a five-year period after enactment (92 Stat 642). The text of the law included an explication of ten bidding options, but permitted the Secretary to choose among them or select another suitable option, provided that the system used only a single variable.[21] The Secretary was also authorized to offer a small number of tracts that required bidders to submit bids under two or more of the bidding systems, "in order to obtain statistical information to determine which bidding alternatives will best accomplish the purposes and policies of this Act," up to 10% of the number of tracts issued (92 Stat 642). Economists and resource experts within the USGS had been investigating alternative bidding systems for nearly a decade by the time the amendments were enacted. A departmental Solicitor's ruling in the fall of 1977 gave credence to what the USGS had believed for some time, which was that any number of alternative systems could be implemented under the authority of the 1953 OCSLA without new authority. The proposed but ultimately abandoned Energy Supply Act of 1976 (S. 521) would have mandated experimentation with nine different bidding systems; the bill was never passed, but Interior correctly anticipated that a similar requirement was sure to be resurrected in future legislation. The easiest alternative was simply to offer a lease with a higher royalty rate, and indeed, the department occasionally set a rate of 33.33% on leases sold since 1954. While still in the DOI's Office of Policy Analysis, Marshall Rose studied the auction methods that S. 521 would have required, concluding that four were worthy of further study: a fixed cash bonus bid with a royalty bid; a fixed cash bonus bid with a profit sharing level bid; a fixed-level profit sharing system with variable cash bonus bid; and a fixed-level profit sharing plus a 1% working interest and a variable cash bonus bid (Rose 1976, 1). Rose determined, however, that at least under the provisions of S. 521, the required amount of leases used in the leasing experiments was too large; with so much uncertainty inherent in the prescribed experiments, too much production could be delayed or impeded (ibid.). Ironically, later experiments in alternative bidding methods would be ignored for being too small to carry statistical significance.

What the department wanted out of a competitive bidding system was clear: maximizing government receipts. This was not a policy position predicated on federal avarice, or stemming from malice towards the offshore oil and gas industry, despite appearances. A memorandum from January 1977 explained that the offshore leasing program had four primary objectives:

1. Orderly and timely resource development.
2. Conservation of the resource.
3. Obtaining fair market return on the sale of the resource.
4. Protection of the environment. (US DOI 1977a, 4)

The memo then explains that the more economically inefficient a leasing system is, the less oil and gas it produces. The more inefficient a leasing system is, the higher the costs that firms incur, and thus the

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[21] James Watt's DOI was later sued under this provision of the OCSLAA. *Watt v. Energy Action Educational Foundation et al*. (454 U.S. 151) was decided on December 1, 1981. The EAEF and other petitioners, including the State of California, alleged that the Secretary had abused his discretion by not experimenting with systems that did not use a cash bonus as the variable component. The Court of Appeals ruled for the petitioners, but the Supreme Court overturned it, holding that the OCSLAA was not intended to "channel the Secretary's discretion in choosing among the alternative bidding systems, and nothing in the statute singles out the non-cash-bonus systems for special consideration. The language of the 1978 Amendments...leaves the details to the Secretary's discretion."

lower the overall revenue collected by the government (ibid., 11). In Interior's words, "[w]hen the leasing system or the associated leasing terms encourage more efficient exploration, development and production, bonus and royalty payments increase accordingly" (ibid.). The department did believe that changes to the leasing system could promote a more efficient development of offshore resources, by increasing the number of independents participating in lease sales and eventually developing fields to production. USGS had found that under the traditional cash bonus bidding system, "many of the smaller and even some of the medium-sized firms limit their participation because of the high risks associated with the loss of their cash bonus if a tract is dry" (US DOI 1977e, 4). Moreover, small firms were often hamstrung by the cash bonus bidding system itself. Those that did participate, can be expected to submit bids that are considerably less than their estimates of the true value of the tract. They do this to take into account the fact that if they win the tract, they will have ben the most optimistic bidder, i.e., they may have made the biggest error in overestimating the tract's value. (US DOI 1977e, 4). These broad concerns of economic efficiency and promoting competition were the primary force behind Interior's experimentations with alternative lease sale auctions before 1978.[22]

There were too many—perhaps far too many—permutations of bidding system alternatives to the variable-bonus, fixed-royalty standard (see Figure 3.15.). Each jousted for inclusion in the 1978 amendments. For example; during the accelerated leasing debates earlier in the decade, Gulf Oil had proposed to DOI that it continue to accept cash bonus bids, but take the money as a bond or bank letter of credit; the oil and gas company would then be obligated to spend at least that much in exploration and/or development of the lease. Whatever difference was not spent on the lease would then go into the federal treasury (US Congress 1974c, 114). Some proposed that leases be offered under a fixed cash bonus dollar amount, with firms bidding on the amount of the annual rental due on a lease (US Congressional Research Service 1976, 36–37). Interior also considered using a sliding-scale royalty on crude oil flows, which would alter the royalty percentage as production levels declined, based on a mix of per-well flow rates, a field's age, or a combination thereof. Sliding scale royalties are common around the world, and Interior estimated in 1977 that their use on the OCS could increase a tract's present value for government and industry alike by 10% (US DOI 1977e, 10). Some proposed that the USGS take a number of tracts that received two or more bids during a lease sale, withdraw them, and then re-offer them in a secondary auction open to bidding from only the independents (Kash et al. 1973, 183). (This suggestion apparently came from the head of the Texas Independent Producers and Royalty Owners Association, George P. Mitchell, later credited with revolutionizing the modern use of hydraulic fracturing in oil and gas wells, launching the boom in shale oil and gas [see Gold 2014].)

[22] In later years, the mission to "preserve and maintain free enterprise competition" was added to the agency's mission statement, since resource conservation is a concept readily subsumed by both environmental protection and obtaining fair market value for the offshore resources (Freudenberg and Gramling 1994, 108).

Advantages and Disadvantages of Alternative Bidding Systems (authorized by OCS Lands Act Amendments of 1978)

Bidding system		Description	Advantages	Disadvantages
Bid variable	Fixed payment			
Cash bonus	Fixed royalty	Leases awarded on the basis of highest cash bonus payment plus percent of revenues, not less than 12½%. Usually 16⅔%.	Generally accepted bidding system in United States. Easy to administer.	upfront cash bonuses may limit competition. Fixed royalties may overtax small fields and constrain development.
Cash bonus	Sliding scale royalty	Leases awarded on the basis of highest cash bonus plus percent of revenues, which increases with production.	May lower bonus bids and increase competition. Lease payments vary with field productivity.	Royalties may still be too high for small fields. May try to avoid higher royalty on productive tracts by slowing production.
Cash bonus	Fixed net profit share	Leases awarded on the basis of highest cash bonus plus percent of profits after capital recovery. Profit share not less than 30%.	May lower bonus bids and increase competition. Lease payments vary with field profitability.	Difficult to design and administer. May cause "gold-plating."
Cash bonus	Fixed royalty and fixed net profit share	Leases awarded on the basis of highest cash bonus plus percent of revenues and percent of profits.	May lower bonus bids and increase competition.	Regulations never written as too complex.
Royalty rate	Fixed cash bonus	Leases awarded on the basis of highest percent of revenues offered, plus fixed cash bonus.	Lower upfront payments may increase competition.	High royalty rate bids may constrain development.
Net profit share	Fixed cash bonus	Leases awarded on the basis of highest percent of profits offered, plus fixed cash bonus.	Lower upfront payments may increase competition.	High net profit share bids may constrain development.
Work commitment	Fixed cash bonus	Leases awarded on the basis of dollars to be spent on exploration, plus fixed cash bonus.	Provides for rapid exploration.	Government must forego high bonuses. Exploration program may be inefficient.

Figure 3.15. Advantages and disadvantages of alternative bidding systems authorized by the Outer Continental Shelf Lands Act Amendments of 1978, as detailed by a Congressional Office of Technology Assessment study published in 1985.

Source: US Office of Technology Assessment 1985, 155.

DOI was generally positive about profit-sharing systems for their economic efficiency, despite their notorious reputation for being very difficult to administer (Rose 1977b). In theory, setting a fixed bonus and having firms bid on a variable royalty rate showed great promise; it would reduce up-front capital costs, allowing a cash-strapped firm to pay the government appreciable amounts of money only once oil and gas began to flow. This would dramatically reduce the risk involved in expending capital for exploration offshore. Royalty bidding in practice proved largely unworkable, however, inviting royalty rate bids that were unrealistically high (at best), or purely speculative (at worst). Of all the options available prior to enactment of the OCSLAA, both the USGS and BLM preferred a "capped royalty bidding" scheme, which included a fixed, nominal cash bonus amount and set a maximum royalty bid level in advance. If a firm wanted to bid higher than the designated maximum, they would then offer a cash bonus bid (with no ceiling). Both agencies proposed that the royalty ceiling be set somewhere between 20% and 33.33% (US DOI 1977e, 1). Interior even studied the possibility of publicly revealing its PRESTO tract valuation estimates prior to a sale, "thereby improving and correlating bidder value estimates." It found that doing so would likely reduce profits on newly leased tracts anywhere from 24% to 36% of the lease's value (Teisberg 1977). The practice was not adopted.

Despite the hand-wringing within Congress and at Interior, at least anecdotally it seemed that few independent oil and gas firms placed much blame on government policy for why they were keeping their drills out of federal waters. Lloyd Unsell, Vice President of the Independent Petroleum Association of America (IPAA) told the *Oil & Gas Journal* in 1979 that less than 1% of an estimated 10,000 operators had the financial strength to "go offshore," but that moreover, the average firm simply had no desire to get into the market (*Oil & Gas Journal* 1979). Unsell suggested that "the high operating cost of offshore operations," and not federal policies, was the reason behind such reticence (Krueger and Singer 1979, 915). This was in line with Interior's institutional knowledge about the basin: oil companies in the Gulf had been telling BLM officials as far back as 1960 that they had no real interest in royalty bidding (Priest

2008a, 107). The same result cropped up when Interior interviewed a number of offshore operators in 1974; only two independent firms expressed any interest in royalty bidding (US Congress 1974b, 110).

Another pro-independent idea, the separation of the exploration stage from the development and production stage (as it related to leases) was also briefly a fad in the middle of the decade. Its proponents pondered the wisdom of requiring a firm to win leases in a two-stage process in order to produce oil and gas. Though it may sound like just a doubling of red tape or a way to artificially manufacture delays or prevent drilling, it purported to actually speed up the exploration drilling process, since exploratory drilling could go forward immediately without coastal states growing overly concerned that by allowing exploration they had just approved massive amounts of offshore development. The National Governors Conference spoke out in favor of the concept, and the separation of leasing and development activity was a cornerstone premise of the CZMA. Senators Jackson and Warren Magnuson (D-WA) enlisted the Office of Technology Assessment (OTA), a non-partisan and highly regarded technical research arm of Congress, to study the issue. OTA completed its work in just three months—an unheard-of turnaround time for almost any government study—and concluded that separating the two was indeed feasible, but could grow increasingly complicated to manage after a discovery of multiple oil or gas fields (US Office of Technology Assessment 1975, 6; see Bimber 1996). This was due to the overlapping nature of exploration and development; an initial discovery has to be "appraised" and its areal extent delimited by drilling more wells, a hybrid process that in many ways is closer to exploration than development drilling, but necessary for the latter to proceed. The OTA report recommended that Congress consider other alternatives instead (US Office of Technology Assessment 1975, 19–45). The arguments that alternative bidding methods would facilitate the entry of smaller firms or the continued survival of those already invested offshore were compelling ones, but they ultimately proved difficult to justify.

3.4. Implementation and Litigation under Cecil Andrus

Nary a page of ink was dry on the new amendments before the industry cried foul. They bemoaned the new leasing system as "booby-trapped" with unnecessary delays, permits and requirements (Bachman 1978). One petroleum executive said that the law's new regulatory requirements would bury him and his company under "a blizzard of paper" (*Oil & Gas Journal* 1978c). The OCSLAA did place several new and potentially burdensome reporting and research requirements on the industry, but the offshore companies, so adept at technological innovation, adapted quickly here, too. As DOI Secretary Andrus worked to implement the new law from its enactment in September 1978 until his departure in 1981, the back-and-forth over its paperwork requirements would prove to be the least of his department's concerns. Although a major goal for the OCSLAA had been to stem the tide of OCS litigation that swelled under Nixon and Ford (US Congress 1977d, 27), in practice it seemed to broaden the legal grounds on which to contest federal actions. Many Republicans in Congress and a few oil-state Democrats had predicted as much, and they were certainly vindicated. To Rep. John Breaux (D) of Louisiana, it seemed like lawsuits against the OCS program had only proliferated after 1978, generating more uncertainty in the offshore market, not less (Lester 1996, 5). Several of the suits, Breaux pointed out, were not small-ball efforts but major legal offensives: they were targeted at the five-year program itself, and some had state Attorneys General backing them (US Congress 1981b, 108). Breaux estimated in 1981 that OCS litigation had risen approximately 400% since the OCSLAA was passed (US Congress 1981b, 107). A few years later, while breaking in a new Undersecretary of the Interior, the director of MMS later recalled explaining the five-year program process to the new incumbent. The Undersecretary asked, "Then what happens?" MMS director replied, "well, then we go to court" (Wilder 1993).

Challenges to the OCSLA before the 1978 amendments had used the procedural requirements of the National Environmental Policy Act (NEPA) to win temporary injunctions against federal actions. The National Resource Defense Council (NRDC) lobbed the first volley over Interior's bow soon after Nixon announced his first acceleration of leasing in June 1971. The US District Court for the District of Columbia (generally regarded as the second-most powerful federal court in the US, just below the

Supreme Court) enjoined a lease sale planned for December 1971 off Louisiana on the grounds that the DOI had not met its legal NEPA obligations in the Environmental Impact Statement it prepared (Fitzgerald 2001, 60; Theriot 2014, 88–89). The lease sale went through the following year as planned, but the case showed that NEPA could effectively be used against the OCSLA (Fitzgerald 2001, 60; *NRDC v. Morton* 1972). The Sierra Club attempted a similar suit after Nixon's second tripling order in 1973, but was unsuccessful (see Gendler 1979, 376–377). The same fate awaited California's suit in *California v. Morton*, which was also dismissed (Fitzgerald 2001, 63). The EIS in that case was ruled inadequate, but the sale continued after the Second Circuit refused to dismiss the case but stayed the injunction (Fitzgerald 2001 64).

Litigation over Lease Sale 42 in the Georges Bank (*Massachusetts v. Andrus*) proved more intractable. The suit dated back to 1978, dragging into the following year. The case's merits involved the nomination of the Georges Bank area as a marine sanctuary. After several rounds fought in the district and circuit courts, the sale finally proceeded in December 1979 (ibid., 72). Suits were filed against sales in Alaska's Beaufort Sea and Cook Inlet, off California, and east of Massachusetts. A separate ruling in October 1978 on a suit brought by Chevron, Amoco, Continental Oil, Getty Oil, Gulf, Marathon, Mobil, Union Oil and others struck down Andrus' regulation from early 1977 allowing him to cancel leases on environmental grounds (ibid., 66). Andrus had not actually invoked it to rescind any leases, but the court ruled that simply having it on the books constituted an unlawful government taking of property, as well as a violation of the OCSLA's requirement that a lease last for a minimum of five years unless terminated for a material breach of the lease contract after the fact (US DOI 1977h, 4). The court held that the mere existence of the regulation caused immediate injury to the oil companies, by introducing "a new and major element of uncertainty in valuing leases issued by the United States" (US DOI 1977h).

More and more litigation was to come. The first lease sale held in the Atlantic since the Supreme Court had settled the *Maine et al.* case was set for August 1976 in the Baltimore Canyon. Lease Sale 40—the one garnering $1.1 billion in high bids instead of the predicted $400 million—was at first successfully enjoined by the US District Court of Eastern New York, but the sale went ahead in August 1976 as scheduled. However, a February 1977 trial over the adequacy of the environmental review threatened to permanently invalidate the sale and the leases issued from it.[23] A circuit court overturned the ruling in August 1977, but drilling did not proceed until the Supreme Court declined in March 1978 to entertain the case (Priest 2014, 2160). A series of dry holes drilled in the area diminished its allure to the oil and gas companies by 1979 (Priest 2014,2169). Similar delays in the courts and in issuing administrative permits further delayed exploratory drilling in Georges Bank until 1981. The basin yielded similar results as the Baltimore Canyon, to the disappointment of Shell Oil and those who followed them to drill early wildcat wells in the area (Priest 2014).

A minor coincidence helps illuminate the historical significance of the disappointing results off the Atlantic seaboard to the deepwater Gulf, as well as underscore the point that the federal government routinely provides the offshore industry with an array of fiscal incentives and economic support. The host of Carter's rig visit in 1977, the *Yorktown Zapata*, was never intended to drill in the Gulf (Kobus et al. 1977, 165). Zapata Off-Shore had co-designed, tested (over 1973 and 1974), and ordered the rig expressly to drill in the Baltimore Canyon and the Georges Bank, and possibly off the Western seaboard of the US (ibid., 165; National Academy of Sciences 1980, 21). A Zapata representative lamented at an industry meeting in 1980 that the litigation brought by the states had stymied his company's efforts to prospect in the Atlantic. Zapata had invested over $150 million in new drilling rigs because of "the

[23] In a decision that seemed to bolster interest in the separation of exploration leasing from development leasing, the Second Circuit ruled in *County of Suffolk v. Secretary of the Interior* 562 F.2d 1368 (1977) that NEPA requirements for a lease sale need only address the possible environmental consequences of awarding a lease and the exploration phase of drilling, not the development phase (Fitzgerald 2001, 68).

rhetoric of Project Independence," the Zapata company man said, and the "proposed [accelerated] leasing schedule" that seemed to presage a dramatic increase in offshore access[24] (ibid.). The *Yorktown* drilled briefly in the Baltimore Canyon over the summer of 1978, but its operator then promptly moved it to the deepwater Gulf. The Zapata official blamed his firm's woes on the federal government's failure to accelerate leasing, although in truth, the Baltimore Canyon's bust had the greater impact on his firm's bottom line. The Atlantic's failure to yield massive discoveries helped push rigs, material and engineering focus from the Atlantic to the deepwater Gulf. Even the great strides made in seismic technology didn't boost operator interest in the Atlantic in this period; Interior was forced to cancel Lease Sale 82 in late 1984 in the North Atlantic after no firm submitted a tract for nomination (Jones 1990, 44). Industry estimated that the 18-month delay in drilling the Baltimore Canyon cost them $123 million alone on the interest paid on the cash used to purchase the leases (*Oil & Gas Journal* 1978d). While true that the litigants over Sale 40 in the Baltimore Canyon (local governments and the NRDC) delayed the sale, the Carter Justice Department appealed the injunction, seeking to run it as scheduled. Moreover, the view held by this Zapata official ignored the many ways that the government provided aid to his industry. The US Maritime Administration (MARAD) had given Zapata approximately $112 million in guaranteed loans to build the *Yorktown Zapata* and its three sister ships, which as second-generation, Friede and Goldman SS-2000 model semi-submersible rigs were quite technologically advanced. Under its Title XI Federal Ship Financing program, MARAD could guarantee loans up to 75% of such a vessel's cost, a significant amount (US Department of Commerce 1978, 2–3). The four Zapata deepwater drilling rigs were unlikely to have been built otherwise (see Priest and Lajaunie, 2014).

Cecil Andrus' tenure as Secretary of the Interior is correctly seen as one more attuned to environmental considerations than those of his predecessors. He selected several true-blue environmentalists to fill top posts at DOI, and assumed personal control over changes in offshore lease terms, in order to keep a close eye on events (Bachman 1978). After receiving fair market value became his department's new charge in 1978, Andrus welcomed the review of new leases by the Department of Justice to root out anti-competitive behavior. During OCSLAA implementation oversight hearings held in 1979, a Justice Department official stressed to a House committee that the importance of its lease anti-trust review program "cannot be overemphasized" (US Congress 1979b, 492). Chevron had applied for an exemption from the joint bidding prohibition for the Beaufort Sea lease sale in Alaska to be held in December 1978, but was denied it on competitive grounds (*Oil & Gas Journal* 1979). DOJ also kept an especially keen eye out for firms that were building up "concentrated reserve holdings in a given geographical area," as that could readily "facilitate interdependent output and price decisions or collusion" (US Congress 1979b, 475).

Without a doubt, there was clear evidence of a high level of firm concentration in the Gulf basin. By 1974, just six firms accounted for 70% of all oil and gas production flowing from the OCS.[25] The nine largest oil-producing firms in the US were also 9 of the top 10 leaseholders offshore, and together held 62% of all offshore acreage under lease (US Congressional Research Service 1976, 28). With bid adequacy evaluation after the OCSLAA's enactment only increased in importance due to the new fair market value standard, Andrus put it to good use. One offshore firm claimed that Interior's stringent rejection of its bids had actually driven it out of the federal Gulf altogether and back into shallow state waters. In a widely distributed and quoted March 1979 article published in the *Oil & Gas Journal*, Mitchell Energy's exploration manager explained that the government had "bid bumped" them. "This

[24] The Zapata and Friede and Goldman SS-2000 class rig was a slightly smaller version of the SS-3000 class, designed in the late 1960s to work as a "super class" of semi-submersible drilling rigs capable of handling the harsh environments of the North Sea, Gulf of Alaska, and the typhoon-prone Indian Ocean. Zapata opted for the cheaper SS-2000 design in 1972, after building just one model of the SS-3000 (the *Zapata Ugland*). One notable change between the two rig types is the absence of a self-propulsion capability in the SS-2000 design.

[25] Shell Oil, Texaco, Gulf Oil, Exxon, Chevron, and Continental.

past year," Charlie Eldridge told the influential trade magazine, "we bid on an OCS tract off Texas that was both a bonus and escalating royalty offering. Our bid was rejected. We bid on the same tract once before. In both cases, we were the only bidder" (*Oil & Gas Journal* 1979). The practice of selectively rejecting bids has always been a double-edged sword for the department; if you weren't hammered by one interest group for accepting a bid, you'd be hammered by another for rejecting it. Tenneco proffered research to the department in 1979 that after the bid evaluation approach changed in March 1974, a total of 130,148 additional acres was rejected under its procedures, keeping from the treasury "$89 million in additional bonus revenue" (US Congress 1979b, 59). Denying or accepting certain bids would always invite political hazard, since a bid rejection must inevitably be over a dry tract (negating the rejection's justification), or over a hydrocarbon-rich block that would now have to go through the bidding process over again before it could begin producing oil and gas.

There was still the matter of ensuring that ruinous competition would not decimate the constellation of small firms populating the Gulf. The independents continued to feel shackled by the extraordinarily high bonus bids that Gulf lease sales attracted between 1978 and 1981. Requiring a quicker payback and a higher rate of return on capital employed than the majors, the independent oil and gas firms struggled on the OCS in the late 1970s, yet continued to shy away from turning to the vaunted alternative bidding systems mandated in the OCSLAA. With limited capital at their command and a comparatively small and undiversified portfolio of leases and oil and gas prospects offshore, a small firm could be done in by drilling just one or two dry holes offshore (Mead 1993, 227). The small firms explained that the non-traditional bidding systems did little to mitigate the capital constraints they operated under, or to equalize the bidding playing field with the majors. Indeed, several of the thriving non-majors in the offshore acknowledged that their success was mainly the result of their early entry in the Gulf (*Oil & Gas Journal* 1979). The more realistic firms knew anyway that they could never compete directly with a globally competitive major like Shell Oil or Exxon. "That's largely a pipe dream," one independent executive told the *Oil & Gas Journal* anonymously in 1979, commenting on the notion that he could sustainably go head-to-head with Exxon in a lease sale. "It's like asking a hummingbird to go out in the gulf and scoop up a 3-lb fish just like a pelican would," he said (ibid.). Even empowered with a slew of alternative bidding systems, it was clear that the government would need to follow a different approach if the fiscal system was to help keep the independents competitive.

By the time Andrus' tenure at Interior wound down to a (forced) end in January 1981, two broader trends affecting the OCS began to come to a head. The first was the increasing importance of following better drilling safety practices offshore. The Santa Barbara oil spill had been a driving force behind the passage of NEPA and the creation of the Environmental Protection Agency, as has been widely documented elsewhere. A much larger offshore oil well blowout came in 1979. As Undersecretary James A. Joseph was addressing the OCS Advisory Board[26] in Norfolk, Virginia on December 6, 1979, the Ixtoc I well was blowing crude oil and natural gas into the Mexican waters of the Gulf near a rate of 30,000 barrels per day. It had been gushing out of control since June 3, and the Advisory Board took in updates that afternoon in person from three US Coast Guard commanders on the status of the Ixtoc containment efforts. The underwater funnel used to collect oil and gas dubbed "The Sombrero" after its inverted shape had been securely in place since mid-October, and the drilling of relief wells to intercept the well underground was underway (Pratt, Priest, and Castaneda 1997, 193). One relief well was slowed, ironically, by its discovery of a hydrocarbon formation en route to the Ixtoc I well (US DOI 1979, 48). Oiling on an estimated 140-mile stretch of the Texas beach was expected to be minimal, but the US Coast Guard offered technical and logistical assistance to the Mexican government in its efforts to cap the runaway well (see Figure 3.17.). While standing before the OCS Advisory Board meeting to give his briefing, Coast Guard Captain Roger Madison received a phone call with an update on the well's status.

[26] The OCS Advisory Board was created by the DOI in 1975 in response to the demands of the coastal states for increased participation in the policy planning process (Jones 1983, 60).

He announced its results to the panel. “I have just received an update from an overflight conducted yesterday by a Coast Guard C-130 aircraft,” Madison said. “The fire is still burning brightly. There are still measures [equipment like drillpipe] loose and coming from the well. There is no containment equipment surrounding the well site itself” (ibid., 49).

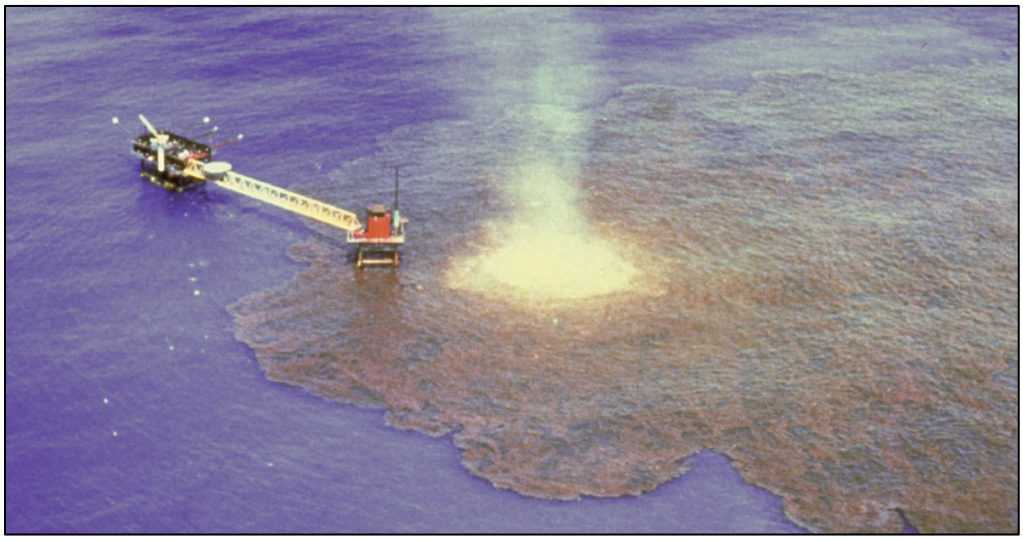

Figure 3.17. The blown-out Ixtoc I oil well gushed an estimated 130 million gallons of crude oil into the Mexican Gulf’s Bay of Campeche between June 1979 and March 1980.

Source: US National Oceanic and Atmospheric Administration Photo Library, Creative Commons.

Other notable oil spills in US waters since 1969 resulting from offshore drilling were also located in the Gulf. Four well blowouts on the US side of the Gulf each released over 10,000 gallons of oil (US Congress 1974b, 84). The National Academy of Sciences (1981, 10) reported in 1981 that 55 significant blowouts occurred in US waters in the 1970s alone. In the eight years leading up to the amendments, 187 workers were killed while engaged in OCS operations (ibid., 134). The new OCSLAA called for the Secretary to issue safety regulations as needed to protect the environment and require use of the “best and safest technology available,” but implementing new rules and determining the best pollution containment and control technologies was a complex task that would take time.

Intentional releases of volatile natural gas into the environment also came under greater scrutiny. The practice of flaring (or burning) and venting of natural gas offshore had grown rapidly since the oil crisis had made liquid hydrocarbons the far more precious commodity. In 1973 the chief of the Conservation Division of the USGS, Don Kash, estimated that 23% of all associated gas (i.e., flowing alongside and/or dissolved in crude oil) on the OCS was being flared; this amounted to a not insignificant 3.4% of total natural gas production coming from the OCS. The depressed price of natural gas, kept low by domestic price controls, helped to block DOI’s efforts to get operators to voluntarily stop burning it off and wasting it. Kash recommended a new policy that would require royalties to be paid on gas that was vented or flared unnecessarily (Kash et al. 1973, 194). Provisions to regulate flaring and account for the lost royalties went into effect after an “OCS Order” regulation was made effective in May 1974 (US Office of Technology Assessment 1975, 161). The order prohibited the flaring of natural gas from gas wells and oil wells, except during certain types of well tests or with permission from an DOI regional supervisor (ibid., 169). Generally, an operator would be allowed to flare gas from an oil well if they demonstrated to the DOI that if flaring were disallowed, the foregone oil production would result in a “greater total energy loss” than if the oil was produced and its associated gas flared off (US GAO 1986, 2). Even with

restrictions in place, the total amount of natural gas lost was substantial; the GAO estimated that 19 billion cubic feet was flared during 1985[27] (ibid., 3).

Revenue concerns continued to dominate OCS politics between 1978 and 1981, but their locus shifted away from the cash bonus bids and towards the assessment and collection of royalties. With the new Carter administration backing away from the need to hit arbitrary acreage targets, and with the details of many lease sales being litigated in the courts, the GAO and Comptroller General turned their oversight attention to the department's management of its offshore oil and gas royalty program. One 1979 review found that an "inordinate number" of employees were needed just to keep track of and process the rapidly growing number of lessee accounts (US Comptroller General 1979). Unitization agreements, so important in the prevention of waste and thus the accrual of higher royalty payments were, perversely, incredibly difficult for DOI's accounting and computing system to manage. The Comptroller General calculated that $359 million of the royalties collected in 1977 were paid late, sometimes very much so. Many more millions of dollars in royalties due that year were simply ignored. The report presented a litany of account discrepancies and examples of lassitude shown by USGS employees towards lessees delinquent on royalty payments and paperwork. If the vivid anecdotes it contained weren't enough, the Comptroller General didn't hesitate to title its report with language strong enough to grab Congress' attention: *Oil and Gas Royalty Collections—Serious Financial Management Problems Need Congressional Attention* (ibid.).

Few seemed to note it at the time, but these two issues had been more than a decade in the making. After the Santa Barbara oil spill in 1969 (and Nixon's helicopter flight *over* the platform—the first such presidential oil rig flight, although Nixon wisely did not land on the source of the ongoing spill), Nixon commissioned "The President's Panel on Oil Spills" to study offshore drilling safety as well as mineral revenue issues. Much of its analysis and several of its recommendations seem eerily prescient in light of the Ixtoc I and *Deepwater Horizon* well blowouts. The panel reported to the White House that "underwater methods to collect oil from subsea leaks [uncontrolled well blowouts] should be developed. Rising bubbles of oil may be collected more easily by inverted funnel devices than by booms at the surface" (US Executive Office of the President 1969a, 16). As the Macondo well blowout in 2010 clearly demonstrated, the industry and government alike were slow to accept this obvious and prophetic wisdom. Its conclusions on the safety issue called for stricter regulations on the mandatory use of advanced technology and for better training of the supervisors who oversee the actual step-by-step practice of drilling an offshore well. "In short," the panel concluded,

> We [the American people] have followed our usual practice of deferring these considerations [of undesirable side effects] until we are in trouble. In particular, the development of offshore oil leases has been looked upon only as a resource production activity. (US Executive Office of the President 1969a, 9)

The panel produced a companion report to its drilling safety volume, titled *Offshore Mineral Resources: A Challenge and an Opportunity*. Its recommendations were many, and mostly in line with the reforms that would finally arrive a decade later with the passage of the OCSLAA. Even at this early date in the OCS program's history, the panel foresaw without much analytical effort that major problems lay ahead in the DOI's royalty management program, if not remediated in a timely fashion. The panel noted that the relevant offices responsible for royalty collection were understaffed, already "inadequate to manage this important resource and source of income" (US Executive Office of the President 1969b, 16). The revenue

[27] Venting and flaring of Gulf natural gas would make headlines in 1998, when a MMS employee noticed, during a helicopter overflight, that Shell Oil's deepwater Auger tension-leg platform was emitting an unexpectedly bright flame from its boom. With its processing equipment at full capacity due to the field's unexpectedly prolific reservoirs, Shell had been illegally venting and flaring between 1–6 mmcf of gas daily since April 1994 when the platform began production. A 2003 settlement between Shell, MMS, and the DOJ resulted in a $49 million penalty for the firm, an OCS record at the time (US Department of the Interior 2003).

stream was vulnerable to mismanagement, the White House commission cautioned. More supervision was needed in the oft-neglected administration of royalties—and soon.

Few caught wind of the Oil Spill Panel's conclusions because the Nixon White House took steps to minimize—though not to suppress—the results of the eight-month-long effort that White House Science Advisor Lee DuBridge had assembled in February 1969. On advice of DuBridge's office, White House counsel and chief aide to the president for domestic affairs John Ehrlichman ordered that the reports be published quietly and not in conjunction with a press conference, because the reports were "essentially negative in tone" (US Executive Office of the President 1969c, 1). In a previously unpublished series of White House memoranda exchanged during early October 1969, Ehrlichman concluded that the reports "indicate that much more work remains to be done before it will be possible to contain or prevent large oil spills" (ibid.). Ehrlichman furthermore concurred with the Office of Science and Technology's acting director Hubert Heffner that, if asked about the reports by the press corps, President Nixon should simply reply that copies had been forwarded to the appropriate agencies under his control, and that they were "being studied" by the White House (ibid., 6). Heffner wrote that the Santa Barbara spill was "no longer a national news story" but could continue to draw "embarrassing questions" from California reporters (ibid.). Incidentally, only a few days after the Oil Spill Panel's reports were delivered, Interior Secretary Hickel announced a resumption in the "fast pace of offshore oil development" off Louisiana and Alaska (*Science* 1969, 483).

By the start of 1981, the Comptroller General deemed that it was still too early to determine what impacts the OCSLAA would ultimately have on the overall health of the OCS program. The major legal battle that Rep. Breaux alluded to above was filed in July 1980 by Alaska, California, and other petitioners against the DOI. The suit contended that the Andrus five-year program and lease sale schedule did not strike the proper balance between protecting the environment and ensuring expeditious development. The Court of Appeals for the D.C. Circuit used what Edward Fitzgerald has called a "hybrid standard" of review, dissecting DOI's record of implementing the OCSLAA to that date in order to both "define the statutory requirements" and "scrutinize Interior's actions to ensure conformity with the Congressional mandate" (Fitzgerald 2001, 84). By the time the case, *California ex. Rel. Brown v. Watt* 668 F.2d 1290 (1981), was decided, the presidential election had been settled and James Watt elevated as Secretary of the Interior. The court ruled that Cecil Andrus had violated a number of minor procedural requirements set out in the amendments; however, on the whole, the decision "established a relatively deferential standard of review" for OCS matters, a deference often adhered to in later cases (Vann 2010, 16). This case, colloquially known as *Watt I*, to many minds gave tacit—if not explicit—approval to the privileging of the expeditious development clause in the OCSLAA over the other concerns the Secretary must balance in his or her decision-making about offshore lands (Fitzgerald 2001, 88). The *Watt I* decision did not upend the balance called for in the law, but pressed a finger on the scale towards a privileging of development.

An onslaught of litigation was not unexpected, even coming as it did during a Democratic administration that rightly held environmental protection as a major touchstone of its legacy. When the advisory OCS Policy Committee met in late October 1980, just weeks before the general election, its members dedicated much of their time spent over two days to discussing a resolution generated by its own subcommittee on the five-year leasing program—the same plan then under review in the DC Circuit. Though the subcommittee stopped short of accusing Secretary Andrus of violating the OCSLAA, they bemoaned that his DOI had become just "a listening group," devoid of substantive policy exchanges (US DOI 1980, 20). They faulted Interior with a failure to communicate. The subcommittee was formed out of frustration on the state level that local concerns were being shut out of the policy planning process. This, the group noted, was the one "single critical issue [that] permeates the entire DOI/OCS program" and was not limited to one program or one political party. Quoting the OCSLAA (in italics), the report proclaimed,

The Subcommittee feels that the [DOI] has failed to "…assure that states…are provided an opportunity to participate in policy and planning decisions relating to management of the resources of the OCS." [...] Unless DOI modifies its current attitude regarding requests from the states for full consultation…there will undoubtedly be further lawsuits and more importantly, delays in production of OCS energy resources. (US DOI 1980, A-4).

No lawsuits were necessary to bring about what has been described as the most significant change to the OCS program since its creation: the novel leasing policies of James Watt. As Ronald Reagan came into office in 1981, a new conception of the meaning of fair market value rode in on his coattails—one dramatically different than that followed by the Eisenhower, Kennedy, Johnson, Nixon, Ford, and Carter administrations. In this new, private business-focused view, collecting revenues was a concern fully subordinate to the "expeditious and orderly development" command of the OCSLAA. This emerging view also pledged far more faith and fealty to the functioning of the "market" implicit in the term "fair market value," than to its qualifiers fair and value. Testifying before the House Ad Hoc Select Committee on the OCS, a mid-level GAO research director named Monte Canfield, Jr., spoke at length in March 1977 about the proper role that revenues should play in the OCS program:

> If we confuse [offshore] revenues...with the nature of the energy problem, we are making a serious mistake. The more competition we can get in the resources, the more people interested in the resources...the better off this Nation is. The bigger goldfish bowl we can put on the Outer Continental Shelf, the better off we can be. (US Congress 1977a, 347)

The policies of the Reagan administration and the advent of new offshore drilling technology swept this view into Washington in 1981, and entrenched it inside the marbled halls of the DOI at C Street and Virginia Avenue. Together they would make the goldfish bowl of America's submerged lands much deeper, and much, much wider.

Chapter 4. "I am not predicting harmony": James Watt, Area-Wide Leasing, and Moratoria

4.1. Drillin' USA: Mr. Watt Goes to Washington

James Watt came into the office of the Secretary of the Interior in January 1981 with a fair amount of bluster, bolstered by the landslide election his new boss had just won over Jimmy Carter. For sure, his reputation as a rabidly pro-development and anti-conservation capitalist strained his relationship with the Democratic House of Representatives and with Democrats in the Senate, newly in the minority for the first time since 1955. But Watt did himself no favors by directly antagonizing his counterparts in both chambers, as well as much of the American public. His brash demeanor engendered an unusual amount of hostility in his political opponents, but surprisingly little backlash from within his own party. Watt took an avowedly partisan approach to staff appointments within the DOI, even on positions as non-controversial as environmental science advisory positions. Watt squashed the re-nomination of Democrats and especially Independents whenever their terms expired (apparently, it was to Watt worse to call oneself an Independent, unaligned between the two parties, than to simply be a Democrat). It was unusual for an Interior Secretary to be pictured on the front cover of *Time* magazine, but there was Watt's face in his trademark broad square spectacles on August 23, 1982, his visage set before a vista of America's bountiful natural resources, the headline reading, "GOING, GOING...! Land Sale of the Century."

It also seemed at times that Watt couldn't resist wading into inane controversies that were better left untouched by a Cabinet member. Watt made an odd attempt in the summer of 1983 to ban the Beach Boys from playing the Fourth of July celebration concert on the national mall in Washington, DC, worried that their rock-and-roll music would attract the "wrong element." [28] "We're not going to encourage drug abuse and alcoholism as was done in the past years," Watt explained to the Associated Press (1983a). The band had played the celebration in 1980 and 1981 without controversy. First Lady Nancy Reagan and Vice President George H.W. Bush were vocal fans of the group, and not-so-gently questioned the wisdom of Watt's ban before members of the press. Nancy even called Watt directly about the kerfuffle. After hearing about Nancy's remarks to the press, a group of White House staffers crafted for Secretary Watt a bronze-colored plaster model of a foot with a round hole cut through the center—in recognition of Watt having shot himself in the foot (Associated Press 1983b). President Reagan personally handed it to Watt in the White House (YouTube 2014). After Watt stepped down in 1983, Nancy Reagan invited the Beach Boys back to the national mall, and they rocked the Independence Day celebrations in 1984 and 1985. The *New York Times* (1983) compared Watt's cultural puritanism to that of Ayatollah Khomeini, with amusement. One nightly news program showed footage of Watt in front of the White House holding up the bronzed foot and smiling, while a voiceover said, "Next time, Mister Secretary, you may want to try something easier, like taking on motherhood—or apple pie" (YouTube 2014).

Watt gained further notoriety by trying to shut down protests in front of the North Portico of the White House. He wrote a memo to aide Moody Tidwell in January 1983 asking to be briefed with options for banning protestors from the public sidewalk directly north of the White House gates, and across the street in Lafayette Park. "My intention is to prohibit such activities and require that they take place at the Ellipse [a public park far to the south of the White House]," he wrote (Watt 1983). The misguided

[28] In his 1985 memoir, *The Courage of a Conservative,* Watt contended that he had not actually barred the Beach Boys from playing the concert. He wrote, "I had not used their name, nor had any reference been made to them either directly or indirectly by me or anyone else. I learned later that they had not even been booked in the first place." The controversy actually arose, he wrote, "because I was a conservative" (Watt 1985, 99).

attempt to clamp down on the public's right to free and peaceful assembly did result in the removal of a semi-permanent vigil against nuclear weapons from the sidewalk south of Pennsylvania Avenue to the northern side, but otherwise it only damaged Watt's already-dented public image. Vitriol for Watt could be so strong in some parts of the country that his successor as Secretary, William P. Clark, was astonished to discover during an official trip to California that he had been assigned four undercover armed guards for protection—the trip had been originally planned for James Watt! By his nature far more diplomatic than Watt (he had just finished serving as Deputy Secretary of State), Clark kindly thanked the agents for their help and service but quietly declined the protection (Clark 2003, 48).

Behaviors like these would infuriate many Democrats as well as Republicans in Congress throughout Watt's tenure. Watt proved so divisive that the *Los Angeles Times* later opined that William Clark's time as Secretary was so successful because "almost anyone, except perhaps [stand-up comedian and actor] Don Rickles, could have been a success at Interior just by not being James Watt" (*Los Angeles Times* 1985). As detailed below, Watt's decision to throw open massive areas of the US coastline to offshore oil and gas leasing without addressing the concerns of the coastal states, was the primary cause behind the Congressional moratoria that would soon lock down most of the OCS. But the disdain that Watt would show for coastal state and local governments and unnamed "environmental extremists" served as a potent accelerant to the fiery debates over OCS decisions. When presenting Watt to the Senate committee considering his nomination, Wyoming Senator Alan Simpson (R) made light with his colleagues of the reputation Watt had earned in the press since his nomination. Simpson, infamous in Washington for his colorful way with words, said, "some rabid detractors would seem to equate Jim Watt with some type of half-person, half-beast, with cloven hooves for feet and a forked tail for a rear appendage, and two horns growing through that remarkable bald pate. That is not so" (C-SPAN 1981). Unfortunately for Watt's subordinates, the contempt that some felt for the Secretary occasionally spilled over onto them. After the Supreme Court ruled in January 1984 that the provisions of the Coastal Zone Management Act did not allow coastal states to prevent OCS lease sales off their shores (see footnote 12), a private citizen from California typed out and mailed a single-page letter to the DOI Secretary to express her displeasure. It fell to Director of MMS William Bettenberg to receive and respond to it. "Do not proceed to destroy our coast," Claudine Gilpin wrote. "It would stand historically as the most immoral action committed by the Republican Party. It would <u>never</u>, <u>never</u> be forgiven" (Gilpin 1984; emphasis in the original).

Devilish caricatures notwithstanding, irreparable conflict between Secretary Watt and his opponents was by no means a foregone conclusion or inevitability at the start of 1981. With Reagan lifted to the presidency by a landslide electoral victory, Democrats in Congress were predisposed to show Watt a fair amount of deference in his leadership of the DOI—for a while. Watt's confirmation hearing at least seemed to suggest that, with regard to OCS matters, Watt had taken the spirit of the OCSLAA reforms of 1978 to heart; he used the word "balance" six times in his short opening statement before the Senate committee. Striking a solemn figure, he also told the Senate panel that his greatest concern was the threat that crisis-oriented energy and minerals policies posed to the environment of the US West. "All too often" in such situations, Watt told his august audience, "the federal government moves in a crisis not with the precision of a surgeon's scalpel, but with the force of a meat axe" (C-SPAN 1981). His confirmation vote sailed through the Senate by a 83–12 tally, with all "nay" votes coming from Democrats. Only one vote against Watt, from California's Alan Cranston (D), came from a western state.

However wide the margin of Watt's confirmation might be, the issues dividing him and the Democratic Party were too great to allow a peaceful relationship to flourish for long. Watt's attitude after being sworn in didn't help, either. Before a House joint committee overseeing OCS issues in June 1981, Representative Gerry E. Studds (D) of Massachusetts opened an exchange with Watt by thanking him for his decision to fund an environmental monitoring program in the Georges Bank. "And for that," Studds said, "I profoundly thank you. That is more than we could get from your predecessor [Cecil Andrus], I might say" (US Congress 1981b, 69). It is unclear whether Watt's mind had wandered during Studd's long statement; he truly couldn't hear what Studds had said; or that he simply wanted to revel in the

comment by forcing Studds to repeat it; but the Secretary replied into the witness's microphone, "I did not hear you say that?" The exchange continued:

> MR. STUDDS: It was sufficiently painful the first time.
>
> Finally, just so both of us will feel better, let me say that I was sitting here being utterly stunned by the peaceful, calm love fest that we are involved in here. As you know, as anyone in the Nation [knows], there is enormous controversy around this program, and your Department. And while I thank you for the decision that you made about Georges Bank, and I pledge to you that although we disagree on matters of fundamental policy, nevertheless, I promise you when we see eye to eye, you will not simply have the political critic that you see sitting here, but an ally.
>
> SECRETARY WATT: I think we will always have them because when we deal with the facts, there is harmony.
>
> MR. STUDDS: I am not predicting harmony.SECRETARY WATT: You mean you are not going to listen to facts? (US Congress 1981b, 69)

The Chairman of the committee perked up and quickly interjected at that point, pre-emptively preserving decorum in the face of Watt's sneering remark. He recognized Rep. Norman D'Amours (D-NH), who then (seemingly channeling Texas State Senator A.R. Schwartz's rhetorical question before the Project Independence panel in Houston seven years earlier) said, "Mr. Watt, I share Congressman Studds' enchantment by your stirring portrayal of the terrible plight of the oil industry as it took these terribly unacceptable risks to put up money to find oil" (ibid.). D'Amours' sarcasm hung thick in the hearing room air.

It was an unquestionable fact in Watt's mind that the nation was in desperate need of a profusion of pro-development policies and the expansion of its oil and gas supply at home. He brought with him to the top echelon of the DOI a management team disproportionally sympathetic to the fossil fuel and extractive industries, and rejected the idea that the coastal states should have a substantive say in federal offshore leasing policies. Development of the OCS was decidedly "not a partnership between the federal and state governments," Watt said (Fitzgerald 2001, 89). Republicans had criticized the pace of leasing under the Carter administration as far too slow, especially in light of the 1979 Iranian revolution and resultant second oil shock. Watt's arguments in favor of speeding up offshore leasing were very similar to those made by the Nixon and Ford administrations; indeed, Watt had served in the DOI under both presidents. Increased oil and gas production from the OCS would boost national security, Watt explained, protect the environment (by reducing imports from oil tankers), and keep the money spent on foreign imports in the US to create jobs at home (Jones 1990, 9–10). "Reliance on foreign oil not only affects our economy," Watt said in July 1981. "It is also affecting our security and our role as an international leader...we must all work together to increase our domestic energy production, or together we will suffer the consequences" (US Congress 1981b, 50). Moreover, upending the OCS program as it was structured before 1981 was Watt's primary goal for his tenure as Secretary. As G. Kevin Jones points out, because Congress was loathe to consider legislation to abolish the Department of Energy (as Reagan desired) or to immediately decontrol natural gas prices, Watt's reform of the OCS program was "the only active energy policy proposal during the first term of the Reagan Administration" (Jones 1990, 8). Just as Gerald Ford had come to appreciate how amenable the OCS program was to executive tinkering, so would Ronald Reagan.

Watt had made a name for himself after leaving the DOI in the 1970s by founding the Mountain States Legal Foundation, a conservative public-interest law firm that sought to advance pro-development policies. Watt and others felt that the "extreme" environmentalist point of view had become over-represented in federal court cases that dealt with energy development and his firm provided expert testimony or filed suit when needed in order to restore a balance to the courts. In doing so, they had sued the DOI four times by the date of Watt's nomination (C-SPAN 1981). His legal work made Watt an icon

within some conservative circles in Washington, and his positions had inspired part of the Heritage Foundation's 1980 political call to arms for the next Republican administration: "Mandate for Leadership: Policy Management in a Conservative Administration."

The Heritage Foundation, half-think tank and half-political operation, had risen in popularity in the mid-1970s by faithfully fighting for the conservative side in the famed "culture wars," but in 1977 was steered back toward a more traditional focus on economic and regulatory policy under new leadership (Lichtman 2008, 314). By 1980, Heritage was acting as a sort of shadow government for out-of-office Republican officials who were biding their time until they could re-take the White House. Once Reagan won, the 1,100-page "Mandate for Leadership" became the must-read book in Washington (Miller 2005). The head of the Heritage Foundation gave a copy—expanded to three thousand pages by that point—to the head of Reagan's transition team, Ed Meese, soon after the election (Lichtman 2008, 330; Abelson 2009, 134). Meese later noted that the President-elect "gave a copy of the book to each member of his incoming cabinet and directed them to read it" (Abelson 2009, 135). The book's ample length allowed its authors to be specific: they called for Lease Sale 53 off California and Lease Sale 68 in the Gulf to be held sooner than Andrus' anemic schedule called for (Miller 2005). The report recommended as much, with suggestions ranging from proposed agency reorganizations to the removal of pre-leasing environmental requirements that hampered development. It described the DOI under Carter as "flaccid," too timid to even contemplate the prudent development of natural resources (Heatherly 1981, 333). One of the authors of the chapter on the DOI, Perry Pendley, would become the first (acting) director of MMS at its creation in 1982.

Interestingly, Watt was not Reagan's first choice for Secretary; the two men had not even met by the time Watt was nominated (Strober and Strober 2003, 70). Reagan wanted retired Senator Clifford Hansen of Wyoming (R) for the position, but a financial conflict of interest in onshore grazing permits kept Hansen from accepting the job. It was Senator Jim McClure of Idaho (R) who had taken note of Watt's work at the Mountain States Legal Foundation. Together with Senator Malcolm Wallop (R-WY), the two plucked Watt from the foundation and sent him to meet Reagan (ibid.). With Watt's detailed knowledge of how to implement conservative policies for oil and gas exploration, he was a natural choice for nomination as Secretary, in spite of his second billing to Hansen. Especially pleased with his nomination was the corporate community at large, which had helped fund outside conservative political groups to such a great extent in 1980 that they outspent pro-Carter groups $10.6 million to $28,000 (Lichtman 2008, 306–307).

Regardless of whether Watt was an apologist for the oil and gas industry, his placement as Secretary of the Interior alone undermined any unbiased assessment of policies on their own merits. A major cause for this was rooted in decisions made early on in the Carter administration. The DOI and Energy Department under Carter were designed to sit on somewhat opposite sides of issues relating to energy projects. Carter was aware of the inherent tension between them, and envisioned the use of centralized power in the White House as the way to manage that tension at the highest level. As the first Energy Secretary, James R. Schlesinger recalled in a 1984 oral history interview, Carter had told his team during the transition, "I want the Energy Department to be the spokesman for energy supply, and I want the Department of the Interior to be spokesman for the environment, and when there is a conflict, I want the conflict to be brought to my desk" (Schlesinger 1984, 30). This framework made Watt's bombastic pro-industry approach and in-your-face demeanor one of exceedingly poor timing. Schlesinger explains:

> Because [Carter] had set up the Department of the Interior as the principal spokesman for the environment and conservation, and then in this task Ronald Reagan proceeded to put a man who believed overwhelmingly in development...they turned their defender of the environment saying, "We're going to drill up the wilderness areas. We're going to poke holds in the ground everywhere."
>
> ....it just created substantial political problems for Reagan...You don't have your secretary for the environment [i.e., Watt] come forward and say, "By God, we're going to despoil the environment

> in the name of energy supplies," because it just makes his natural constituency mad. (Schlesinger 1984, 31)

Watt moved immediately to overhaul the OCS program, starting with the five-year leasing program that Andrus had approved the previous summer (Fitzgerald 2001, 89). Three months into office, Watt released his draft five-year program in April 1981 with a press release titled, "Search for Offshore Oil to be Stepped Up" (US DOI 1981a). On its surface, the new program didn't sound much different than those pursued in the 1970s. It was a recrudescence of Nixon's accelerated leasing plan intended to "make more acreage available" while shortening lengthy bureaucratic procedures. Anticipating that his decision to start anew by dispensing with Andrus' five-year plan would be heavily criticized, Watt was quoted in the press release saying that,

> The OCS Lands Act [as amended] places on the Federal Government an affirmative responsibility to obtain for the public the benefits of oil and gas resources located offshore...Congress expected environmental protection to be achieved through sound planning and operating practices[,] not through [the] closing of geographic areas to leasing and development. (US DOI 1981a)

Watt's viewpoint was correct; but, the program Watt announced in April 1981 hit with the force of a meat axe. His five-year leasing program dramatically increased the scale, scope, and pace of the offshore leasing program to an unprecedented proportion. The increase in offshore acreage up for sale was so large as to make Nixon's 10-million-acre goal seem as child's play. Whereas the schedule approved by Cecil Andrus in 1980 and contested in the courts would have offered 55 million acres for sale over the course of five years, Watt's schedule set out to offer 890 million acres—an increase of over 1,500% (see Figure 3.18.). Watt planned to offer in five years over twenty-five times as much OCS acreage as had been offered for lease over the first twenty-five years of the program. Recognizing (unlike Nixon) the crucial difference between offering acreage for sale and leasing it, Watt hoped to award leases covering between 5 and 12 million acres each year under his program (Jones 1990, 11). This, too, would be an unprecedented figure for the OCS; the record year to date for leasing activity was 1979, when "just" 1.8 million acres were newly leased (ibid.).

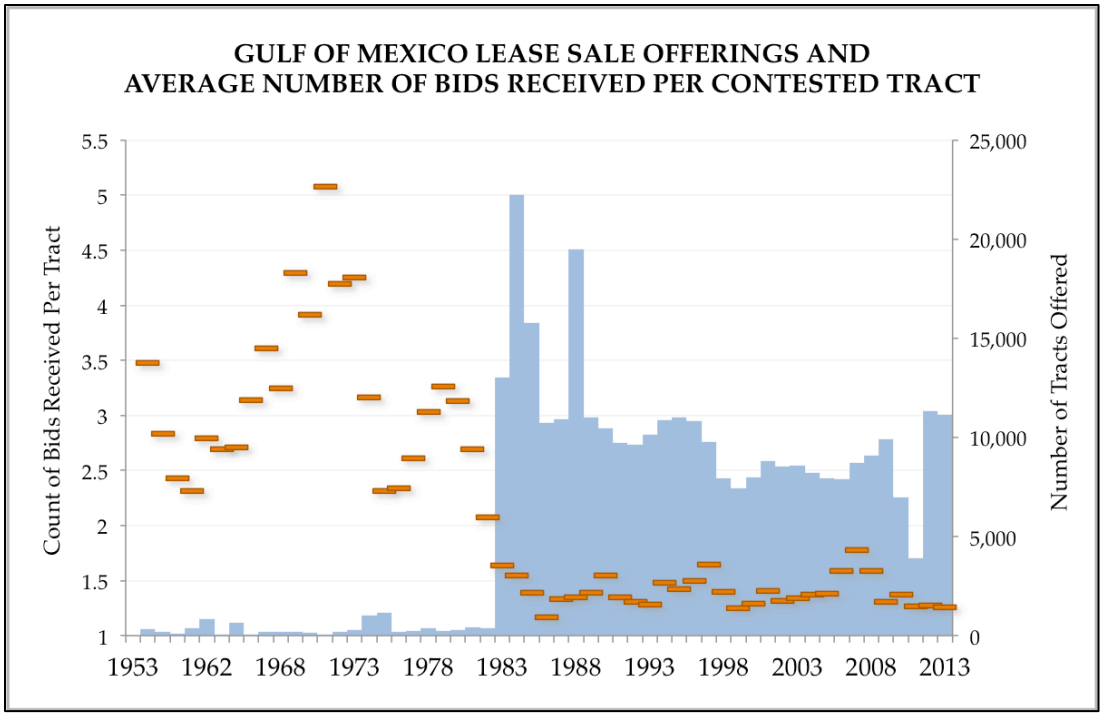

Figure 3.18. Gulf lease sale offerings and average number of bids received per contested tract, 1953–2013.

The amount of offshore acreage offered for sale skyrocketed in 1983 with the start of Watt's area-wide leasing program (blue columns). Attendant to this increase was a dramatic drop in the average number of bids received on contested tracts (orange marks). The vast majority of tracts bid on after 1983 and the start of area-wide leasing have received just one or two bids. Source: US DOI 2014a; US DOI 2014c. Note: only calendar years containing a lease sale in the Gulf of Mexico are represented.

Watt's new policy had three overlapping objectives: it aimed to increase the rate and amount of offshore leasing, to be achieved by holding more sales and by offering more acreage at each sale; to open up undrilled areas earlier than previously planned; and to "streamline" OCS procedures, as Watt phrased it, by shifting analysis from the level of an individual tract to an "area-wide" view. Each objective was controversial on its own, but if there was truly a devil involved, it was in the details of the area-wide concept and how quickly it would expand the "goldfish bowl" of the OCS. Watt also wanted to boost the overall visibility and authority of the Assistant Secretary for Energy and Minerals, an office that the Heritage Foundation's "Mandate for Leadership" lamented had been denuded by Carter's environmental policies (Heatherly 1981, 333–335). The Heritage Foundation report detailed how pro-development decisions faced by the bureaus under the control of the Energy and Minerals directorate rarely made it to the level of meriting secretarial attention (ibid., 337). Worse, responsibility for the OCS program was scattered throughout the department, with various parts of its management structure falling under four different assistant secretaries (ibid., 357). After Watt reorganized the department, OCS activities were indeed made the responsibility of the Assistant Secretary for Energy and Minerals.

Streamlining the OCS program and its procedures was not just corporate-speak for demanding more work out of fewer employees, but an integral part of achieving the policy's goals. If facing a map of the Gulf, so to speak, Watt zoomed out the unit of analysis from the individual tract, or offshore block of 5,760 acres, to what DOI called a "planning area." The OCS is currently divided up into 23 such planning areas, and the three comprising the Gulf each average over 53.2 million acres in size. Within each planning area are multiple block areas, occasionally called "protraction areas" (see the orange lines in Figure 3.8.). Below the area level is the individual block, like South Pass Block 51, or Grand Isle Block 88. To achieve a massive and rapid expansion of leasing, the Watt command said, the traditional system of tract nomination and its too-narrow focus had to be abandoned. Under tract nomination, after the BLM

issued a Call for Nomination for a section of the OCS (sometimes but not always contained within one planning area), the industry, states, and other interested parties would nominate tracts for either inclusion in or exclusion from a sale (Fitzgerald 2001, 90). After BLM selected among the nominated tracts and arrived at a tentative offering list, a Draft Environmental Impact Statement (DEIS) would be prepared on each tract and its immediate surroundings (Jones 1990, 15). After the DEIS was published for public review and comment as set forth in the Administrative Procedure Act, a Final EIS (or FEIS) was prepared on the same tracts. The Secretary would then decide to hold the sale, cancel or defer it, or he could delete specific tracts from the offering (ibid.). Once the Secretary's decision was made, a public Final Notice of Sale was issued, and the USGS would evaluate each tract individually to generate a valuation estimate for each. The entire process from the initial Call for Nomination to the day of the lease sale could take upwards of three and a half, if not four years (ibid., 16).

The area-wide leasing concept introduced by Watt dispensed with this detailed, tract-by-tract environmental and economic analysis, which the Heritage Foundation had given faint praise to as an "innovative" use of the NEPA process to delay development (Heatherly 1981, 356). Now, the environmental analysis documents required by NEPA for a major federal action like a lease sale would be "tiered," meaning that they would function in a more cumulative fashion than before. An initial EIS would be prepared for each planning area, for the first sale held in it under the new area-wide system. For a subsequent sale in each area, the previous EIS would be updated with any new information, but the full EIS analysis process would not be repeated. For the central and western planning areas of the Gulf, the DOI in January 1981 began exempting from NEPA review exploration plans and permit applications for new wells, through an order known as a categorical exemption (National Commission on the BP *Deepwater Horizon* Oil Spill and Offshore Drilling 2011a, 81).

With the implementation of area-wide leasing, the call for information and environmental review processes were also "telescoped," or pursued simultaneously rather than sequentially, reducing the amount of time needed to prepare for a lease sale by as much as half (Fitzgerald 2001, 90). Telescoping, though not substantively different from past practice, was similar to what had irked Ted Kennedy so much at his 1974 hearing in Boston; it seemed to suggest that the environmental reviews were done only to meet legal obligations under NEPA and would have no real effect on the Secretary's leasing decisions. Telescoping was really only possible because the other sale processes were done on an area-wide, and thus accelerated, basis. Louisiana Senator J. Bennett Johnston was certainly pleased by the relaxation in NEPA requirements. He had felt in the late 1970s that every version of the proposed OCSLA amendments he reviewed would only delay getting offshore oil and gas into the hands of US consumers. Before a vote taken on an early version of the OCSLAA in 1977, he had dismissed the need for a statutory requirement to use the "best available safety technology" offshore, saying, "It is time to wake up about the OCS. We have got 19,000 holes in the Gulf off the coast of Louisiana; not one fish has died that we know about" (US Congress 1977d, 8).

Finally, and by far most important, an area-wide lease sale truly lived up to its name by offering in a sale practically every single tract contained in a planning area. Active leases were excluded, of course, and a very limited number of ecologically sensitive areas might be subtracted from the sale, but for the most part, the administration's position was that "whereas before there needed to be a good reason to include tracts in a sale, now there had to be good reasons for deleting tracts from a sale" (US DOI 1981c, 2). Reagan administration Assistant Secretary for Policy, Budget and Administration J. Robinson West confidently explained Secretary Watt's core concept for area-wide leasing before a 1981 meeting of the OCS Policy Committee. The DOI was trying to let industry select the areas to lease, instead of the government. Because there would always be some level of disagreement about which offshore areas had the most hydrocarbon potential, the leasing decisions would be easier if the federal government got out of the business of trying to think like an oil company (ibid.).

4.2. Area-Wide Leasing I: An Opportunity

Despite the vocal protestations against it made by many Democrats, the basic premise behind area-wide leasing was not simply an invention of conservatives like Watt. Career professionals within the DOI had developed an early version of the concept during the end of the Carter administration (Lester 1992, 94). Suspicion had grown within DOI since at least 1979 that the tract nomination system was past its prime, keeping a "large inventory of valuable prospects" off the market (Farrow 1990, 137). Shell Oil projected that for every single remaining barrel of oil to be found on land, two would be discovered offshore—one of those in deepwater (Cornitius 1983). DOI had been formulating multiple proposals for ways of offering more tracts per sale, and to broaden the amount of acreage covered by an individual Environmental Impact Statement for some time, but neither plan had undergone a full analysis or received approval up the departmental chain of command before Watt began his expansion of the Andrus five-year plan in early 1981 (US DOI 1981c, 2). Although controversial in the way Watt pursued it, the area-wide leasing policy could not be wholly identified with the new Secretary.

The key justification put forth by the Watt team for the shift to an area-wide approach for leasing was that the OCS program had long since outgrown the tract nomination system that had been in place since the 1950s. Tract nomination could be an incredibly labor-intensive process for all those involved, and was difficult to scale up as the overall demand for offshore leases increased (Lester 1992, 97). As Watt told a House committee in 1981, it made no sense to him why the DOI had "wasted the taxpayers' dollars" for so many years by conducting costly geohazard and environmental studies on tracts that never received a bid in an offshore lease sale (US Congress 1981b, 58). The same principle applied to the pre-sale tract evaluations performed by USGS experts using the PRESTO and MONTCAR systems, after the latter incorporated a more complex "Monte Carlo" methodology to estimate a minimum threshold field size under different exploration and development scenarios (Farrow 1990, 84). "53 percent of the lands surveyed, at taxpayers' cost," Watt explained, "were not leased by the corporations" under the tract nomination system (US Congress 1981b, 58). Under the new area-wide leasing procedures, no resources would be wasted evaluating tracts that no one in the industry wanted. Instead, all high bids would be analyzed after the sale to determine if they conveyed fair market value to the government. Indeed, this focused reduction in workload was consistent with findings made by the Comptroller General and the US Office of Technology Assessment in the mid-1970s that the USGS was so chronically understaffed that it could not even "calculate precisely the actual proved reserves on currently producing OCS tracts" (US Office of Technology Assessment 1975, 276).

The efficient use of other sources of labor was also on Watt's mind: the workers of the offshore drilling industry. Even though offshore production had been pioneered in the Gulf (see Pratt, Priest, and Castaneda 1997; Priest 2007b), by the end of the 1970s the basin was locked in fierce competition with several offshore markets around the world for E&P investment dollars. US oil companies had taken note of this rising competition at the Offshore Technology Conference in 1978, when British oil operators and engineering firms dominated the Houston, Texas gathering. The *Oil & Gas Journal* (1978a) counted 189 British firms in attendance that year, representing by far the largest contingent of paying exhibitors at the conference. The United Kingdom and Norway had opened up very large portions of their continental shelves for lease under policies similar to area-wide leasing, and other basins offered very generous fiscal terms (*Offshore* 1984). Flows of firms and capital soon followed suit: by the mid-1970s, roughly 75% of the globe's offshore drilling rigs were located outside of the US (Gramling 1996, 99). Some oil industry experts argued—with varying levels of credulity—that the first major discovery in the North Sea (the Ekofisk field, in 1969) was the direct result of the new liberal leasing policy (Jones 1990, 70). Moreover, if development off the Atlantic and Alaskan coasts was going to expand, and the Gulf was to remain a testing ground for new technologies, they would have to remain competitive with the nascent Brazilian deepwater industry as well as new prospects off West Africa for capital investment that grew scarcer as crude oil prices softened.

The Reagan administration made deft use of another international comparison. On Election Day in 1980, only about 4% of the entire US OCS had ever been offered for sale, and less than 2% of total OCS acreage had ever been under lease (US Comptroller General 1981a, 1). At Reagan's inauguration, only 1% of submerged lands in the US were held under lease. In comparison, over 40% of continental shelf lands outside of the US were under active lease in 1980, by one measure (Jones 1983, 25–26). Many were caught off-guard by the exceptional magnitude of the disparity. The DOI dispatched J. Robinson West to Congress in April 1982 to point out that the US' northern neighbors had leases or permits covering a staggering 262 million acres of the Canadian Atlantic region (US Congress 1982a, 129). Such figures painted the US offshore system as stuck in an antiquated leasing scheme that was stifling exploration and innovation. The giant offshore lease blocks of the African and Brazilian shelves seemed especially attractive compared to the small size of OCS tracts; the oil companies had grown impatient with the "checker-boarding" of lease holdings that could occur as a result of tract nomination in the Gulf (Rose 2008, 15; Wassall 1980, 221). One industry consultant quoted an average worldwide offshore block size at 3,128 square miles, compared to the nine-mile square OCS block (Wassall 1980, 221). With small block sizes and no guarantee that nominating a tract would get it included in a lease sale, firms often ended up with fractured, non-contiguous lease portfolios that frustrated their attempts to build coherent exploration strategies in the geologically-untested deepwater Gulf.

With so much of the OCS untapped—and the mature pockets of the Gulf starting to spill over the shelf and down the continental slope—area-wide leasing policies would allow enterprising firms to follow novel exploration strategies wherever a geological play or wildcatter's hunch led them. Indeed, deepwater would not be attractive or economically viable unless firms could acquire an acreage portfolio large enough and cheap enough to justify the massive investments required to develop its fields (Priest 2005, 223). Even large firms seemed increasingly interested in the emerging North Sea; in 1976, Shell Oil, the doyenne and unquestioned pioneer of the deepwater Gulf, began investing 80% of its non-North American capital expenditures in the North Sea alone (Howarth, Jonker, Sluyterman, and van Zanden 2007, 51). To continue investing in US waters, firms needed the assurance that they could secure the quantity of leases in a play or trend so as to achieve a suitable rate of return.

One of Watt's early reporter-friendly arguments in support of area-wide leasing was that the nation needed to "inventory" its offshore resources (Marshall 1981). "Here we face the decade of the 1980s," he said in June 1981, but we "do not know the extent of our mineral potential within the continental United States" (US Congress 1981b, 49). Watt dropped the inventory concept before long, sensing that it did not resonate with the press, perhaps because of its over-bureaucratic ring. The Secretary's numbers didn't seem to add up, either: one study calculated that it would take 137 years to fully evaluate the oil and gas potential of the entire OCS under Watt's definition of an inventory, even under an accelerated pace of leasing (Jones 1990, 13). The call to streamline the OCS program replaced it as Watt's mantra. The Secretary stressed that his plan would reduce the burden of regulatory compliance and remove leasing decisions from unknowledgeable bureaucrats. These business decisions, he said, would instead be returned to the companies whose future depended on finding and producing new reserves of oil and gas. Whether it was an inventorying or a streamlining, the Watt five-year leasing program approved in July 1982 focused heavily on offshore Alaska, where a series of dry holes and local politics had limited previous development. The plan scheduled 41 lease sales over 18 planning areas through 1987, and about 50% of the acreage it offered was on the Alaskan continental shelf (ibid., 9). To that point, roughly 90% of leases ever assigned up to that point had been awarded in the Gulf or the Santa Barbara Channel (ibid., 14).

Watt argued that by allowing the offshore oil and gas companies the freedom to bid on any tract, without having to gain the DOI's blessing in advance, every aspect of the industry would improve. Exploration drilling would expand, prompting the earlier discovery of oil and gas deposits; with less money spent up-front on massive cash bonus bids, development and production projects would get underway sooner; and with more hydrocarbons flowing overall, the government would ultimately see more revenue through the

increase in payments from production royalties. The oil and gas industry supported the concept, naturally, but so did many independent analysts of the E&P business, as well as more academic students of petroleum fiscal regimes. The explanation that government receipts from OCS activity would increase as more offshore projects started up anticipated a key critique of area-wide leasing. Because the area-wide lease sales would let loose a flood of new acreage at one swoop, the oversupply would push prices to dirt-cheap levels, potentially denying fair market value to the government. Here, too, Watt held his ground, adhering to a view of the natural resource market associated by some with a school of thought known as New Resource Economics. This view advocated the full and complete privatization of federal land holdings as much as possible, and sought to remove as many managerial decisions as possible from agency control (Durant 1992, 54). It was a view that, as Daniel Rodgers (2011, 42) explains, idealized the concept of the market as one that floats "virtually free of institutional or corporate presence." The government was best that governed the least—or, at least only administered the offshore lease sales auctions and little else. Area-wide leasing theory argued that the high cash bonus bid levels of the 1970s were not the normal behavior to be preserved, but rather the exception to be explained (see Figures 3.19. and 3.20.). The ill-advised and perhaps deliberately unfair restriction of the supply of offshore leases since 1973 by the tract nomination system and the bureaucrats who administered it artificially inflated bonus bids, supporters explained. Several key officials in the Reagan DOI with responsibilities for revenue matters went so far as to say that those cash payments were in "excess of [the] fair market value" of the leases acquired (US Department of the Interior 1983a, 1–4. Moreover, firms like Shell and Exxon ready to gamble heavily on the risky deepwater nominated a slew of tracts in 1979 and 1980, only to see the DOI refuse to offer many of them for sale (Priest 2007b, 218). Examples of the egregious money stacking contest and the high bidding it encouraged cropped up at the perfect time to back up Watt's position. In September 1980, Lease Sale A62 in the Gulf hauled in $2.8 billion in high bids. The BLM's public response was: "Wow!" (Sumpter 1980). After Watt took office but before the approval of his five-year plan, in 1981 Lease Sale 53 off California pulled in over $2 billion dollars in high bids for just 60 tracts, at a record rate of $6,515.97 received per acre (US DOI 2014c). That total put the average high bid on a tract at well over $37 million, a great deal of capital to muster by any firm's measure. The US was certainly exceptional in these figures, just not necessarily in a positive manner. Compared to other offshore leasing systems around the world, the DOI knew that the US was distinctive in relying so heavily on high, up-front cash payments. Internal surveys of other fiscal regimes conducted by DOI staff confirmed as much. Other countries generally used systems that by default spaced out a firm's payments over time, either through levying higher royalty rates or requiring a work commitment or revenue-sharing arrangement (US DOI 1977c). Critical to the comparison of the bonus bid levels under tract nomination and the area-wide proposal were Watt's assurances that the reduction in high bids would pay for themselves: increased capital spending on offshore projects would yield an increase in royalty revenues that would "more than offset any estimated bonus reduction" (US DOI 1985b).

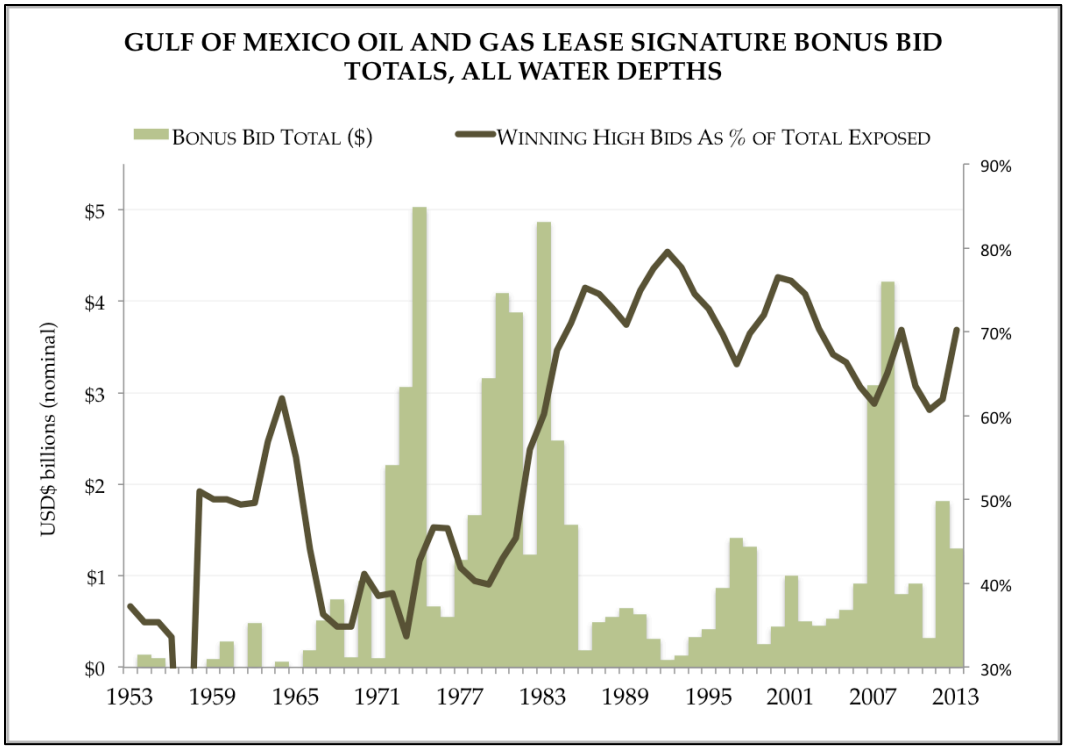

Figure 3.19. Gulf of Mexico oil and gas lease signature bonus bid totals for all water depths, 1953–2013.

Bonus bid totals (green columns) declined dramatically with the advent of area-wide leasing in 1983. With competition over individual tracts lessened, the total amount of money received by the DOI approached the total amount exposed by the industry—a key indicator of reduced competition for tracts. Source: US DOI 2014a; US DOI 2014c.

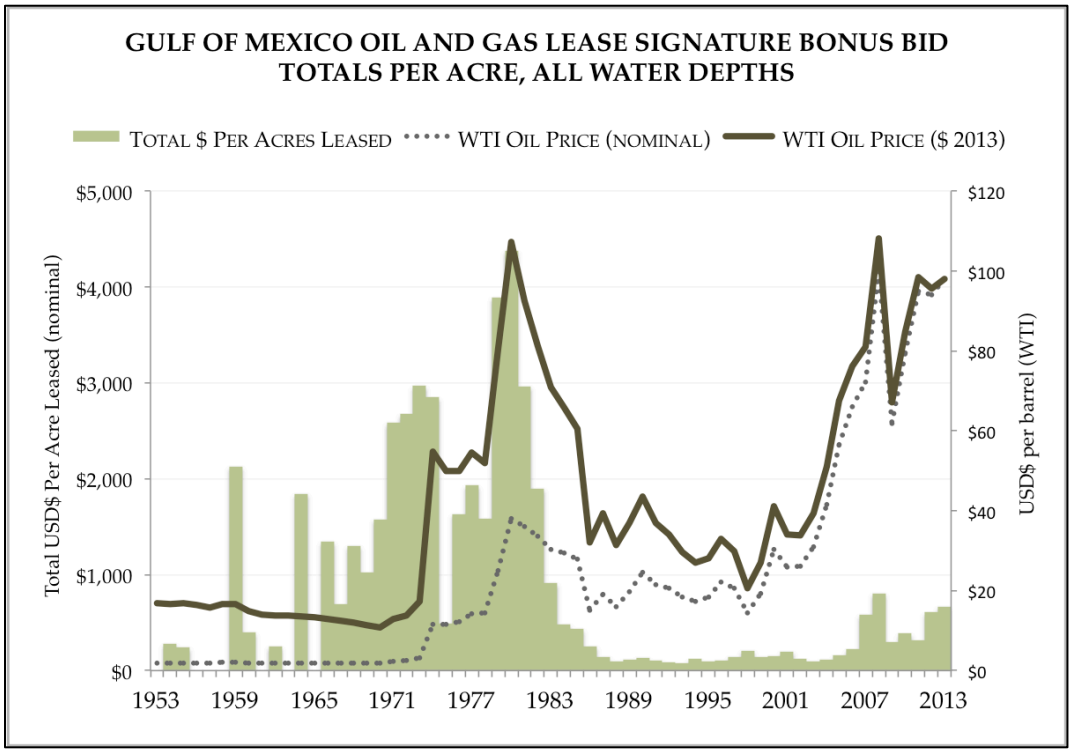

Figure 3.20. Gulf oil and gas lease signature bonus bid totals per acre for all water depths, 1953–2013.

The decline in bonus bid totals after 1983 seen here and in Figure 3.19. was exacerbated by the rapid drop in crude oil prices that began in 1979 and accelerated after 1983. Note, however, that on a per-acre basis (green columns), acreage prices did not return to their previous highs when the crude oil price skyrocketed after 2007 to historic highs. Source: US DOI 2014a; US DOI 2014c; US Department of Energy 2014.

Although fair market value is a deeply qualitative concept (and a vague one), economic analysis seemed to back up the position that bonus bids under tract nomination might be too high. Several studies conducted by government and unaffiliated third parties during the

Ford and Carter years had estimated the overall rate of return on capital employed by offshore oil and gas firms, and their findings had been less than stellar. Due to the high costs of operating offshore, they surmised, the industry as a whole had achieved sub-par rates of return on capital employed compared to the manufacturing industry at large, and especially when pitted against onshore oil and gas returns (Mead, Sorensen and Jones, 1976). Several economists calculated retrospective pre-tax rates of return over the 1950s and 1960s to be between 7% and 8% (US DOI 1977a, 7). One executive of an offshore independent estimated that his firm's rate of return in 1976 was also around 7% (US Congress 1977b, 1483). A DOI study in January 1977 noted that returns between 1957 and 1977 were closer to 14%, a higher but by no means excessive profit level (US DOI 1977a, 8). Yet another study conducted by the Cabot Consulting Group in 1980 similarly concluded that firms had been making below-average profits on OCS leases, even on those tracts that were awarded after receiving just one or two bids (US DOI 1983a, 1-9). The justification for area-wide leasing placed the blame for these less-than-spectacular financial results squarely on the shoulders of the tract nomination system, and not on the firms presumably "forced" to submit such high bonus bids.

One final argument deployed in support of area-wide leasing predicted that the new program could act as a boon for the independents, without harming the majors. It wasn't just the financial heft of the majors that made them difficult to compete against, especially in deepwater. Because the structure of the offshore drilling rig contracting market—though competitive—is not a perfect market, larger operators that have a deep bench of oil and gas prospects and long-term drilling plans often maintain a fairly clear vision of their drilling needs for several years into the future. This allows them to build an optimal rig portfolio, keeping costs down (by not overpaying on a rig's technical capability for a given drilling project) and more easily securing long-term, cheaper rig contracts (Rankin 1981, 6). Because drilling costs comprise the greatest share of development and production operations costs in deepwater by far, the ability to lock up favorable rig contracts in a relatively tight or uncertain rig market is an enviable and potentially profit-making advantage. Though the joint bidding prohibition apparatus alleviated the competitive imbalances of the offshore leasing market somewhat, it made more intuitive sense to Watt's team to simply unleash the independents by giving them easier access to acreage than by restricting the bidding power of the majors.[29]

"There's a thousand ways to play the game" offshore, one independent company man said while describing the business environment in 1984, "and we're [now] able to play it to the hilt in the Gulf of Mexico" (Hagar 1984, 98). Area-wide offerings were intended to dilute the too-high levels of competition for the choicest tracts, as well as boost the amount of acreage actually bid upon by smaller firms. The last point was especially important for the independents. Traditionally, small and nimble offshore operators could achieve great success by pioneering exploration in new geologic plays. Area-wide leasing would facilitate this pursuit of untapped plays, as a company could bid on an area of acreage

[29] Scholarly debate continues as to the root cause of the astronomical bids of the 1970s. Some have suggested that the incidence of canceled and delayed lease sales due to litigation had created an atmosphere of uncertainty, artificially boosting the leasing activity on those sales that did go forward. Note also a 1989 study by Constance Helfat and its contention that the 1970s bid levels were appropriate; it argues that it was the lease sales held before the oil embargo that reflected overbidding relative to the crude oil price (Helfat 1989).

without tipping off other firms to its interest. (In comparison, under the tract nomination system, nominating a tract alerted other bidders that at least one operator likely believed it was worth leasing.) For this reason, area-wide leasing seemed a better alternative to the traditional cash bonus system than any of the complicated alternative leasing systems studied in the 1970s before passage of the OCSLAA. What's more, the majors no longer had pockets as deep as they had had in the 1970s; the 1980s saw a gradual increase by majors and small firms alike in the use of external financing for both capital and operating expenses (Johnston and Bush 1998, 11). In this period, external debt was acquired more quickly than usual. For instance, Texaco's debt-to-equity ratio more than doubled from 22% in 1983 to 49% the following year, partially due to its purchase of Getty Oil for $10 billion dollars, largely financed outside of normal firm cash flows (ibid.).

The years of experimentation with alternative bidding systems as a way to help the independents compete had not panned out. The new systems were an administrative burden to run, one reason cited for their failure (Boué 2002, 18). They did not appear to work terribly well, and it was unclear how bidders would react if their use were expanded into frontier or deepwater areas. "Royalty bidding" held the biggest disappointment of all. Since 1972, DOI had studied the concept of a fixed-bonus and variable-royalty method and initially felt that it would deliver the same amount of value from a lease as the traditional bidding system, just stretched out over a longer period of time (Kash et al. 1973, 178). Royalty bidding also shielded the government from the political embarrassment of bidding away a massive field for a small, one-time fee (Mead et al. 1985, 85). The first royalty bidding experiment was run in October 1974, at Lease Sale 36 in the Gulf. In the sale, eight variable-royalty tracts were bid on, and the high royalty bids ranged from a rate of 51% to 82% on production. The results showed that the royalty tracts averaged seven bidders each, while comparably prospective tracts offered under the cash bonus system averaged just two bidders (US DOI c.1977b, 2). The first production from one of these tracts came in October 1978 from a natural gas field owned by Husky Oil in Vermillion Block 329, for which Husky had bid a strikingly high royalty rate of 73.44445%. Husky Oil representatives said that the premise behind their bid for the tract was successful; they had invested their limited capital in exploratory drilling and in developing the lease, not in a high cash bonus bid (*Oil & Gas Journal* 1978b).

Husky's positive opinion of the prospects for royalty bidding was the stark exception to the rule, however. As an internal USGS review of the sale noted, competition under the royalty bidding system had "perverse effects" (US DOI c.1977b, 23). For four of the tracts, the USGS had placed its valuation estimate at a 0% royalty, meaning that simply accepting the nominal bonus bid would have met their criteria for meeting fair market value. The average high royalty bid for those four tracts was 69%, an excessively high rate (ibid.). Secretary Andrus and most of the industry believed that the royalty bids were too high to be profitable under any economic condition (Bachman 1978; Patterson 1979, 190). The lesson from Lease Sale 36 was that, together, lower cash bonuses and higher variable royalty rates reduce up-front project risk, encouraging more firms to submit bids—at speculatively high rates, due to the low cost of simply abandoning a tract if a bid proved to be "overly optimistic" (US DOI c.1977b). The greater the level of competition for a royalty tract, the more economic value was eroded. Furthermore, oil and gas produced under a high royalty rate was more likely to be suspended if commodity prices dipped even marginally (US DOI, 1977e, 27). The report noted the irony that while royalty bidding did seem to attract new entrants into the market, the system "greatly increases the probability that no royalties will be realized at all" (ibid.).

At best, once production had flowed long enough that the operator deemed the field longer economically profitable, there would be a strong temptation for DOI to re-negotiate the royalty rate downward, to promote conservation of the resource and its availability to the petroleum-hungry domestic market. As a result, the government would be in an exceptionally poor bargaining position. Moreover, the expectation by the firms that they would emerge victorious from such a renegotiation would only promote overbidding in order to win royalty-bidding tracts to begin with (Kash et al. 1973, 180). At its worst, total federal fiscal earnings from a dry royalty-bidding tract could actually end up negative, due to tax write-

offs on acquisitions and exploration costs (US DOI c.1977b, 23). The USGS experimented again with royalty bidding in 1977 in sales in the Cook Inlet of Alaska and in the Gulf, but the results only confirmed the DOI's earlier concerns (Rose and Heintz 1978).

DOI also experimented several times with a sliding-scale royalty rate, for use on leases awarded under the traditional cash bonus bid system. This was done largely in response to critics who alleged that too-high royalty rates could lead to premature abandonment of a producing field near the end of its life. Doing so would result in the marooning of technically recoverable oil and gas reserves. Norway had already used sliding-scale royalties extensively (US DOI 1977c). Under the sliding-scale provision, a producing lease would dynamically change the royalty rate as a function of profitability, no longer a static figure (Tyner 1979). The algorithm governing the rate of change could be set on a linear, logarithmic, or semi-logarithmic scale. The most forceful argument in favor of sliding-scale royalty rates had come from R.J. Kalter, a Cornell University professor of energy and politics, who sensed that the system had the potential of proving superior to cash bonus bidding. Kalter argued that moving away from the cash bonus system would encourage a higher number of (and smaller) companies to enter offshore drilling, as the system effected a general "reduction in private sector risk" (Patterson 1979, 190). A DOI review of the economics behind sliding-scale royalties praised how it "gives the lessee a degree of control over his royalty rates unprecedented in OCS leasing history" (Rose and Bieniewicz 1978, 21). Its authors concluded that because the royalty rate would "slide" on a quarterly basis pegged to a production threshold, an operator would control flow rates to maximize value—most likely by installing slightly less production capacity (and thus more efficient) on a facility, reducing overall costs (ibid., 22).

After becoming head of the Leasing Policy Development Office in the Department of Energy a few years later, Kalter helped implement a sliding-scale royalty offering for parts of Lease Sale 43 (in the mid-Atlantic) and Lease Sale 45 (western Gulf) in 1978. These two sales set gradually declining royalty rates, on a linear scale. In Lease Sale 45, bids were received on 10 tracts in the western Gulf; Exxon submitted the highest bid for a sliding-scale lease, at $55.2 million. Another trial for sliding-scale royalties came in October 1978, when a semi-log scale was used for Lease Sale 65 in the eastern portion of the Gulf. 10 tracts were bid on and awarded, 7 of those receiving just a single bid (Patterson 1979, 191). However, the March 1978 sale over the Georgia Embayment in the mid-Atlantic was the biggest test of the system, with 80 of the 144 total tracts offered under the system. It was a lackluster sale, blamed in part on poor geology. It was also the wrong time and place for tweaking lease sale terms, the industry said (Long 1978). Sliding-scale royalty terms were too complicated: the royalty rate due would at no point exceed 60% (this was later reduced to 50%), and once the quarterly value of oil and gas production hit $1.5 million, the standard 16.75% royalty would apply (*Oil & Gas Journal* 1978a). Operators said that although this obviated a large up-front capital expenditure for bonus bids, a sliding-scale royalty lease would increase the time needed to recoup an investment, thus reducing its economic attractiveness (Long 1978). The terms didn't seem to excite any interest among the independents, and the majors scoffed at the idea that a sliding royalty could shift the competitive landscape in the Gulf. If the DOI was "trying to get the 'little guy' into the game," said a spokesman for one of the major oil companies, "they're a little late. He's already in [now, if he'll ever be in]. We're in a cut-throat, very competitive business" (ibid.).

Some independent operators did seem to be in favor of two other complicated bidding systems: work commitment and net profit-sharing agreements. Some in Congress had shown a special interest in the net profit-share system, holding that it would shift the focus away from receiving high up-front bonuses and towards promoting efficient production of offshore oil and gas (Edwards 1979, 2). The OCSLAA authorized the use of net profit-sharing leases, even setting out a number of precise guidelines to follow in calculating costs and revenues, to prevent operators from "gold-plating" or padding their costs (Mead et al. 1985, 100–102). Net profit-share leases promised to more equitably divide risks between the lessor and lessee. It was, in the eyes of the Congressional Research Service, "the most economically efficient system available. Because it effectively shares all forms of risk, it will tend to promote competition, to increase Federal revenues, and to insure optimal development of the resources" (US Congressional

Research Service 1976, 40). This rebalancing of risk towards the landowner would help limit the consequences of a too-high level of risk aversion on the part of the companies, increasing development activity and improving the competitive atmosphere (Edwards 1979, 21). Only a handful of leases was ever awarded under work commitment or profit-sharing terms, but the latter did achieve one notable success with the deepwater Jolliet development in the central Gulf, an oil field set in 1,718 feet of water and developed by Conoco with a TLP in 1989. Its net profit-share lease was acquired in September 1980 for a comparatively low bonus bid of $7.8 million.

These extended investigations into alternative bidding systems generated much heat but produced little light on how to best administer what J. Robinson West has called the "largest non-financial auction in the world" (Priest 2008a, 93). By the end of 1977, only 38 out of more than 3,000 leases had been awarded under alternative bidding schemes (Patterson 1979, 189). There is a strong argument to be made that the debates over alternative bidding systems were mere distractions during the OCS debates in the 1970s. They were notoriously difficult to administer; became the subject of costly litigation in *Watt v. Energy Action Educational Foundation et al.* 454 US 151 (1981); and seemed to aide the independents only on the margins. To those charged with fulfilling Congress' directives, the push for alternative bidding systems seemed inspired more by politics than a genuine interest in the concept of fair market value. As former MMS Director William Bettenberg noted after his long tenure at the agency had ended,

> The fair market value argument has primarily, perhaps exclusively, but primarily been raised by those who were opposed to leasing in the first place, and so it is just another one of those issues to raise, because they will grab for whatever issue is available. (Jones 1990, 138)

Bettenberg's point is a well-supported one, as it relates to the mandated use of alternative systems for the first five years after the enactment of the OCSLAA. The traditional, variable-bonus and fixed-royalty system was in fact so successful in accomplishing the many goals of the leasing program that—as the Supreme Court pointed out in the *Watt v. Energy Action Educational Foundation* case—Congress had actually mandated in the law that it had to be used for at least 40% of the acreage offered (454 US 151, 1981). The traditional bonus bid system was, of course, dramatically altered with the implementation of area-wide leasing.

In the wake of so much disappointment with the alternative systems, offering leases on a wider scale seemed a reasonable way to resolve the opposing issues of offshore access, industry costs, and competition. If balance had been the watchword of the tract nomination leasing system under the OCSLAA during the Carter years, flexibility was its counterpart under area-wide leasing. When the OCS Policy Committee held its first meeting after Secretary Watt finalized the new policy, one of the group's more senior members from the BLM commented that the point of area-wide leasing was not simply to increase the amount of acreage leased. Rather, more acreage was being offered to allow industry the flexibility to bid on what they believed were the best prospects. In most areas, "the end results would be essentially the same" under the Watt program (US DOI, 1981b). Indeed, many at the department shared this view, and it seemed intuitively correct. One study of offshore drilling practices had already shown that under tract nomination, those leases acquired with higher bonus bids were drilled more often on average; the cheaper the lease acquisition cost, the less likely it was to be drilled. Because the cost of a lease directly reflects the perceived prospectivity of the prospect below it, the priciest leases were drilled first (Lohrenz and Oden 1973, 2). In light this of this fundamental fact, it seemed clear that industry would continue to spend the most money on the most prospective tracts. Speaking in December 1982 at a conference, the chief of the resource evaluation division of the new MMS spoke to concerns that area-wide leasing would decrease competition, reduce bonus bid revenue totals and prevent the government from receiving fair market value. MMS's Jim Parrish said,

> In any given OCS area there are generally a limited number of highly attractive prospects no matter what the size of the offering. We feel those prospects will receive a high degree of competition...*What offering larger areas will do is allow those bidders who have different ideas*

> *about where hydrocarbons might occur to test those ideas.* There probably will be an increase in the number of one and two bid tracts as the bidders express those ideas...In any event we accept a large number of bids on one bid tracts now. (US DOI 1982e, 13)

In sum, Secretary Watt and many DOI officials presumed that area-wide leasing could reduce bureaucratic complexity and vastly increase the entrepreneurial freedom of offshore operators to pursue novel and innovative exploration and development strategies—all while protecting the environment and garnering fair market value. This was in line with the political mandate that Ronald Reagan had won in his strong victory over Jimmy Carter, and matched Reagan's governing strategy of wielding the administrative tools of the Executive to roll back the bureaucratic organs of the liberal state (Lichtman 2008, 354). The Reagan administration, faced with an uncooperative Congress, favored making strong cabinet and sub-cabinet appointments and curtailing the influence that the bureaucracies held over those senior officials that (ostensibly) controlled them. This approach—termed the "administrative presidency" by political scientist Richard P. Nathan—had cabinet officials, during the 1980–1981 transition, learn the ropes from White House staff and receive policy training from conservative action groups well before they ever went to work with departmental staff in the executive agencies outside the White House (Nathan 1983, 75–77). The last thing Reagan wanted for his Executive Office was for key subordinates to "go native" among the civil service locals and internalize the ethos of slow bureaucratic procedure. Reagan was the "quintessential practitioner" of this type of administrative management style, setting a pace that has since been followed by administrations of both parties (Durant 1992, xi). Watt, White House officials, and those policy wonks who had written the Heritage Foundation's "Mandate for Leadership" hoped that area-wide leasing would encourage a bold new era of offshore wildcatting, one pursued without the fear that a single dry lease would end up in a firm's bankruptcy. Put that way, the cause was a difficult position to argue against. Many would still try.

4.3. Area-Wide Leasing II: A Challenge

Opposition to Watt's program came swift and fierce. Fifteen lawsuits against area-wide leasing were filed in the program's first two years, most of them on environmental grounds (Jones 1990, 72). The DOI estimated in 1982 that it was spending an eye-popping $280 million a year on OCS-related litigation expenses, and it expected those costs would soon reach $1 billion annually (Walls 1993, 779). The decision in the *Watt I* case was handed down in October 1981, as detailed in Section 3.4, affirming the legality of the Secretary's broad discretion in implementing the OCSLAA (Vann 2010, 16). That so much litigation was to follow was an unfortunate development, in no small part because by the start of 1981 and the new administration, the cumulative effect of previous OCS litigation was a "clarification and refinement" of the aims of the OCS program, and the "establishment of precedent for use in evaluating the contentions of future litigants" (US Comptroller General 1981a, 80). Watt's confirmation as Secretary of the Interior upended all that.

To many, Watt's procedural streamlining, the area-wide lease offerings, and the broad-brushing of environmental reviews was together simply too much change, too fast. More consequentially for offshore drillers, it seemed clear to supporters and opponents alike that at its core, Watt's approach was an ideological (Rose 2008, 10). Though some parts of the area-wide concept had indeed germinated between the Nixon and Carter years, Watt took a moderate policy change and stretched it to its logical maximum; he pursued it not strictly for policy reasons but because it followed the basic conservative premise of rolling back government control wherever possible (Lieber 1990, 55). After Andrus' reforms, the pattern of OMB or the White House pushing DOI to increase bonus bid receipts seen in previous decades did not carry through to Watt's tenure: the GAO concluded that neither OMB or the Treasury department had put any pressure on DOI to boost revenues when the new policy was first proposed (US GAO 1982a). The impetus for area-wide leasing came from within the DOI. The tenor of Watt's time as Secretary is a good example of what Allan J. Lichtman has called the "new business activism" of the postwar era, one present in both parties but especially identified with Republican politics since Reagan's

presidency (Lichtman 2008, 339). The political preferences of organized business interests ascended in Washington along with Reagan's rise in political fortune, and their agenda was simple: they supported deregulation, pro-business subsidies and tax breaks, and restrictions on the power of organized labor (ibid.). They found a receptive ear in Watt.

This chapter focuses on the revenue aspects of the area-wide leasing program, but each component of Watt's administration of the OCS deserves similarly close inspection. A growing literature exists elsewhere on the drawbacks of using the area-wide approach for NEPA reviews, the lax tiering of its environmental assessment documents, and especially the use of categorical exemptions for exploration plans in the Gulf (National Commission on the BP *Deepwater Horizon* Oil Spill and Offshore Drilling 2011a, 81).

The revenue implications of area-wide leasing invite consideration of two aspects of the program. One is the position held by Watt and his MMS that increasing acreage offerings would decrease bonus bid dollar totals only slightly—if at all—while, in the long run, boosting overall revenues from increased offshore hydrocarbon production (US DOI 1985b). Just how much of the growth experienced in the Gulf since 1983 is attributable to the area-wide policy remains hotly debated. At the program's rollout, the Sierra Club estimated that it would cost the federal government $76.9 billion in lost revenues (Jones 1990, 50). On a shorter time scale, the DOI estimated that revenues between 1983 and 1987 would decline by $5 billion (ibid.). Since then, even Watt's harshest critics acknowledge that area-wide leasing's generous fiscal terms have helped to maintain the deepwater Gulf's competitiveness among offshore petroleum basins worldwide (Boué 2006). For the most part, all agree that area-wide leasing has played at least a significant role in accelerating the pace of the industry's rapid expansion into the deepwater and ultra-deepwater of the Gulf. Attendant to this has been a steady increase in exploration success and petroleum production (see Figures 3.16. and 3.21.). Still, those same critics also point out that area-wide leasing relaxed the fiscal terms so severely that it fundamentally altered the nature of the market for offshore leases in the Gulf, to ill effect. Under area-wide leasing, per-tract competition has suffered, acreage costs have nosedived, and offshore firms immediately began amassing large inventories of deepwater tracts, possibly to the dismay of anti-trust advocates in the Department of Justice. Competition for a given offshore lease has been and remains very low, particularly in deepwater. This results in decreased bonus bid revenues to the government—especially when a cheaply-acquired discovery in deepwater can yield an oilfield of 500 million barrels of oil equivalent (BOE) or more in recoverable reserves. What's more, area-wide leasing has made the cost of acquiring large swaths of acreage so cheap that firms did not, in fact, continue to "cluster their bidding on the better structures," but have used the pre-emptive speculative acquisition of acreage as a strategic tool to limit competition and pre-empt the entry of other firms into sub-areas or emerging trends in deepwater (Boué 2004, 12). Of course, comparing the lived success of the industry under area-wide leasing against a counterfactual world without it is an impossible undertaking. Besides, the effects of area-wide leasing are still being felt, as fields discovered in the 1980s and 1990s are still in production and new lease sales under the area-wide system take place in the Gulf every few months.

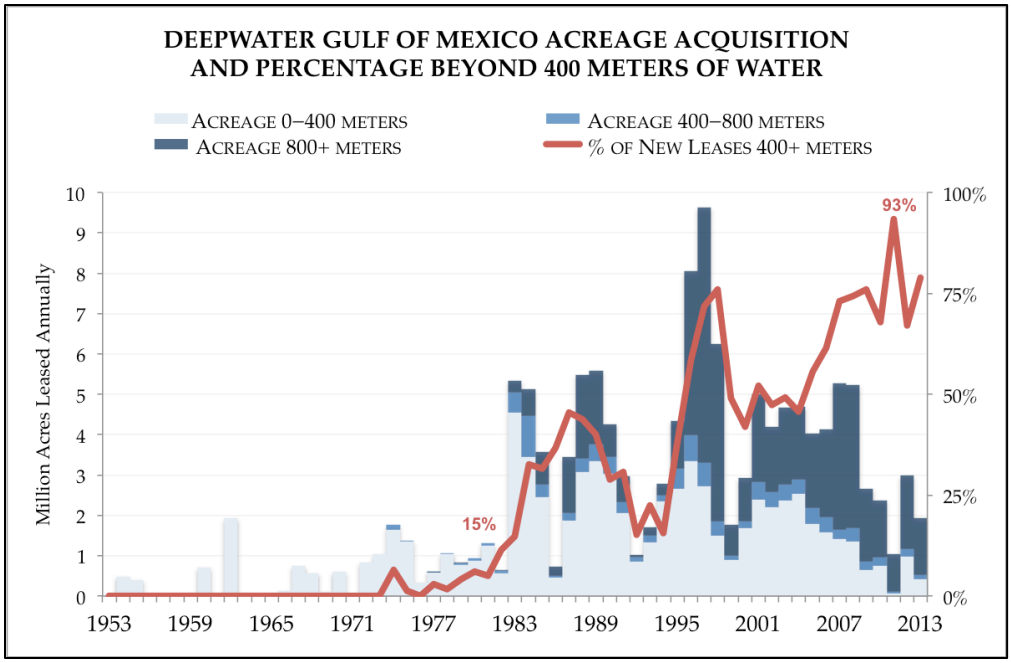

Figure 3.21. Gulf acreage acquisition and percentage of leases beyond 400 meters of water, 1953–2013.

The amount of acreage leased in the Gulf each year jumped after the first area-wide sales began in 1983, and sales have remained brisk since. The percentage of new leases acquired in 400 meters of water or deeper exceeded 50% for the first time in 1996, following the enactment of the Deep Water Royalty Relief Act of 1995. Source: US DOI 2014a; US DOI 2014c.

The second aspect of Watt's system to consider is the manner in which it was executed under his tenure, and how it has continued to change in the twenty-one years since his departure. Even the most generous assessment of Watt and his efforts must conclude that his area-wide program was nearly an unmitigated disaster. Watt's failure to respond to coastal state concerns and his tone-deaf handling of political opposition ultimately left his program "largely in tatters" (Coggins and Nagel 1990, 523). The final outcome of opposition to Watt's vision—leasing and drilling moratoria that were imposed on most of the OCS—is detailed below, but just as with the budding hostility between Democrats and Watt at the start of 1981, their imposition was by no means inevitable, nor were they simply the reaction of anti-drilling environmental extremists to Carter's 1980 election loss. The moratoria on offshore activity were the outcome of a combination of these factors: the extremely broad scope of the changes sought by Watt and the refusal of his department to entertain or address the concerns of the coastal states.

Watt's missteps began with his first step. Even before he re-opened the Andrus 1980 five-year leasing plan for review and replacement, Watt sought to overturn another one of his predecessor's decisions, this one regarding a single lease sale. Though making swift administrative changes is common and commonly-accepted outcome of the White House changing political parties, Watt knowingly waded into a minefield when he reversed a compromise hammered out in late 1980 over a controversial sale. In November 1977, the DOI had requested tract nominations off the coast of California for Lease Sale 53. As proposed, the sale differed significantly from previous sales in that it would span the entire coastline of the state, from Southern California to the border with Oregon (National Commission on the BP *Deepwater Horizon* Oil Spill and Offshore Drilling 2011a, 63). The sale faced immediate opposition, which only increased once Andrus' DOI announced it would not adhere to the past practice of offering tracts in a relatively focused area (Gramling 1996, 121). Locals organized a "Coalition on Lease Sale 53" to oppose the action, and protests continued throughout 1979. Rattled by the strong opposition, Secretary Andrus reduced the sale's scope, removing from the sale all tracts outside of Southern California, where leasing had previously occurred and several production platforms were already in place. Andrus also

removed a handful of tracts off California that he deemed ecologically sensitive, but the bulk of acreage in the southern region remained included in the proposed sale (ibid.). "California thought the coast was saved" with Andrus' decision, recalled one of the activists from the coalition opposing the sale (National Commission on the BP *Deepwater Horizon* Oil Spill and Offshore Drilling 2011a, 21).

In January 1981, Watt immediately undid Andrus' changes, and, in his very first official policy statement as Secretary of the Interior, announced his decision to return Lease Sale 53 to its full and broad original scope (Gramling 1996, 121–122). California and nine other states filed suit against Watt, alleging that the proposed sale did not meet with the consistency provisions of the Coastal Zone Management Act.[30] Watt would end up withdrawing the northern areas before the sale in May 1981, but not before commenting that the whole affair raised for him "some very important questions about who is in charge of the federal OCS, the state or the federal government" (Fitzgerald 2001, 117). There was no question as to Watt's answer.

In pushing area-wide leasing, Watt repeated many of the errors made by Presidents Nixon and Ford in advocating for their own accelerated leasing plans. Just as the Nixon administration was faulted for not waiting for the Project Independence team to study OCS issues before announcing the 10-million-acre leasing goal, Watt's team failed to study the likely outcomes of his program. They performed only one study on the fiscal effects of the new policy, a statistically invalid "philosophical" treatise, as the Comptroller General denigrated it (US Comptroller General 1981b, 48). The Comptroller General—notably referring to the program as DOI's *new* accelerated leasing plan—concluded that the program had been overhauled with "little or no input" from the rest of the federal government, and only the "minor consideration" of input from the public sector at large (ibid., 28). While the Comptroller's report also questioned the basic assumptions "regarding the amount of acreage to be leased," it also noted that those assumptions were only tacitly related to Interior's proposals—i.e., they were unspoken. DOI lacked any "definition of how the streamlining concept would work," or what effect it would actually have on the industry. "The Department had no estimates of how much land would be leased under the new program," the report read (ibid., 56, 40). Retaining its milieu of nonpartisan analysis, the Comptroller General's report did not explicitly state as much, but it was clear that the decision to open up the entire OCS planning areas to lease was based on the ideological presumption that access to offshore lands should be opened as far as possible, regardless of other outcomes. It was not a good way to kick off one's tenure as Secretary. For Watt's detractors the report only confirmed that the man indeed had Mephistophelean aims.

This re-playing of the errors outlined in the Comptroller General's 1975 critique of the decision-making around Nixon's accelerated program was pure political malfeasance on behalf of the administration. Watt had served in the DOI during the Nixon years, albeit on non-OCS matters, but he certainly should have anticipated such an attack on his area-wide program. Moreover, Watt's staff had at their disposal (if they so chose to look) any number of studies conducted since 1972 on the possible outcomes of an acceleration in the pace of leasing. As seen above, officials had questioned since 1972 whether accelerated leasing jeopardized fair market value; whether industry could actually expand enough to justify an increase in lease offerings; and whether the DOI was even equipped to handle the increased workload, including the evaluation of bids for their value adequacy. The Office of Management and Budget had been so

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[30] Litigation over the CZMA consistency provision was largely resolved with the ruling in *Interior v. California* 464 U.S. 312 (1984), as noted above. That decision concluded that federal activities undertaken outside of state waters were not subject to review over their "consistency" with a state's coastal zone management plan. This earlier suit filed by California and other petitioners over Lease Sale 53 was successful in its aims before being superseded in 1984, as both the district and circuit courts held that as the lease sale directly affected California's coastal zone, it had to meet the state's coastal zone management requirements.

concerned about whether leasing "could be accelerated and still insure return of fair market value" that they formed an interagency task force to review the matter in April 1972 (US Comptroller General 1975a, 7). Nixon's DOI itself concluded in 1974 that larger offerings were indeed a "threat" to obtaining fair market value (US Congress 1974a, 161). The Project Independence report was similarly blunt in its assessment:

> It is possible that accelerated leasing, while it will raise total bonuses, will reduce the average bonus bid per acre. On the other hand, accelerated leasing should mean that more tracts receive few bids and lower bids per tract, and hence there is a threat to the leasing goal of a return of fair value to the public. This threat can be reduced by taking steps to maintain competition in the lease sale. Specific steps. . . include . . . the maintenance of a stringent system of determining minimum bids below which the lease will not be issued. (US Federal Energy Administration 1974b, 73)

There was also ample empirical evidence of such to go by, had the administration gone looking. In December 1953 the State of Texas held a lease sale so large that it offered double the acreage that the state usually offered offshore. The boost in supply lowered competition on most of the tracts, and the state received just $79 per acre, significantly less than the $132 per acre they would receive in a May 1955 sale conducted after shrinking the sale size back down (Fitch 1956, 232, 234). In the larger sale, moreover, 37.3% of the leases went to a single bidder, at an average of just $12.22 per acre (ibid., 234). The other major conclusion that Texas drew from the failed sale experiment was the importance of setting a minimum bid level high enough to discourage speculation (ibid., 240). The president of Gulf Oil made an off-the-cuff estimate that an effective minimum bid should be 10 times higher than the $5-per-acre level that was used in the 1953 Texas sale, saying, "The public interest is not best served by the rapid disposition of these offshore mineral leases in return for token bonuses" (ibid.).

The landmark March 1962 split federal lease sale was a mythos among old industry hands for being so successful that it took two days to read out all the bids (Priest 2008a, 110). The sale took in a total of $445 million. Yet the BLM also noticed that the average number of bids per block had decreased, presumably due to the larger size of the sale (Crommelin 1974, 461). In the early days of the OCS program, when designing a lease sale, the DOI typically included all tracts that had received a nomination. Surging interest in the offshore and a rise in the number of participants increased to such a level that 3,679,000 acres were nominated and subsequently offered during the March 1962 sale. This amount was so large that after 1962, BLM began excluding some nominated tracts to prevent sales from growing so large as to reduce competition (ibid.). Only after DOI noticed that a single sale could bring high bids ranging from just a few dollars to over $10,000 per acre did they realize that the department needed to curate the acreage total offered each year, and to develop a tract evaluation capability (Beu 1988, 5). The unprecedented size of the sale brought with it complications: many of the independents complained about the size of the 1962 sale, worried that their capital would be stretched too thin, left unable to compete with the majors to acquire the leases they most desired.

A number of studies put out in the 1970s came to the same simple conclusion: an increase in the supply of offshore leases decreases the demand for them. Placing this point aside for a moment, concerns also mounted in this period that the DOI's pre-sale evaluation of tract value was not a viable way to screen out bids that did not convey fair market value. Evidence from the 1973 and 1974 sales suggested that accelerated leasing reduced the return captured from offshore resources so much, that even an increased use of bid rejections would have been inadequate to compensate for the overall losses (US Office of Technology Assessment 1975, 257). As the sale sizes increased, the average number of bids per contested tract dropped from 5.3 in the first sale held in 1973 to just 2.2 bids in the last sale of 1974. Moreover, the percentages of leases acquired by receiving just one or two bids doubled in the same period, from 37% to 67%, and the relative proportion of the total funds taken in from low-bid-count tracts nearly quadrupled (ibid.). In other words, a greater number of leases and a larger amount of a lease sale's total haul in cash were coming from cheap, non-competitive bids.

In the early 1970s, there had also been much hand-wringing over whether the industry could handle a sudden influx of leases and expand to develop them in a timely fashion, to meet the diligence requirements of the OCS program (for example, the automatic reversion of un-drilled leases to the government after a pre-determined lease period). At least a few oil and gas company executives told Watt that he was expanding lease offerings faster than they could handle, apparently to Watt's surprise (Gramling and Freudenberg 2009). Unless it was plausible that the oil and gas companies could hire up and expand their business capabilities appreciably soon after the start of area-wide leasing, an increase in acreage offerings would only serve to drive prices far down. This concern, too, seemed a replay of debates long since resolved during the mid-1970s. After changes in the raw steel market drove many manufacturers away from the low-margin oilfield tubular goods market by 1974, offshore drillers estimated a 20–35% decrease in their total drilling length targets for the calendar year ahead (US Congress 1974b, 4). The expectation that industry could absorb many more offshore leases was dismissed as a "pie-in-the-sky" belief (US Congress 1975a, 3), and nearly everyone outside of government saw the acreage goal as unrealistic (Priest 2014, 2006). With some by 1980 already fearing an impending glut in oil supplies, it seemed increasingly possible that offshore operators would respond to area-wide access by not altering their lease sale buying strategies at all.

In fact, the most sophisticated analysis of the leasing system completed in the 1970s suggested that the variable most in need of alteration was the royalty rate, not the pace of leasing or the awe-inducing bonus bid amounts. Hayne E. Leland noted (1978, 414) that since 1953, the royalty rate applied to an offshore lease had remained essentially unaltered while the cash bonus bids skyrocketed, a clear indication that the leases had become more valuable. As a result of soaring bids in the face of a low royalty rate, the answer was that government was accepting too little of the risk inherent in a natural resource market, Leland contended. Imposition of a higher royalty rate would send bonus bids back down to a reasonable level, without depressing overall revenue collection. A beneficial side effect of this shift would be the removal of the incentive to rush production that the high bonus payment can exacerbate (ibid., 415). The DOI considered raising royalty rates at least once in the 1970s, grasping that it could have "several favorable impacts" including keeping bonus bid sizes at a reasonable level, while shifting more exploration risk from the lessee to the government (US Congress 1974b, 159). The shifting of risk could act "as a kind of insurance premium" resulting in greater federal revenues over the long run (ibid.). While Gerald Ford still occupied in the Oval Office, Interior Secretary Rogers Morton divulged before Congress that he personally thought the standard 16.67% royalty rate was too low to convey "true value," a term of art that Morton used presumably because it is not present in the law (US Congress 1975a, 68; emphasis added). DOI experimented with setting higher royalty rates on several Atlantic tracts at Lease Sale 40 in August 1976, offering 15 blocks out of 153 with a 33.33% royalty rate in lieu of the standard 16.67%. The experiment was too small to be statistically significant, but what results it did yield showed that firms did indeed reduce the "aggressiveness" of their bidding on the higher royalty tracts, resulting in lower bonus bid levels and winning bids that more closely approximated pre-lease value estimates (Rose 1977a, 2–4).

Watt was unmoved by suggestions that his area-wide strategy was a fire-sale or giveaway to the industry. Nor did Watt think his DOI was acting with anything other than the utmost propriety. As seen above, the coastal states were unhappy even with Cecil Andrus' tenure and the DOI's attitude under Carter regarding stakeholder involvement in the OCS program. Watt's arrival in Washington and his immediate reversal of the Lease Sale 53 compromise lurched the frustration of the states into overdrive. They also noted the parallels between Watt's actions and the acceleration battles of the 1970s—and they were stunned by the replay unfolding before them. Why had Congress gone through the excruciatingly long process of amending the OCSLA between 1974 and 1978, they asked, if one cabinet member's mere administrative actions could so quickly overturn the compromise reflected in the law? Rep. Leon Panetta (D) of California, while still a member of the House, summed up in 1981 the frustration felt by Congressional Democrats at Watt and his style:

> Suddenly, what we are facing is a reconsideration of everything we went through [when we amended the OCSLA]...for goodness sake, there ought to be some way to justify why we are going back through this process. Why are we doing it?
>
> ....The real concern in [the Santa Maria Basin in California] is that the OCS amendments are being thrown out the window...We are talking about economies in that area that are built on two things, tourism and fishing, to the tune of close to $16 billion. Those communities depend on that. (US Congress 1981a, 24)

As the prospects for cooperative action with Watt seemed to fade over 1981 and 1982, many legislators joined Panetta in returning to their default position held prior to 1978: that there was no way the coastal States would accept both zero revenues from offshore drilling and no substantive involvement in federal decision-making. That was the balanced compromise that the OCSLAA was supposed to have enshrined into law. The Reagan administration seemed strikingly similar to Nixon's in doing just the bare minimum required for environmental impact reviews and pantomiming at genuine cooperation with the states (US Congress 1974a, 102).

The administration suffered another easily avoidable political misstep when President Reagan moved in 1982 to cut what little funding existed for coastal states to mitigate the negative onshore impacts of offshore oil and gas (Wolf 1985, 15; Jones 1990, 68). The 1976 amendments to the CZMA established the Coastal Energy Impact Program (CEIP), which provided coastal states with meager compensation related to OCS activities (Walls 1993, 784). Seeking to reduce non-defense discretionary spending, the administration eliminated CEIP funding; the absence of which 80% of the coastal states said would kill off or severely restrict their up-and-running coastal zone management plans (Jones 1990, 35). The administration argued in response that funding was no longer necessary, as twenty-five approved state CZMA plans were already in place, covering 78% of the coastline (ibid., 34). Perversely, such funding was exactly what the states needed if offshore development was going to be expanded successfully—it was through the coastal zone management plans funded by CEIP that the states dealt with coastal environment and resource management issues (see Figure 3.22.). Plus, funding the plans was dirt-cheap. Cutting CEIP funding barely affected the massive federal deficit; the average annual budget for a CZMA plan was just $37 million (ibid., 36). The federal budget deficit in 1982 reached nearly $128 billion.

Figure 3.22. The quandary of multiple-use in natural resources: sunbathers lounge on Huntington Beach, California, while an offshore oil production platform looms in the background, May 1975.

Source: US National Archives and Records Administration, Local Identifier 412-DA-15032.

In 1982, even the pro-development oil-state senator and conservative stalwart Ted Stevens (R-AK) began sounding the alarm against the tack taken by Watt in implementing his policies. Just as Panetta had, Stevens outlined what boiled down to a simple either/or proposition: absent revenue sharing or adequate coastal impact assistance funds, the states had felt assured under the OCSLAA that its procedural requirements guaranteed that their voices would be heard and addressed during major decisions. Without either revenue sharing or that guarantee in hand, trouble was on the horizon. Stevens said ominously in August 1982,

> It is my fear that [the] revenue [totals that Watt is projecting to come from Outer Continental Shelf leasing, at 10–20$ billion annually], and more importantly, the needed domestic production which it represents will be severely delayed if our coastal States are convinced they are not part of the leasing process and will be faced by substantial onshore costs as a result of this program. States must be guaranteed financial participation at least to the extent necessary to evaluate the risks each faces. (US Congress 1982b, 1)

Stevens' quotation stresses the intangible nature of the controversy over area-wide leasing. Policies on paper matter, but so do the "feelings" of coastal populations about the "attitude" taken by the DOI. Stevens stressed stakeholders' need for "assurance" accordingly. Alienated from DOI's inner workings, the opposition to Watt and his five-year program took on a heightened political furor. Frank Zarb had warned President-elect Carter of exactly this: the perils of ignoring the needs and hopes of the states to participate in federal energy and OCS decisions.

Against charges of uncooperativeness, Watt reiterated that the OCS program was not a partnership between the state and federal governments. As to the allegations that area-wide leasing would gut the government's revenue stream from offshore oil and gas, Watt did have a forceful argument (that he pursued with an evangelical zeal, as Juan Carlos Boué writes) that was well-suited for its political times. The theoretical underpinning of area-wide leasing was based on a "magical" reading of supply-side resource economics, one not dissimilar to the Reaganomic tax cut theories pushed by Watt's boss and derided by George H.W. Bush during the 1980 primary campaign as "voodoo economics" (Lichtman 2008, 351). In this formulation, opening up the OCS would inexorably unleash the oil companies, starved for leases at present. A simple progression would follow: more leases awarded, at lower bonus bid totals, would increase the amount of exploratory drilling and the amount of capital freed to pay for it. This would lead to more oil and gas discoveries, and then to more development projects and production, ultimately bringing to the treasury royalty payments far in excess of the bonus bid totals foregone at the start—not to mention the increased tax base of newly-created offshore projects and jobs. Decreasing bonus bid levels today to boost royalty revenues tomorrow was not an idea without merit, but as seen above, crucial to the calculus is also raising the royalty rate (which the department did not do). Belief that future royalty revenues would more than pay for any current dips in bonus bids is in line with what political historian Rick Perlstein (2014, xvi) has recently called the "blithe optimism" of Reagan's approach to complex economic policy issues. The policy would in practice have to slip somewhere.

The notion that offshore firms were starved for leases was a specious one at best. The offshore industry on the OCS already had far more prospective acreage at its disposal in 1981 than it could readily absorb. At the first "truly" deepwater sale on the OCS, industry nominated just 22% of the available acreage in the Baltimore Canyon and submitted bids on just 3% of the same (US GAO 1983, 8). In the four Gulf lease sales held between 1978 and 1980, for example, the industry nominated just 13% of the 117 million acres listed as open for nomination. After the sales took place, the oil companies had submitted bids on only 1% of the total call area—hardly a reflection of an industry engaged in ruinous competition for a

paucity of tracts to drill on (US Comptroller General 1981a, 45–46).[31] The reason behind the skyrocketing bids on the hotly contested tracts, as MIT economist John Devanney had explained a decade before in Boston, was that companies bid highly on a lease because they believed it contained oil and gas deposits that promised the winning firm a healthy economic profit. It was, after all, an auction, and a high level of demand for some leases simply translated into high bonus bids necessary to win them.

Perhaps the most damning evidence against the starved for leases premise is that the offshore industry was not fully unified in supporting Watt's plan, even though it promised to be a boon to the business. The larger companies like BP, Chevron, Getty Oil, ARCO, Mobil, and Shell wholeheartedly supported the area-wide approach, pleased that it would eliminate the checker-boarding of tracts and allow them to pursue geologic leads into untested and deeper waters. (They held back any public praise that it would cheapen the price of new leases.) Shell downplayed concerns that the industry could not grow quickly enough in response to accelerated sales. "The industry . . . can and will marshal the necessary manpower, capital, equipment and technology" to meet the demands of the new schedule, Shell executives wrote in a regulatory comment to the DOI. "The history of OCS development bears this out" (ibid., 335). The independents praised the plan in general but conspicuously either hedged their support for it, or else criticized it outright. Marathon Oil strongly urged Watt's DOI not to pursue such an aggressive policy. Describing itself as an intermediate-sized company, Marathon wrote that it was "very concerned" that it did "not have the resources to evaluate acreage and effectively bid in sales offering planning areas of up to 100 million acres at one time" (ibid., 324). The area-wide offerings would prove "simply too extensive" for a firm of Marathon's size to adequately evaluate in order to make smart bidding decisions. Other companies of Marathon's size and smaller "would be forced to either bid on an almost random basis or refrain from both evaluating and bidding on vast amounts of acreage," the firm explained. This, Marathon concluded, "could seriously impede Marathon's ability to compete for OCS leases, and reduce competition on the OCS" (ibid., 325). The company suggested that DOI instead consider one of two different ways to reform the sales: either retain the tract nomination method and include in each sale 100% of tracts that the companies nominated, or increase the sale size to a more moderate level of around 3 million acres. Even the venerable Exxon supported keeping sale sizes at a smaller level than what Watt was calling for (US Congress 1981b, 346).

Champlin Oil, a subsidiary of the Union Pacific Corporation, seconded Marathon's worries. Like every oil concern consulted, they too liked the basic idea behind offering more acreage, but Champlin pushed for the implementation of a "large selective areas or trend concept" (ibid., 356). Champlin's executives estimated that the industry had a per-sale "saturation point" of around 10 million acres. Echoing Marathon, Champlin wrote to the DOI and elaborated on the flaws in the area-wide leasing plan:

> *Sales* encompassing *entire* Planning Areas are not appropriate in view of the resulting: (1) [the] heavy government manpower requirement for sale planning and post-bid evaluation and (2) the unproven ability of industry and government to focus optimum attention to such huge areas all at once. (US Congress 1981b, 357; emphases in the original)

Most important to Champlin—and Marathon—was making sure that a reliable and predictable five-year program was put into place; they correctly sensed that Watt's brash push for 100- million-acre lease sales was seriously jeopardizing that goal. Tenneco also believed that area-wide sales would be especially harmful to the Gulf in particular: the company's President of E&P, Philip Oxley, testified before a House committee in January 1982 about the benefits of slightly smaller sales. Or else, Oxley suggested, why not just guarantee the inclusion of every nominated tract in a sale?

Oxley's concerns were twofold: more immediately, he worried that competition would suffer when entire planning areas were open for lease. Secondly, Oxley was anxious that the massive sales would give

[31] Eastern Gulf of Mexico Lease Sale 65 and A62; Central Gulf of Mexico Lease Sale 51; Western Gulf of Mexico Lease Sale 62.

ammunition to critics who alleged that fair market value was under threat on the OCS. He stressed to the lawmakers arrayed before him how imperative it was to pre-empt such concerns. By using a modified, 100%-nomination system, the DOI could continue to conduct pre-sale tract evaluations, Oxley explained, which were a necessary part of convincing the public that they were getting the fair market value of the offshore oil and gas leases sold. Even for a large sale, evaluating tracts beforehand would preserve "the high credibility of the sale action as a determinant of the fair market value" and immunize it from wholesale criticism (US Congress 1982a, 195). Oxley rejected the default industry argument that a tract receiving only one bid—even if it was in a 50-million acre sale—implied every bidder had reviewed its potential and determined it had no value to them. Instead, under a moderately-sized sale, it was incontrovertible all that "even single bids would result from a series of informed decisions rather than from oversight by those not bidding or the inability of the medium-sized or the smaller companies to cover the very large areas involved," Oxley explained (ibid.). He echoed Marathon's anxieties: with massive sales, very few tracts would actually receive consideration by more than one firm. This would deflate the conceit that there was adequate competition offshore to return fair market value.

Marathon's letter did contain one thought, embedded in a footnote, that Interior was sure to like. The company stated that because the federal government enjoyed a monopoly on the granting of OCS leases, the lease sale auctions by definition could never approximate a free or open market. To prove that the monopolistic hand of the government was unfairly manipulating the market by depressing supply and driving up bonus bids, Marathon cited a handful of offshore rate-of-return studies as evidence. Marathon contended that because returns between 1954 and 1969 averaged 11.43%, well "below the average return (1954–1976) of all US manufacturing corporations of 19.81%," the government was in fact extracting revenue in *excess* of fair market value. This came at the detriment of the industry's profitability, Marathon contended (US Congress 1981b, 328). With the logical inconsistency apparently lost on the author of its comment letter, Marathon also argued against Interior's bid rejection policy. No bid should ever be rejected, the firm wrote:

> The fact that a high bid is lower than the Department's evaluation simply does not mean the bid does not represent fair market value for the tract. The only true assessment of fair market value of a particular OCS tract is the value given it by expert oil and gas explorationists forced to place a value on it in a free market, competitive bid situation after evaluation of the tract. In such an environment, there is simply no reason whatsoever for tract evaluations or rejections of bids. (US Congress 1981b, 329–330)

This point is riddled with contradictions and internal inconsistencies. Marathon is speaking out of both sides of its mouth here: first, any high bid submitted for a tract should be accepted, even if the government deems it too low—for it represents the value placed on it by the market. Implicit in this defense is that OCS lease sales were indeed fair and free. After saying that bids should never be rejected because they were the product of a free market, Marathon then contradicts itself—in a footnote to the same sentence, no less!—by stating that the OCS lease sale market was actually not a free market, because within it "the government has been able to extract more than fair market value for its OCS leases" (ibid., 329). Marathon is arguing that the government was extracting excess value, but only when bonus bids exceeded the government's tract estimate. In other words, Marathon was saying that bonus bids driven up by competition were the product of a monopoly, while low bonus bids were a reflection of the free market's true value.

Watt's DOI embraced the elegant contradiction of this argument. In their public defense of area-wide leasing, they stopped insisting that as long as enough firms were bidding in a lease sale, each high bid on a tract would bring fair market value whether a sale offered "1,000 tracts or 5,000 tracts" (US Congress 1974b, 79). In their new formulation of what constituted fair market value for an OCS lease, what was fair was that any tract receiving a bid should be awarded to the bidder, even if the bonus amount was below the USGS estimate of its value. In this view, what a sole bid on a tract communicates is that every other bidding firm reviewed the tract and determined that it had no value to them (US DOI 1982e, 18).

This went against Oxley's explanation of how bidding decisions were made by his industry. However, when two or more bids pushed the high bid amount above the value of the USGS tract estimate, the difference between that bid and the government's valuation was the unfair capture of funds in *excess* of the "true" fair market value for that lease. This used the conservatively low USGS value estimates to the firms' advantage: if their bid was below the government's estimate, it should always be accepted; if it was above the estimate, then the government was earning excess value. For a free-market argument, it was unusually reliant on the estimation activity of the government landlord.

These new definitions for the "free market" and "fair market value" found their pinnacle when Watt commissioned an OCS Fair Market Value Task Force to quell concerns that the flood of area-wide leases would cheat the government of revenues. To the task force's chairman, Joe Gribbin, the definition of fair market value was simple and straightforward. In a seminar meeting convened by his task force, Gribbin took the formal definition chosen by Secretary Watt and read it aloud to the audience of industry oilmen arrayed before him:

> *Fair market value* is defined as the amount in cash or in terms reasonably equivalent to cash from which an item . . . in all probability
>
> would be sold by [a] knowledgeable owner, willing, but not obligated to sell, to a knowledgeable purchaser who desired but is not obligated to buy. (US DOI 1982e, 15–16)

Gribbin then repeated himself slowly, for emphasis: "Wiling buyer. Willing seller. Arms-length agreement. We should not confuse that definition or misinterpret it to say that that [fair market value] means maximum revenue or the maximum that the buyer is willing to pay." In the task force's final February 1983 report, Gribbin expanded on this definition at length. He wrote that "the OCS lease market, as currently configured [i.e., under tract nomination], meets the requirements that a market must satisfy in order for the prices established in that market to be regarded as fair market value for the items exchanged" (US DOI 1983a, 1–5). However, Gribbin and the task force report argued, because the market for OCS leases has only one seller, if the government in any way "restrict[s] supply," then those "bidders who value tracts at higher than fair market value would thus have no option but to pay higher prices" that exceed fair market value (ibid., 1-3; 1-4). This argument exactly mirrored that which Marathon laid out two years before. In over 110 pages of detailed discussion on bid evaluation and rejection procedures, nowhere does the Fair Market Value Task Force address just how much offshore acreage must be offered in order for the market to be "fair" rather than "restrictive." Is the threshold properly set at 1,000 tracts, 10,000 tracts, or perhaps 100,000? There was, of course, no answer apart from a partisan or ideological one: that where tract nomination had been restrictive, area-wide leasing would finally create a fair and free market for offshore leases. Gribbin made explicit what Marathon had said between the lines: the market was somehow both free and fair and yet forced unfair prices upon bidding firms.

Watt accepted the findings of his task force with gusto and endorsed their conclusions. However, Watt had another advisory committee in session that would have better served him had he taken their advice. Over two days in August 1981, the OCS Policy Committee met in Norfolk, Virginia, to discuss the department's impending reforms. The committee members weren't terribly sure what exactly was being "streamlined" in the OCS program, and they pushed Assistant Secretary J. Robinson West on the first day's session to explain on behalf of his boss. Concerned that area-wide leasing would herald a decrease in consultations with coastal states, committee members repeatedly stressed to West the importance of him and Watt gaining state support if they truly intended to meet their ambitious objectives for the OCS program (US DOI 1981c, 5). Representing Maine on the panel, Charles Colgan persisted in pushing the issue even when the discussion began to drift towards other topics. Leaning forward in his chair, Colgan

informed West that although the government may see its pending changes to the OCS program as "incremental," the public "perceived them as massive." The biggest threat to the offshore program, Colgan said, was a "lack of public understanding and confidence" in the department's plans and the administration's goals (ibid., 4).

Another member suggested that, in light of the backlash against accelerated leasing that marred the program in the 1970s, perhaps federal-state revenue sharing deserved another look as a way to squelch the germinating opposition. But the day's most insightful comment came from Bill Hedeman, an EPA representative sitting on the committee. Hedeman cut straight to the core of the issue, pointing out that the committee was wasting its time reviewing the minutiae of area-wide procedures in light of the public's strong and seemingly sustained opposition. If the concerns growing among the public about Watt's plans were not addressed, and soon, Hedeman warned, they would metastasize into problems much larger than the nuts and bolts of bureaucratic streamlining (ibid., 6). The real question, Hedeman wondered aloud, was, "would the proposed process ultimately strangle the objective?"

4.4. Strangling the Objective: Moratoria

Watt and his program survived a second major legal challenge in 1983, in a case now understood as the Pyrrhic victory that cost Watt the war. After Watt approved his revised five-year program in July 1982, calling for nearly one billion acres to be leased over its duration, the states of California, Florida, Alaska, Oregon, and Washington filed with other petitioners against the Secretary, arguing that Watt's area-wide program did not meet the fair market value standard of the OCSLAA. In *California v. Watt* 712 F.2d 584 (1983), known as *Watt II*, the D.C. Circuit adhered to the precedent of deferential review set by *Watt I*. It dismissed the concerns outlined above that area-wide leasing would erode government revenues. The court held that unless Watt's actions were arbitrary and capricious, his decisions would stand. The decision determined that Watt had adequately considered and balanced the competing goals of the OCLSAA in his formulation of the five-year program. Finally, the ruling dismissed all claims that Watt's leasing program was in violation of the fair market value standard of Section 18(a)(4) of the OCSLAA. It did not matter if the new area-wide policy resulted in smaller bonus bid amounts coming into the treasury, the court ruled, because the law did not mandate that Interior maximize revenues but only receive a fair return (Jones 1990, 52). *Watt II* provided the final litigious piece to complete the area-wide puzzle. It was now soundly legal: the Secretary must only 1) make factual decisions based on substantial evidence; 2) not make decisions that can be interpreted as arbitrary, capricious, or irrational; and 3) must meet the general wishes of Congress as laid out in the OCSLAA (Farrow 1990, 97). This met with the spirit of the OCSLAA's call for the Secretary to balance multiple programmatic goals. Still, the definition of fair market value remained central to the decision. The court seemed assured that the Secretary's continued "heavy reliance" on the cash-bonus bidding system, his decision in March 1982 to raise the per-acre minimum bid level from $25 to $150, and the continued use of bid adequacy evaluations as a "double check" would together ensure that fair market value was captured. The court placed a great deal of emphasis on the new per-acre minimum bid as a counterweight to the increased size of the lease sales.

As with *Watt I*, many commentators still regard the fair market value ruling of *Watt II* as faulty and inconsistent with the spirit and letter of the OCSLAA (Fitzgerald 2001, 98; Jones 1990, 52). It is true that the outcome of area-wide leasing has been a decrease in the intensity of competition for leases and a greater reliance on market competition (Fitzgerald 2001, 99). However, the ruling is essentially sound; the OCSLAA gives no guidance on how to apply the fair market value standard to the conduct of lease sales. Nor does the law require the Secretary to review bids for adequacy or reject any bid at all (even the hypothetical $0.01 high bid). If the court erred, it was by tacitly accepting in *Watt II* the same argument made by Marathon Oil and Joe Gribbin that the use of the previous leasing method—tract nomination—had resulted in the "contrived intensity of competition achieved by the government's prior use of its monopoly power," yielding bid prices "in *excess* of fair market value" (712 F.2d 606). The court then

referred to evidence presented by the DOI that most leases awarded under just one or two bids had not yielded greater-than-average profits to their owners, meaning that the competitive architecture set up by the cash bonus bidding system was indeed not delivering less than fair market value. Those one- or two-bid leases referred to were all awarded under tract nomination—the supposedly anti-competitive restriction of the availability of leases that was "tantamount to exertion of monopoly power by the government" (712 F.2d 607).

As correct as his legal standing was, perhaps Watt did not fully grasp the intensity of opposition to his program, or else he simply believed on principle that he would be failing the conservative reform agenda by compromising on the size of the lease sales. Indeed, Watt did not exceed the powers granted to his office by the OCSLAA of 1978. In the memoir he published two years after leaving office, Watt seemed to comment on OCS controversies when he wrote, "Some say I could have done more for the modern conservative cause if I had not spoken the truth so loudly and so often. But the liberal Establishment will never be shaken without confrontation" (Watt 1985, 203). Not one of the 205 pages in *The Courage of a Conservative* addresses natural resources policy or drilling for petroleum. In fact, the words "energy," "oil," and "moratoria" are absent from a publisher's index that does include an entry for Brooke Shields, the "Texas Chainsaw Massacre" horror flick, venereal disease, and the Pilgrims (ibid., 215–221). The Beach Boys also get a mention.

After their losses in the *Watt I* and *Watt II* cases, the coastal states turned away from the courts and began to eye a legislative fix. This strategic change was not unlike that taken after the tidelands cases in the 1950s exhausted the legal avenues available for securing federal dominion offshore. Some Democrats in the House introduced new legislation to tip the scales of the OCSLAA's balancing act more towards environmental protection and state participation (Fitzgerald 2001, 99). Though the difficulties with Watt laid bare the number of flaws present in the OCSLAA, coastal state representatives in Congress did not seriously attempt to amend it, due to the Republican Senate and the surety of a Reagan veto. The states turned to the writing of appropriations riders or limitation clauses inserted into the annual funding bills that emerge from the House, restricting the DOI's activity on parts of the OCS. These moratoria started small. The first moratorium language was attached to an appropriations bill enacted on December 23, 1981, its restrictions covering 736,000 acres off California (95 Stat 1391). It declared: "No funds provided in this title may be expended by the DOI for the procurement, leasing, bidding, exploration, or development of" three Pacific regions slated for inclusion in for Lease Sale 53 (95 Stat 1404). This restriction on the sale was a holdover from the debacle that had first cropped up under Cecil Andrus, and which Watt himself had antagonized. In addition to the controversy over the proposed scope of the sale, many Democrats from the state—like Leon Panetta—opposed the inclusion in the sale of thirty-one tracts located in the Santa Maria Basin. When Andrus reduced the size of Lease Sale 53 in October 1980, he had refused to remove these tracts; Watt also retained them in the sale upon entering office. The sale proceeded in May 1981. Ongoing litigation over the reduced-size Lease Sale 53 would involve the applicability of CZMA consistency provisions on a federal lease sale; over whether the Secretary had to accept the recommendations of the Governor of a coastal state; and how the DOI was to faithfully fulfill its requirements under NEPA (Fitzgerald 2001, 131–132). The House was unwilling to wait for the complicated case's resolution, and the first of many annual moratoria went into place.

Facing the administration's refusal to delete environmentally sensitive areas from lease sales, and seeing that its resolve to implement its area-wide program without alteration was unflagging, Congress took to legislative moratoria as the last weapon it had to restore balance in the OCS program (Jones 1990, 55). From 1982 to 1992, Congress expanded its ban over OCS acreage in a piecemeal fashion, withdrawing increasingly large portions every year until virtually the entire Atlantic and Pacific coasts were off-limits to development by 1990.[32] Smaller acreage withdrawals were put in place over Alaskan waters starting in

[32] See Hagerty 2011 for a comprehensive list of acreage withdrawals to 2008, at Table I., "Chronology of Annual Congressional Moratoria Enacted in DOI Appropriations."

1989, and over most of the eastern Gulf in 1984, then consistently after 1989 (Hagerty 2011, 5–6). Massachusetts, for example, pursued the action after Interior refused to delete from lease sales portions areas critical to commercial fishermen (Fitzgerald 2001, 197). One brief attempt at negotiation in 1985 between Reagan Secretary of the Interior Don Hodel and Congress appeared to have a real shot at reaching a compromise, but talks quickly fell apart (Farrow 1990, 35). As President, George H.W. Bush—who as a younger man had co-founded the Zapata Petroleum and Zapata Off-shore companies—issued an executive withdrawal in 1990 of both coasts until 2000, under the authority of the Antiquities Act. President Bush also delayed and canceled several lease sales planned for 1989 and 1990, off California and Florida. In 1998, President Clinton extended Bush's moratorium through 2012.[33]

The appropriations moratoria have won the condemnation of many as a prime example of illegitimate or "bad" public policymaking (Jones 1990, 65). The appropriations process, in which the Senate has traditionally played more of a supporting role to the lower chamber, has been deemed a poor venue for the setting national policy. Using it for that purpose bypasses the Congressional committees that hold expertise on policy issues, and forces agencies to plan for an unsure future (Fitzgerald 2002, 19). Others contend that the spending moratoria riders are irreconcilable with statutes in NEPA and the CZMA that address OCS issues (Jones 1990, 65). After rising to Secretary of the Interior after Watt's departure, William Clark was widely quoted as saying that the annual moratoria effectively "repealed" the OCSLAA. Riffing on the old political saw of the disgraced politician who resigns not in scandal but in order to "spend more time with his family," Clark joked that he should close MMS branch offices in the restricted regions and "spend more time with the other bureaus" within the department (ibid., 59). The Atlantic regional office of MMS was indeed closed by the end of the George H.W. Bush administration (Freudenberg and Gramling 2002, 36; Carrigan 2013, 252).

Clark was correct that the appropriations restrictions work to repeal the OCSLAA; but he was correct in a way he didn't intend. Perhaps its functioning is more like a meat axe than a scalpel, but changing legislation at any point to alter the executive branch's behavior or override a judicial ruling is precisely the prerogative of Congress as laid out in the Constitution. Scholars have highlighted the appropriations authority as "the only realistic way to stop the Executive from launching administrative initiatives that Congress disfavors," due to the precision with which most appropriations bills are written (Devins 1987, 100). It is true that because the appropriations restrictions face renewal every year, they preclude the long-term planning processes in Interior that extend beyond the preparation of a five-year plan and lease sale schedule. Even still, if the House's moratoria riders were bad policy, Watt's moves were equally as poor. Watt had ample warning of the coastal states' displeasure with his actions. As an attorney himself, he further had detailed understanding of their ability to overrule him through Congressional action. Instituting a moratorium was just as much a replay of the OCS debates of the 1970s as was Watt's new accelerated leasing plan. In 1969, Interior Secretary Wally Hickel ordered temporary moratoria on lease sales in the Gulf and Alaska in the aftermath of the Santa Barbara blowout and oil spill. An early version of the OCSLAA bill considered by the Senate (S.426), introduced in January 1975, would have imposed a temporary moratorium on leasing in frontier areas until the amendments to the OCSLA were fully implemented. The final House bill that went to conference with the Senate to resolve differences in the final amendments would have allowed Congress to withdraw areas from leasing by passing a concurrent resolution declaring as much, not requiring a Presidential signature (US Congress 1978, 102). Moreover, the major legal challenges levied against the five-year program under Andrus (or just the Lease Sale 53 controversy alone) should have tipped off Watt to the political dangers ahead.

Just as the administration's definition of fair market value did not set a minimum bound to the amount of acreage in a sale necessary for it to be competitive, Watt and his DOI never produced a good explanation

[33] The Gulf of Mexico Energy Security Act of 2006 (GOMESA) maintained the moratorium over most of the Eastern Gulf until 2022, while also requiring the DOI offer up for lease roughly 8.3 million acres previously under restriction in the Central and Eastern Gulf.

as to why it was so imperative to offer an entire planning area in every single lease sale. No rationale was forthcoming even after Marathon, Champlin, and others requested that smaller areas be delimited for the new area-wide policy. The policy blueprint for the Reagan administration, the Heritage Foundation's conservative *Mandate for Leadership*, was not the source, as it called for sales outside of the Gulf but to be large enough only to cover "entire basins and reefs," consistent with a sub-area leasing concept. Even for the Gulf, the report suggested that the average sale size there "should be increased from 1.2 million acres to 2 million acres or more" (Heatherly 1981, 358).

Tract nomination had certainly been overly restrictive at times in keeping key acreage nominated by firms out of many lease sales (Boué 2006, 288). But Watt's new policy was an overreaction to the situation. It would have been politically advisable, administratively easier and wholly acceptable to the offshore oil and gas industry to phase in any increases in sale size. In arguing against the area-wide concept, Marathon, Champlin and the other companies commenting on the five-year plan had called for more moderate sales of 5 million or 10 million acres instead of the "drastic measure" Watt was taking (US Congress 1981b, 331). Worries in the 1970s that a flood of new leases would alter the market were not applicable to a gradual acceleration of leasing that would eliminate the "transition problem" of a sudden policy shift (McDonald 1979, 88). Even Exxon indicated that it strongly preferred sub-area sales, which would combine tracts nominated by the industry with others as needed to fill in the gaps and "consolidate the various areas into a contiguous whole" (US Congress 1981b, 346). The Reagan team also did a poor job in crafting a sufficient explanation as to why area-wide sales needed to be so large. Once the leadership of the OCS Policy Committee came under Watt's control in January 1981, they too convened a subcommittee on the five-year plan, just as the committee had done under Andrus. It reported back in February 1981 with similar findings as its predecessor's, questioning Watt's reasoning behind opening complete areas at once. Their report was equally scathing. "Presentations made by the DOI regarding OCS leasing activities," the subcommittee wrote, "have seldom been supported by factual data or documentation of the reasoning process" (US DOI 1981b, 5). It was Watt's failure to quantify the rationale for area-wide leasing that stoked the coals of his opposition—as well as his refusal to be "less ideologically visible and outspoken," as he wrote in his memoirs (Watt 1985, 203). It is hard to conclude that Watt did anything other than shoot himself in the foot.

One can easily imagine the frustration that many legislators felt with Watt. Barely a year had passed since Watt promised during his confirmation hearing that he would wield a careful scalpel and not a meat axe in carving out natural resources policy. He had noted his belief that the Watt "must have the ability, and the *judicial perspective and temperament*, to evaluate conflicts…he must choose actions that will ensure common sense, balanced perspectives in managing lands and waters subject to the multiple-use concepts which have been hammered out by Congress" (C-SPAN 1981; emphasis in the original, as delivered). The opposition to Watt was not the product of any single policy or action; public distrust in him grew cumulatively. Also during this period, as Charles Lester has pointed out, "political dialogues [on OCS matters] were increasingly structured by legal arguments"; this served to highlight differences and undermine good working relationships between otherwise-loyal oppositions (Lester 1992, 2). Indeed, some have surmised that the baleful consequences the Submerged Lands Act had for coastal states occurred because they had pushed the issue judicially, and not through political negotiation (Gramling 1996, 49). In the early 1980s, the consensus hammered out in the OCSLAA was unraveling, largely because of the administration's push to centralize control of OCS resources in the executive (Lester 1996, 15). Tensions and politics have always run high over offshore drilling, but the moratoria served to super-charge both (Jones 1990, 67). There was no lack of warning from coastal groups and the states that progress was impossible without accommodation to their concerns (Mitchell 1976, 112), but Watt did not anticipate the strength of their reaction to him and his program. The process strangled the objective after all.

4.5. Missing Minerals, Mismanagement, and Mister Linowes

Although Watt failed to open up the OCS to new oil and gas development, he was more successful in reforming another area of OCS policy: royalty management. As seen above, warning bells had been sounded since 1969 when the President's Panel on Oil Spills reported to President Nixon that the offshore royalty management and collection programs would soon face serious management difficulties. The GAO and DOI routinely performed less visible (but equally critical) investigations into the Geological Survey's royalty collection systems since at least 1959 (US GAO 1981, 2–3). The department's Inspector General conducted nine major audits of offshore natural gas leases between 1977 and 1979 alone (Linowes et al. 1982, 16). The Comptroller General's starkly-named 1979 report, "Oil and Gas Royalty Collections—Serious Financial Management Problems Need Congressional Attention," had not pulled any punches in its warning to the legislature. One anecdote of mismanagement it offered was the discovery of one royalty account that had had a skyrocketing balance. After digging deeper, investigators uncovered that the account had been part of a unitized field with a royalty oil contract to a third party; once the contract lapsed, the lessee had simply stopped making royalty payments. This lasted for over a year, and once the Comptroller General (1979, 15) pushed for its resolution, the USGS collected $1.4 million in back royalties from the account.

The USGS first took on responsibility for assessing and collecting royalties on federal lands in 1926. Allegations of mismanagement, incompetence, theft and fraud dogged the program since its start (US Office of Technology Assessment 1990, 10). By the end of the 1970s it appeared that the USGS was routinely failing to collect royalties in a timely manner—if they did at all. USGS managed its accounting procedures using records riddled with errors and data gaps, and relied "almost entirely" on production and sales data sent in by the firms themselves when cutting invoices (US GAO 1981, 3). With little resources to do so, the USGS could not audit or verify the accuracy of what the companies reported, instead relying on a sort of honor system that they report faithfully. In collecting what royalties were reported, the USGS was so delinquent that by 1980, over 73% of account holders had an outstanding balance. By their own admission, the USGS was losing over $1 million dollars in unpaid royalties every day (ibid., 5, 7). Despite the plain title of its 1979 report, the Comptroller General was not successful in turning Congress' attention to the growing problem.

Royalty problems did grab the attention of Secretary Watt. In the early spring of 1981, a series of articles alleging widespread fraud and oil theft within the USGS were printed by the *Los Angeles Times*, the *Washington Post* and *New York Times*, and a long investigative segment aired on "60 Minutes" (US Office of Technology Assessment 1990, 11). Ever primed for a good scandal, the media ate it up. By May, an early draft of yet another federal investigatory report on royalty collection problems was passed around federal offices in Washington (Davis, Wilen, and Jergovic 1983, 393). This GAO report was its sixth study in thirty years on widespread royalty mismanagement (ibid.). As calls for investigations began to add up, Watt responded by creating a blue-ribbon commission. He named as its chairman economist and political scientist David F. Linowes. The Commission on Fiscal Accountability of the Nation's Energy Resources was born on July 8, 1981, tasked with rooting out instances of fraud and to make wholesale recommendations for reforming the USGS royalty program. Linowes was already highly respected for his work on a previous independent commission, having chaired the federal Privacy Protection Study Commission that reported to President Carter in 1977. The other members of the Linowes Commission included private sector leaders, a geologist, and a former Comptroller General of the US (Elmer B. Staats).

The Linowes Commission reported back to Watt and the White House six months later (see Figure 3.23.). The January 1982 report was searing in its criticism from its very first line: "Management of royalties for the Nation's energy resources has been a failure for more than 20 years," it read (Linowes et al. 1982, xv). The Commission concluded that the USGS neither verified or audited the data sent in by the companies; kept records so haphazardly that the agency could not determine with accuracy which companies had

paid; accepted millions of dollars in late payments without assessing interest or levying a penalty; and could not even audit its own progress (ibid.). The Commission pointed out that while the problem was by definition a bureaucratic one, the oil and gas industry was somewhat complicit:

> Most of the scores of witnesses and dozens of documents examined by the Commission during its six-month inquiry agreed . . . [that royalties were being grossly underpaid]. An exception was the oil industry. None of the industry witnesses agreed that the underpayment of royalties is a significant problem. . . . Several witnesses before the Commission suggested that oil and gas companies may take the same approach that most people do with their taxes: where there is a doubt, they interpret the rules to their own advantage, guarding against overpayment. (Linowes et al. 1982, 13–14)

Though the Commission's charge to investigate royalty management practices spanned onshore and offshore collection duties, its report relayed a few points specific to the OCS. Not until 1980 did late payments on offshore royalties accrue interest fees. Underpayments from offshore leases were typically from natural gas, as offshore producers used a special method of adding up the deductions allowed them for product transportation fees (ibid., 17, 66). One recommendation made by Linowes called for the swift creation of a comprehensive data management computer system to serve as a central hub for all its collection, valuation, inspection, and accounting activities.

Figure 3.23. Secretary of the Interior James Watt and Ronald Reagan look on in January 1982 as David F. Linowes presents the President with the final report of his eponymous Commission on Fiscal Accountability of the Nation's Energy Resources.

The report is pictured in white binding, resting in front of Reagan on the conference table. The three are flanked by projections of federal oil and gas royalty receipts and disbursement payments to state and Indian groups. Courtesy: University of Illinois Archives, David F. Linowes Papers, RS 15/18/33.

Watt did not wait for the Linowes report to come out before he announced the removal of all leasing and royalty functions of the USGS from the Conservation Division and their transfer into a new agency, MMS. Watt unveiled MMS with great fanfare, telling the Washington press corps that it would "achieve or exceed the goals" that the Commission set (US DOI 1982b, 1). Watt and Linowes presented the report to Reagan in a January 1982 ceremony at the White House, flanked by two large graphs of projections of federal royalty receipts, the majority of which were slated to come from the OCS. MMS was officially chartered by secretarial order on January 19, 1982, forever abolishing the Conservation Division name. A May 10 amendment to the order further combined within the new agency all other DOI functions related

to the OCS (US DOI 1982a). Watt's office was already empowered under legislation, signed in 1950, to undertake such an administrative reorganization without the consent of Congress, and the legislative body gave its blessing to the agency when it appropriated funds from the new agency for the following fiscal year (Hogue 2010, 6).

The underreporting and mismanagement of federal royalties both onshore and off was unquestionably the proximate cause of MMS's creation. But because royalty revenues from the OCS made up the bulk of the total—and given the special difficulties posed by the marine environment—it made sense to incorporate the operational and non-royalty lease management operations for the OCS with the offshore royalty team into MMS. As Congress later noted, the move put "the responsibility and accountability" for the entire offshore leasing program in one place (ibid.). In other words, one agency would be responsible for the full cycle of OCS development activities, from estimating reserves, to conducting lease sales, regulating the safety of operations, measuring production volumes, assessing royalties, and making sure the funds made it to the federal treasury. As Christopher Carrigan explains, MMS's design was a "complete reversal" of how the BLM and USGS previously shared their responsibilities. Rather than a separation of OCS leasing and safety responsibilities between the two, both were "joined together into one broad group" within the Offshore Energy division of MMS (Carrigan 2013, 252).

The thought of combining the offshore responsibilities of the Conservation Division and the BLM into a single agency had been bandied about for some time. The division of leasing authority between USGS and BLM created "internecine distrust" between the two, a lack of positive cooperation, and interminable administrative delays; together these were a formidable roadblock to an efficient bureaucracy (Durant 1992, 81). Early in his first term, President Nixon had supported the creation of a Department of Energy and Natural Resources, a sort of super-department that would have included everything from offshore oil promotion to nuclear energy regulation. The CEQ study that Nixon requested in 1974 to calm concerns about drilling in the Georges Bank opined that combining the offshore minerals arms of the DOI, NOAA, and even some aspects of the US Army Corps of Engineers into a single group could "increase the effectiveness of Federal efforts in achieving closely related regulatory objectives" on the OCS (US Council on Environmental Quality 1974, 9-11). An ancillary study from the University of Oklahoma chartered for the CEQ report warned that if any changes were made between the safety and environmental functions of the USGS and the leasing promotion functions of the BLM, it should be to "strengthen the competition between them" (ibid.). Interestingly, a Nixon administration policy statement from January 1974 rejected such a reshuffling, explaining that the two groups coordinated with each other just fine, and that starting a major reorganization on the cusp of a "very rapid expansion of leasing" would be an "error" and too disruptive (US Congress 1974a, 159).

The epicenter of support for a merged agency was in the DOI itself: writing as head of the Conservation Division in December 1982, Don Kash advocated for the creation of a "Minerals Management Bureau" that could act as a single, coordinated "policy implementing apparatus" for the OCS and federal lands at large (Kash 1982, 12). With the advent of the perpetual oil crises of the 1970s, Kash wrote, the policy focus of the USGS had shifted away from geology and towards lease management precisely when public support for federal science funding cratered (ibid., 7). Most importantly, the small-scale reshuffling was in line with the Reagan philosophy of asserting executive control within bureaucracies by pursuing intra-departmental and intra-agency reorganizations, instead of the traditional wholesale recombination of cabinet-level departments (Durant 1992, 34). Some interpreted the consolidation as a budget "austerity measure," although that seems not to have been an explicit reason for MMS's creation (LeBlanc 1983).

Notably, Linowes had actually called for the removal of only the royalty management function from the USGS. Doing so would allow government managers focused on royalty matters to remain so without being "shackled" by the scientific orientation of the USGS (Durant 1992, 92). Robert F. Durant has written that the BLM and USGS had "strikingly dissimilar managerial cultures, approaches, and operating procedures"; yet, Watt decided to integrate parts of each into MMS. The excision of royalty responsibilities from USGS met directly with the Linowes recommendations, but the removal of the

Conservation Division from USGS and its combination with part of the BLM were instead inspired by the Heritage Foundation's wish list of conservative policy changes, *Mandate for Leadership* (Heatherly 1981, 348–349). Heritage called the Conservation Division the "stepchild" of the USGS, singling it out for blame. The Heritage Foundation felt that the division placed an imbalanced primacy on maximizing returns over economic growth (ibid., 348). For the first time in the department's history, the BLM had total control over all "onshore leasing functions, while a single assistant secretariat had all three organizational entities dealing with minerals management within its jurisdiction": BLM, MMS, and the Office of Surface Mining (Durant 1992, 93).

The Linowes Commission performed a very valuable analytical and fact-finding function for Watt's DOI: Linowes prompted real reform, for one. It did not "fix" DOI's royalty troubles, but certainly helped to generate significant movement in the executive branch towards that goal. The Linowes report also gave Watt clear political cover to centralize management of the OCS within a single agency. With renewed oversight on royalty management guaranteed to come from both Congress and the administration, the other divisions of the new MMS and not just its royalty program gained a faint imprimatur of reform and good governance by association with the Linowes report.

The first step in shifting the OCS program from a bonus bid-heavy revenue stream to one dominated by royalty revenues was to reassure the public that the DOI was capable and guaranteed to collect every royalty cent owed offshore. In that regard, Watt's creation of MMS before the institution of area-wide leasing was a political masterstroke. With the start of the area-wide sales, the offshore revenue stream collected by MMS jumped from a 50% royalty share to nearly 90% (see Figure 3.3.). By 1983, Watt had already directed Washington's attention away from his department's history of wildly unpredictable lease sale bonus bid totals and towards the now-well-managed royalty stream as the more important source of revenue from America's submerged lands. The two giant poster-board "royalty projection" charts that stood behind Secretary Watt and President Reagan at the White House in January 1982 evinced as much.

Chapter 5. Revenue Issues Unique to Deepwater Oil and Gas

The first area-wide lease sales offered up so many tracts that a map highlighting its open acreage would show most of the Atlantic coast and almost the entire Gulf blanketed in colored squares. Over the course of calendar year 1983, MMS offered 20,667 tracts for lease, covering more than 114 million acres, and the following year saw nearly thirty thousand tracts put up for auction. The first area-wide sales in the Gulf far surpassed all records from previous sale offerings. The first area-wide lease sale in the central Gulf, long considered the most prolific hydrocarbon OCS planning area, brought in high bids covering a remarkable 3,249,199 acres in May 1983. This far outpaced the previous landmark sale in the Gulf, the famous March 1962 two-day sale that attracted bids over 1,958,499 acres off Louisiana and Texas.

Before these massive lease sales could be held, the new MMS had to nail down all the details delegated to it by Watt's new policy directives. Just as the Bureau of Land Management and USGS had done in 1954 when setting up the offshore leasing program, MMS officials had to establish a number of new procedures de novo. The most consequential decision was made by Watt himself in 1982, when he determined (based on an agency analysis) that the minimum bid threshold should be raised from $25 to $150 per acre. The greatest day-to-day operational change that area-wide leasing brought was the sunsetting of pre-sale tract evaluation. From now on, MMS would place a value on a tract only after it received one or more bids in a lease sale. MMS worked between 1982 and 1983 to develop a bid adequacy review methodology that was based more on the marketplace than on government value estimates, while also fulfilling the need to preserve its capture of fair market value. As it had in the 1950s and 1960s, the offshore industry sought to influence how these rules were written. Their efforts proved especially successful where there was little precedent or pre-existing agency knowledge to go by: in the deepwater.

Despite the astronomical figures that its sales put up in 1983, the area-wide concept—for deepwater at least—got off to a rocky start even before it formally began. DOI held the first "truly" deepwater lease sale in December 1981, less than two years before the area-wide policy would go into effect (US GAO 1983, i). Lease Sale 59 covered tracts in the mid-Atlantic planning area that encompassed the Baltimore Canyon and sat in water depths up to 7,792 feet of water. Several tracts were over 110 miles out to sea. Because the sale was run under tract nomination and not area-wide procedures, the USGS evaluated the hydrocarbon potential of the sale's 253 tracts well before the morning of the auction. It was a difficult task, to be sure; although two sales had been held in the mid-Atlantic in the five years before Lease Sale 59, neither had led to a commercial oil and gas discovery. Geological and geophysical information for the area was sparse, and the complex economics of frontier deepwater developments made it difficult to guess how much a production facility might cost, or when the technologies needed to produce from such depths might become commercially viable.

The sale was a disaster. Although competition for deepwater tracts was healthy, 48 of the 98 tracts receiving bids were rejected by the USGS—an unexpected and unprecedentedly high rejection rate of 49%. USGS had rejected just 8% and 11% of bids at the two previous sales in Baltimore Canyon, an amount in line with the overall average OCS rejection rate of about 10% (US GAO 1983, 1, 9). Adding salt water to the wound was DOI's expectation that the sale would yield $3.6 billion in high bids; it ended up taking in a comparatively paltry $425 million. The sale threw into question the ability of MMS to accurately gauge the industry's commercial interest in an area, and to estimate what value offshore resources could collect in the market. The blame fell squarely on the new MMS for generating over-optimistic estimates of the area's oil and gas potential. DOI estimated a value of $1.2 billion dollars for the sale's best 14 tracts, but even these high-graded tracts received just $56.9 million in high bids (ibid., 14). The tract deemed most prospective of all by the USGS received a high bid that came up $104.5 million dollars short of their estimate.

Lease Sale 59 was a sore subject for MMS staff. The GAO launched an investigation and reported back one month before the area-wide sales kicked off. GAO concluded that the USGS had a dramatically more

optimistic view of the region's hydrocarbon potential than the industry did. Baltimore Canyon was still sparsely explored, and yes, as one company man interviewed by the GAO told its investigators, "Nobody is ever right in frontier areas" (ibid., 254). But the discrepancy between the government's estimates and the bonus bids received was far too large to be excused as a one-time misjudgment. Industry executives expressed utter bewilderment at the sale's astronomical rejection rate. Oil company officials interviewed by the GAO believed that the methodology behind DOI's geological evaluation model was dubious at best, surmising that the USGS resource team did not sufficiently appreciate the large amount of risk and cost required by a development project in such deep water depths. Special mention was made by industry interviewees to their belief that DOI probably did not discount enough in deepwater to account for the likelihood that production there was unachievable within the ten-year primary terms of the mid-Atlantic leases (ibid., 25).

Even though the bid rejection procedure was a holdover from the USGS's tract nomination days (and was thus already slated for replacement), Lease Sale 59 still hit like a black eye to the infant agency. The President of Shell Offshore, Lloyd G. Otteman, testified before Congress on the sale, remarking, "to say we were disappointed by these bid rejections is a gross understatement" (US Congress 1982a, 201). At a government and industry seminar on fair market value held a year later, an audience member from Exxon, Rogie Marsh, asked MMS panelists how the new area-wide bid evaluation approach planned to fix the problems his firm had run into at Lease Sale 59. Chairman of the fair market value task force Joe Gribbin turned to his colleague Jim Parrish, head of offshore resource evaluation for MMS, and said in an aside, "We could say a couple of things about Sale 59." Parrish was obviously long past ready to put the issue to bed. "I don't know about you, Joe," he replied, "but I'm not going to say anything about it" (US DOI 1982e, 55). MMS would indeed overhaul its procedures for running a bid adequacy analysis by the time the area-wide sales began in 1983, certainly eager to avoid another headache like that one. In rejecting a bid, the new procedure would rely more on the number and magnitude of the bids received, turning to an MMS resource estimate of a tract only when needed. It was a less stringent standard overall. But, as the GAO noted, had the new leasing system been in place in 1981, it would have largely prevented the debacle over Lease Sale 59, especially the too-high rejection rate in the deepwater Atlantic.

Unfortunately, the focus on the uproar over the rejected bids and the discrepancies in dollar figures between high bids and USGS estimates overshadowed a more worrisome problem. In some parts of the agency, there appeared to be a lack of understanding of the changing dynamics of the deepwater leasing market primed to unfold before them. Recognizing the uniquely expensive and risky nature of deepwater prospecting, MMS relaxed nearly every fiscal tool under their control in order to promote new drilling in the deepwater Gulf. These actions, however, were predicated on MMS's belief that the upcoming area-wide sales would go almost exactly as the tract nomination sales—only writ larger. The agency erred by not anticipating that the offshore oil and gas companies would strike out into the deepwater with a strategy based on amassing very large (and very cheap) acreage holdings. This lacuna in the agency was not the product of oilmen peddling misinformation or a "learned ignorance" on the part of MMS directors. Industry representatives told MMS openly that they planned to vastly increase their lease holdings in deepwater. Where the oil and gas companies did wield its significant influence was in bringing about a re-definition of what constituted fair market value in deepwater. Because area-wide leasing ushered in a new market for leases, they saw a chance to change what was fair value and what was an unfair taking of private profits.

5.1. "You appear to have missed the point": Sounding out the Deepwater

Rogie Marsh of Exxon had a specific aim in mind in December 1982 when he asked Joe Gribbin and Jim Parrish about Lease Sale 59 during the MMS seminar. Marsh was concerned that MMS did not

understand that his company was preparing to approach area-wide leasing in deepwater with a fundamentally different strategy than it had followed on the shallow-water continental shelf. Marsh said to Gribbin and Parrish,

> I am particularly concerned about [how]...just a very slight difference in the assessment of risk can make enormous differences in tract values, and in fact, I think in sales [like Lease Sale 59] you can make a good case for the fact that those bids that industry made were not evaluations of those tracts. They were evaluations of what it would take to get the right to explore . . . there essentially is not much [that is] economic to a tract that's say in 6,000 [or] 8,000 feet of water. (US DOI 1982e, 58–59)

Marsh's point was a salient one. It raised a fundamental question about the nature of an offshore lease "and the rights conveyed" by it to the operator, as written in the OCSLAA. Was a lease (especially in deepwater) more like a granting of title to the resources below the seabed to a lessee, or more akin to a mere license or permission to drill within the tract's boundaries? Exxon suggested that it was the latter for both substantive reasons (the presence of unusually deep water) as well as by fiat: for deepwater areas, Marsh suggested, the bids submitted by E&P firms do not reflect the value of a tract's resources, but rather the value only of the right to explore it exclusively.

This, however, is a nuanced distinction without a difference. As it happened, the former implied a much greater up-front expense for bidding oil and gas companies. If operators are bidding based on how much they value deepwater exploration rights, Exxon seemed to say, then it follows than any evaluation of a bid for its adequacy in conveying fair market value must refer to the market for exploration value alone and not to the market for resource value. Otherwise it risks reflecting a market that does not exist, Marsh said. It was an interesting and potentially powerful way of reframing the boundaries of the natural resource market implied by the fair market value standard.

Most of the top brass of MMS's economic and geologic teams were present at the fair market value seminar meeting that December in Sand Key, Florida. In addition to Gribbin and Parrish, also present were Tom Readinger, the assistant chief of the offshore resource evaluation team, a task force member and long-time economist with USGS and now MMS; and Gary Lore, also a task force member, geologist, and part-time petroleum engineer. Parrish approvingly described Lore as "our headquarters expert on resource economic evaluation of OCS tracts" (ibid., 3). Exxon's Rogie Marsh and MMS's Parrish struggled to understand each other as they discussed how MMS would make resource estimations and evaluate bids on tracts in areas like deepwater or the open Atlantic. "I am having a great deal of difficulty framing my own question," Marsh admitted as he tried to find a better way to phrase his query. "I can't imagine in my mind what a government evaluation constitutes," Marsh said finally. "I can understand, you know, project economics or something like that with a number of pre-drill assumptions plowed into it," but not the complex set of variables that MMS used in its MONTCAR Monte Carlo valuation model (ibid., 44). Gribbin and Parrish themselves struggled to follow Marsh's question, and the three of them decided they would discuss the bid rejection process "further and in painful detail" outside of the meeting (ibid.).

Tom Wright of Chevron thought perhaps he'd have better luck in articulating Exxon's (and the industry's) position to the MMS representatives before him. Earlier in the seminar meeting, while discussing deepwater bidding prospects, the seminar panel had talked the audience through the Watt's reasoning from March 1982 for raising the per-acre minimum bid from $25 to $150 across all water depths. The change was not made in order to boost MMS's revenue collections per se, but to help assure its receipt of fair market value and to "discourage purely speculative bidding," they explained (ibid., 62). Parrish dismissed concerns that the $864,000 cost of a standard 5,760-acre tract was too high, arguing that it was but a drop in the deep bucket of capital funds needed to actually develop a tract in 2,000 feet of water. Readinger chimed in by saying that "if you can't afford to pay that minimum [bid level of $864,000] then you know there's very little likelihood you'd be able to afford to drill a hole in those

conditions" (ibid., 51–52). It was after that exchange that Wright piped up in the meeting on Chevron's behalf. "I have three questions," Wright said:

> The first goes back...[to] the cost [of] around $800,000 for a tract [being] insignificant in comparison with exploration and development costs in the sort of deep water area we were discussing. But you appear to have missed the point that in exploring and bidding in this sort of area, no operator bids just a single tract with a high risk potential. They would probably be bidding ten or twenty tracts in the hopes that their exploration from perhaps one well on one tract would prove the presence of a very worthwhile trend that they would want to develop later. You have to multiply [the $864,000 minimum bid] by a factor of ten or twenty total bids. And I think when you look at it that way...the bid price is significant. (US DOI 1982e, 61–62)

Wright never got through all his questions because his explanation why a deepwater operator would feel the need to bid on 10 or 20 contiguous tracts in support of a single exploration well continued to perplex the MMS officials. Tom Readinger parried the exchange when he said, "I think the gentleman's comments are worth noting and we'll make note." Readinger continued, trying to elicit more detail from Wright as to why Chevron was considering acquiring so many tracts in deepwater. "I am a little confused as [to] why you talk about ten or twenty tracts," Readinger asked:

> You mean that you're looking for one [oil field] and you can't . . . and it's that difficult to isolate it as to exactly what tract it's on? [Do] you really need ten or twenty [tracts], or is this a very big reservoir that you're looking for? In which case I'm sure the bonus would be small in comparison to total value. Why do you feel that it will be necessary?—maybe you can help me with this information. Do you think it is going to be necessary in deep water to acquire ten or twenty tracts for this purpose? (US DOI 1982e, 63)

Readinger's confusion was in line with the belief pervading MMS that area-wide leasing would not flood the offshore lease market because firms would continue to cluster their bidding on just the most prospective tracts. During the early planning for area-wide leasing over 1981 and 1982, this seemed to be an almost unquestioned premise within the agency. Gribbin himself had said as much just half an hour before Readinger's exchange with Chevron's Tom Wright. "Speaking for myself, I don't think there are going to be lower bonuses on a tract-by-tract basis," Gribbin said, and the task force chairman also assured his audience that not much more total acreage would be leased annually than had been under tract nomination (ibid., 39, 21). The sole study that Watt's DOI completed on the area-wide approach was the unsophisticated, "philosophical" paper that supported these rosy outcomes: competition for high-potential tracts "would not vary," the study concluded, and although the average number of bids received per tract might decline slightly, that would be the result of smaller companies pursuing marginal prospects they wouldn't pursue otherwise (US Comptroller General 1981b, 48). Exxon and Chevron raised the issue at the December 1982 seminar because they felt that the $150-per-acre minimum bid level was far too high—and they wanted to tip MMS off that greater changes were afoot than they suspected, in order to get that threshold figure reduced. At least, as one industry man pointed out, the minimum bid should be set at a different level for, say, a water depth of 5,000 feet or 5 feet. Several of the audience members at the seminar proposed just such a sliding-scale minimum bid level. MMS officials present explained that, whereas the $25-per-acre minimum bid level previously used was arbitrary and decades outdated, the $150 amount selected in 1982 was the result of extensive study by MMS. The agency's economists had determined that a $150-per-acre bid was the optimum price at which revenues would be maximized, but the total number of leases awarded would not be depressed (Rose 2008, 17–18). Its empirical grounding did little to placate the industry's displeasure with the higher threshold.

The decisions made here at the start of the area-wide program, like the parameters of value set by the first OCS program employees in 1954, retained a remarkable staying power and have enjoyed the aura of precedent for decades. Once the $150-per-acre minimum bid was in place, MMS used nearly every other fiscal tool available to make the lease terms of deepwater tracts specifically as amenable as possible to the

industry (see Figure 3.24.). Marshall Rose noted in 2008 that the $25 per-acre minimum bid level displayed an "amazing" stability across the OCS program's history (ibid., 17). This pattern held true elsewhere: in fact, all the tracts offered under area-wide sales in 1983 still carried the same $3-per-acre rental rate that was set in 1954. The rental rate was not raised until 1993, when it was upped slightly to $5 per acre. It has since been raised during the 2000s, but still remains a very minor cost to operators.

The area-wide system ushered in one final decision that had rippling ramifications for industry costs and government revenue: it set the first definition of "deep water" for official use. As authorized by the OCSLAA, leases in deepwater could be let with a special 10-year primary lease term, to allow for the longer lead times necessary to explore and develop them. In the first few years of area-wide sales, most leases deeper than 900 meters (2,953 feet) were offered with a ten-year term, while shallower leases (though still beyond 1,000 feet) could be granted an additional five-year "suspension of operations" if an operator had legitimate plans on the books to develop the lease before its primary term expired. MMS also began offering deepwater leases with the statutory minimum royalty rate of 12.5% as a standard practice, instead of the traditional 16.67% in place since 1954. When deepwater leasing began in earnest in 1981 and 1982, MMS adopted a 900-meter (2,953-foot) marker for designating leases as "deepwater" for the purposes of receiving the lower royalty rate and extended lease terms (US Office of Technology Assessment 1985, 158). This threshold was followed for the first few area-wide sales, until MMS dialed it back to the 400-meter (1,312-foot) isobath (ibid.). This greatly expanded the acreage in the Gulf that qualified for special dispensation and relaxed fiscal terms. By the mid-1990s, legislation passed by Congress would designate depths as shallow as 200 meters (656 feet)—the threshold proposed by Nixon as the lower bound of the UNCLOS intermediate zone—as deep enough to qualify for special fiscal relief.

The first area-wide sales offered a unique opportunity to the offshore industry. The details of such a major policy change are often worked out on a trial-and-error or ad hoc basis, and the companies used the complexity of the situation and the government's preoccupation with the workload establishing a new agency to their advantage. Offshore operators looked to reduce the definition of a lease's market value from one of "resource value" to mere "exploration value" so as to reduce the cost of access. That the start of area-wide leasing also coincided with the beginning of deepwater exploration and production in earnest afforded firms a further chance to shape how the DOI structured its fiscal terms.

The industry officials present at the fair market value seminar hit all the right notes in doing so. One participant asked the MMS officials if they had studied how severely deepwater tracts would be "burdened by royalty [payments]"—the implication clearly made that they regarded even a nominal payment on a produced resource owned by another entity as burdensome (US DOI 1982e, 52). The company representatives learned to stress the most difficult aspects of offshore drilling when discussing fiscal terms with policymakers, and to highlight the extraordinary engineering accomplishments of offshore technology in other venues. (This tactic proved especially fruitful when offshore firms petitioned Congress in the early 1990s to receive a reduction in royalty payments for deepwater leases in the Gulf.) In the MMS fair market value seminar, Warren Sheppard of Gulf Oil pointedly suggested that the $150-per-acre minimum bid threshold decided on in 1982 was willfully ignorant of the immense financial pressures the industry faced. Sheppard harangued,

> When we get out into two thousand feet of water in the northeast [Atlantic Ocean], we're looking at ten years of primary lease terms and maybe ten years before we're even facing the ability to produce the first barrel of oil . . . Would not that $150 [per-acre minimum bid] figure at today's rate of interest and discount of returns somehow create a detriment to bidding . . . is there any consideration...that [the] $150 minimum may be again too high? Any consideration of that fact by you? (US DOI 1982e, 49–50)

New leases in 400 meters of water and deeper were already benefitting from the longest primary lease term and lowest royalty rates allowed under the law, and a rental rate level more than three decades old to boot, but Exxon and Chevron eventually got their way. The minimum per-acre bid threshold was soon

lowered. After the oil price collapse crippled the industry in 1985 and 1986, the minimum bid level was dropped all the way back down to $25 per acre, for all leases in water depths past 400 meters. The softening of demand for crude and a series of lackluster sales between 1986 and 1987 helped convince officials that the higher minimum bid level was indeed an "undue constraint" on the industry (Rose 2008, 17; *Offshore* 1986). It was true that the higher threshold could be especially burdensome on independent operators, some of which could only afford a lease sale bidding budget between $5 and $10 million (LeBlanc and Cornitius 1987). There is no evidence to elucidate why MMS returned to the original $25-per-acre level instead of an amount somewhere between $25 and the newer $150-per-acre threshold.

The $150-per-acre minimum bid was in place for less than three years, and from the transcript of the Fair Market Value Task Force seminar meeting, it is not difficult to see why. In the meeting, company men from six firms either stated their opposition to the $150 minimum bid level, and/or explicitly asked MMS to consider reducing or eliminating it (US DOI 1982e, 36, 49, 61, 67, 68, 69, 72). Tom Wright from Chevron explained again to MMS the reason why a firm might want to acquire twenty leases around a promising prospect: as an explorationist, he said, you cannot localize the center of an emerging play until you drill the first well there, and learn more about its geology. "And no company is going to go after a regional concept," Wright said, "unless they can acquire a regional spread of acreage" (US DOI 1982e, 64). A smaller (but unnamed) company present at the seminar painted a scenario in which the $864,000 minimum cost of each tract discouraged wildcatting and risk-taking among all but the largest firms (e.g., Exxon or Shell), with its company management likely saying that given its limited cash to spend at the lease sale, "we want to bid on the popular blocks . . . where the risks are lower and we're more assured [of discovering oil or gas] and so forth" (US DOI 1982e, 70). To these concerns the Minerals Management Officials were sympathetic, perhaps too much so. Seven times in less than two hours, one MMS official or another expressed surprise at the strong complaints against the $150-per-acre bidding threshold, and seven times reassured the offshore companies present that the $150 figure was not set in stone, but could change (US DOI 1982e, 37, 50, 52, 62, 64, 68, 71). Jim Parrish acknowledged that if future events showed that "yes, [MMS is] indeed placing an unreasonable restriction on testing some of these [higher minimum bid] ideas they'd then certainly be open for reconsideration with the undersecretary." Parrish concluded, "if it appears...we've missed the boat on that, then the undersecretary has told us it's open for reconsideration" (US DOI 1982e, 62).

Not surprisingly, deepwater operators ended up contesting even the extremely low, de minimis rental rate that lease terms carried with them. MMS considered lowering rental rates in 1986, but ultimately decided against it (*Houston Chronicle* 1986). The agency also asked for comments from the industry on whether allowing the deferral after a lease sale of up to 80% of a winning bonus bid would have any incentivizing effect. In another indication of just how expensive deepwater operations could be (and how eager operators were to get what breaks they could), Shell Oil petitioned for a rental payment rebate in November 1986 for its Cognac field. With the oil reservoir spread out over four blocks in Mississippi Canyon, Cognac was unitized as the "MC 194 Unit" in September 1978, roughly a year before it began producing. This meant that the areas of the four leases above the Cognac reservoirs would produce oil (and pay royalties on it) on an equal footing, rather than as separate lease accounts. Shell petitioned for a refund of payments it had made between 1978 and 1986, specifically on the acreage that was within the four blocks but not integrated as part of the unit. In a submission to MMS, Shell's legal counsel acknowledged that under a plain reading of the unit contract that Shell had signed, rentals were due on the full acreage of a partially unitized lease, but contended that doing so went against common oil and gas law practice and did "not represent the current position of MMS on this issue" (US DOI 1986a, 2–3). Shell's lawyers argued by analogy, explaining that because drilling or production operations on one lease in a unit occurs for benefit of all parties involved, the same should occur when the unit is on production—the non-participating areas of the unit leases need not pay the yearly rental fee (US DOI 1986a, 2).

MMS denied Shell the refund, pointing to the clear language in the contract, just as Shell had anticipated they would. The unit contract called for rental payments "equal to that amount called for in the individual

leases, for each acre or fraction thereof . . . for all Unitized Lands which are not within a Participating Area" (US DOI 1978b, No. 14-08-001-16931). Even though a MMS guidance document used as a model agreement for unitization seemed to suggest otherwise, the contract of the Cognac unit clearly stated that Shell was not "entitled to retroactive rescission of a portion of those agreements or retroactive relief from the effects of the provisions thereof," as MMS ruled on Shell's petition.

Recourse to the original Unit Agreement signed in 1978 shows that within the four leases (that together cover just over 22,520 acres), the unit accounts for only 9,000 acres. Because each lease had an annual rental rate of $3 per acre, had the agency refunded Shell the rental fee over the non-participating acreage from September 1978 to November 1986, the total would have come to $332,930. A substantial sum, perhaps, but one put into context by noting that at the production rate Cognac was flowing in November 1986, that sum was tantamount to just 12 hours' worth of production.

5.2. Deepwater Bid Evaluation under Area-Wide Leasing

The embarrassment of Lease Sale 59 and the blame laid for it at the foot of the brand-new MMS had a lasting impact on how the agency structured its system for evaluating bid adequacy after an area-wide lease sale. This was especially true for its use in deepwater. The massive increase in tracts offered for sale already mandated a major change, in the shifting of tract resource evaluation from pre- to post-sale. Watt's push for a more marketplace-based approach to the Outer Continental Shelf also guaranteed that greater analytical emphasis would be placed on the number of bids submitted for an individual tract over what MMS estimated its value to be. Doing so would decrease MMS's reliance on the extensive calculations that went into generating its mean range of values (MROV) value estimate for a tract. The inclusion starting in 1974 of the average evaluation of the tract (AEOT) had already accounted for the variance that could occur in generating multiple permutations of the MROV. Tract valuation was an art as much as it was a science, as a different USGS staffer at the helm could end up with a different estimate, as noted above. In the aftermath of Lease Sale 59, Shell upped its longstanding critique of the MROV approach, saying that its overly-subjective inputs made it a "yardstick for lease award decisions" that had "little technical merit" (US Congress 1982a, 200). Shell also repeated the industry's perennial call that all high bids be accepted offshore, no matter how low.

The new area-wide bid evaluation system was already under development by the time GAO finished its report on the surfeit of high bids rejected under the tract nomination evaluation procedures used at Lease Sale 59 (i.e., primary reliance on the MROV). The GAO noted in its report that had the soon-to-be-implemented new procedures been in place during December 1981, the rejection rate at Lease Sale 59 would have been closer to normal. But the GAO also warned that the new bid evaluation system could jeopardize the government's receipt of fair market value. By performing a tract evaluation only after receiving a bid on an offshore block, MMS was creating a system that was structurally biased towards accepting bids. Long-term use of this methodology had further implications, GAO opined. Without continuously performing geological evaluations of sub-areas in preparation for sales, MMS would likely grow to accept the "industry's assessment of the resource potential in a sale area, rather than developing its own independent assessment" (US GAO 1983, 43). This could further threaten the receipt of fair market value, especially since MMS was already at an informational disadvantage against the companies in understanding the geological petroleum systems of the deepwater Gulf.

GAO's concerns aside, some officials within the administration (and several outside consultants) argued that MMS should completely dispense with bid evaluation, especially once the department raised the per-acre minimum bid to $150. At times the practice of bid adequacy determination could feel like more of a hassle than it was worth, placing MMS in a damned-if-you-do, damned-if-you-don't situation politically. There was statistical evidence as well that bid rejection could be counterproductive. One study published in 1983 concluded that when tracts previously bid upon but rejected were reoffered in a subsequent lease

sale, the government's estimate for their value tended to be lower than initially. This was perplexing, the authors explained, because that means "government estimates run *counter* to the market's estimates of value and, therefore, would seem to contradict their stated purpose with the former policy" (Lohrenz and Dougherty 1983, 1953; emphasis in the original). Because the price at which a bid was rejected became public knowledge, it was arguable also that the process only helped other operators to bid more efficiently, to the detriment of government revenue totals and market efficiency. As Shell Offshore's president characterized it, "such bid values are considered to be the most proprietary of all OCS information," and so bid rejection was tantamount to a poker player having to show his hand to the table while continuing to raise the stakes (US Congress 1982a, 201).

However, abandoning tract evaluation was never really a practical option. The threat of an upbraiding by Rep. John Dingell over bad value estimates when called before Congress remained palpable, especially as the advent of area-wide leasing threatened to dilute competition for individual tracts. This increased the chance for a "giveaway" to the industry. Most pressingly, it was questionable whether abandoning bid evaluation was even legal, given the importance placed upon it for achieving fair market value by the circuit court's ruling in the *Watt II* case (1983). This was doubly so after the DOI walked away from raising the minimum bid threshold from $25 to $150-per-acre, as the *Watt II* decision had placed great emphasis on the $150 level as a critical factor to ensuring the receipt of fair market value under area-wide sale conditions. Either way, the new bid adequacy evaluation procedure found its primary adoption in the Gulf after Congressional moratoria restricted access off the east and west coasts, and much of Alaska. Also, as the sale dates for the first area-wide offerings approached, the DOI's appraisal of the situation did grow more realistic about the prospect for operators scooping up large swaths of offshore lands. In January 1982, the DOI assistant secretary for policy, budget, and administration reported up the chain of command that industry's capital would be strained for such a large sale, and thus it was possible that both competition levels and bid figures would decline—but that the department's rigorous bid evaluations would prevent anyone from acquiring leases too cheaply (US GAO 1985, 33). Where tracts were bid on in the Gulf's shallow waters during area-wide leasing, its commonly-understood geology and its lengthy leasing history made bid evaluations relatively simple. It was in the deepwater, of course, where the analysis was most difficult. However, the magnitude of the threat posed by a Dingellian jeremiad against the undervaluation of leases was greatly diminished under the conservative political climate of the Reagan years. Emphasis had shifted within the body politic at large (and at DOI) from reducing the risk of "giving away" a valuable lease, to lifting the restrictive "burden" of ensuring fair market value so as to expedite development whenever possible (even if it meant "losing" money up front).

With this situation in mind, the DOI began the process of revising the bid evaluation procedure even before Reagan was sworn in as president (US DOI 1983c, 3). As with the area-wide leasing concept itself, Watt's new bid evaluation policy was based in part on changes already in the ether during the second half of the Carter administration. The policy went through multiple iterations between 1980 and 1983, was released for public comment in February 1982, and exhaustively researched by Joe Gribbin's fair market value task force between 1982 and 1983. The end result of their efforts streamlined the evaluation process by creating a tiered system that saved the detailed analyses performed by the MROV, AEOT, GAEOT, and Monte Carlo MONTCAR cash flow tools for use on only a small percentage of high bids after the fact. In the new process, all high bids first filtered through an initial screening that resulted in the automatic approval of most of them were (Phase I). Certain conditions would automatically trigger a lengthier and detailed review (Phase II). The screening process eliminated the need to perform complicated analyses on a tract that had received, say, five bids: that was a clear indicator of a competitive bidding situation (see Figure 3.25.).

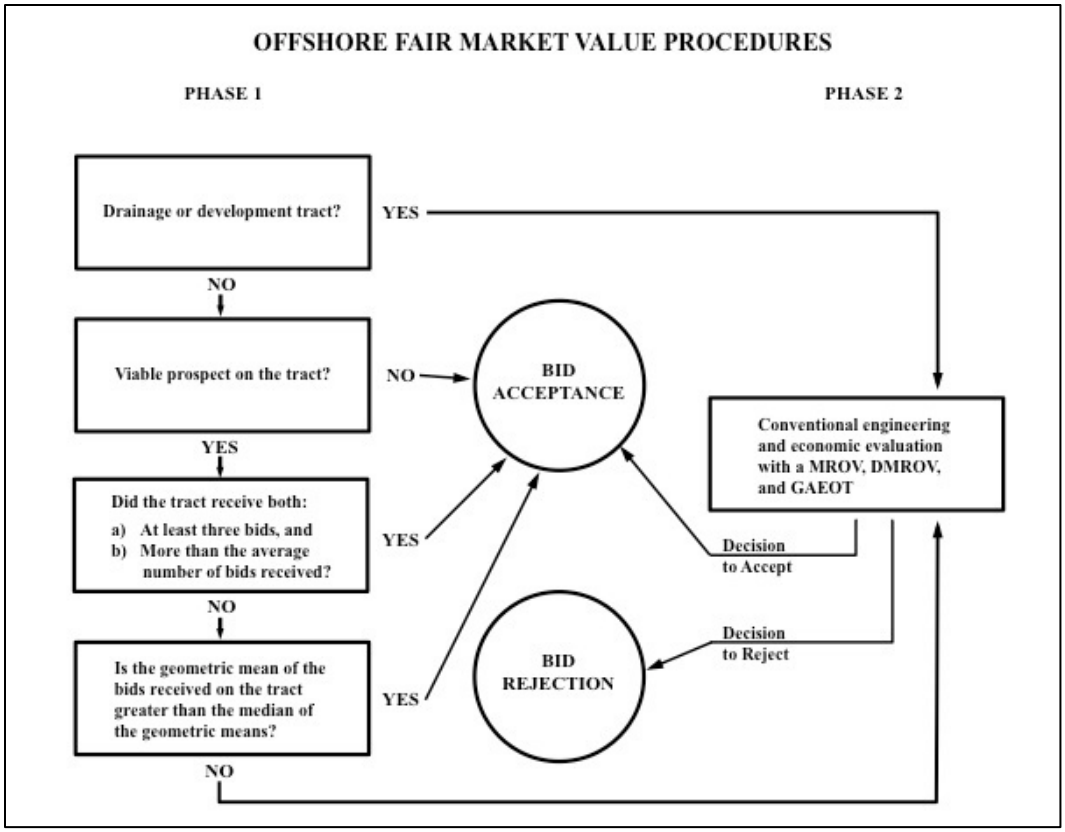

Figure 3.25. Flowchart schematic detailing the two-phase bid adequacy evaluation process for Outer Continental Shelf oil and gas lease sales under area-wide leasing, between 1983 and 1986.

Reproduced without alteration from a 1983 DOI press document released by the Minerals Management Service. Source: US DOI 1983b.

In February 1983, the fair market value task force delivered its report to Bill Bettenberg, Director of MMS, and the Assistant Secretary of the Interior for energy and minerals. Accompanying the report was a decision document containing six options for the bid evaluation system. Although they varied widely in some technical aspects, the choice of any one option would "not constitute significant changes" to the basic leasing program, Joe Gribbin wrote to his superiors in the decision memorandum (US DOI 1983c, 2; emphasis in the original). Responsibility for the new policy was delegated to the regional managers of MMS in April 1983, and the new bid adequacy determination guidelines were handed down soon thereafter. Its two phases of analysis were related but distinct in their application. MMS classifies each tract as a drainage, development, proven, or wildcat tract. The task force was unanimous that all wildcat and proved tracts should be initially subject to Phase I review, while only drainage and development tracts should automatically trigger a Phase II review. DOI would make four determinations during this first phase:

1. Each tract [is] classified as drainage, development, proved and wildcat—all drainage and development tracts automatically moved to Phase II analysis.

2. Nonviable, un-prospective tracts [are] identified (via geological /economic data), and all high bids on them [are] automatically accepted.

3. Anomalously low bids [are] removed (less than one-eighth of the bid higher above it), and DOI calculates the median of the geometric average bid for "all viable wildcat and proven tracts." All high bids on tracts where this figure is in the top 50% of the median of all average bids—[are to be] accepted.

4. DOI then computes an average number of bids for the entire sale, for all viable wildcat, proven, drainage, and development tracts; all high bids on a tract with 3+ bids and more than the average number of bids [are] accepted. (US GAO 1985, 94–95)

After this Phase I review was complete, MMS would automatically accept a high bid on a tract unless three or more bids were received, or for some wildcat tracts, the bid was anomalously low (US DOI 1984a, 1). All 3+ bid tracts were referred to Phase II review. No restriction was set on the number of high bids that could be accepted during Phase I, and the fair market value task force estimated in early 1983 that about 55% of high bids would be approved at this stage (US DOI 1983c, 19). At this point MMS would screen high bids for strategic underbidding, or evidence of collusive activity for possible referral to the Federal Trade Commission or Department of Justice for further investigation. Other high bids not meeting the criteria above advanced on to Phase II analysis.

In Phase II, the decision to approve or reject a high bid was placed at the discretion of the regional manager, who had thirteen criteria to consider:

A. Mean Range Of Values (MROV)
B. Discounted Mean Range Of Values (DMROV)
C. Geometric Average Evaluation Of the Tract (GAEOT)
D. Type of tract
E. Number of bids received
F. Average number of bids received for blocks of the same type
G. Reliability of MMS data
H. Drainage costs due to delays associated with bid rejection
I. Costs attributable to delays in exploration/development of other blocks located on the same prospect if the subject block is not leased
J. Relative agreement of industry bids
K. Number of companies participating in the bids received for the block
L. Number of bids and bidders participating in bids received for other blocks on the same and other prospects
M. Number of companies participating in the offering.

(US DOI 1984a, 2)

The second-phase analysis would consider whether the bid count for the tract and the number of different companies bidding was higher than the average; how reliable the G&G data was for the sale area, and similar qualifications (US GAO 1985, 95–96). If a high bid exceeded the MROV, DMROV, or GAEOT, it would be accepted. If not, the regional manager could still accept the high bid if her analysis of criteria *D* through *M* showed that rejecting the bid might impose additional development costs on a prospect (US DOI 1984a, 2). The fair market value task force expected that most tract evaluations could be performed with the geological and geophysical data already on hand at the time of the lease sale, but added that additional data acquisition might be necessary for special cases (US DOI 1983c, 9). Phase I was estimated to last about three days, while Phase II analysis could take up to three weeks.[34]

[34] With area-wide leasing in place, one might imagine that the FTC and DOJ increased their scrutiny of OCS lease sales, and perhaps they did so behind the scenes. However, DOI Secretary Clark wrote on July 20, 1984 to James C. Miller, FTC Chairman, to complain that it took 8 days after a lease sale date for the FTC to complete its review of bids. Clark wrote, "I am concerned about the time being taken to perform

The fair market task force expressed concerns about the Gulf in particular, on whether MMS could implement the new system and complete is evaluations there in a timely manner. Because the Gulf basin is a proven province with excellent G&G data, area-wide sales could lead to an increase in the absolute number of tracts requiring analysis, the task force surmised. They proposed a number of solutions apart from greatly expanding the MMS workforce in the Gulf regional office (an unlikely event in the political climate of the 1980s). They proposed giving the regional office more discretion to either a) lengthen the time allowed for analysis, or b) grant the regional director "the freedom to broadly exercise professional judgment to augment or override more concrete, quantitative, and presale" procedures for evaluating bids (US DOI 1983a, 6–14). Gribbin's report admitted that this could introduce an unhealthy amount of bias into the system, prejudicing decisions towards uncritical acceptance of too-low bids, and even exposing the agency to litigation under the "arbitrary and capricious" review standard of the Administrative Procedure Act. The other option open to MMS was to adopt additional criteria for its bid evaluations that would further winnow high bids during the Phase I analysis, resulting in fewer tracts that required a resource estimate and placing the system on an even heavier marketplace-heavy orientation. In other words, as the task force's research had already demonstrated, incorporating proved and development tracts in the Phase I analysis boosted the amount of high bids accepted outright and not needing further analysis.

After conducting six area-wide sales, the DOI altered the two-phase system somewhat, in order to "strengthen" the review process. It ordered that a tract could be classified as non-prospective only if the MMS resource evaluation team had the data to back up that determination; having no G&G data available was no longer an adequate basis for accepting any high bid (US GAO 1985, 96). They stopped using the geometric average of bids in Phase I reviews; and also stopped comparing a tract's number of bids received to other tracts of the same classification in the sale (ibid.). This focused more of the bid adequacy analysis towards Phase II, or more towards the former method of studying each tract individually.

One final matter required a policy ruling before area-wide leasing began: what to do with a high bid received on a tract for which the last high bid was rejected. A Conoco representative asked Joe Gribbin about such a scenario during the fair market value seminar, and Gribbin acceded that his team had been through "a lot of hotly contested debates" on that matter, but ultimately concluded that an internal MMS rule for it was unnecessary (US DOI 1982e, 57). The task force considered including a Phase I criterion that would require the automatic acceptance of a high bid (of any amount) on a tract if it had been rejected in two consecutive lease sales. Gribbin argued against its inclusion as needless, saying that it would affect "virtually no" leases. More importantly, a lot could change in an offshore region over three lease sales—that is, over three years or more. "It's an issue," Gribbin said, curiously, "of when the government caves in to the marketplace" (ibid.). The prospect for a triple-rejection was indeed rare, but not impossible. MMS faced just such an issue in 1986, when the agency rejected a high bid over a deepwater lease in Mississippi Canyon Block 28. MMS rejected as insufficient to convey fair market value what it viewed as an artificially deflated bid.

Mississippi Canyon lies just to the southeast of the Louisiana Delta, where the Mississippi River meanders through the wetlands before dumping out in the Gulf. It is one of the Gulf's two most prolific hydrocarbon areas, and host to the first true deepwater development, at the Cognac fixed platform, affixed to the seabed in Mississippi Canyon (MC) Block 194 since 1978. Located at the northernmost edge of the protraction area, MC 28 is about thirty miles East-Northeast of Cognac and set in marginally deeper waters than Shell's mammoth production platform; water depths at the MC 28 block range from 1,290 to 1,972 feet.

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this review. . . the quicker the clearance is obtained, obviously, the quicker the leases are executed and total receipts are deposited in the U.S. Treasury miscellaneous account" (U.S. Department of the Interior 1984c, 1).

MC 28 was first bid on at Lease Sale 58A in November 1979—incidentally, the same year that production began at Cognac—by the Atlantic Richfield Company (ARCO). ARCO won the lease with a bonus bid of $25,125,000. Because the block was offered at this point under the tract nomination system, MC 28 was one of only four blocks in Mississippi Canyon included in the sale, and the deepest among them. The primary lease term for the tract was five years, and ARCO drilled into the block early in 1981 and again in 1982, down to 14,000 feet below the mudline. Unfortunately for ARCO, their wells came up short; they discovered hydrocarbons, but not in a commercially paying quantity. ARCO relinquished the lease three months early.

MC 28 was offered again under the area-wide system in May 1985, but did not receive any bids. By April 1986, Exxon believed they might have better luck with the tract than ARCO had. After forming a 50%–50% exploration partnership with Conoco to bid for and drill the lease, Exxon submitted a high bid of $1,718,000 to MMS for MC 28. After sixty days of review—the maximum period allowed—the MMS Gulf regional director rejected the bid, on the grounds that the cash bonus was insufficiently high. The Exxon–Conoco partnership was the high bidder but not the only bidder during the April 1986 sale; Sohio bid $1,625,000 for the tract. Undeterred by the rejection, when the next central Gulf sale was held in April 1987, Exxon upped its bid to $4,531,104. Again, Exxon outbid Sohio (at $2,380,000, this time submitted jointly with Kerr-McGee), and again, MMS rejected Exxon's high bid (see Figure 3.26.). Exxon was either uninterested or unwilling to raise its bid much further, and the tract was awarded the following year in March 1988 to the Sohio-Kerr-McGee venture for a bonus bid of $13,513,300—an amount nearly seven times greater than Exxon's first rejected bid.

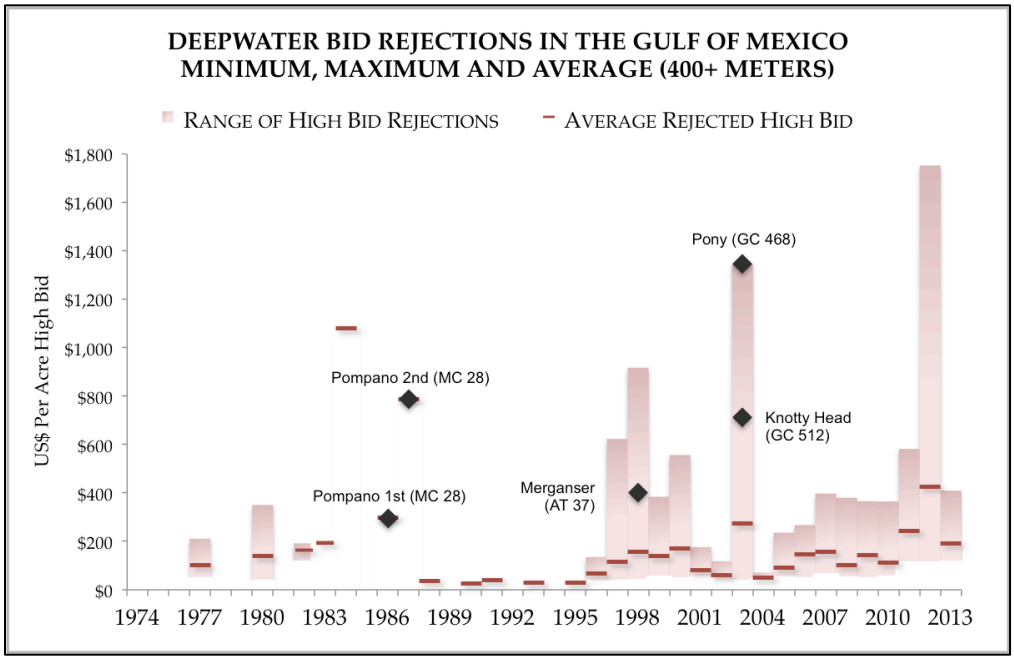

Figure 3.26. Deepwater bid rejections in the Gulf: minimum, maximum, and average rejected bid amounts per acre (400+ meters), 1974–2013.

Better G&G information and seismic interpretation capabilities have allowed the DOI to confidently reject some very high bids in recent years (*top of the red columns, 2003–2013*), but the average bonus bid amount of a rejected bid (*solid red marks*) remains very low. The 1986 and 1987 rejections of Exxon's high bid for the Pompano tract (MC 28) are pictured. Source: US DOI 2014a; US DOI 2014c.

Exxon did not slink away from the second bid rejection quietly. Exxon and Conoco separately filed with the DOI for its justification for the decision and an official reconsideration of the rejection. In a letter directed to Secretary of the Interior Donald Hodel, Exxon put forth several arguments why its second high bid of $4,531,104 should be accepted by MMS. Exxon wrote to the department that because they had submitted the highest bid for two consecutive lease sales—competitive bids at that, as the tract received two bids each time—the joint venture's valuation represented the fair market value of the tract (US DOI 1987a). The Exxon lawyers recapped ARCO's unsuccessful drilling campaigns in 1981 and 1982, and noted that both Shell and Texasgulf (which had submitted unsuccessful bids for the tract during in the 1979 sale) had opted not to bid again in either the 1986 or 1987. This meant, Exxon posited, that at least four companies had considered the tract competitively: Shell and Texasgulf should properly be considered to have each entered a bid of $0. Exxon also wrote that they had anecdotal evidence that an additional five offshore oil and gas companies had analyzed the tract but decided not to bid upon it.

MMS denied the Exxon–Conoco request and rejected their reasoning, concluding that the regional director had "properly rejected" both high bids (US DOI 1987c). First, MMS pointed out, MC 28 was designated a drainage or development tract for the 1987 sale in light of several discoveries recently made in the area. As noted above, this status automatically triggered a Phase II evaluation of the bid. In its second-phase study, MMS evaluated the G&G data and engineering reports for the tract, and generated the values necessary for an evaluation under Phase II review criteria A, B, and C: the MROV, DMROV, and GAEOT. Because MC 28 only received two bids in the 1987 sale, the GAEOT could not be used to assess bid adequacy. However, MMS's value estimate as calculated through its complex methodology and software—now called POSTSAL, after its new role as a post-sale analytical tool—calculated the MROV and DMROV to be $10 million and $13 million, respectively (US GAO 1985, 4). This result made Exxon's second high bid either 65% or 55% too low to be accepted, as MMS Acting Director David W. Crow wrote in a reply to Exxon. Either high bid was "considerably less" than the worth of the lease, Crow explained.

Exxon prodded MMS on this justification, too. The Exxon letter argued that because MC 28 had attracted just two bidders during both the 1986 and 1987 sales, MMS should not negate the sales but consider them collectively when assessing the 1987 sale. This would set the GAEOT value at $3,554,583, making Exxon's second high bid submitted in 1987 a full 127% of that figure, if used as a value estimate. MMS did not accept this (admittedly creative) argument. Conoco actually filed its own request for reconsideration under separate cover and tried to pick apart a different aspect of MMS's second rejection decision. Conoco contended that MMS erred when it classified Mississippi Canyon 28 as a drainage/development tract ahead of the 1987 sale, as the tract should have more properly been termed a wildcat (US 1987b). MMS agreed that some portions of the 5,760-acre block could be characterized as such, but that drilling activities in the adjacent lease and the discovery of hydrocarbons there greatly increased the likelihood that the hydrocarbon trap on MC 28 was part of the same structure. Both Conoco and Exxon had appealed to the spirit of the OCSLAA in supporting their claims; Exxon wrote that accepting their bid was "fully consistent with the Congressional mandate to encourage and accelerate exploration and development of high-risk, deep-water areas of the OCS" (ibid.). Exxon's letter also stressed the "extremely costly" and "time-consuming" work that had to be done to bring the field online, estimating that the time lag to first oil would be between five and ten years. But MMS did not budge, an action that netted the American people more than $11 million for the tract in the following lease sale.

Both bid rejections by MMS proved wise decisions. The Sohio–Kerr-McGee joint venture began drilling at MC 28 just six months after their lease became effective, and soon struck oil and gas. The discovery became known as Pompano, and after British Petroleum acquired Sohio in 1987, the development was fast-tracked as a major deepwater asset for BP. Pompano was developed with a fixed steel-jacket platform and began production in late 1994. The lease continues to produce as of mid-2014, and to date has produced over 75.8 million barrels of oil, 102.5 billion cubic feet of natural gas, and 345,000 barrels of natural gas condensate. While the $13.5 million acquisition cost by Sohio–Kerr-McGee for the lease

must be considered alongside the other leases that make up the Pompano unit, it is easy to compare that high bid to the estimated $2.9 billion dollars (nominal) in gross revenues extracted from the lease and agree that the two bid rejections were justified. Approximately $350 million of that total went to the federal treasury as royalties on production. Two of the most notable bid rejections that MMS has doled out since Pompano were for leases over the Pony and Knotty Head prospects, now refereed to collectively as the Stampede development. High bids of $7.8 million and $3.8 million were rejected in 2003, and awarded the following year for $35.3 million and $31.1 million, respectively (US DOI 2014a). Even with the increase in bonus bid prices, the field remains one of the hottest development opportunities in the deepwater Gulf today: recoverable reserves for the Hess-operated Stampede project are estimated to be as high as half a billion barrels of oil, and final investment decision contracts have been let to develop its reservoirs with a tension-leg platform in over 3,500 feet of water.

The MC 28 story is instructive insofar that it illustrates MMS capably handling a difficult bid adequacy evaluation issue in a relatively well-understood area of the Gulf. At the time, the Pompano field was surrounded by other drilling activity that provided good G&G data and insight into the probability that the tract contained commercial hydrocarbons. Other bid rejections made by MMS early in the area-wide program also resulted in net gains to the federal treasury: MMS rejected high bids totaling $102 million over 33 tracts during Lease Sale 72 in the central Gulf in May 1983; eighteen of these were bid upon in the following sale for a total of $201 million. The rejection and reoffering of the 33 tracts was a clear gain, even with the other 15 rejected tracts going un-bid-upon in the following sale (US GAO 1985, 41). With Pompano producing nearly $3 billion dollars of oil and gas to date, MMS was more than justified in rejecting both of Exxon's high bids. Even the Sohio–Kerr-McGee winning high bid of $13.5 million pales in comparison to ARCO's winning high bid in 1979 for over $25 million.

This observation is in line with most commentary about area-wide leasing and the depressing effect that it had on bonus bid totals in the 1980s. However, the timing of Exxon's bids, coming as they did at the nadir of the oil price slump in 1986 and 1987, muddies a direct comparison between ARCO's 1979 high bid and the Exxon bid levels. It depends on the eye of the beholder whether the fact that MMS gained an extra $9 million in rejecting Exxon's second high bid and accepting Sohio-Kerr-McGee's a year later was worth the effort, in light of the massive royalty revenues that MC 28 produced, and the possibility that the Pompano prospect could have started production sooner under an Exxon or Exxon–Conoco operatorship. It was fortunate for MMS that Sohio's winning bid in 1988 was higher than both the MROV and DMROV estimates from 1987, as it allowed a simple determination that the bid did indeed convey fair market value. Had Sohio's high bid amount been higher than Exxon's second rejection but lower than the DMROV, it is unclear whether MMS would have accepted the bid or rejected it for the third time in a row.

The back-and-forth among MMS, Exxon, and Conoco lays bare the difficulties of determining the value of a lease amidst dynamic commodity and asset markets, uncertain data, and the need to earn an adequate return on the natural resources for the US public. Even the application of quantitative, ostensibly "objective" criteria to the analysis of bid submissions could not yield mathematical precision. Indeed, in its petition Conoco questioned the classification of MC 28 as a drainage-development tract, a decision that ultimately rests on expert opinion. Exxon contended that MMS was underestimating the costs of developing a deepwater field on the MC 28 site, saying that the agency was using incorrect assumptions about the relationship of industry costs to the recent fall in crude oil prices. MMS's flat $10-million and $13-million value estimates further suggest that despite the agency's awareness of recent hydrocarbon activity adjacent to MC 28, its estimate of the tract's value was precisely that—an estimate, made under conditions of great uncertainty.

What, then, many have asked, is the purpose of bid rejection to begin with? To some observers, the bid rejection policy failed to achieve its aims even before the start of area-wide leasing. Between 1968 and 1983, where a winning high bid level rose after an initial bid rejection, much of those gains were eaten up by inflationary pressures, one study contends (Lohrenz and Dougherty 1983, 1953). Whether this trend

continued into the area-wide leasing era or not, this perspective overlooks the unspoken effect that bid adequacy evaluation has on the aggregate in regulating industry bidding behavior. Given the importance that the firms place on the proprietary nature of their bid submissions (as Shell Offshore's president pointed out above), fear of a bid rejection prevented firms from low-balling their bids on tracts across the board. Dealt a bid rejection in deepwater, a firm would not only lose the lease, it would also involuntarily signal to every competitor that it viewed the tract as prospective enough to pursue (and at what price). The preservation of bid adequacy evaluation procedures by the Watt-era DOI was a tacit admission that the OCS leasing game—despite operating as a fair market—still retained many of the characteristics of an auction. Exxon acknowledged as much while pleading its case to MMS in 1987 when it suggested that its second high bid, if only the agency would combine the bids from both sales and use the GAEOT review standard, would represent 127% of MMS's valuation of MC 28. Because of this fact, Exxon said, their high bid should be regarded as sufficient to convey fair market value. Running sharply against every argument made by operators during the early 1980s, here Exxon clearly stated that a high bid of 127% of the government's fair market value estimate exceeded that value, yet was in no way an amount in excess of fair market value.

5.3. Area-Wide Leasing Up Close

The results of the first area-wide lease sales must have been a surprise to anyone following the predictions of MMS fair market value task force. As reviewed above, the panel and other MMS officials expected that the new policy would not radically alter current leasing practices. What little review conducted on the premise prior to that time purported to back up that expectation: a 1975 study by the Congressional Office of Technology Assessment concluded that an expansion would likely reach a saturation point of around 5 million acres leased. OTA believed that offshore operators would not purchase more leases than they could reasonably drill within a five-year timeframe. Significantly, however, these studies had proceeded under the assumption that deepwater tracts would continue to be offered under the standard 16.67% royalty rate and 5-year primary lease term, not the generous stipulations that MMS put into place after 1983 and especially after 1986 (Boué 2006, 282). Under the relaxed conditions of 8- or 10-year lease terms and a 12.5% royalty rate, the first area-wide sales were indeed massive affairs. The first four auctions offered over 113 million acres up for sale, and a remarkable 6 million acres received one or more bids (see Figure 3.18). The first area-wide sales in the Gulf in particular also put up spectacular numbers, with deepwater attracting a great deal of interest. In the sales held between 1983 and 1986, industry leased 2,821 tracts in total in the Gulf, 674 of which were in deepwater (400+ meters). The slide in crude oil prices and rising anxieties over a possible oil glut dampened interest mid-decade, but not severely. In three years of area-wide leasing, firms snagged as many tracts as in every lease sale held between 1953 and 1978 put together. The flooding of the lease market was so profound, it noticeably drove down the price paid for new leases in nearby state waters (Jones 1990, 50).

The GAO was not as enthused as some were with the results of the early sales. In the summer of 1985, the GAO reviewed the first ten auctions held under the program, noting with caution that the natural result of increasing supply had indeed come to pass: competition for tracts had suffered, and bonus bid totals declined on a per-acre basis, especially in deepwater (see Figures 3.27. and 3.28.). In short, the massive sale sizes under Watt's program—so large that the reading of the bids at the first area-wide sale lasted five hours—decimated the amount of revenue that came in to the federal treasury, on a gross and per-unit basis. Watt's program also dampened the intensity of competition over individual tracts, which, as detailed above, was the generator that kept the government from receiving less than fair market value for new leases. This came as no surprise to those who had opposed an "acceleration" of offshore leasing since the early 1970s.

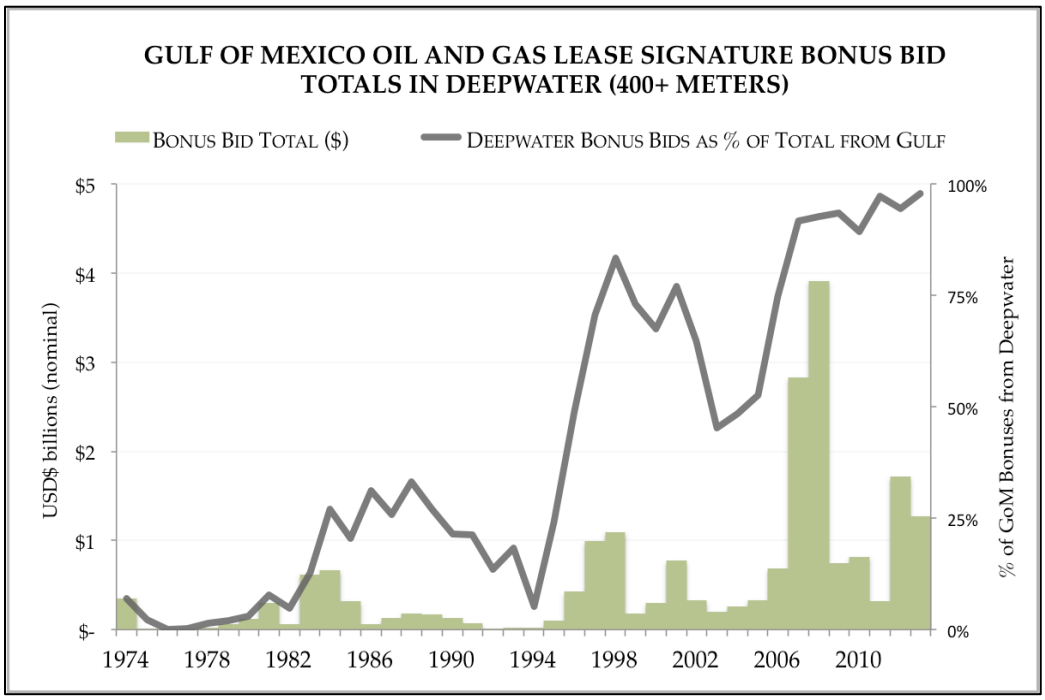

Figure 3.27. Gulf oil and gas lease signature bonus bid totals in deepwater (400+ meters), 1974–2013.

Deepwater now dominates lease sales in the Gulf, commanding nearly 100% of the total amount spent on Gulf leases in recent sales. Source: US DOI 2014a; US DOI 2014c.

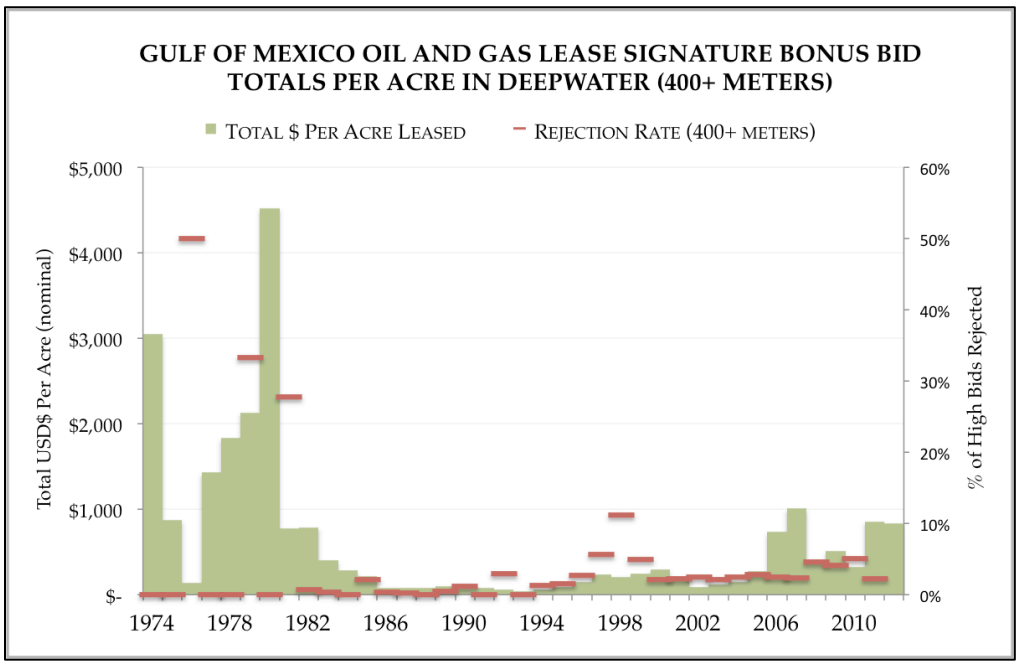

Figure 3.28. Gulf oil and gas lease signature bonus bid totals per acre in deepwater (400+ meters), 1974–2013.

Despite a handful of high-profile bid rejections in deepwater (like those at Pompano, Pony, and Knotty Head) almost all high bids submitted on tracts deeper than 400 meters of water have been accepted by the DOI. Source: US DOI 2014a; US DOI 2014c.

The average number of bids submitted per contested tract declined by 32% over the period, and the average per-acre bonus bid dollar amount declined by 74% to hit just $686 per acre, GAO reported (US GAO 1985, iii). The GAO also fired several salvos at the bid adequacy evaluation procedures outlined above that MMS used during the early sales. MMS evaluated about 42% of the 2,656 tracts that received a bid during the first ten area wide lease sales, a per-auction absolute total figure largely in line with the number of tracts nominated (and thus evaluated) during the tract nomination sales. Because MMS began accepting all high bids submitted on tracts that received 3+ bids, some leases were awarded in the area-wide sales that would have been rejected under past procedures. (Although most tracts receiving three or more bids during tract nomination lease sales were accepted, the DOI did reject 20 high bids on tracts attracting three or more bids during that period [ibid., vii].) The GAO also criticized the agency's use of the GAEOT in evaluating bids, noting that it prompted MMS to accept high bids on 26 tracts during the study period that were actually lower than the government's own value estimate (ibid., 36).

Interestingly, Parrish had made the same argument to his superiors at DOI against using the GAEOT before the first area-wide sale was held. A later in-depth study of the leasing market in the Gulf concluded that use of the geometric average serves as a "signal to bidders that MMS is prepared to assign leases in exchange for less than its very conservative estimates of their fair market value" (Boué 2006, 276). The GAO recommended in 1985 that MMS jettison its automatic three-bids-or-more acceptance rule in any situation where the agency had very reliable G&G information at hand (US GAO 1985, vi). For MMS to act otherwise was for it the agency to abandon its role as a "knowledgeable seller" in the leasing market, clearly jeopardizing the receipt of fair market value (US GAO 1985, 34).

The GAO reported that the evidence showed a "significant, negative and stable relationship...between the shift to the area-wide program and the number of bids received for each tract" (US GAO 1985, 63). The GAO did temper its conclusions somewhat, admitting that not enough time had yet passed to fully assess the program. That was a fair point to make; recent sale activity had flagged in response to the recent softening in crude oil prices, complicating a direct comparison between the two policies. As a result, the final conclusion of the GAO study lacked the bite of its individual findings; the report wanly said that the program needed further study sometime in the future:

> More time is needed for production to occur on lands leased under the program, and before the full effects on domestic production, imports, prices, employment, and total government revenues can be determined. For example...it takes 3 to 14 years after a lease sale for production to begin. (US GAO 1985, ii)

Econometric analyses conducted in later years on the methodology used by the GAO in this report cast some doubt on the validity of the GAO's conclusions that area-wide leasing was the primary cause behind the reduced number of bids per lease (Ashton, Upton, and Rothkopf 2004a, 27). A more rigorous analysis conducted in 1990 concurred with the GAO that the new policy led to a significant decline in competition, but the new study felt that the decline in competition was less exaggerated than the GAO had made it out to be. Still, the GAO's core findings were upheld: the policy shift to area-wide leasing caused offshore firms to submit fewer bids per tract, and they paid less on average to win a lease in the Watt era (ibid., 28).

Even though the GAO's assessment took a "wait and see" attitude, MMS did not wait to counter the critique. A week before the GAO report became public, MMS launched a pre-emptive strike by releasing a study of its own. An MMS press release announced that in the 18 months passed since the first area-wide sale, "there have been as many new fields discovered on leases issued in 1983 as were discovered from all the Gulf sales held between 1980 and 1982 combined" (US DOI 1985a, 1). It was a striking

statistic, especially to those unversed in the unpredictable workings of the offshore petroleum world. The press release pushed a second talking point: it would have taken the tract nomination system 9 years to lease as much acreage as the area-wide approach achieved in just 2 years (ibid., 2). This seemed to be prima facie evidence that Watt's acceleration worked. Another press release questioning the GAO's accounting premises was put out to coincide with the publication of the full MMS report. The GAO report did not, MMS contended, "estimate benefits associated with earlier receipt of government revenues, expedited exploration and expanded opportunities for the private sector, which more than offset any estimated bonus reduction" (US DOI 1985b, 1). MMS questioned GAO's figures, and also alluded to an outside study performed by Battelle Laboratories which concluded that an acceleration like that of area-wide leasing's would increase bonus and royalty payments by 1995 to the tune of $6 billion annually (ibid., 2).

Although the GAO acknowledged that it was too soon to fully assess the impact of area-wide leasing on the intensity of OCS competition, they never returned to reprise the study. Ultimately, the absence of a follow-up GAO report was mooted. Reagan's commanding re-election margin in 1984 cemented the policy gains made by the administration during his first term against an easy reversal by Democrats. The oil price collapse in 1986 further insulated the area-wide program from any changes that might threaten to harm the bottom lines of the struggling oil and gas companies. Although federal revenues from the OCS took a hit after 1983, offshore operators hailed the first area-wide lease sales as overwhelming successes (US GAO 1985, 10–12). Most firms interviewed by the GAO reported that the offshore competitive structure had changed for the better under area-wide leasing: more tracts were accruing to the small and medium-sized companies than ever before (ibid., 22). Combined with the restriction on joint bidding among the majors, the area-wide approach seemed to have brought about a wider distribution of lease holdings among all bidders (US DOI 1987d, 42). Competition at large seemed vibrant to those in the industry and within MMS.

Many have levied very strong and compelling condemnations against the area-wide program for being an unmitigated boon to the industry, one gained to the exclusive detriment of federal revenue totals (see Figures 3.27. and 3.28.). Indeed, one early estimate of the amount of revenues lost to public coffers pegged the total at $1 billion annually accruing every year after 1983. The GAO study found that depressed bonus bid levels during just the first three years of area-wide sales cost the government over $7 billion dollars (Farrow 1990, 82, 85).

Opponents did not cite these revenue loss estimates in isolation, however. Though a decrease in receipts is an undesirable outcome in and of itself, critics of Watt and the Reagan administration argued that bonus bid totals declined because competition declined on the OCS. The most intellectually nimble pundits attempted to counter the free-market premise behind Watt's policy by suggesting that the new market for leases was in fact less efficient than that in place under tract nomination. Though nomination sales could elicit very high bonus bids, those same bids served to allocate valuable offshore tracts to those firms best equipped to develop them through the price mechanism. This principle was only intensified by the greater expense and risk of deeper waters. Area-wide leasing, this line of attack continued, distorted this selection mechanism by placing entire swaths of the Gulf up for sale all at once. Bonus bid prices fell so low after 1983 that the brisk leasing activity was actually "locking up" the Gulf into the deep lease portfolios of the offshore operators, rather than opening it up to more exploration and development. Thus distorted, the market enhanced the profitability of the most successful firms rather than distribute value across the basin and its ecosystem of firm sizes. Indeed, what area-wide leasing wrought during the mid-1980s was exactly what Marathon Oil had warned Watt's DOI about: the sales were so large that the company could no longer compete across the board with the likes of Exxon or Shell. Other offshore firms dismissed Marathon's point, saying that the large incidence of single-bid leases in the early area-wide lease sales only showed that different companies "simply adopted different analysis and bidding strategies" (LeBlanc 1983). Marathon's fears were not far off the mark. A 1999 study by Pulsipher, Iledare, and Mesyanzhinov of bidding patterns in the Gulf found that Marathon consistently overpaid for

its deepwater acreage, relative to average per-acre acquisition costs in the basin (Boué 2006, 265). With its capability to assess offshore tracts spread thin, Marathon had to compensate for its small size and limited knowledge by paying a premium to get the new leases it wanted; or else, it risked losing its tracts to higher bidders and being shut out of the Gulf entirely.

At first blush, there is much to support the conclusion that area-wide leasing gave away deepwater leases on the cheap, forfeiting billions of dollars in federal revenue in the process. The two deepwater development projects that allow for the most direct comparison between the tract nomination and area-wide policies are Shell's Cognac and Bullwinkle platforms (see Figure 3.29.). Both are located just off the edge of the geological continental shelf in water depths past 1,000 feet. Each held the world record for the deepest offshore oil and gas production platform at its installation in 1978 and 1988, respectively. The design of Bullwinkle's steel jacket was based on the Cognac tower (see Volume II, "The Shape of These Monsters: from Fixed to Floating Offshore Oil and Gas Production in the Deepwater Gulf of Mexico, 1979–2005"). Despite these similarities, the difference in the fiscal terms of the two developments is striking.

Figure 3.29. Shell Oil's monumental Bullwinkle production platform dwarfs a Corpus Christi hotel being transported in January 1987 from Texas to its target site in the deepwater Gulf.

The platform sits in 1,353 feet of water in Green Canyon Block 65. The four leases over the Bullwinkle reservoirs were acquired over 1983 and 1984 for a total of $49.9 million in signature bonus bids.

Source: US DOI Online Image Library, Photograph ID number 141.

The four blocks that cover the Cognac reservoirs were acquired at a single lease sale in 1974 for just over $295 million dollars in bonus bids. The Bullwinkle prospect also rests underneath four tracts, which Shell acquired over 1983–1984 at a total price of $49.8 million. Whereas Cognac represented a technological and economic breakthrough in offshore oil and gas extraction as the first true deepwater development (exceeding 1,000 feet of water), Bullwinkle was the final entry in a series of extraordinarily tall, steel-based jacket production platforms. In 1,353 feet of water, the Bullwinkle platform sat at the outer limit of economic viability for a fixed platform; the size, quantity of steel needed, and difficulty in launching such a massive structure made anything larger than Bullwinkle an unprofitable endeavor. The leases that Shell acquired over the Bullwinkle prospect came at the beginning of a marked increase in

deepwater expansion ushered in by the area-wide leasing program and improved exploration techniques. Shell purchased the first of its leases over Bullwinkle at the first area-wide offering in the Gulf, Lease Sale 72 in May 1983. After discovering the field that October, Shell returned to the area in Lease Sale 81 in April 1984 and filled out its lease holdings around the flanks of the geological structure. After drilling an additional well in the area, Shell determined (or suspected) that the western edges of Bullwinkle's reservoirs bled over into two blocks that were not under lease to Shell or any other firm. Armed with this information, the company returned to the Bullwinkle area at Lease Sale 81 to bid on those two blocks missing from its portfolio. Shell was able to acquire the two western blocks over Bullwinkle at essentially the same per-acre bonus bid price as the blocks it picked up in May 1983 (US DOI 2014a).

The nearly $250-million difference between the cost of the Cognac and Bullwinkle leases was a product of the way that the DOI offered the tracts for sale. Under tract nomination procedures, Shell would have been forced to nominate the two blocks adjacent to the western edge of the Bullwinkle reservoir, in order to get those tracts included in the next lease sale, to be held in 1984. If DOI agreed to offer the tracts in the auction, every other bidding firm would see that Shell was seeking to lock up complete ownership over a potentially significant discovery—results from the exploration well drilled in 1983 would likely not be made public yet, but Shell's competitors could easily connect the dots even in the absence of that data point. This state of affairs would all but guarantee higher revenue earnings for the federal government from these two tracts. Moreover, the bonus bids for the two tracts would increase because of the presence of healthy competition among firms to secure them, not as a result of some monopolistic "restriction" of supply by the DOI. Shell would have to significantly increase its bonus bid amounts to win the leases, or else risk losing its full ownership of the Bullwinkle field. Otherwise, another firm could win the leases and thus gain a significant stake of the project's profits—or simply sell their interest in the leases back to Shell at a hefty markup.

On a per-acre measure, the Bullwinkle leases were approximately nine times cheaper to acquire than those lying over Cognac (ibid.). Adjusting for Cognac's greater productivity—it has produced roughly twice as much oil and gas on a barrel of oil equivalent (BOE) basis as Bullwinkle has to date—and differences in the areal size of the fields, the Bullwinkle leases were approximately 46% cheaper to acquire than those over Cognac. Plus, as noted above, the cheaper acreage prices were not the only loosened fiscal requirement attendant to the start of area-wide leasing. Deepwater acreage like that over Bullwinkle was sold with the statutory minimum 12.5% royalty rate on oil and gas flows, unlike the 16.67% rate stipulated for hydrocarbon production from Cognac. (Note that this analysis does not take into account the difference in crude oil prices between 1974 and 1984; however, all things equal, the Bullwinkle leases should have cost more since crude oil prices were about 26% higher than they were when Shell bought the Cognac leases, adjusted for inflation.) That Shell could so cheaply acquire leases over a world-class deepwater prospect like Bullwinkle seemed to point towards a fundamental flaw in area-wide leasing. The project went on to generate gross revenues of over $4 billion for Shell. Why had there been such little competition for the leases? Critics of area-wide leasing say that the culprit is clear: the new method of auctioning off leases made the government an unknowledgeable seller and its buyers similarly less informed than they had been in previous sales. This had to do with the fundamental information asymmetry that marks bidding practices on the OCS. Under tract nomination, the tacit price of entrance into the offshore bidding game was having to slightly "show your cards" before an auction: because tracts for sale had first to be nominated, smaller operators often decided to bid on tracts that the bigger firms had nominated (after spending stacks of money acquiring and analyzing pricey seismic data). Of course, this could sometimes lead to gamesmanship on the part of the majors; some firms would nominate tracts they had no interest at all in bidding on, to misdirect competitors (US Congress 1977a, 243). Nevertheless, on the whole, tract nomination gave the independents:

> A free ride of sorts on the ample financial and technological coat-tails of more capable players, allowing the former to concentrate and focus their limited resources more effectively . . . the [tract nomination] procedures induced the more advantaged players into revealing some of their

> ideas about the prospects of different areas, thereby rendering both the leasing authority and rival prospective bidders less ignorant than they would otherwise have been. (Boué 2006, 275)

Area-wide leasing decimated this careful balance, creating an information asymmetry among firms that could encourage a small handful of players to exercise oligopolistic power over the market (at least during the early days of the industry's exploration and advancement into the deepwater Gulf). Though area-wide leasing's anti-competitive effects were muted somewhat in deepwater (given its vast size and geological unknowns), had its procedures been in place from 1954 to 1983 when the offshore industry pioneered the oil and gas fields of the continental shelf's shallow waters, it is likely that the majors would have utterly dominated the scene.

Tract nomination sales were so successful in promoting competition and returning fair market value to the public because their structure all but guaranteed that bidding activity would be fierce. Nomination lease sales took place under "conditions of acute adverse selection," in which a tract was offered for sale only when a bidder could glean from G&G data some idea of its value (Boué 2002, 37). In such a scenario, a landlord like the DOI must rely on brisk competition among bidders to receive adequate compensation for that value; without it, firms will pay the bare minimum required for a tract and move on. The two-step tract nomination process reduced the "adverse selection" market characteristic, creating a feedback loop that provided firms with a better sense of where their competitors were looking for oil and gas deposits. Take the two western-most leases over Bullwinkle again as an example of this phenomenon. Because the two tracts were put up under an area-wide sale, the marketplace did not learn that Shell considered the area to be petroleum-rich until after the second sale ended and the tracts let. This precluded other firms from picking up the scent and considering submitting bids on the tracts, to the detriment of the bonus bid totals paid to DOI. The tract nomination system did not reveal any of Shell's proprietary bidding strategies or targets, of course. It simply matched what tracts the industry at large was interested in with what tracts the government then offered up for sale.

Much of the above draws heavily from the work of Juan Carlos Boué, an energy economist and scholar associated with the Oxford Institute for Energy Studies. In two monographs published in the early 2000s, Boué showed himself to be the most strident and analytically-sound critic of area-wide leasing to date. His opinion of the policy is best summed up by the title of his second work: *A Question of Rigs, of Rules, or of Rigging the Rules? Upstream Profits and Taxes in US Gulf Offshore Oil and Gas*. Boué's answer to the titular question is that the rules have indeed been "rigged" in the industry's favor. He too singles out for blame how easy area-wide leasing made it for firms to scoop up massive amounts of leases in the deepwater, and its anti-competitive effects. Boué sums up nicely the "policy failure that lies at the heart" of the decline in Outer Continental Shelf acreage since 1983:

> [Area-wide leasing] gave companies in the geo-scientific vanguard the means to put a corner on deepwater acreage way before offshore technology was sufficiently mature to develop it. A very different outcome would have been obtained had MMS doled out deepwater leases in a more controlled fashion. (Boué 2006, 235).

This is a compelling and attractive argument, and it finds much support in the evidence already presented in this paper. Had tract nomination continued after 1982, Boué surmises, "successful deepwater explorers would have been unable to cover their tracks" (Boué 2002, 86). Other firms eager to secure a foothold in the emerging deepwater basin would have "forced the party that had obtained encouraging information from proprietary surveying or drilling to pay top value for any adjacent tracts" (ibid., 86).

Instead of going into federal coffers, the difference between the cheap price of deepwater tracts under area-wide leasing and this "top value" of them in a competitive market went straight into the pockets of the oil and gas companies. In *A Question of Rigs*, Boué performs an analysis similar to the above between the Cognac and Bullwinkle fields, but done between Cognac and the landmark Mars deepwater development. He concludes that the incredibly high rate of return experienced at Mars was "*fundamentally* attributable to the benevolent fiscal environment created by [area-wide leasing]" (Boué

2006, 233–234; emphasis in the original). Using a discounted cash flow analysis to calculate net present value, Boué shows that the government received far less revenue for each barrel of oil extracted from Mars than it had at Cognac. Although the Mars field has produced well over half a billion barrels of oil equivalent—less than half of its total recoverable reserves—the area-wide lease bonuses paid by Shell for Mars accounted for just 1.1% of the federal revenues earned from the field (ibid., 230–232). Had the Mars leases been sold under the competitive tract nomination procedures, they would have fetched a much higher and fairer market price for the public while barely taking a dent out of Shell's profits from the field. In a cash-flow timeline for the Mars field that Boué reprints in *A Question of Rigs*, the negative costs of the lease bonus bids are so small compared to the positive gross revenue flows that the publisher had to superimpose two arrows on the figure in order to point them out for the reader—they are virtually invisible without the help (ibid., 232).

Boué's analysis stumbles when he discusses the lasting effects that area-wide leasing has had on competition in the Gulf deepwater market. He is convinced that the majors would dominate deepwater development projects, with BP replacing Shell in the early 2000s as the "basin master" of the region (ibid., 324). Although it was a latecomer to the deepwater, BP earned that position by aggressively building an ambitious lease portfolio, investing heavily in new subsurface imaging and seismic technologies, and assuming a very risky financial situation that paid off handsomely (ibid., 298). Because cheap area-wide deepwater leases flooded the market, Boué concludes as early as 2002, the majors had "sapped the vigour of competition" offshore and relegated the independents in the Gulf to "tidying up the scraps falling off the majors' table" (Boué 2002, 5).

This argument is based on a close reading of the area-wide lease sales in the 1980s and how bidding patterns among the offshore firms evolved into the 1990s. By looking at trends in how often rival firms of similar size and financial heft bid on the same tracts, Boué explains, one can tease out a good measure of just how much an over-abundance of open acreage diluted competition. Looking at ARCO and Amoco's bidding history over the course of eight lease sales held between 1986 and 1989 in the Gulf, he finds that the two firms submitted exactly 240 bids each. Building on research done by Ed Capen, Boué explains that because the firms used closely similar (if not the same) technology in deciding where to bid, their bids should overlap at least 50% as long as they were both searching for the best prospects in the Gulf. Instead, ARCO and Amoco's bids overlapped on only 17 tracts, or less than 8% of the time—a "merely chance overlap" in statistical terms, Boué notes (2006, 277). This is clear evidence that so much acreage was out on the market that the companies were rarely in competition against one other. Just as Marathon Oil had warned, the expanse of the new sales in the Gulf were so large that smaller firms were reduced to bidding for tracts on an almost random basis; or certainly, not after a comprehensive review of all open acreage. Finally, Boué marshals a bevy of evidence that indeed shows a dramatic decline in competition for new leases; for example, the percentage of high bids winning a tract at a per-acre price under $100 jumped from 14% to 65% with Watt's policy in place.

Boué's paean to the independents in the Gulf was clearly premature, but such is the benefit of a decade of hindsight. Since Boué conducted his research, the independents have, in fact, staged remarkable growth rates in deepwater operations. It is a popular but throw-away line that the frontier edge of the deepwater is suited only for those firms with "deep pockets," as two minor followers of the industry have said recently (Dlouhy 2014a; McCulley 2012). That viewpoint has been a popular tagline since at least the 1980s (Pendleton 1991). Even the extension of the deepwater frontier into the geologically-challenging and technologically-intensive Lower Tertiary play has not prevented a multitude of players from exploring and operating in the ultra-deepwater. Although it was the major oil company Shell that achieved first production from the Lower Tertiary at the Perdido spar in the Alaminos Canyon, both Chevron and BP have a heavy stake in the project—the legacy of their acquisitions of the mid-cap firms Texaco and Amoco.

Indeed, though the particulars of Boué's diagnosis of the crisis of competition in the Gulf are correct, his vision is too restricted to the lease sale market alone, and misses the changes over time wrought by more

global economic forces and the changing infrastructure and dynamics of the Gulf market. The area-wide sales stymied competition between ARCO and Amoco where there should otherwise have been a good deal of overlap; far more important to the competitive environment in the Gulf was the firms' assimilation into British Petroleum in 1998 and 2000, respectively. These two acquisitions more than doubled BP's share of the total tracts under lease in the Gulf (Pulsipher, Iledare, and Mesyanzhinov 2004). Unlike the bold and foolhardy early days of offshore drilling, the lease sale auctions are no longer as all-important to firm competitiveness as they once were. As deepwater drilling progressed, the use of post-sale joint ventures and participation swaps increased in popularity—a tool with which a small firm can effectively compete with a major in select situations, as their money used to "farm-into" a deepwater project is just as good as anyone else's. One thing that James Watt got correct was his goal of expanding the field of competitive vision past the lease sale, to encompass production totals, the control of offshore infrastructure, and other variables. Watt expanded the scope of the lease sale auctions in order to de-emphasize their significance to offshore development. Its influence on stimulating the vibrant deepwater industry in existence today cannot be discounted (Priest 2005, 222–223).

Still, the strong focus and keen analysis of *A Question of Rigs* on bonus bid levels and competition among bidders evinces what is perhaps the most fundamental flaw of area-wide leasing in the Gulf: its identification with Watt and the reactionary politics surrounding his tenure as Secretary of the Interior. Because Watt wanted nothing but wholesale reform of the OCS program, the details of his policies were spiked with the poison pill of partisan wrath. In turn, this identification of the area-wide approach with Watt has helped turn the OCS's tract nomination years into halcyon glory days in the minds of many. This has contributed to what has been at times an overly strong reactionary defense of tract nomination—as I believe Boué's to be—pursued in the laudable spirit of pushing back against the too-far fiscal relaxations of the area-wide leasing policy.[35] Watt and his team certainly failed to inoculate their area-wide leasing policy against such an attack, of course, by choosing to deride the tract nomination method as "repressive" and near-monopolistic rather than publicize their reforms as a way to modernize and update the OCS leasing system for a new era of oil exploration and production.

The strongest critics of area-wide leasing mistake "competition in the auction market" as the primary indicator of the structure of the offshore industry. In fact, their ire is better directed towards three smaller policy decisions made after 1983 and within the scope of the area-wide program. First, there was no reason why the DOI could not hold lease sale auctions run under the area-wide procedures but kept at a moderate size of 5 to 10 million acres, rather than the 20-million-acre and nearly 40-million-acre sales witnessed today. Or else, the size of a lease sale could be pegged against the number of bidders that register for an auction, against commodity prices, or any one of many significant variables. Second, the reduction in 1986 of the minimum per-acre bonus bid from a maximum of $864,000 per tract to $144,000 allowed firms to expand their acquisition of cheap frontier leases by a factor of six. "These tracts were a bargain at $25 an acre," remarked industry consultant Tom Marsh after one of the late 1980s blockbuster sales, "and these companies knew it" (*Houston Chronicle* 1988). Third, in 1983 the DOI Assistant Secretary for Energy and Minerals—on the advice of the Fair Market Value Task Force—decided against expanding the agency's bid adequacy evaluation system to conduct far more rigorous analyses for tracts located in frontier and deepwater areas. The task force reviewed the procedure, known as a "comparative analysis," and presented DOI with two options to implement it: either through regression analyses or the use of MMS's already-extant in-house leasing market model, known as TSL80. The task force unanimously recommended against the expanded evaluation process, concluding after exhaustive research into the TSL80 system that it would require more personnel and funds than they were willing to allocate to it, and that its procedures would be the most "difficult to implement and apply than those of any other

[35] Boué explained in 2002 that the most pragmatic leasing system available to the OCS was not a more moderate brand of the area-wide approach, but the resurrection of the tract nomination method with only some "tinkering at the margins" (43).

option" available to the Assistant Secretary (US DOI 1983c, 10). The Assistant Secretary rejected both options for being too expensive and time-consuming to implement (US DOI 1983c, 10). Even for a lease sale that covered more than 20 million acres, the use of a more stringent bid review process would have gone a long way towards mitigating the dilution of fair market value.

Perhaps the most durable effect of area-wide leasing was the precedent it set for a) relaxing fiscal terms offshore in general; b) moving the government's focus away from bonus bid revenues and towards royalty payments; and c) granting special dispensation for deepwater leases in particular. Central to Watt's selling of the policy was his promise that short-term declines in bonus bid revenues would more than pay for themselves through higher royalty payments in the future. However, because that economic trade-off is premised on a historical counter-factual, it can never be proven or disproven. And so, like a fleeting desert mirage or the summit of a mountain that seems to recede with every step hiked towards it, since 1983 area-wide lease sales have perennially promised an "eventual" or "ultimate" payoff of higher royalty revenues.

Chapter 6. "Washington's Worst Run Program": Revenue Shortfalls and Royalty Scandals

In the 1980s there was a running joke among certain Washington political circles that it takes ten bureaucrats to collect federal royalties: one to underestimate the amount owed, and nine to "make sure the payments get screwed up" (Eisendrath 1987). Royalty mismanagement in the USGS had been the subject of investigation since the 1950s. Concerns about offshore royalty assessment in particular had vexed President Nixon's White House Panel on Oil Spills as early as 1969, when OCS production was still a relatively small endeavor. Articles filed in the *Washington Post* and other major newspapers alleged millions of dollars in federal royalties lost to theft and corruption; or worse, to mere bureaucratic incompetence (Hogue 2010, 5). These concerns came to a head in 1981, when Watt chartered the Linowes Commission to investigate. The evidence they found was so convincing, and the remedies needed so clear, that they met their six-month deadline with ease. The Linowes Commission rightfully concluded that royalty administration was not a task properly located in the USGS's bailiwick. In essence, the commission found, "the [Geological] Survey has taken over a mammoth bookkeeping job from the industry, and has not been equal to the task" (Linowes et al. 1982, 18).

The most cutting part of the bureaucrats-screwing-up-royalties joke is that, even after decades of reform, there was still ample cause for it to be funny. For many years after Watt created MMS in 1982, the agency remained unequal to the task of accurately calculating, valuing, assessing and collecting royalties from federal and Indian lands onshore and off. MMS faced everything from banal administrative headaches to ethical and political scandals in the royalty program. Many of these scandals persisted even into the start of the Obama administration in 2009. As an agency in its adolescence, MMS struggled to accomplish the tasks recommended by the Linowes Commission. Those challenges were compounded by a 1982 law that partially re-structured the royalty system and put additional demands on MMS. The scandals in the early 1980s that helped spark MMS's creation detailed instances of theft and fraud at their most lurid moments, but the greatest villain to DOI's royalty management program after 1982 was far more prosaic: sheer bureaucratic complexity. The agency sat at the nexus of a constantly-growing workload, limited funding and personnel, and public scrutiny.

The advent of new data management and computing systems in the late 1980s and 1990s promised great efficiencies for MMS's work, but only if they could be successfully ushered through a protracted teething phase. The setting of rules for determining the value of production, especially offshore, only served to set up a political corps of industry and public interest groups that set administrative procedure within MMS as their target. A collaborative attempt by MMS and industry to simplify the mind-numbing maze of royalty complexities by accepting payments "in-kind" proved unworkable. The handful of isolated but regrettable ethical lapses mired the agency in scandal at its dissolution in 2010, a seeming bookend to the lurid newspaper clippings of oil theft and fraud that helped sire MMS in 1982.

6.1. Pushing the Red Button: Accounting for Computers

Royalties are notoriously difficult to oversee, especially on a scale as large as that of the federal government's oil and gas holdings. Behind this Sisyphean task is the sheer number of leases, of lessees, of companies and joint ventures that can together hold a lease, of hydrocarbon products and the sales and marketing arrangements for them (US Office of Technology Assessment 1990, 1). MMS estimated in 1984 that about 30% of its lease accounts changed their ownership structure at least once every year (US DOI 1984b, 75). The commingling of some hydrocarbon types, chemical and physical changes made to them during temporary storage, and differences among firms in measurement practices further complicated the task (ibid.). Crude oil volumes must be pegged to a standard quality for their valuation, as the amount of sulfur and other contaminants dissolved in the oil stream can alter its price widely. First, however, production sales volumes must be measured correctly, through the use of metering equipment that effectively "transfers" custody of the product as it flows. Oil and natural gas are also subject to

variability in temperature and pressure as they exit the ground, and thus must be conformed to a standard unit of measurement. Production is tallied in volume while royalties are derived from sales volumes, further complicating the issue. Add in the wide geographic scope of federal holdings, the many different types of hydrocarbons produced from them and constantly changing commodity prices, and it's not surprising why Congress avoided the matter until calls for reform crescendoed in 1981.

The purchase and use of new IBM 3081 mainframe machines to run the royalty accounting system so concerned and perplexed some in Congress that a Senate committee asked the Office of Technology Assessment to study only the hardware and database-related technical details of royalty collection and report back to the legislature. Congress's own Office of Technology Assessment summed up the Gordian knot of royalties in a lengthy but informative passage:

> Calculating the royalty owed on the value of production from a lease involves computation of product quantity and quality, . . . value, and processing and transportation allowances. A lease may have more than one owner and the products may be sold to more than one purchaser at a variety of prices. Production from a group of leases may be allocated to individual leases by agreement; these can involve combinations of Federal, Indian, State, and private lands . . . .
>
> Another factor complicating royalties is that many payers must estimate the amount due because actual volumes and prices are unavailable by the reporting date. Transportation and processing allowances also are normally based on estimates. The royalties and allowances due must then be adjusted when actual volumes, prices, and allowances become available. Finally, a substantial portion of mineral production is sold at less than arms-length, and values placed on intra-company transfers may not reflect market values. (US Office of Technology Assessment 1990, 8–9).

Royalty collection is the least glamorous aspect of overseeing the high-stakes oil and gas industry—especially offshore—and it is the least amenable to negotiation. The common thread that runs through the decades of debate over fair market value is the promise that all royalties owed would be faithfully paid in full. There was no room for a professional judgment as to whether a lessee had paid a sufficient amount as there was in adjudging a high bid for whether it rendered fair market value for a lease.

Watt's creation of MMS was for the most part directly responsive to the findings and recommendations of the Linowes Commission. Instead of being subsumed in an agency that had a scientific focus at its core (as the USGS name indicates), royalty collection under MMS would have its proper management as a singular goal of its leadership. Contributing to the USGS's chronic inadequate attention to royalty matters was the regional orientation of its organization (Carrigan 2013, 249). MMS's centralization of royalty management would further aid it in resolving administrative puzzles (see Figure 3.30.). That poor management was the spark behind MMS's creation became enshrined in its name underscores the nature of the problem at hand. Watt appointed Harold E. Doley, Jr. as the first full-time Director of MMS (US DOI 1983e, 2). The appointment was made after a national search was conducted, and his selection in light of that fact is an instructive one. Doley had served on the Louisiana State Mineral Board, responsible for the collection of royalty payments in state waters of the Gulf (ibid.). Thus well-placed to focus MMS's immediate management needs on royalty issues, Doley had his work cut out for him. Linowes had estimated, at the release of his commission's report, that the amount of royalty revenues slipping through the cracks could be as high as 10% of the amount successfully collected each year (Davis, Wilen, and Jergovic 1983, 393).

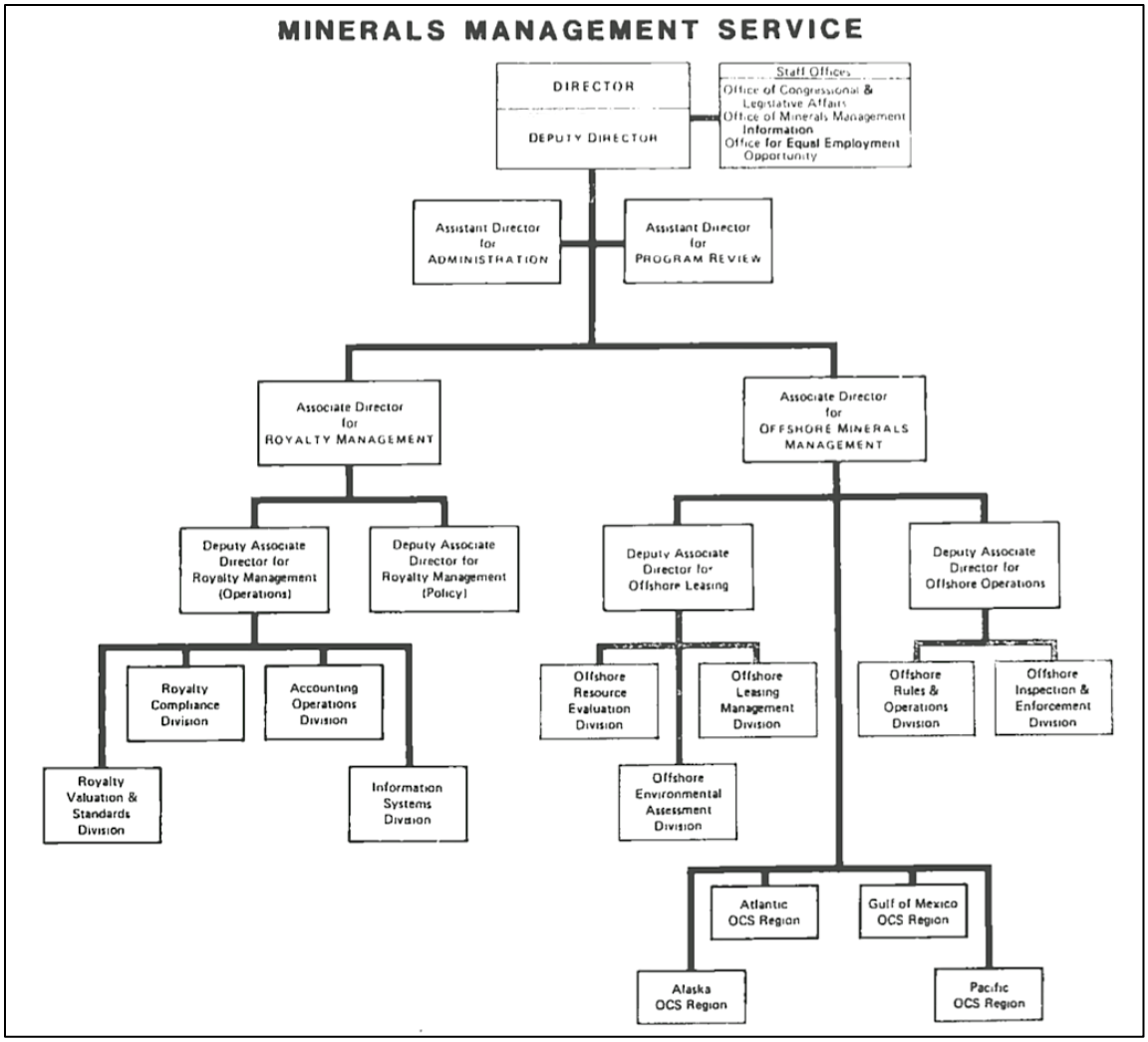

Figure 3.30. MMS executive organization chart as structured in 1984.

Note the division between the Royalty Management Program (RMP) and the Offshore Minerals Management Program (OMM), and that both Deputy Associates for Offshore Leasing and Operations report to the same MMS Associate Director for OMM.

Source: US DOI, Minerals Management Service budget justification for Fiscal Year 1985, 3.

The employees of the USGS were not oblivious to the problems within their organization. However, acknowledging those problems and getting the bureaucratic system to remediate them is another matter. In January 1981, just a week after Reagan's inauguration, USGS assistant division head for planning and assessment Bob Walker wrote a lengthy memo to the chief of the Conservation Division, in which he detailed just how entrenched its royalty management problems were. The memo addressed the management of the Conservation Division as a unit. Walker used the metaphor of the "Master-Apprentice" to describe how the agency's way of working had become ossified. "This [master-apprentice] approach may work very well," Walker wrote,

> with one man building a car, one man building a house, or one man doing a complete pre-lease assessment. The way that one man is able to do all these things is to serve a long apprenticeship under a "master."
>
> When the work accomplished must be responsive to demand, as it must be in the [Conservation Division], the "master craftsman" approach fails. There are never enough master craftsmen. This

> is typical of an organization such as USGS which views itself as a scientific organization . . . sufficient masters have not been produced to handle all the demands. The masters that do exist were produced by a process that is not now in tune with the existing operating environment of the Division. (US DOI 1981d, 1)

Walker said he believed that the staff of the Conservation Division had already recognized this flaw and moved to a more reasoned "division of labor" arrangement, but that it had done so without much budgetary planning or involvement from USGS management. This absence had placed a "new burden" upon them to provide a systematic framework for the new approach (ibid., 2).

Walker noted that royalty management had always been addressed in a reactionary mode within USGS. "The 'master' sits doing his thing until a problem is presented," Walker wrote to his boss. The master "never addresses [the problem] until an external source presents him with a crisis…Because we have had no planning system, nothing was done to begin to improve the Royalty Management program until the system was at a crisis. Now we find ourselves pumping money and people into a crash effort" that can only result in moderate improvements (ibid., 3). Getting the divisional leadership to plan ahead in order to deal with approaching issues was the rub. "The accountants in the field knew the old system was falling apart," Walker wrote, "but there was no mechanism for management to realize how serious the problems were until it was past time to try to make improvements" (ibid.).

As Secretary, Watt seemed to recognize that successful reform of royalty management would need a fair amount of sustained attention from the department's Under- and Assistant Secretaries. His DOI wanted to give the new Royalty Management Program within MMS a "new, separate and highly visable [sic] identity," so that future shortcomings would not fade into the bureaucratic woodwork. The Royalty Management group was allotted its own Associate Director—a seemingly small but politically important detail—and a staff of over 400 (ibid., 2). While still Secretary, Watt made sure to give the new program another tacit indicator of its heightened importance and status within his department by giving it a dash of personal, Secretarial attention. In a cabinet-level department the size of Interior, the Secretary is always somewhat of a celebrity to those within its ranks, regardless of their partisan affiliation. So on February 4, 1983, Watt traveled to the federal office complex in Lakewood, Colorado, where the bulk of the Royalty Management Program was located (and would be fully headquartered by 1985). He passed out 59 awards to MMS employees who had performed particularly well during the confusing days of the agency's reorganization. He touted a document released that day that announced that MMS had already completed or made significant progress on almost every recommendation made by the Linowes Commission. Watt also ceremoniously pressed a red plastic button to turn on a computer primed to run MMS's new automated financial accounting system, the creatively named Auditing and Financial System, or AFS (ibid., 1).

Such personal attention paid by the Secretary to employees who helped develop the new AFS system was critical. MMS Director Bill Bettenberg stressed as much during the first managers meeting of MMS staff, held in Anchorage, Alaska, in May 1982. Bettenberg said that the history of "poor" communication between those responsible for minerals management and royalty management had to be personally overcome by the new MMS managers themselves. "Both Minerals and Royalty Management must cooperate—the programs are inextricably linked and always will be," Bettenberg said. "The worst thing for the Royalty Management program would be to become 'just' the Royalty Management program—separate and distinct from the rest of MMS" (US DOI 1982d, 5–6). Although the first iteration of MMS had included just the revenue-related missions of the USGS, its final version incorporated all OCS-related operations located within the BLM and a section from the Office of the Secretary, an addition that helped create a "split personality" within the agency (Farrow 1990, 28). The magnitude of the OCS's contribution to overall revenues and the heightened politics over offshore leasing under Watt's tenure threatened to outshine the royalty collection program unless its growth was carefully cultivated by the MMS director and the senior leadership at DOI headquarters.

Watt's visit to Lakewood, Colorado came one month after President Reagan signed new legislation to revamp government efforts to collect every royalty penny due to it. The Federal Oil and Gas Royalty Management Act of 1982 (FOGRMA), passed by Congress in the autumn of 1982 and enacted early the next year, was designed to assist the new MMS in tackling the urgent shortcomings highlighted by the Linowes Commission. Congress gave the agency stronger authority to conduct rigorous lease audits and facility inspections, and to levy civil and criminal penalties against oil and gas companies that sent in tardy royalty checks or shirked payments altogether. The Act singled out the old accounting system used by the USGS as "archaic and inadequate" (96 Stat 2448). It directed the Secretary to create:

> A comprehensive inspection, collection and fiscal and production accounting and, auditing system to provide the capability to accurately determine oil and gas royalties, interest, fines, penalties, fees, deposits, and other payments owed and to collect and account for such amounts in a timely manner. (96 Stat 2449–2450)

The system that Watt activated with the push of a button in Lakewood had not been developed in the month since FOGRMA's enactment. The Conservation Division had last debuted a new data management system in 1978, the Royalty Accounting System (RAS). Under development for three years, it replaced the "single-entry, non-self-balancing accounting system" in place since the 1950s (Davis, Wilen, and Jergovic 1983, 394; US DOI 1984b, 76). Apposite to Bob Walker's memo to the chief of the Conservation Division, the system was upgraded between 1980 and 1981, but use of this "Improved Royalty Management Program" software was deferred while the Linowes Commission performed its work and until the Secretary outlined a comprehensive approach to building new information technology systems (Davis, Wilen, and Jergovic 1983, 394). A $4.8 million contract was let to American Management Systems to develop the new AFS, and yet another interim system was used while the AFS underwent field tests from July 1982 until Watt lit it up on in February 1983.

Bettenberg had warned his new MMS managers in the May 1982 meeting in Anchorage that the regulatory spotlight would soon fade from royalty management, once the department's—and Congress'—political focus moved on to Watt's OCS area-wide leasing reforms. Although DOI expended extra funds on MMS at its creation to hire more staff, reorganize its offices and get the agency on its feet, such largesse would not last, Bettenberg acknowledged. Even funds to develop better electronic data systems would dry up. Start thinking now about budget austerity, Bettenberg told his senior staff (US DOI 1982d, 2). Even though the Royalty Management Program was historically funded directly from the receipts of onshore federal leases, the amount still had to be appropriated by Congress—a fractious body then mired in heated struggles over tax and spending cuts (US DOI 1984b, 10).

The accounting systems that MMS set out to create had to encompass more than just a replacement of the antiquated RAS system. On December 3, 1982, Watt issued a secretarial order that transferred all accounting functions for onshore mineral leases to MMS; some accounting procedures has remained tied to existing BLM regulations (ibid., 70). In addition to the Auditing and Financial System, the agency pursued the development of two other databases, the Production Accounting and Auditing System (PAAS) and the Bonus and Rental Accounting Support System (BRASS). The BRASS database was to handle tasks associated with bonus bids and lease rentals. Although PAAS was focused on measuring and keeping track of the amount of oil and gas produced on each lease, it was designed in order to allow its data to be cross-referenced with the royalty data contained in the AFS, to help verify incidents of underpayment or underreporting of production (ibid., 69).

The Auditing and Financial System in particular proved vastly more difficult to design and implement than planned. Arthur Anderson was awarded an initial development contract for the system, and the firm suggested using three mainframe computers that the USGS already owned and operated (Eisendrath 1987). MMS then hired three other contractors to pursue a different path (in lieu of the Arthur Anderson approach), and the AFS unveiled by Watt in 1983 was built on three networked DEC VAX 11/780 mini-computers—and the first one was pushed to its limit by May 1982, after just 10% of the necessary data

had been uploaded to its drives (ibid.). The system's final tally was three times higher than budgeted for, and the volumes of data it had to process were so great that MMS had to acquire new computer hardware (the IBM 3081 mainframe) just to keep it running a mere two years after its debut (US DOI 1984b, 2, 71). MMS admitted that by 1983 they knew that the mini-computer approach had been "a mistake" (US DOI 1987g, 8). Even then, the changes made with the adoption of the IBM mainframe seemed inadequate, for the Office of Technology Assessment (1990, 4) estimated that its capacity too would be insufficient by 1991. The initial transition from the RAS to the AFS was problematic as well; at the first use of the AFS, over 40% of the lines of monthly revenue data inputted were rejected due to simple data matching errors (ibid., 21). The AFS database in theory was to encompass a multitude of accounting tasks: it was to process rental and royalty payments for billing purposes; determine revenue distribution totals for the states and Indian reservation payments; track payments made by lessees to MMS; and index all revenue payments, late payments, and delinquent accounts. MMS defended its early progress to Congress in its budget justification for the 1984 fiscal year, writing that the new AFS system followed Internal Revenue Service practices and had replaced the outdated method of bookkeeping from a lease-based level with one based on the lessee, or payor (US DOI 1984b, 77). By 1990, the AFS contained a separate account for each of more than 24,000 oil and gas leases onshore and offshore (US Office of Technology Assessment 1990, 17). The PAAS was to function as the other side of the AFS coin, or as an "extension" of it (ibid., 20). Whereas the AFS program tracked the proper assessment of royalties due and their collection, PAAS was supposed to make sure that the revenue totals reported to MMS by the companies accurately reflected actual production and sales volumes. Underreporting of production and underpayment could happen at either end of the royalty management system.

These technical considerations, mundane and eye-glazing as they are, are central to the story. Under bureaucratic and political pressures, MMS staff was forced to rush the relocation to Lakewood, assemble a new staff and create the entire AFS system in less than 18 months (US Office of Technology Assessment 1990, 15). This process, so similar to the "crash plan" under the USGS that Bob Walker had lamented, was no more successful than its predecessor. The OTA was not exaggerating when it called the first iteration of the Auditing and Financial System—or rather, both its hardware and software—an utter "disaster" (ibid., 14). The system was slow, unreliable, prone to crashing, and unable to process some of the basic accounting functions fundamental to calculating royalties (ibid.). The PAAS system was scheduled for a January 1984 delivery date, but that schedule slipped until 1985 for offshore and mineral leases, and it was not until 1989 that PAAS covered all onshore leases (ibid., 16). Even then, each MMS database used different definitions for data fields held in common, and all maintained separate, redundant information on lease accounts (ibid., 44). It would be years before the systems could incorporate data from the testing of production meters, a key point in the inaccurate reporting of valuable oil and gas production (US GAO 1984). The MMS director concluded in May 1982 that until the PAAS was finished, the offshore field inspectors of the Minerals Management division and the Royalty Management Program compliance employees would just have to work together to find a way to adequately monitor production reports and royalty payments (US DOI 1982c, 1). Over time, the slight under-calibration of a sales meter can result in many thousands of barrels of oil to be unknowingly—and without charge—produced from federal lands. At least one information technology creation of MMS could elicit praise from its employees—Parrish in 1982 described the bid evaluation system as having "more bells and whistles on it than you can imagine" (US DOI 1982e, 5)—but the systems developed to suck in and process production and sales data inspired as much dedication as one might expect from the name of the Auditing and Financial System database.

MMS was also hamstrung by how its data inputs were created to begin with. The GAO conducted an audit of the Gulf of Mexico OCS Region between 1983 and 1984, investigating the matter at length. GAO found the agency's reliance on "run barrels" to be a weak spot in its oversight of offshore production. To determine royalty payments, MMS-approved FMP meters, or Facility Measurement Points, measure the volume of oil and gas produced as it flows by the unit. By decade's end, the Gulf contained 386 FMPs for oil and 1,074 FMPs for natural gas (US GAO 1990, 2). Run barrels or "run tickets" were physical

slips of paper that recorded the volume of oil sold at a lease's sales point, which is often (but not always) located further down the line than proximate to the wellhead. A run ticket, the GAO noted, in part "provides the basis for federal royalty payments" (US GAO 1984, 3). Operators also submitted production reports to MMS for entry into the PAAS and AFS databases, from which royalties were calculated; the run barrel tickets provided a check against reported sales volumes, if they were used (US GAO 1990, 2). Royalties are assessed at the sales point, because oil and natural gas have undergone minimal processing by that point to allow for standard measurement (Davis, Wilen, and Jergovic 1983, 369). The GAO's audit of the Gulf, however, was hamstrung because MMS had not retained the run tickets from the previous year. The system was so inefficient that the run tickets were not reviewed or matched up against offshore sales meter data, which measures barrels flowed-through (but not sold) to check for underreporting. In fact, because some operators mailed their run tickets to an MMS office that did not use them, most were destroyed in April 1983 because they took up too much space in the building (US GAO 1984, 9).

Not surprisingly, GAO found this system to be fundamentally flawed. Its procedures gave DOI no assurance that it was accurately calculating the amount of offshore production, nor did MMS have any real ability to audit itself. The GAO report estimated that 106 million barrels of oil flowed through untested or unverified meters during 1982, because MMS had not received the required reports to verify their accuracy. Nor did MMS follow up when they did receive reports that a meter was inaccurate. Without an "effective production audit system" to actually monitor production and royalties paid from leases, USGS Conservation Division chief Don Kash had warned in 1982, "royalty management becomes an activity which operates in the abstract" (Kash 1982, 22). Verification in the field and not only in the abstract was indeed the keystone of a good management system. A MMS task force also compared run ticket volumes to sales volumes reported through AFS and PAAS, and after it found underreporting to be widespread, recommended that the agency compare run tickets to sales reports every month (US GAO 1990, 5). The recurring comparison of the two finally began for the Gulf in 1989—a full seven years after the Linowes Commission handed its report to Watt.

The difficulties encountered in creating and keeping up-to-date interoperable systems for production and accounting purposes made MMS's more general administrative tasks tougher, especially on the OCS. Of course, the better the system got, the more work was generated in the form of lost revenues to recoup and legacy accounting errors to correct. The MMS Royalty Management Program office in Houston faced one such difficulty in 1986, when it resolved an underpayment of royalties on natural gas liquids by Union Oil of California between 1977 and 1982. A DOI Inspector General investigation uncovered the underpayment while reviewing production records for the North Terrebonne Gas Plant. Union and Amoco co-owned three leases that produced gas that flowed through the plant, but Union had only reported its ownership share of the leases (86.667%) when reporting production volumes for royalty calculation purposes (US DOI 1987e, 1). Because Union and Amoco had an agreement whereby Union was responsible for actually rendering royalty payments on the entire holding, MMS concluded that Union owed $87,014.52 in back royalties for the period.

Union readily acknowledged that the underpayment had occurred, but it petitioned MMS to allow Union to deduct the payment from an outstanding refund owed.[36] MMS denied Union's request on June 29,

[36] Union Oil did not actually have an outstanding MMS account credit in June 1987. The company was petitioning MMS to reconsider a separate IBLA ruling that had denied Union a refund of $170,000 for alleged royalty overpayments made by the company dating back to the 1960s. MMS denied the June 1987 petition for reconsideration, because the two-year statute of limitations for refund appeals set forth in Section 10 of the OCSLA had passed (67 Stat 469). An unrelated appeal by Chevron for a refund of just under $980,000 for alleged overpayments on 82 leases in the Gulf was similarly denied by the MMS under the Section 10 standard (U.S. Department of the Interior 1987f). The Federal Oil and Gas Royalty Simplification and Fairness Act of 1996 extended this limitation period to six years (110 Stat 1711). The 1996 law also allowed for exactly the type of "offsetting" crediting that Union requested in June 1987, and narrowed MMS's ability to collect on unpaid royalties.

1987, citing a 1982 decision of the Interior Board of Land Appeals (IBLA) that an amount owed to the government could only be offset by a credit if they both came from the same lease (ibid., 2). The IBLA decision held that because "leases are assessed royalty on an individual basis . . . any offsetting must be similarly limited." Although MMS's rejection of Union's appeal thus rested on firm legal ground, the agency also explained in its denial that "[s]everal practical considerations" further supported their decision. Some of its reasons pertained to the legal complexities of offsets involving Indian leases onshore, but the most compelling reason was that an offsetting action was simply not possible within the confines of the MMS royalty accounting system. "The MMS accounting system, while payor oriented," the denial letter reads,

> is designed to account for an individual payor on a single lease. To require MMS to alter its accounting system to one which would account on a company basis, no matter how many leases the company holds, would be unmanageable and inefficient. (US DOI 1987e, 3)

In other words: it was nearly impossible to add a new data capability into a system of databases that could barely function with the resources already available to it. For example: companies owing royalties to MMS were required to submit a payor report each month. In accepting the report and its attached royalty payment, MMS credited the funds to the payor account, without recording which specific leases the funds were associated with (US GAO 1988, 7).

During fiscal year 1987, MMS entered nearly 2.4 million lines of oil and gas royalty data into the AFS. A full twenty-seven percent of the lines—648,000 in total—were rejected with a computer error. Each required further review by an MMS employee. Most were left permanently unaddressed simply due to lack of agency resources (US GAO 1986, 18–20). MMS levied a $10 fine on each line of royalty data that produced an error in the AFS database, a charge that several oil and gas companies appealed before the IBLA in the mid-1980s. The firms based their argument against paying the fines on the fact that MMS had failed to build a database that met the design objectives of the AFS; it was the agency itself, not the companies, that openly admitted that its software was "intolerant" and unwieldy (Conoco, Inc., MMS-85-0185-O&G).

6.2. Valuation I: A Victory

At the May 1982 MMS managers meeting in Anchorage, Alaska, Bettenberg reassured his new staff of his optimism about the outcome of the Linowes Commission inquiry. The panel had played a constructive role with its thorough investigation, Bettenberg said, and it was now up to MMS to follow through on its recommendations. The agency would need to continually "rethink" its procedures, and its staff would have "to be continually prepared to update those efforts" (US DOI 1982d, 1). Time and the slow accretion of better information technology capabilities across the federal government at large would eventually put most of the computing headaches at MMS to rest. One area that needed immediate attention from the top brass at MMS was the way in which a dollar value was set on minerals, and on oil and gas as they left federal land and entered the production stream. As the OTA summarized above, determining royalty amounts was so difficult because the value of the oil or gas commodity was subject to so many variables, including multiple price points, different deductible allowances for transportation costs, and the value correction required for oil and gas produced by a lessee but not sold on the open market. These issues, collectively referred to as "Product Value" or as the Valuation rule, were necessary to address, but brought with them any number of headaches. "Benchmarking" was valuation's biggest issue, especially in choosing how to set a value on non-arm's-length transactions. A thornier issue was related to the idea of "gross proceeds." At issue was a lessee's duty to market—did "production" mean everything that was emitted from a well, or did it mean hydrocarbon production "conditioned for market" (i.e., put into a sales-ready condition)? Conditioning involved removing water, sand, sediment and other solids from produced oil, and dehydrating natural gas and compressing it for transportation and sale. Offshore but especially deepwater fields posed yet another complication for MMS staff: what pipelines should be designated "transportation" pipelines, which allow the lessee to take generous deductions for the cost of their construction and maintenance, and which were properly called "gathering" lines, for which all costs were the sole duty of the lessee? The OCSLAA gave the DOI Secretary the authority to distinguish between the two types, and to require transportation lines to act in an open and nondiscriminatory fashion when purchasing and transporting oil and gas (Mogel 1982, 481–486).

A valuation rule for offshore leases was first promulgated by the USGS in 1954, right at the start of offshore leasing in the US. The Secretary has wide discretion to determine product value. The rule spelled out the basics: the regional manager determined the value of oil and gas production by referencing the product's posted prices, the price received by the lessee, and the highest price received for a significant amount of similar quality product in a nearby area (Schaumberg and Heath 2007, 5). Value, as defined under these rules, was equivalent to the "gross proceeds" gained from production. The USGS rule also allowed a small processing allowance for extracting natural gas liquids from gas production (ibid.). The USGS published superseding regulations in 1977, but they remained informal, never officially codified into the code of federal regulations. The Linowes Commission reported that the USGS (as it did with reports on the volume of production of oil and natural gas), accepted whatever value the operator reported "without verification" (Linowes et al. 1982, 64). By doing so, the USGS's informal regulations called for royalty calculations to be based on the "estimated reasonable value" of production, if it were sold in a "fair and open market" (ibid., 64–65). In theory and as directed by the Secretary, this meant that the value of royalty production must be calculated using the highest price paid for the product at the time of sale, unless there was "good reason to the contrary" why the highest price was unreasonable (ibid., 64). In practice, this meant that royalties were pegged to the sales price, which was often not reflective of the true open market price. By the time the Linowes Commission conducted its investigation, USGS had created a Product Valuation Unit to review prices and market conditions, but the Commission found its case-by-case approach unsystematic and depressingly futile (ibid., 67). On an administrative basis, integrating valuation figures and royalty deductions for transportation and processing would prove equally unpliable to incorporation into MMS's databases. As late as three years after MMS finalized its new valuation and allowance regulations in the 1980s, the AFS database could not capture the data that the rules required operators to submit. Cross-checking between the deductions

allowed for a lessee and those actually claimed had to be done by hand after the data was printed out from the AFS database onto office paper (US Office of Technology Assessment 1990, 33).

In response to the Linowes Commission's recommendations, MMS began drafting new regulations to govern oil and gas valuation in 1982, seeking to amend and standardize the old rules written by the USGS (US DOI 1987g, 3). Central to this effort was the concept that a lessee of federal mineral deposits has a "duty to market" or a duty to sell the government's share of production so that the public could receive, naturally, its fair market value. This duty required that lessees process or alter the hydrocarbon product up to a minimum standard of quality for sale, and physically transport the production to a sales point (Boué 2002, 120). Financial compensation received from such sales—to be termed "gross proceeds"—is the base from which royalties are calculated. This fairly simple structure, termed an "arm's-length" transaction when the purchaser is a third-party entity, becomes hopelessly complicated when jointly-owned or subsidiary firms are both the buyer and seller in a transaction. These internal, non-market-based transfers of oil or gas are termed "non-arm's-length" sales. The regulations written by USGS and later by MMS set the mechanism for a market price to be applied to these non-market transactions. They also provided directions for determining which price point should be used for genuine arm's length sales, as well as how to add up the costs eligible for deduction from a sale's gross proceeds.

MMS's technical reform measures continued to falter, however, sucking up most of the agency's bureaucratic attention. In December 1984, Morris K. Udall (D-AZ) released a report out of his House Committee on Interior and Insular Affairs on royalty mismanagement at the Service. The report found that MMS had arbitrarily dismissed all unpaid balances on accounts with payments due under $100,000, costing the treasury millions of dollars in revenue in the process (*New York Times* 1984). Bowing to the continued pressure on his department and a lack of clear reform victories to point to, DOI Secretary Don Hodel chartered an ad hoc advisory committee to address the issue. The Royalty Management Advisory Committee (RMAC) was asked to take a fresh look at MMS's royalty accounting systems and management, and much of its work dealt with the thorny politics of revenue distribution to the states and American Indian groups. The RMAC was also charged with developing the agency's first draft of the new federal oil and gas valuation rules. Secretary Hodel solicited nominations for the committee from Governors, states and industry groups, and Charles J. Mankin was named its chair. Mankin was the sitting Director of the Oklahoma Geological Survey, and had also been a member of the Linowes Commission. Including Mankin, the committee recruited thirty-one members to its ranks, and the panel reflected a healthy mix of backgrounds: twelve were from extractive industries, fifteen from the states and American Indian communities, and four came from public interest or environmental organizations (US DOI 1987h).

The Royalty Management Advisory Committee drafted a series of rules for the valuation of coal, mineral, and oil and gas volumes, in cooperation with the DOI. As Peter Schaumberg and Geoffrey Heath (2007, 6) explain, the intent of the new valuation rule "was to provide more detail on how a lessee was to value and pay royalty, thereby providing more certainty for the lessees." By November 1986, the RMAC was nearly ready to release its drafts for comment from the public. On November 17, MMS Director Bettenberg wrote to J. Steven Griles, Assistant Secretary for Land and Minerals about the impending release. "We have debated valuation issues for royalty purposes for several years now," Bettenberg wrote, and "in January we will finally issue proposed valuation regulations for oil, gas, and coal" (US DOI 1986c, 1). Bettenberg stressed the word "finally" in his letter because the road to finishing the rule changes had not been an easy one up to that point. The committee was unable to reach consensus (a 2/3 vote) when it voted in October on what recommendations it would make to MMS on the valuation issue, as there was a great deal of disagreement among its members over how to define "gross proceeds" (US DOI 1987g, 4; US DOI 1987d). Allegations that the DOI had "let the industry write" the valuation rules to be rubber-stamped by MMS unfairly stuck to the agency. In December 1986, MMS leadership seriously considered trying to boost its public image by organizing an hour-long primetime television "dive trip" underneath a production platform in the Santa Barbara channel in California. A Shell

executive recommended the idea to the OCS Policy Committee; his proposal would have had the on-air personality harvest mussels from the fixed platform's steel jacket before preparing them for his evening meal (US DOI 1986d). MMS did not bite at the idea.

Soon after the proposed valuation rules were released on January 15, 1987, some alleged that MMS had indeed asked the committee's representative from Conoco to write them. A lengthy article in *Washington Monthly* magazine published in April 1987 grabbed a lot of attention in certain District circles, and elicited a forceful defense from MMS. The article, "You think the NSC [National Security Council] is screwed up? Take a look at Washington's worst run program," by John Eisendrath, was filled to the brim with withering criticism of the royalty management program. Eisendrath wrote,

> You can always tell a government program isn't working well when the General Accounting Office decides it can save itself some work by starting each new report on a program with the exact same paragraph . . . "Historically, [the DOI] has not placed a high priority on the collection of oil and gas royalties," began the GAO's 1981, 1982, and 1983 reports.
>
> . . . . In 1972, the GAO reported that the USGS determined the value of oil and gas by relying on the price the company set—even when that company was selling oil from one subsidiary to the next. Not surprisingly, an examination of only a small fraction of producing wells exposed hundreds of thousands of dollars in royalties lost due to artificially low prices . . . . Nine years later the acting director of the USGS was again soberly assuring Congress that Interior was working on "a new accounting system that would solve the valuation problem." The system, he said, would be operating by 1984. There is still no such system . . . .
>
> Last fall Interior finally came up with a sure-fire way to solve the valuation question: it decided to let Conoco write the guidelines. By the MMS's own estimation, Conoco's proposal would have saved oil and gas companies $600 million. (Eisendrath 1987)

The remainder of the article is equally inflammatory in its tone, and Bettenberg struck back hard against its claims. Many of them were faulty. Bettenberg wrote to the editor of the *Washington Monthly* to express his displeasure, and attached to his letter a detailed, ten-page blow-by-blow debunking of the article's claims. Bettenberg did the same when he learned that *NBC Nightly News* was preparing a feature story on royalty underpayments at MMS, and he taped a lengthy radio interview with National Public Radio reporter Ira Glass about the controversy. NPR never aired the program; after the taping, Glass looked into Eisendrath's article further and concluded that even though it made some valid claims, it was on the whole too peppered with shoddy research to justify giving it any more media attention. Bettenberg was thankful for Glass's consideration and journalistic thoroughness, and wrote him to express his heartfelt thanks for Glass's efforts (US DOI 1987i).

"Clearly," MMS staff wrote in the rebuttal memo, "the Department did not let one company write the rules. The Secretary's Royalty Management Advisory Committee...could not reach a consensus on what policy recommendations should be forwarded to the Department. Nevertheless, MMS eventually adopted many of the work panels' recommendations in the proposed rules" (US DOI 1987g, 4). The memo also pointed out that many in Congress were concerned that the rules were too harsh on coal companies in particular. Two major issues were at play: determining what crude oil price should be used to calculate royalty revenue for non-arm's-length sales; and the setting of a single procedure for deducting allowances for transportation and other duty-to-market costs. MMS proposed that the basis for determining royalties be those "gross proceeds" realized under an arm's-length contract. The industry wanted certain types of taxes and reimbursements excluded from this definition, a change that would significantly reduce their royalty liabilities (US DOI 1986c, 1). Bettenberg explained the fracas in a memo to MMS staff in 1986,

All of the mineral leasing statutes [e.g., the OCSLAA] require a royalty as a percent of the <u>value</u> of production. We have always maintained that <u>value</u> was what a purchaser was willing to pay for the mineral. If certain taxes are imposed on production, the purchaser is still willing to pay these taxes to

purchase the mineral, even though the taxes are not revenues retained by the lessee. The taxes may increase the price of certain minerals, but they are still part of the value willingly paid by the purchaser of the mineral. (US DOI 1986c, 1; emphases in the original)

A series of cases before the DOI Board of Land Appeals backed up Bettenberg's explanation. If a Conoco employee had indeed written the rules, then he or she must have had a bone to pick with their employer: the valuation rules were in no way a concession to industry pressures. The final regulations were promulgated on January 15, 1988, largely unchanged from the draft versions released the year before.

Under the new oil valuation rule, "gross proceeds" for an arm's-length transaction were indeed defined as all financial compensation received from a sale, including any premium (or discount) the buyer might receive (US GAO 1998, 5). Where product sales occur outside of a market transaction—which has traditionally included the vast majority of oil sales from federal lands (Boué 2002, 120)—the regulation called for royalties to be calculated from the higher of the gross proceeds realized, or the "first applicable valuation method from the following list of five alternatives:"

1. the lessee's posted or contract prices,
2. others' posted prices,
3. others' arm's-length contract prices,
4. arm's-length spot sales or other relevant matters, and
5. a netback or any other reasonable method." (US General Accounting Office 1998, 5)

The end result of the new rule was that "if the lessee sold oil or gas at arm's length, the gross proceeds derived from the arm's-length sale was [set as] the value (not just the minimum value) of the production" (Schaumberg and Heath 2007, 6). In other words, if hydrocarbon or mineral products were sold outside of an arm's-length transaction, its value would be pegged to one of a series of price "benchmarks." This was a major change from previous practice, where royalties were assessed only on "net proceeds"—a firm's profit margin alone. Some in the department and Congress expressed concern that the rule would not fix the problem of MMS's reliance on operators to honestly report their sales figures (US Congress 1987, 145). For the OCS in particular, MMS officials believed that the regulation would have "little, if any, overall impact" on royalty payments from offshore leases. Although the changes made by the new regulations to processing allowances for natural gas might bring in additional royalty funds, MMS explained, other changes in the rule covering transportation costs would diminish revenues slightly (ibid., 168). The changes would likely be a wash when it came to revenues.

The rules also laid out allowances for gas processing (including natural gas liquids extraction), and for transportation (Schaumberg and Heath 2007, 7). The DOI's policy stance since 1961 was to grant transportation allowances "when production is moved to a sales point off the lease" (US Congress 1987, 94). The courts have long upheld the validity of taking such deductions (ibid., 186), on the premise that if a lessee is required to convey production away from the lease in order to sell it—and that point also happened to be where royalties were calculated—then the cost of transportation to that point was deductible from gross proceeds when calculating a royalty bill (Schaumberg and Heath 2007, 7). The regulations established comprehensive and detailed procedures for calculating actual transportation and processing costs, an important change; prior to the 1988 rule, offshore processing allowances varied from onshore practices and were not tied to the costs a firm actually incurred for processing services (US Congress 1987, 34). Before 1988, deductions for Outer Continental Shelf pipeline transportation costs were based on a fixed formula that took into account depreciation and a firm's rate of return (ibid., 189–190).

Despite the allegations made in *Washington Monthly* and elsewhere, the regulations were no industry flimflam. The DOI Inspector General DOI concluded that the new valuation rules would decrease the

processing allowance for offshore lands, causing fewer deductions from royalty payments (ibid., 34). This increased the royalty burden on offshore oil and gas firms. The regulations allowed the deduction of "reasonable actual costs" involved in oil or natural gas transportation offshore, but limited the deduction to no more than 50% of the royalty value of the product. Natural gas processing allowance was set at a maximum of 66.7% of the royalty value. MMS reserved the right to consider allowing an additional deduction for "exceptional" or "extraordinary" costs incurred in frontier or deepwater areas, but such consideration was not required in the rule. Predictably, the industry called the cap on deductions overly restrictive and ignorant of the plight it faced in the hostile offshore environment.

The Conoco member on the Royalty Management Advisory Committee was a man named Roger L. Abel, a general manager for Conoco's offshore and frontier production operations across North America. Although he helped craft the committee's early versions of the regulation during 1986, Abel expressed displeasure with the proposed rule by the following year. In particular, Abel thought that the transportation and processing allowance caps were too strict, and would harm development in the costly deepwater Gulf. With the advisory committee's work on valuation behind him, Abel wrote to the Assistant Secretary for Land and Minerals Management on April 14, 1987 to provide further input. "I fear the only significant domestic reserves remaining to be discovered are in the deeper offshore and remote areas," Abel wrote:

> These [deepwater] areas will be faced with development and transportation costs heretofore unimaginable; and the regulations speak to such costs as though they were located onshore—where only a relatively small amount of royalties are collected. The entire set of valuation standards need to be reviewed to eliminate this bias. (US DOI 1987j, 1)

Abel's comments predictably touched upon the definition of "gross proceeds" and other issues, but focused on deepwater production practices. He explained dispassionately that Conoco and other operators must be allowed to recover their cost of capital from pipeline investments, but that the new valuation rules followed a "simplistic and grossly unrealistic" manner of calculating costs and debt levels in determining a fair rate of return (US DOI 1987j, 2). Exxon expressed similar concerns to the DOI in late 1986. Exxon Senior Vice President C.M. Harrison wanted the use of cost-based allowances totally abandoned whenever a sales transaction occurred in a non-arm's-length situation. Harrison derided the caps as "arbitrary" limits set by the government "without [any] justification" or reason. He recommended that MMS allow the costs set by the contract for a non-arm's-length sale to serve as the basis for measuring deductions (US DOI 1986e, 2).

Both Conoco and Exxon made detailed arguments to MMS officials during 1987 that deepwater technology in the Gulf had outpaced the old valuation principles that MMS continued to adhere to in revising its regulations, and that the strictures would be ruinous to deepwater firms. The industry felt that the main objective of the new valuation regulation was nothing more than the "minimization of transportation cost allowances" (US DOI 1986b, III-2). Exxon's general counsel petitioned MMS to keep in mind the "enormous expense of offshore platforms" (ibid., 5), a curious request to an agency that was almost entirely dedicated to the promotion and regulation of offshore production. Exxon explained that the costs for "gathering" pipelines in deepwater were significantly higher than MMS realized. In making this argument, Exxon went against decades of OCS tradition and blamed the over-large size of OCS blocks for the situation. Exxon wrote,

> Whereas gas onshore leases are usually 640 acres in size (1 square mile), offshore leases are usually 5,760 acres (9 square miles). Thus, on-lease gathering lines can be very long particularly when large units are formed from several leases. Offshore gathering lines thus more closely resemble extensive off-lease transportation facilities. (US DOI 1986b, I-3).

In other words, Exxon wanted any gathering line longer than a mile to be treated as a transportation line, and the cost of all processing equipment (like compressors and gas dehydrators) in water depths beyond 400 feet to be eligible for a deduction (ibid., I-4). MMS was not swayed by this argument. MMS

Associate Director for Royalty Management, Jerry Hill, responded to Exxon's points in an internal memo to his bosses:

> Exxon argues that royalty owners [the federal government] should share in more of the production costs because of the high cost of developing OCS leases, particularly in deep water . . . . All this would be in addition to the incentives already granted the industry to encourage development of deep water tracts such as reduced royalty rates . . . . Exxon presented no convincing evidence that the competitive bonus bidding system for fixed royalty rate leases does not adequately deal with the relative costs of deep water versus shallow water development or that the Federal and Indian lessors should surrender more of their royalty monies to support the offshore industry. (US DOI 1986f, 2)

To date, MMS had routinely upheld this principle in administrative decisions. On April 9, 1986, the Gulf regional manager of the MMS Royalty Management Program ordered Union Texas Petroleum Corporation to pay an additional $14,038.16 in royalties on oil production from two Outer Continental Shelf leases. Union had accepted from the firm that purchased its crude a 20-cent-per-barrel reimbursement for transportation costs, a discount that MMS considered part of the "gross proceeds" from the sale. Union appealed the order in June 1987, but MMS concluded that because the reimbursements "were an incentive to sell oil to certain purchasers," they were not tantamount to a transportation deduction allowance, even though Union incurred additional costs in moving the oil to the specific buyer (US DOI 1987k).

Conoco's Roger Abel returned later in 1987 with a more detailed argument about the special nature of deepwater costs as they related to transportation and processing. In August, before a House of Representatives committee hearing reviewing OCS issues, Abel warned that the rules would severely impact offshore development (US Congress 1987, 23). Abel stressed one technical detail as requiring special dispensation by MMS: the need to locate on deepwater platforms very expensive equipment for post-production processing. That requirement greatly increases a development's overall cost, which is reflected in "the overall design and the construction costs of the platform itself," Abel said (ibid., 24). Abel put the issue into more concrete terms when he described to for members in the lower chamber Conoco's most recent development in the deepwater Gulf, the innovative Jolliet tension-leg well platform, set in 1,722 feet of water (see Figure 3.31.). Processing equipment that needed only about $1 million dollars of structural support when placed on a traditional, shallow water platform, required "about $2 to $4 million in additional structural support" when placed on the Jolliet TLWP (ibid.). With those extra expenses not eligible for a deduction, Abel said, Conoco should "at least be granted an allowance" for the extraordinary costs it was incurring. "One other detail," Abel added as a well-timed aside, "the cost of the project is about $400 million" (ibid.).

Figure 3.31. Conoco's Jolliet tension-leg well platform (or TLWP), set in 1,722 feet of water, began oil and gas production in 1989.

Located in deepwater but close to the edge of the continental shelf, the Jolliet system was designed to allow the bulk of its heavy hydrocarbon-handling equipment to rest on a cheaper, shallow-water fixed platform of conventional design. Source: US National Oceanic and Atmospheric Administration, Ocean Explorer Photo Library

Abel presented in his spoken and written testimony an analysis of how the different options before MMS for determining deepwater transportation and processing allowances would affect the Jolliet project. Under the current and proposed MMS valuation rules, "the project is unattractive," Abel repeated. After detailing the industry's desired position—in which the federal government would finally be "paying its fair share" for processing and transportation costs to market—Abel wrote that "the project barely begins to become interesting" (ibid., 25).

Conoco's argument was not without merit, but it was hardly convincing. Only about one or two minutes passed in the hearing between Abel saying that Jolliet was economically unattractive without relief from the government, and his exaltation of how technologically path-breaking the innovative platform was:

> Drilling and construction activities are underway on the Jolliet project offshore Louisiana. This project utilizes the very latest in technology to develop reserves in 1,760 feet of water, a world record for development. (US Congress 1987, 26)

Clearly, Conoco had long since decided that Jolliet was indeed economically "interesting" enough to pursue no matter if MMS promulgated the least favorable valuation regulation option available to them. Jolliet would prove to be a milestone development in deepwater, the first tension-leg platform of many installed in the Gulf, and the first successful floating development in the deepwater Gulf. (See Volume II, "The Shape of These Monsters: from Fixed to Floating Offshore Oil and Gas Production in the Deepwater Gulf of Mexico, 1979–2005.")

The great irony—or genius—of Abel's testimony is that the Jolliet platform actually relied quite heavily on a conventional shallow-water platform, called a Centralized Production Platform (CPP). This platform stood in only 616 feet of water, just a short distance north of the Jolliet TLWP, its close proximity enabled by Jolliet's location just off the edge of the continental shelf. The CPP hosted no actual oil or gas wells, but only equipment to process and condition production before export through pipelines to shore.

Conoco's ability to use the CPP at Jolliet was thus a "major" contributor to the project's attractive economics (Rench et al. 1993, 1–3). The "W" in TLWP reflects this unique use of a deepwater floating platform connected to a shallow-water support facility; the tension-leg well platform only supports the wellheads and marine risers. Only bare-bones processing equipment was needed on the TLWP vessel to push the oil and gas the 10 miles (and roughly 1,000 vertical feet) north to the CPP. While future deepwater facilities would have to be enlarged in order to support heavy post-production processing equipment, the Jolliet TLWP was an exceedingly poor choice for an example why operators like Conoco needed "at least" a partial rebate on their deepwater facility costs, as Abel said. The equipment for oil de-gassing and de-hydration, solids removal, gas de-hydration and compression were all located on the CPP; that is why Conoco and Exxon had asked that MMS set the threshold for deepwater processing deductions at 400 feet and not 400 meters—where MMS had previously set the dividing line between shallow water and deepwater leases (ibid.).

6.3. Valuation II: A Quagmire

MMS would attempt to revise the oil and gas valuation rules about a decade later, starting the formal revision process in December 1995 by requesting comments from industry and the public on new ways for placing a value on oil and gas. As the industry evolved after the oil price crash of the mid-1980s, questions arose about the continuing validity of using the posted price for valuation, as firms were selling crude oil for more than the posted price. The Project on Government Oversight, a private non-profit watchdog group, hammered MMS with allegations that internal transfers of crude oil within California operators was costing taxpayers billions in revenue (Project on Government Oversight 1995). MMS was particularly interested about what effect the posted price of oil had on royalty payments from non-arm's-length contracts; the agency had grown wise that the use of the posted price was often just a "beginning point for negotiation" and did not necessarily reflect fair market value (*Federal Register* 1995). An interagency task force of DOI, the Department of Commerce, and other federal personnel investigated reports of underpayment and unanimously recommended changing the oil valuation rule to deemphasize the importance of the posted prices. Soon after, MMS created a standing Royalty Policy Committee to serve in a similar capacity as the RMAC had after Secretary Hodel created it a decade before.

Revising the regulations would prove to be a protracted and bruising battle for MMS, much more so than the initial revision made in the 1980s. The final oil valuation rule would not be published until March 15, 2000, after facing strong opposition from petroleum state representatives in Congress as well as an oil industry that had grown increasingly effective in its lobbying efforts on Capitol Hill. The regulation's main effect was requiring oil spot prices to be indexed against nearby market transactions, rather than using generic benchmarks to determine value (Deal 2008, 3). MMS estimated that the change would bring in an additional $66 million per year in royalty payments, as well as avoid protracted litigation in the future. The change threatened to affect both non-arm's-length sales as well as internal firm transfers, and the industry mounted a concerted campaign effort in 1996 to scuttle the regulation over the duty-to-market costs. Typical of the industry's response was the Independent Petroleum Association of America's (IPAA) comment that the new rule could force independent oil and gas companies to pay royalties on "phantom proceeds" (Ward 1996, 2). The IPAA offered up a solution to its governmental counterparts: if only "the federal government took its oil in-kind and sold it at the wellhead," they wrote, "it too would receive proceeds based on posted prices[,] thereby demonstrating that such prices are fair market value for that area" (ibid.).

Members of Congress sympathetic to the industry temporarily blocked the promulgation of the rule in 1997 through use of an appropriations bill rider—as had been done with the OCS moratoria—to prevent the higher royalty assessments from going through. Lawsuits brought by critics of MMS's royalty management practices had garnered attention from the Justice Department, and at least one company—ARCO—voluntarily corrected its alleged royalty underpayments by refunding $524 million to the

government (US Congress 1998a, 20). Other firms like Chevron settled for sums in the tens of billions of dollars. One negotiation meeting held between MMS leadership, prominent oil state Senators and industry leaders in July 1998 yielded little agreement among them as the rule proceeded through the public notice-and-comment process. Jack Little of Shell Oil said that MMS had "regressed" in its stance on price benchmarking, marketing costs, and duty-to-market issues (US DOI 1998, 2). The minutes of the meeting illustrate the sheer complexity of the issues at hand; at one point, two MMS employees—one of whom was the agency's very capable director, Cynthia Quarterman—seemed to be unclear on several details of the valuation rules already in place (ibid.). As the final rule emerged, MMS took flak from government groups that the new rule was too sympathetic to the oil companies, and from the industry that the rules were too strict; MMS took it as good evidence that the rule stood a good shot at achieving its goal of streamlining the valuation process without dramatically increasing the financial burden on any one stakeholder. Eventually, after years of public comment periods, multiple drafts of the proposed rule and seemingly endless workshops with industry and state representatives, the new valuation rules went into place in March 2000, despite continued industry opposition.

Far less contentious than the posted prices issue, the deductions on transportation and processing costs resurfaced as another concern pressed by the industry, again especially for leases in the deepwater Gulf. Offshore transportation allowances granted in 1997 totaled $47 million dollars, whereas only $242,000 in onshore allowances was granted the same year (Lorenzetti 1998a). Recognizing that deepwater technology had advanced and proliferated exponentially since the valuation revision process began over a decade previously, MMS solicited comments in October 1998 on how to make more technically-informed decisions on classifying deepwater pipelines as either gathering or transportation lines. Advanced use of subsea production systems in deepwater only highlighted the need for a more precise taxonomy. The agency asked for input on how water depth, distance from shore or to a pipeline, getting products into marketable condition, and the on-lease versus off-lease criteria affected deepwater production (*Federal Register* 1998b). The American Petroleum Institute (API) lobbying group explained that under the 1988 rules, promulgated when deepwater production was still in its infancy,

> MMS found that . . . off-lease movement, or "gathering," did not qualify for transportation. The lessee, who for its convenience had moved production to a central accumulation [point] at reduced facility capital cost and enhanced lessee profitability, was not allowed to also take a deduction by classifying this movement as transportation. This is not the case for subsea production where physical treatment of production is not feasible [on the seafloor]. (Rubin 1998, 3; emphasis in the original)

Because the movement of oil and gas through subsea lines to a processing platform significantly enhanced the value of that production, API wrote, those lines should receive a standard (and not case-by-case) classification as transportation routes (ibid.). The API also argued that the gathering/transportation dichotomy ignored the longer distances that deepwater production had to travel before reaching shore (Lorenzetti 1998b). Perhaps pushing its luck, API also asked that production from a single subsea well in deepwater (i.e., without passing through a subsea manifold) have the full length of its flowline designated a transportation line (Rubin 1998, 5).

The final guidance document agreed to by MMS and the Royalty Policy Committee set the deepwater dividing line at 200 meters, and allowed for a wide application of transportation deductions to deepwater lines. "Movement prior to a central accumulation point is considered gathering," the guidance document explained, but that central point could be deemed to be a single well, a subsea manifold, the final well in a "daisy chained" series of connected wells, or a surface-piercing platform (US DOI 1999, 1). As an informal administrative "guidance" document, however, the directions did not carry the force of law, and would require case-by-case review. MMS decided that because the distinction of gathering versus transportation lines in deepwater still adhered to language already present in the regulations regarding the movement of production past a "central accumulation" point, it was unnecessary to incorporate any deepwater-specific treatment of costs into the final rule (*Federal Register* 2000). Influential Democrats in

Congress opposed allowing subsea production flowlines to be counted as transportation lines, because it allowed them to receive hefty deductions (US Congress 1998b, 9). Either way, the industry challenged the rules in court but was handed a defeat by the D.C. Circuit Court of Appeals in 2002. The court affirmed that MMS's methods for valuing and calculating deductible costs were fair and reasonable (*Oil & Gas Journal* 2003).

One reason why the 1990s valuation rule update was opposed so strongly by the industry was that they had recently busied themselves with counter-proposing a new way to pay royalties that promised to eliminate the need for rules in the first place: paying royalties in-kind. As the IPAA comment in 1986 had intimated, the industry was eager to convey its royalty oil and gas by having government agents take possession of it at points onshore, after which the government could sell the product on the open market themselves—a practice that seemed by definition to guarantee the receipt of fair market value. MMS began conducting royalty underpayment audits in September 1996, putting further pressure on royalty payors to adhere closely to the valuation rules (Kennedy 1997). In theory, at least, taking a royalty payment in-kind has a sort of simple elegance to it: it was taking royalty-in-value that had led to the chronic shorting of royalty payments and MMS's struggles to set up its complex production accounting, assessment and valuation databases. Taking oil and gas in-kind could reduce the complexity of the valuation process as well, ultimately reducing the number of appeals and the need for constant administrative rulings by the IBLA on royalty issues. By 1997, MMS begun beating the warning drum during budget meetings on Capitol Hill that an "unprecedented increase in workload" was on the horizon, as MMS Associate Director Carolita Kallaur described the oncoming boom in deepwater production expected in the 2000s (US Congress 1997a, 8). The industry had been pushing for MMS to consider taking royalty in-kind since before the 1988 valuation rules were proposed; but only now did it seem to be a plausible relief valve for the agency's expanding workload. More to the point, the industry believed that they could marginally benefit from every barrel of royalty oil delivered in-kind: it would force the costs of actually marketing (or selling) the oil and gas on to the government. None of the oil or gas valuation regulations allowed for firms to deduct their marketing costs from royalty payments (McCartney and Tempest 2009).

The Royalty-In-Kind program (RIK) got its start, as have so many other parts of the OCS program, during the oil crises of the 1970s. Nixon's price controls required refiners to sell their output at a set price that was derived from the company's costs, plus a fixed profit. Those downstream firms that refined price-controlled "old" oil into motor gasoline could sell it at cheaper prices than refiners that had access only to expensive "new" domestic oil, or to pricey foreign imports of crude. This bifurcation among refineries presented no problem when oil prices were high and US motorists had to continue purchasing gasoline at any price just to get by, but once the OPEC embargo was lifted in the spring of 1974, the panic over gasoline shortages subsided. Yet imported oil prices remained high. This brought about "the famous entitlements system that went into effect in November, 1974," Thomas Hall writes. "The idea was simple," he explains: "equalize crude oil costs for all refiners, that way, no group of refiners would have an unfair advantage over their competitors. A system was set up where a refiner who purchased a barrel of high-cost imported oil was 'entitled' to a barrel of low-cost, price-controlled oil" (Hall 2003, 127). For example, in 1983, the DOI sold 122,000 barrels per day of crude oil collected in-kind from Gulf leases to 48 small refiners along the Gulf Coast, who otherwise would have been strapped with only expensive oil to refine and market (US DOI 1983f).

The idea of government taking royalty-in-kind on a regular basis, and not just to aid small refiners (or for national security purposes) peaked in the mid-1990s. Perhaps the simplest proposal called for MMS to accept royalties in-kind and use those volumes to refill the Strategic Petroleum Reserve (SPR). The Department of Energy twice sold hundreds of millions of dollars of SPR oil over 1996 and 1997 after Congress mandated the sales in hopes of reducing the federal budget deficit. Using oil from the OCS to refill the storage supply was an economically sound and logistically simple approach. Moreover, as offshore oil and gas production in the Gulf began to rebound after the price collapse in the 1980s, the

perennial concern that MMS was unequipped to monitor and enforce offshore production totals and receive royalty payments resurfaced with a vengeance. Under the Clinton administration's first-term National Performance Review initiative, Vice President Al Gore's team grew concerned that smaller offshore operators were deliberately underpaying their royalties, at first, before remitting the full balance later—effectively giving themselves a small zero-interest loan at the expense of the public (Office of the Vice President 1993, DOI08). Moreover, the report noted, although more than ten years had passed since the FOGRMA was enacted, the royalty accounting system used by MMS still required over 2,000 firms onshore and offshore to submit over 200,000 lines of data each month, in violation of the Act's mandate to simplify the OCS bureaucracy (ibid.). The royalty-in-kind concept seemed to fit with the period's focus on governmental reform, better "customer service" for its oil and gas company "clients," and simplifying government's role in the marketplace. MMS director Cynthia Quarterman described her agency's driving spirit in 1996 as seeking to remove government "from the complex practice of determining the appropriate value of production and auditing whether companies have paid royalties based on an appropriate value." That would be MMS doing "business in a different manner," Quarterman said (McCartney and Tempest 2009).

MMS launched a pilot RIK program covering 79 natural gas leases in the Gulf in 1995. California Rep. Ken Calvert (R) gaveled into session a hearing in the House of Representatives the next year on the outcome of the RIK pilot, by saying about in-kind royalties that,

> On a small scale, this conjures up images of a West Texas rancher taking his or her natural gas directly into a sod house for domestic heating and cooking use...At the other end of the spectrum, recognizing that the Federal Government is the largest royalty owner in the country, [RIK] would [need] a quasi-governmental corporation [for] marketing the Feds' royalty-in-kind product. (US Congress 1996, 1)

Because the treasury "still needs dollars, not BTUs," Calvert said, the in-kind product would have to be converted to cash. During the pilot RIK program, MMS took 6% of its royalty share in kind—totaling 45.6 BCF of natural gas—and sold it to gas marketing companies (ibid., 3). MMS Director Cynthia Quarterman reported to Congress that the pilot test had gone well, but the RIK concept needed more study before it could be used on a wider scale. It was unclear at that point how taking natural gas royalties in-kind might compare financially to taking it in-value, and Quarterman suspected that there was a good chance that the administrative costs involved with the in-kind method would eat up any possible gain in revenues (ibid., 7). On two pilot RIK leases owned by Amerada Hess, MMS was already aware it had lost 14 cents per mmcf by taking natural gas in-kind compared to an in-value cash payment (ibid., 14).

Still, the states and oil and gas companies lobbied aggressively for an expansion of the royalty-in-kind program, in part hoping to preclude the new royalty valuation rules from being finalized (US Congress 1997b, 14). Republican representative Mac Thornberry (Texas) introduced a bill in March 1998 to force MMS to accept 100% of all royalties owed as in-kind; the agency vehemently fought back against the proposal as a violation of the OCSLA and its amendments, and as a net revenue loser. Democratic members of the Senate called the pressure put on the DOI to abandon its proposed valuation regulations in favor of RIK a "bogus" political tactic (US Congress 1998b, 2). Every point of opposition that the industry mustered against the new valuation rule, including the royalty-in-kind idea, Senator Barbara Boxer (D-CA) and Rep. George Miller wrote, was a red herring (ibid.). Yet after the inauguration of the George W. Bush administration in 2001, MMS began "energetically" scaling up its nascent RIK program from a pilot project to permanent status (Deal 2008, 3). The use of in-kind royalty payments grew rapidly, and the GAO warned in 2003 that MMS had no regulations in place to govern RIK transactions, and furthermore had no way of knowing whether the federal government was losing money (US GAO 2003). The absence of regulations forced MMS managers to continue operating the vaguely-defined RIK program through non-legally-binding guidance documents (Deal 2008, 4). A second GAO audit of the program in 2004 gave the program a mixed report card and cautioned Congress not to enlarge the scope

of the RIK program without first developing an internal review capability within MMS (US GAO 2004, 1).

The RIK program grew quickly anyway, pushed by the American Petroleum Institute and strongly supported by the Bush administration. MMS announced in 2002 that it planned on increasing its in-kind royalty take in the Gulf to over 80% of offshore royalty production in order to refill the Strategic Petroleum Reserve. The Energy Policy Act of 2005 established the RIK program as a permanent operation, and in fiscal year 2005, MMS took roughly one-third of all royalty revenue in-kind, a startling sum (US Congress 2007b, 4). The program was easiest to administer in the Gulf, as the high concentration of leases and the need for consolidated shoring points for pipelines allowed relatively easy monitoring of production flows (McCartney and Tempest 2009). Warnings that the RIK program was being conducted without real management oversight or control by MMS officials continued to mount. The *New York Times* published a series of allegations in 2006 of a $700 million shortfall in royalty collections over the previous fiscal year alone (Andrews 2006a). Evidence that taking royalty-in-kind was changing the working culture of the agency began to materialize as well. A high-profile whistleblower case involving Kerr-McGee and a MMS auditor made stark allegations that the agency was performing audits at diminishing intervals, and with woefully under-qualified staff. MMS auditor Bobby Maxwell stated that he was disallowed from auditing royalty-in-kind contracts specifically, presumably to prevent him from uncovering either malfeasant management or outright graft (US Congress 2007b, 35). Maxwell recalled that after attempting to review contracts and transportation agreements relating to the RIK program, he was stonewalled by MMS staff and even the DOI OIG, who told him to stop pursuing the issue. "[T]he whole culture has changed" within the royalty division of MMS, Maxwell testified in 2006. "[It has c]hanged dramatically," Maxwell lamented (US Congress 2007b, 54; see Andrews 2006a).

The RIK program was ultimately terminated by Secretary of the Interior Ken Salazar in 2009, in a sort of act of faith soon after President Barack Obama was inaugurated (Straub and Geman 2009). The short but sordid history of mismanagement and corruption within the RIK program reached a crescendo the year before in 2008, when several investigations by the OIG began to gain significant attention from the national press. DOI Inspector General Earl Devaney conceded with a wan smile before a Congressional oversight committee that MMS had "more than its share of royalty management problems and consumed more than its share of my office's attention in the last two years" (US Congress 2008, 8). The GAO piled on with its own testimony that there was no possible way for MMS to determine if it had received all royalty amounts owed to the federal treasury. One story reported by the Department of Energy held that MMS was unable to locate 30,000 barrels of in- kind royalty oil earmarked for the Strategic Petroleum Reserve (US Congress 2008, 4). Seeming almost like a sort of karmic penalty for decades of mismanagement, MMS was soon plagued by an ethical scandal that primarily involved the RIK program, but seemed to indict the agency's entire approach to royalty collection and revenue management. A September 2008 OIG report uncovered unethical and even criminal conduct by more than a dozen RIK employees in the Lakewood, Colorado headquarters of the royalty management program (US DOI 2008, 1). RIK employees had redirected MMS contracts towards personal gain, received gifts from oil and gas operators under their purview, and engaged in drug use and sexual relationships with industry employees. As the OIG report parsed it, "Sexual relationships with prohibited sources cannot, by definition, be arms-length [*sic*]" (US DOI 2008, 2).

Most worrisome, the OIG report noted that the RIK program inexplicably reported directly to MMS headquarters in Washington, DC, instead of to the MMS deputy associate director located in Lakewood. This contributed to the "pervasive culture of exclusivity" that permeated the RIK group and the air of special privilege that surrounded it (US DOI 2008, 1–2). Secretary Salazar announced major ethical reforms for MMS at large and the royalty management group in particular just days after assuming office. The scandals at MMS became so lurid and drew such intense national disapprobation that Secretary Salazar made the rounds on television to try and staunch the bleeding. Instead of pulling a "full Ginsburg" on the Sunday morning political talk shows, Salazar appeared as a guest on *The Daily Show*

with Jon Stewart, hosted by the doyen of lighthearted-yet-serious politics. Salazar reassured voters that he was "cleaning up the mess" left by the previous administration. "What recourse do you have?" to collect unpaid royalties, Stewart asked. "Would you call up Chevron and be like, 'hey, what's up man, [it's] Ken Salazar [here, on the telephone]. Listen: where's my money?'" (*The Daily Show* 2009). Salazar and Stewart chuckled together as the Secretary said, "Fork it over!"

Lost amidst the RIK pilot projects of the mid-1990s and the contentious effort at revising the valuation regulations was an aborted attempt at mid-decade to dissolve MMS altogether. In response to the National Performance Review's critique of the agency, in 1995 Clinton's Secretary of the Interior Bruce Babbitt proposed disbanding MMS by transferring its onshore revenue functions to state governments and American Indian tribes by 1997 (US Congress 1995a, 22). The OCS-related functions of MMS—both the Minerals Management division as well as the Royalty Management Program—would be transferred "intact" to another bureau within the department (ibid.). In the end, efforts to "scuttle the good ship MMS" failed, as one member of Congress described the wayward reorganization proposal (US Congress 1995b, 2). Receiving much stronger consideration was another proposal of the White House's National Performance Review program, the "REGO II" or second phase of the National Performance Review (see Figure 3.33.): a proposal to sell off the federal government's future royalty stream, as an asset itself, to hydrocarbon product marketers and similar companies in an effort to get the money up front (*Hart's Petroleum Finance Week* 1995). The ill-starred Enron Corporation expressed a particularly keen interest in getting involved in any such program "at a very early stage" in the process, as an executive eagerly proposed to Congress (US Congress 1996, 18). If MMS wanted to maximize its revenues or get "more bang for the buck or whatever you want to call it . . . take some more risk in the marketing efforts" and sell the royalty rights, Enron advised (McCartney and Tempest 2009). If fully implemented, the idea would have completely removed the government from collecting any oil or gas royalty revenues from federal lands whatsoever. It was praised from some corners as a paragon of "administrative efficiency" (US Congress 1995b, 4). In one of the legislature's wiser moments—given Enron's future trajectory—the idea found no traction in Congress. Rep. Neil Abercrombie (D) of Hawaii colorfully said, "I think this is as much nonsense as I have ever seen in my life. This is nothing but speculation . . . . I am sure the Vice President [Al Gore] and whoever is associated with this are well meaning, but they must have been real tired and eating their pizza the wrong way up when this [idea] came up" (US Congress 1995a, 3).

Figure 3.33. On behalf of the MMS, Associate Director Bob Brown (left) receives the Vice President's "Hammer Award" from White House representative Bob Stone, 1996.

The agency received the highly publicized National Performance Review prize for re-writing its regulations in "plain English." Source: US DOI 1996, 5.

Each of the major difficulties posed by effective offshore royalty collection—setting a product value, receiving funds or in-kind production, and keeping a database to track it all— proved to be exceedingly difficult to manage. Perversely, initiatives that aimed at eliminating one problem (like RIK) ended up exacerbating others (unethical management and moral hazards). And the agency's electronic database systems never seemed able to catch up to current computing practices, or to the growth in industry activity that its data needed to capture. MMS still had to manually enter production volume reports from onshore and offshore Gulf natural gas producers as late as 2006 (US Congress 2006a, 15). Offshore production meter inspections continued to go unperformed for years; the financial management database system continued to lag in functionality; and the agency's compliance and auditing efforts flagged. After MMS finally re-programmed its financial database software to automatically check for un- submitted production reports in 2004, more than 300,000 such missing reports were identified (US Congress 2008, 30–31).

In his controversial 1987 *Washington Monthly* article, John Eisendrath concluded that episodes of mismanagement within the royalty program at MMS were to be expected, given the enormity of the agency's administrative task and the its political relationship to the revenues it collected. "The reason is simple [why the royalty program never improves]," Eisendrath wrote:

> There's no financial incentive for Interior to improve collections. Almost all the royalties collected that don't go back to the states or the Indians are deposited in the general treasury. No [Interior S]ecretary is going to devote his or her increasingly scarce resources to a program that brings his or her department no return. (Eisendrath 1987)

Eisendrath's conclusion is spot-on. The spotlight placed on royalty valuation between the promulgation of the two valuation rules in 1988 and 2000 brought out another important point about the status of royalty revenues within the department. While it is true that the sum of all revenues collected by MMS has been the second biggest contributor to the federal treasury after the federal income tax, it became more correct to say after the start of area-wide leasing that federal oil and gas royalty revenues was the second biggest revenue source for the treasury. It is even more correct to say that OCS oil and gas royalty revenues occupied that spot, as only about 30% of royalty revenues collected by MMS came from onshore leases at the start of the 1980s. The obverse side of MMS's institutional architecture that Eisendrath's comment speaks to is that there was no institutional or financial downside to being lax about collecting royalties diligently, or even attempting to jettison the responsibility entirely to an entity like Enron. MMS proposed just such a fix in the early 1990s, and although MMS remained intact, Congress elsewhere obliged them by pushing forward a new fiscal concept for the OCS: deep water royalty relief.

Chapter 7. A Need for Relief? Or, What's a Royalty Holiday, Anyway?

Torrential rains had been pounding the city for several hours already by the time staffers from MMS set up a dais and rows of chairs in a nondescript conference room in New Orleans, on the morning of May 10, 1995. They were preparing for OCS Lease Sale 152, set to offer for sale every nearly unleased tract in the central Gulf. Industry and government watchers expected attendance at the sale to be high, or at least brisker than at those sales conducted during the slump in bidding activity seen since 1990. Yet the pounding rains threatened to dampen their enthusiasm for a successful sale. Widespread flooding in the area had been hindering passenger air service into the New Orleans airport, and reports swirled in the air of oil company executives wading through waist-deep water while winding their way to the lease sale conference hall (Koen 1995). The *New York Times* reported that one firm's representatives resorted to hiring a private jet and then a helicopter just to make it to the sale on time. "Others had to abandon their car to wade through water up to their necks, holding their briefcases high to keep them dry," reported the newspaper of record, probably apocryphally (Salpukas 1995). MMS was just minutes away from canceling the sale when the on-site agency chief decided to begin opening the bids (Koen 1995). The sale proved a bonanza—garnering $307 million in high bids—and it put up especially stellar figures for deepwater tracts. The agency's director called the day's events nothing short of miraculous. Chevron, for one, bid heavily in the deepwater Mississippi Canyon area, and BHP Petroleum won leases over six tracts in water depths beyond 8,000 feet. "There's a lot of money to be made out there," said John H. Miers, a vice president of exploration for Amoco (Salpukas 1995). The deepwater boom was on, declared the *New York Times* (ibid.), and no one wanted to be left caught holding his hat in the rain.

Five months later, Bill Clinton signed the Deep Water Royalty Relief Act of 1995 (or DWRRA) into law on the evening of Tuesday, November 28, after dinner and shortly before he and the First Lady flew to London on a foreign policy junket. The "Alaska bill"—as the Press Secretary referred to the measure that afternoon during his 1:30 p.m. press briefing—didn't garner much interest from the White House press pool. Mike McCurry attempted to stress to the reporters sitting before him that the DWRRA would create an estimated $10 billion in offshore capital investment in the Gulf, as well as contribute an extra $200 million in revenue to the treasury. The reporters did not bite on McCurry's repetition of the administration's well-worn talking points for the bill. They had more pressing priorities: electoral politics. "Mike," one reporter asked the Press Secretary, "when is the President going to announce his candidacy for reelection?" McCurry replied from the podium that he wasn't sure about Clinton's plans to start his campaign, because the President was wholly preoccupied with official matters. Another reporter then immediately chimed in, "Is he running?" and the Brady Press Briefing Room filled with laughter. A grin spread on McCurry's face before he gave the press pool the classic Washington, DC "non-answer answer": yes, McCurry seemed to say, this royalty relief bill is indeed an important achievement by the Clinton administration, thank you for asking! "Did you have another [question]" about the election, McCurry said next, teasing the reporter, since "you didn't get any luck on that one?" (White House 1995).

Notwithstanding the White House press corps' understandable interest in the upcoming 1996 election season, the briefing stands as a fitting symbol for the Deep Water Royalty Relief legislation itself: by the time the years-long legislative push to get the bill passed was finally successful, almost no one outside of the oil and gas community paid it much attention. The problem that the DWRRA sought to alleviate had largely evaporated by the end of 1995. Sold as a measure designed to save the deepwater Gulf from economic destruction, the royalty relief measure on its face was a simple, short-term policy designed to stimulate activity in a specific part of the US economy—a rather common creation of the US Congress in the twentieth century. But the story of the Act betokens just how completely a certain brand of free-market worldview had come to dominate the OCS program by the 1990s. The concept behind deep water royalty relief was larger than just its aim of boosting leasing an drilling offshore; it further painted the payment of royalties on deepwater oil and gas production as a burden to the industry, one closer to a regulatory cost or penalty than a free market transaction between resource owner and lessee.

The ironies of the legislation are many and profound. First, royalty relief slashed royalty rates in the shadow of James Watt's area-wide leasing reforms, which had reduced the magnitude of the bonus bid payments made by offshore operators in order to increase royalty revenues in the long run. Second, by the time the relief bill had wound its way through several Congresses and two administrations, it was simply not needed. Crude oil prices had begun to rebound from their lows at the start of the decade, and offshore development decisions made in the interim ushered in a new deepwater boom. Third, the initial concept behind the legislation—to allow marginal deepwater fields that would not otherwise be developed to receive royalty relief—morphed through legislative legerdemain into applying to all new deepwater leases to be issued under a five-year period. Fourth, perhaps because the expansion of the bill's scope from an existing-lease focus to a new-lease focus received so little attention from lawmakers at the time, its poorly written legal language will cause the federal government to lose tens of billions of dollars in OCS revenues. For any one of these reasons, the law might be justly deemed a failure; the combination of all four makes the DWRRA of 1995 an unmitigated fiscal disaster for the US public.

7.1. The Unbearable Burden of Deepwater Royalties

That the term "royalty" evokes monarchical power is a good indication of just how deeply rooted the notion is in the long history of exploiting natural resources for economic gain. The paying of royalties by a lessee to the lessor on revenue generated from the extraction of some resource from the landlord's property carried into the oil age; it has remained a "foundational aspect" of petroleum economics ever since (Boué 2002, 20; Mommer 1998, 7). Some appraise it to be the oldest form of payment for petroleum extraction, in part because of its ease of use and intrinsic fairness (Taverne 1999, 325). By tradition and by fiat, the standard oil and gas royalty rate has long been one-sixth (16.67%) of gross revenues—not net profits. This division of earnings is universally regarded as offering a fair return to the lessee, without whose services the landlord's resources would remain forever locked away and unexploited, and to the lessor, absent whose ownership the lessee has no raw materials to create any "production" with.

Closely related to this division of a natural resource's value is the concept of economic rent. When a barrel of crude oil is extracted from the ground, it produces value whether it is sold or consumed. The difference in the value of a barrel of oil extracted (say, $100 per barrel) and the cost of its production (perhaps $10 for equipment, labor, and a normal rate of return on capital) is termed economic rent (in this instance, $90). Writing about offshore petroleum in particular, Walter Mead defines the term as the "surplus that oil and gas lands yield over the necessary costs of exploration, development, and production, including a normal competitive return on investment" (Mead et al. 1985, xviii; Vietor 1984). On the OCS, the government captures its share of this surplus value through both signature bonus bids and royalties on production. Because economic rent does not include a company's normal costs, even if a government captured 100% of economic rent from an oil and gas development—which it virtually never does—the business project involved would remain profitable. Note that the government does not need to capture 100% or any particular percentage of economic rent to achieve the return of fair market value. The payment of corporate taxes are not included in the calculation of economic rent; such payments are made to the government pursuant to its role as a fiscal authority, and are unrelated to its ownership of natural resources (Boué 2002, 7).

When governments have wanted to stimulate activity in the offshore oil and gas industry, their efforts have generally been directed towards lowering the bonus bid, not the royalty rate. Reducing the up-front cost of access to potentially hydrocarbon-bearing lands is what Watt's area-wide leasing plan did so successfully. Shifting the source of government's share of economic rent from bonus bids to royalties greatly reduces the financial uncertainty that comes with drilling for oil and gas; the more funds that are paid to the landlord only once oil or gas is flowing—rather than at the leasing stage—the less chance there is for a firm to go bankrupt after a string of dry holes. A royalty-only arrangement protects the

landlord from underestimating the value of its resources, as the lessee from overestimating the same and losing capital through high bonus bids (McDonald 1979, 39–44). In theory, the DOI could alter OCS terms in a way that would not change how much total revenue it captures, even if it gave away leases for free—as long as that free access to offshore tracts was accompanied by a very large increase in the royalty rate. Much newer to the hydrocarbon lexicon is the concept of reducing royalty rates below a given standard for the express purpose of "stimulating" production or to act as a corporate incentive to invest.

The accepted oilfield standard that a royalty payment is a small but necessary cost of business in the US began to be chipped away during Watt's tenure as Secretary of the Interior. On November 16, 1981, an amendment to the Mineral Leasing Act of 1920 was enacted that gave the BLM the authority to reduce the royalty rate on "special tar sands areas" ahead of the start of commercial production. The bill's purpose was to "facilitate and encourage" the production of the difficult-to-extract resource, which is too thick to flow in the manner that conventional oil does (US DOI 2007a, 114). This pre-production incentive was a novel concept to apply to federal leases in the US at its introduction in 1981. The Mineral Leasing Act[37] and the OCSLA[38] already authorized the Secretary of the Interior to wield discretionary power to selectively reduce royalty rates on leases where production had already begun, if doing so would "promote increased production" or encourage conservation of the resource (i.e., prevent early abandonment of an onstream field). The 1981 provision to promote tar sands development is all the more remarkable in that it amends a section of the Mineral Leasing Act that Congress had altered just a few years before, by adding the clause in 1978, "Nothing in this section shall be construed as granting to the Secretary the authority to waive, suspend, or reduce advance royalties" (ibid., 108). The amendment signed in 1981 by President Reagan avoided conflict with this provision by allowing the Secretary to lower the royalty rate on leases situated over tar sands deposits after a lease was awarded and signed, but before it had begun production. The 1981 amendment set no lower bound on how far the Secretary could waive tar sands royalties.[39]

Whether directly connected to the special tar sands idea or not, the idea of a royalty holiday soon surfaced in the deepwater Gulf. Some precedent for it could be found abroad: Myanmar had instituted a tax holiday period in 1989 on corporate income taxes for petroleum producers, waiving them for the first three years of production (Johnston and Bush 1998, 171). The invasion of Kuwait in 1990 and the Persian Gulf War refreshed concerns about the reliability of the US' crude oil supplies (Mead 1993, 215). The oil price crash of the mid-1980s had injured nearly every facet of the oil and gas industry—both upstream and downstream—but deepwater projects proved were especially susceptible to the price decline. By the end of the decade, the entire Gulf offshore market was infamously called the "Dead Sea." If that moniker were true, then its saltiest waters were most certainly to be found in the deep. A number of banner deepwater developments came online at the end of the 1980s, including Conoco's Jolliet tension-leg well platform, but another highly publicized project fell short in 1990. The Green Canyon 29 Placid development had set a worldwide water depth record for floating offshore oil and gas production, and was an incredibly technically advanced project for its time, but ended in failure. The project produced just 5.4 bcf of natural gas, half a million barrels of liquid natural gas condensate, and less than

[37] The original Mineral Leasing Act of 1920 authorized the Secretary to eliminate royalties on stripper wells producing less than ten barrels of oil per day. Amendments in 1935 expanded that power to any oil or natural gas lease at any production rate, "for the purpose of encouraging the greatest ultimate recovery of oil [and gas] and in the interest of conservation of natural resources" (U.S. Department of the Interior 2007a, 7, 34–35).

[38] The OCSLA of 1953 does not explicitly recognize this power, but grants the Secretary the power to "prescribe and amend such rules and regulations as he determines to be necessary and proper in order to provide for the prevention of waste and conservation of the natural resources" (67 Stat 464). Opinions varied as to whether the language authorized the reduction of a lease's royalty rate. The 1978 amendments to the OCSLA added just such a provision to the law, allowing the Secretary to "reduce or eliminate any royalty or net profit share set forth in the lease" in order to promote "increased production on the lease area" (92 Stat 641).

[39] See 43 C.F.R. § 3141.5-3(b) (2005).

50,000 barrels of oil in two years—an amount woefully inadequate to allow the firm to even to pay back its costs. The project's failure came at a critical period for the industry, when excitement for deepwater treasure was mounting, but few companies had gained practical experience in waters beyond 1,000 feet.

As 1989 rolled into 1990, evidence of an industry in serious distress began to accumulate. Production of oil and natural gas from the Gulf was in decline from both shallow and deep waters, and proved reserves totals in the US as a whole were also trending downwards. Unemployment in the petroleum-rich regions of Louisiana reached 20% after the price crash, well above its average rate of 5% achieved during the previous decade (Freudenberg and Gramling 2011, 143). Capital and operating costs in deepwater were not declining in tandem with commodity prices, squeezing operators in the Gulf and making the profitability of planned and even some already-producing projects increasingly tenuous. Lease Sale 141 in the western Gulf put up the worst sale figures in many years, drawing in only $30.4 million in high bids (US Congress 1992b, 20). Across the nation, drilling activity in 1992 hit its lowest level since 1942 (US Congress 1993d, 33). Filled to the brim already with a deepwater lease inventory that no longer seemed economic or terribly useful, the offshore industry hit muddy bottom in the deepwater Gulf. One Marathon executive remarked that come 1992, the industry did "not have much room to fall" any further (US Congress 1992b, 22). As detailed above, MMS had already taken several administrative steps by 1992 to ease costs after the price collapse, including keeping royalty rates in all waters deeper than 400 meters to the statutory minimum of 12.5%. Rental rates in deepwater were also kept low, at just $3 an acre. The minimum per-acre bid was lowered from its high in 1986 of $150 across all water depths back down to $25 per acre in 1987. Primary lease terms for tracts located between 400 meters and 900 meters were increased to a maximum of eight years in 1985, but all leases past 900 meters (2,953 feet) were already receiving the maximum-allowed ten-year term. As the economic situation of the deepwater grew increasingly dire over 1991 and 1992, there seemed to be no remaining fiscal tools at MMS's disposal for enhancing its terms.

During this period, MMS economists did investigate what authority the agency had under the OCSLA Amendments of 1978 to further stimulate deepwater development. Its own OCS Policy Advisory Committee had recommended in 1987 that by reducing royalties, the agency could significantly "lower the threshold volumes required to justify development of new fields, and thereby increase oil and gas production" (Fisher et al. 1987, 13). In the absence of another round of amendments to the law, however, MMS was constrained by the OCSLAA's restriction of the Secretary's relief authority to currently-producing fields alone. MMS exercised that authority in October 1992, cutting the royalty owed in water depths between 200 meters to 400 meters from 16.67% to 12.5%, the full limit of their authority (Pearson 1992). In doing so, the agency also changed its official definition of "deepwater" from 400 meters down to the 200-meter isobath (*Oil & Gas Journal* 1992b). MMS Resource Evaluation economist Marshall Rose recalls having developed alongside other staff sometime during 1994 a way to shift the timing of royalty payments for new deepwater leases that did not reduce revenues, but deferred payments due early in the life of a field without violating the 12.5% minimum (Rose 2008, 20–21). Where a discovery had been made on an existing lease but no production was forthcoming (because the oil and gas company owning it believed uneconomic), Rose and others looked into what he termed a "pseudo profit-sharing system." If implemented, such a system would not require any royalty payments until the deepwater project's initial investment costs were recouped (ibid., 22). Building upon that analysis, the resources evaluators and economists at MMS then calculated how much oil or gas a development would need to receive royalty-free before its costs were covered, and came up with a series of production volumes for different water depths (ibid.). As Rose recalls, "when Congress heard that we were working on this, they asked us to send over some of our work" (ibid.). MMS obliged.

The idea of offering a temporary reduction in royalties for deepwater projects found its legislative seed in July 1992, when Marathon Oil president Victor Beghini suggested to Louisiana Senator J. Bennett Johnston that a "royalty holiday" could help the industry weather the economic storm (Davis and Neff 1996, 45). Publicly, Beghini warned that Marathon and other domestic firms were becoming increasingly

attracted to the "improving tax regimes" and relaxed lease terms that could be found abroad (Beck and Biggs, 1992). Johnston and his staff eagerly supported the idea. Ever the happy warrior for his home-state industry, Bennett Johnston has featured somewhat prominently in this narrative so far; he was a strong support of Jimmy Carter during the 1976 campaign, and accompanied the President to the *Yorktown Zapata* offshore drilling rig in July 1977 aboard Marine One (see Figure 3.2.). During the debates over amending the OCSLA in the mid-1970s, Johnston had declared that not "one fish" has died in the Gulf due to offshore drilling. Though Johnston did not vote against the amendments that Carter signed into law, neither did he vote for them, instead opting to sit the vote out (US Congress 1977d, 8). Keeping at least part of his Gulf-based constituency in mind while doing so, Johnston railed against the safety and environmental regulations required of offshore operators as tantamount to "environmental terrorism" (US Congress 1992b, 20). Johnston retired from the Senate in 1997 after twenty-five years spent in the upper chamber, and for a short while worked as a director for Chevron. Out of gratitude for his years of loyal legislative support in the Senate, the oil major in 1999 named a newly-constructed[40] double-hulled very-large-crude-carrier oil tanker (VLCC) after the retired Senator (Chevron Corporation 1999). Fostering the burgeoning deepwater industry in the Gulf—which lay almost entirely off Louisiana, especially during the 1990s—was well within Johnston's demesne when Beghini relayed his industry's troubles to him in 1992. Johnston became a champion for the measure, and shepherded it all the way to the President's pen in November 1995.

The legislation Clinton signed has been trumpeted ever since by MMS officials, industry groups, and independent observers of deepwater drilling as a primary cause behind the incredible growth in the deepwater Gulf since the late 1990s. As with reviewing the effects of Watt's switch to area-wide leasing in 1983, to argue that royalty relief did not have an incentivizing effect is of course to argue a counterfactual. Many scholars have assessed the magnitude of the law's effect on deepwater leasing and production; several such assessments are addressed below. Just as important in reviewing the policy, however, is an understanding of the context from which the DWRRA emerged—why Congress and the President believed it a necessary action, and what effects they expected that the Act would have on the economic health of the deepwater community. When commentators and industry pundits have considered the background of the DWRRA legislation—which is rarely—they distill its history into a simple formula: responding to concerns that the Gulf would remain a "Dead Sea" without its assistance, Congress created new incentives for deepwater leasing, to lessen the high cost of oil and gas development there. Then, as a direct result of the policy, deepwater leasing rates skyrocketed in 1996, presaging several years of harried leasing activity. In turn, this surge in leasing spawned a resurgence in deepwater that would not have occurred as swiftly or abundantly otherwise. Regardless of the truth content of their claims, two points are central to the argument made by this apologetic narrative: one, the law was enacted as the outlook for the industry as a whole was at its bleakest; two, even though firms like Shell Oil and others had invested heavily in deepwater prior to the November 1995, at the DWRRA's enactment, those firms stood as the exceptions to the rule. As the story goes, it was the reduction in royalty rates that both restored confidence in deepwater and finally made its challenging oil and gas reservoirs profitable to develop. Both are important assumptions to keep in mind when reviewing the push that brought the bill into law.

The original idea behind a royalty holiday in deepwater was an elegantly simple one. Royalty payments would be waived for deepwater hydrocarbon deposits that had been discovered but remained undeveloped. More specifically, a royalty suspension would be granted only to fields or development projects that were too expensive to develop under the low oil price climate of the 1990s. For those oil and gas companies that owned leases over deepwater fields deemed to be marginally economic, the temporary

[40] In a twist of irony, Senator Johnston voted in favor of the Oil Pollution Act of 1990, which mandated that all new oil tankers built after July 1993 and larger than 5,000 gross tons—including Chevron's new VLCC—have a double hull in order to enter US waters (Public Law 101-380). The vote in the Senate was unanimous in favor of the Act, 99–0.

suspension of royalty payments promised to enhance their profitability (and reduce the attendant risk) so much that the firms would find them to be irresistible business opportunities. Under the holiday, policymakers surmised, once-dormant deepwater fields would spring to (productive) life. Of course, although the federal government would have to forfeit some royalty payments to the treasury, the royalty holiday would stimulate the start-up of far more royalty production in the long run than could take place otherwise. Any increase in Gulf Coast employment or local tax bases provided by a capital- and labor-intensive development project would be an added bonus.

The legislation eventually enacted as the 1995 DWRRA found its first shape soon after Marathon's Beghini proposed the holiday to Senator Johnston in 1992. Like the royalty suspension concept that spawned it, Johnston's first bill was short and simple, at barely a page in length. It contained three parts: it would suspend royalty payments until capital costs could be recovered; it would apply that relief to all future developments located in 200 meters of water or deeper; and it would set an oil price as an upper cap or threshold to the relief, to prevent firms from receiving the incentive during an unforeseen oil boom. Johnston introduced his Outer Continental Shelf Deep Water Production Incentives Act on August 4, 1992. It proposed to amend Section 8 of the OCSLAA to allow:

> With respect to any lease located in water depth of 200 meters or greater from which royalties are first received by the Secretary after the date of enactment . . . no royalty payment shall be required on production from such lease until the capital investment costs related to such production have been recovered by the lessee out of proceeds from such lease.
>
> . . . capital investment costs shall include exploration costs incurred after the acquisition of the lease and development costs, as defined by the Secretary. Such capital investment costs shall not include any amounts paid as bonus bids. (US Congress 1992a, S. 3127).

In other words, the Secretary of the Interior would be authorized to determine what costs (apart from leasing) properly constituted a capital investment in deepwater. The oil price threshold was set at $34 per barrel, pegged to the price of West Texas Intermediate crude oil trading on the New York Mercantile Exchange, or NYMEX. On the day Johnston introduced his bill, the price of WTI hovered just over $21 per barrel. The cap on relief would only be activated if crude prices exceeded the NYMEX $34 benchmark for two consecutive quarters, so that a one-off or short-term spike would not trigger it. Most importantly, the bill's language as first drafted in 1992 would have allowed all offshore developments in water depths of 200 meters or more, in the present and into the indefinite future—except for those already producing oil or gas—to receive automatic royalty relief. This provision proposed a major change to the fiscal regime of the OCS, as it promised to dramatically reduce total royalty receipts from the vast majority of the Gulf for decades to come.

Johnston convened the Senate Committee on Energy and Natural Resources on August 11, 1992 to consider his bill and hear testimony on the deepwater "production incentive" concept. As chairman of the powerful committee, Senator Johnston invited a panoply of industry executives and government officials to testify to the feeling many had in the Gulf that sustained low oil prices were decimating their business. It was twice repeated during the hearing that the industry had shed a stunningly high number of 400,000 domestic jobs since 1982 (US Congress 1992b, 1, 31). Crude oil prices had been depressed for so long that they very well might irreversibly harm the domestic industry, the panelists told Johnston's committee. We've been holding our breath waiting for better times to arrive, the head of a key industry advocacy group said. But "after you hold your breath so long," Bob Stewart continued, "you start to turn blue. And we are starting to turn blue" (ibid., 44). Executive vice presidents from Marathon Oil and Shell detailed how the extreme costs required to produce a deepwater oil and gas field made developing even the biggest finds "just barely above the margin" of profitability (ibid., 26–27). Even for Shell—the widely recognized pioneer of deepwater technology in the Gulf—the outlays it ponied up for its tension-leg platforms at Auger ($1.3 billion) and Mars (estimated in 1992 at $2.5 billion) were difficult to swallow (ibid., 26, 29). The committee asked whether the firms owned any deepwater fields that were

too small to produce with a profit. Both firms replied that they did. Shell detailed an unnamed discovery located in over 1,000 feet of water that was within the lease boundary of a producing platform, but was not economic. "With royalty relief," the Shell executive parsed it, "we could go ahead and develop that [field]" (ibid., 27).

It was not surprising to hear the industry speak in favor of getting to produce royalty-free oil and gas, but MMS director Scott Sewell also shared their concerns about the state of the offshore oil economy. His testimony actually seemed graver in outlook than that of Marathon or Shell. Recent lease sales in the Gulf—still held under the area-wide approach—had deeply disappointed those in the agency, as bonus bid revenues were falling to near-historic lows. MMS expected the lease sale in May 1992 to be slower than usual because of low commodity prices, but its results were so poor that the $56 million dollar sum it returned was "quite a surprise" to director Sewell (ibid., 20). "Where the hell is the relief in this industry?" the *Times-Picayune* quoted Sewell as saying after the conclusion of the lease sale (Judice 1992a). Sewell explained to Johnston's Senate committee, "I do not think anybody expected really how far things have fallen and how bad the situation has gotten . . . particularly in the Gulf, which is really the bread and butter of the entire OCS program. And it was quite shocking, yes" (US Congress 1992b, 20). Sewell estimated that between 33% and 50% of deepwater discoveries not already producing could become newly economical if given an additional financial incentive beyond the relaxed fiscal terms already in place over most deepwater leases (ibid., 23). Sewell also expressed one concern that added another dimension to the debate: he feared that a sustained slump in the deepwater exploration and production market could gut the industry in the US. Such an occurrence would be a detriment to domestic energy and national security alike. Speaking to the job losses suffered in the Gulf since the mid-1980s, Sewell said,

> A decline of this magnitude poses long-term dangers to the industry and its ability to recover. Even if the operating outlook of the industry were to improve dramatically, it would take many years to reacquire the specialized scientific, engineering, and technical skills of the people that have moved out of the industry over the last decade. (US Congress 1992b, 15, 17)

Sewell's worries went beyond the desire to staunch the bleeding inflicted by low bonus bid revenues to the deficit, or to stimulate job and oil production growth offshore. He suggested that without a further relaxation of fiscal terms in deepwater, the poor economic climate would drive Gulf operators to drill in offshore hydrocarbon basins elsewhere around the globe. Sewell warned that the oil and gas companies were already shifting their investments out of the US in general and from the Gulf in particular, because of their restrictive fiscal and regulatory terms (ibid., 17). Sounding not unlike Johnston himself, Sewell's testimony before the Senate lamented the "burdensome" fiscal terms and onerous environmental policies that restricted the growth of the domestic petroleum industry (ibid.). After all, the recent wreck of the *Exxon Valdez* oil tanker on Bligh Reef in Alaska in March 1989 had only proved what offshore drillers had been saying all along: OCS oil production was infinitely friendlier to the environment than the importation of foreign oil on tanker ships. The concern now was that the US would not only have to import more crude oil from abroad, but that it would be importing oil produced from places like the North Sea, offshore Brazil and West Africa, purchased from companies that should have been drilling in the Gulf.

Interestingly, this *Sturm und Drang* from director Sewell was not shared by Marathon or Shell. In a curious tack, Shell executive Robert Howard touted his firm's advanced deepwater technology and its great success to date to the Congress as the reason why his firm deserved a break from royalties. "[T]he secret to our success has been technology," Howard explained (ibid., 25). Yes, reports that Shell had released leases not due to expire until 2000 were true, Howard said, but that was because the company had interpreted seismic data or drilled and ruled them out for further work (Judice 1992b). Shell's use of recent advances in 3-D seismic exploration and interpretation technology had uncovered a new pocket of oil on one lease in particular, Howard offered by way of example, which lay under more than 1,000 feet of water in the Gulf. The reservoir was on the same lease as a producing platform, but it was too small to

be economic—indeed, it was its diminutive size that had made it impossible to find with 2-D seismic technology alone—but it could be developed if currently-producing leases could receive royalty relief as well (US Congress 1992b, 27). Shell also pointed out that it owned leases over fields so large that their successful production would require a "phased development" approach to be fully exploited. Under a phased approach, if an initial production facility yielded positive results, a larger facility would then be fabricated and installed above the field. "Now, why do we need phased development?" Howard asked rhetorically. He then answered himself:

> Well, in a lot of these projects, it is just going to be too risky to put all the capital up front and to invest that capital at one time...So our approach is going to be to first install a smaller structure and drill the wells associated with that and develop just a portion of the field.
>
> . . . . Now those later phases are going to cost at least as much and probably more than the first phase. So if this bill is really going to encourage development in the deep water, those latter phases of development need to be included in the royalty relief provisions. (US Congress 1992b, 26)

Rephrased, what Howard was proposing was that the federal government should forfeit royalty payments on production from the early, risky phase of a deepwater project in order to promote its production, and then give up its claim to royalty revenues again if the first gamble ended up paying handsomely!

Johnston liked what he was hearing. Just one procedural matter threatened to get in the way. The Senator pressed MMS officials in the hearing to provide him with different ways in which a deepwater production incentive program might be implemented, so that the law could be drafted to meet several specific budget-related requirements. That was the kicker. Johnston explained the issue to Robert Howard in an aside during the hearing, while they were discussing Shell Oil's deepwater technology: "we have to be able to show that we are not taking money from an area where that money would come in anyway," Johnston said. "[I]n other words, providing a profit for something you have already done, an investment already made" (ibid., 27). To do so would require a neutral or positive "score" on the bill from the Congressional Budget Office, a non-partisan entity that estimates the impact of legislation on the economy and federal budget. Under "PAY-GO" rules in effect, any legislation that would decrease federal receipts in one area during a five-year period had to raise revenues elsewhere—or vice versa—in order to pass.[41] Both MMS and Marathon studied the bill and determined that if relief was applied only to existing fields that would not otherwise be developed, Johnston's bill would yield a net gain to the treasury (ibid., 22, 79). Marathon told the committee that reducing royalties was in fact a self-funding measure: not unlike the Reaganomic supply-side tax cuts of the previous decade, a deepwater royalty holiday would pay for itself in the long run. Marathon calculated that for every $1 of royalties foregone for marginal, already-discovered developments in the deepwater Gulf, $15 of federal revenue would be generated in the form of royalties and taxes (ibid., 79). Nevertheless, the George H.W. Bush administration refused to support S.3127 at that stage, because the fiscal impacts of the bill's early draft were unclear at best. In truth, it was questionable whether any amount of study could generate such knowledge. To paraphrase Niels Bohr (or Yogi Berra), it is tough to make policy predictions, especially about the future.

MMS staff prepared several alternative methods to grant relief for Johnston's committee and his witnesses to consider, including a sliding royalty rate schedule tied to fluctuations in the price of oil;

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[41] The CBO explains: "Section 257(e) of the Congressional Budget and Impoundment Control Act of 1974 (the Budget Act), as amended in 1987 and 1990, set out the rules on asset sales...CBO considers the continuing lease of federal lands under leasing provisions in law before 1987 as 'routine' under the Budget Act. In contrast, new offshore oil leases that may occur directly as the result of legislation providing for royalty relief in deep waters would be 'nonroutine' [*sic*]. Hence, the receipts from such sales could not be counted toward reducing the deficit under section 257(e)" (U.S. Congressional Budget Office 1994, 14).

fixed-period reductions that would terminate after the end of three to five years; and descending royalty levels for deepening water-depth tiers in the Gulf (ibid., 50). The oil and gas firms preferred the fixed-period royalty reductions, preferably for a minimum length of five years. Apposite to the mixed statutory mandate that his agency had to operate under, Sewell stressed two contradictory points for Johnston to consider. The first was that the best-possible or ideal legislation his committee could produce would make sure that deepwater firms would not receive royalty-free production for projects that would be profitable even without royalty relief (ibid., 22). This principle was a reflection of MMS's charge to receive fair market value for OCS resources. It was also simply good business sense. Second, Sewell pleaded that any new responsibilities pressed upon MMS be designed to be as administratively simple as possible. Although S.3127 was not even a full page in length—and already violated Sewell's first condition—Sewell said he believed that the bill might already "be a little bit too complex" (ibid., 16). In light of MMS's continuing difficulties with information technology and royalty management issues, it was a wise request on the part of MMS leadership.

7.2. Deepwater *Dis*incentives

The deepwater production incentives bill lay dormant until February 1993, when Johnston re-introduced it as the Outer Continental Shelf Deep Water Royalty Relief Act (S.318). A companion bill was introduced in the House the following month (H.R.1282), and both chambers got to work on their markup. A few notable changes were made in Johnston's version when the bill morphed from S.3127 into S.318. The new draft clarified that any new royalty relief authority granted to the DOI Secretary would only apply to the Gulf, a provision Johnston had always intended to include but had omitted from the text of the first bill. Both bills gave clearer definition to key terms, and added a NYMEX price threshold for natural gas production, at $3.50 per BTU. Following the advice given him by MMS Director Sewell during the committee hearing in September 1992, Johnston lowered the price threshold for crude oil from $34 to $28 per barrel (ibid., 22). The new bills also added authority to MMS to reduce royalty rates or suspend their payment on an existing lease before production had started from it—an offshore equivalent to the 1981 "tar sands" amendment to the Mineral Leasing Act (US Congress 1993a, S.318). DOI lawyers believed it was possible that MMS could legally extend royalty relief to an existing lease before the start of production, but recommended getting new legislation passed before doing so on anything more than a case-by-case basis. At best, even a single programmatic extension of pre-emptive relief would require pushing a regulation through the lengthy formal notice-and-comment procedure to promulgate a new regulation (US Congress 1993d, 11). In order to grant royalty reductions for future leases, the agency clearly needed additional statutory authority.[42]

In both the House and Senate committee hearings held on Johnston's bill in September 1993, similar themes raised during the previous session cropped up in witness testimonials. First, multiple witnesses cited the devastating loss of oil and gas industry jobs since 1982, although the job loss figure they now cited had grown to 450,000 (ibid., 66). Before long, the quoted job losses inflated to well over half a million (ibid., 2). Second, the dire warnings of investment capital fleeing the deepwater Gulf were reiterated by different oil and gas companies than those present in 1992, and delivered this time with even more gloom and doom. An Exxon official informed Johnston's committee that in the two years since 1991, his company had decreased its share of upstream capital investment in the US compared to the rest of the world from 50% to under 33% (ibid., 23). Texas A&M Professor of Petroleum Engineering Hans Juvkam-Wold detailed how the English, Scots, Norwegians, French, and Brazilians were challenging the

[42] By the time Congress began seriously considering deepwater royalty relief legislation, the Secretary of the Interior had exercised his power to reduce royalties on the OCS only twice. The first involved production from a lease whose owner went bankrupt; the royalty reduction allowed another firm to take over its operations instead of having the field shut down production. The second reduced the royalty rate of a 1970s-era royalty-bidding lease from 72% to 25% (U.S. Congress 1992b, 49).

US for supremacy in offshore oil and gas technological innovation, as they leapfrogged over US firms (ibid., 27–28). Already, the deepest subsea completion in the world was in Brazil, Juvkam-Wold pointed out, not where the technology had been pioneered in the Gulf. Opening the still-fresh wound of Japan's "postwar miracle" of surging competitiveness in car manufacturing and information technology, Juvkam-Wold warned the Senate of a new challenge:

> It is my understanding that Japan is currently designing a drill ship to drill in deeper waters than we have in the U.S. That won't happen for many years, but they are moving into this area also.
>
> So unless we promote R&D [Research & Development] in the U.S. to a greater extent and more long-term, I think we are going to be slipping further behind. (US Congress 1993d, 28).

We are losing our edge, another speaker interjected. Third, the industry witnesses attempted—with great success, one might add—to navigate a tightrope stretched between praising their own deepwater technology, and pleading for "relief" from royalty rates so burdensome they threatened to shut down the Gulf. The company men present all but said, would the last firm to abandon the deepwater Gulf please remember to turn off the lights? "Even the largest companies may not be able to justify proceeding at the pace dictated by current MMS leasing terms given today's royalty and tax systems," Exxon stated (ibid., 78). Republican Senator Trent Lott (R-MS) took the novel concept of offering "relief" from a normal cost of business to its logical conclusion when he explained the reason he supported the royalty relief measure. Lott wasn't seeking to incentivize the deepwater industry with a lowered royalty rate, he said, no; he only wanted to remove disincentives that stood in the way of private enterprise. Even the statutory 12.5% minimum royalty rate offered by cheap area-wide leases was a "disincentive to go forward" with a field's development, Lott repeated (ibid., 25).

Now under the leadership of the Clinton administration, MMS continued to deftly negotiate the narrow path followed by George H.W. Bush's DOI in seeking to aid the industry without needlessly surrendering precious federal revenues. Assistant Secretary for Land and Minerals Management Bob Armstrong unveiled a new analysis of the deepwater production incentive, put together by MMS staff after the revised S.318 bill was published earlier that year. MMS reviewed all undeveloped deepwater discoveries that they considered large enough to be produced in the near future. The agency concluded that adding royalty relief as the bill spelled out would promote new development of just 2 of the 30 fields (ibid., 11). Those two fields would add an estimated 150 million barrels of oil equivalent to the nation's production stream, as well as royalty payments from a portion of that flow, but those revenue gains "would be more than offset by royalties foregone from the twenty-eight deepwater fields that would have been developed and produced even in the absence of the proposed incentive (ibid.). With MMS analysis in hand, Armstrong effectively threw cold water on that section of Johnston's bill, although the Senator would continue to stress the importance of those two fields well into 1995. Yes, revenues could be expected to rise in the short term due to the two new projects, but the net loss to the treasury would be massive. Curiously, Armstrong gave his tentative approval for the portion of the bill that would grant an automatic royalty suspension for all new leases sold in the future. His only quibble with Johnston's bill was his concern that the shallow-to-deepwater boundary should be set at 400 and not 200 meters of water (ibid.). This was not out of some esoteric concern for what actually constituted "deepwater," though. Instead, the MMS study had concluded that royalty would have a negligible effect on stimulating production between those depths.

It seems surprising that the Clinton administration would support a provision that, as written, would have mandated the granting of automatic royalty relief for every future deepwater project yet to come onstream until it had recouped its capital investment. The administration's willingness to consider Johnston's bill was contingent on a handful of factors that were still in flux. Armstrong suggested that the offering of deepwater royalty suspensions should be attended by a return to the tract nomination procedures of yore, at least where the royalty relief would apply. This idea was an absolute non-starter with the companies. "I have had a rather sizeable negative reaction" from them for even suggesting it, Armstrong sheepishly

reported to the Senate (ibid., 16). The industry opposed tract nomination so strongly that they convinced Johnston to insert language into the next draft of the S.318 bill to expressly prohibit MMS from using any leasing method other than the area-wide system (US Congress 1993b, 7). Senator Johnston himself, well attuned to the bureaucracy, was not apt to give MMS that much leeway in choosing which tracts to offer with the royalty relief incentive attached. He said,

> Well, it is my inclination to go with a bill that says everything gets royalty relief expect that which [the DOI] take[s] off the table[,] but give you the full authority to take anything and everything off the table that you think would be drilled anyway.
>
> . . . Whereas if you go to the alternative . . . by the time they look at individual tracts . . . they go on to interagency [consultation] and they have an environmental impact statement, I mean, it would be the next century before we would get any of those things done. (US Congress 1993d, 17).

Indeed, the DOI estimated that a royalty relief application review process could take up to a year, in order to address all issues in a "consistent and efficient manner" (ibid., 36). Relief rules that could be administered in an across-the-board fashion were far more welcome to Congress and the agency alike.

In 1993, the administration's united policy front began to crack. Even the DOI seemed to be of two minds about the new-leases provision of the relief concept: while Armstrong's statement seemed to welcome the policy, the MMS study contradicted his stance. The study noted that its review of the 30 already-discovered deepwater fields could be used to draw valid conclusions about royalty relief's effect on yet-to-be-discovered fields. Because the royalty rate was already very low in deepwater (400+ meters), there would be "only a relatively small range of field sizes that would change from an unprofitable to profitable status, even if the royalty obligation were eliminated," it claimed. "The vast majority of resources is expected to remain either unprofitable or profitable" regardless of whether royalty relief was granted to all new deepwater leases (ibid., 35). Only one outcome of that policy was guaranteed: already-economic fields "would become somewhat more profitable" and federal revenues would take a major hit as a result (ibid.). Johnston's bill retained the support of the Clinton Department of Energy over the course of 1993, but the DOI under Secretary Bruce Babbitt lost its enthusiasm for the new-leases part (Davis and Neff 1996, 47).

Profits were indeed on the rebound in the Gulf. A lease sale held in its western portion on September 14—the same day of both House and Senate hearings on the incentive bills—evinced a "resurgence" of interest in the Gulf, according to Armstrong[43] (ibid., 8). A rebound in the offshore's fortunes, no matter how slight, was wonderful news for those it employed, but such good news could harm the lobbying push for the incentive. Although 1993 was quickly drawing to a close, witnesses before the House and Senate committees still cited statistics from 1992 to illustrate the point that deepwater economics were still very bleak—a deft choice, as industry activity data from 1993 were somewhat less bleak in the picture they painted. There was talk of four different 3-D seismic surveys shoots that were crisscrossing the Gulf at the time, giving deepwater an especially long look and boding well for future exploration efforts there (ibid., 27). Better geological models and well test results were also proving deepwater reservoirs to be extraordinarily prolific. Operators that committed in 1993 to pursuing new deepwater developments expected a minimum initial flow rate per well of around 3,000 barrels of oil per day, a velocity generally regarded as the highest one might expect to encounter in the shallower waters of the continental shelf (US Congress 1993c, 169). Hopes were high that the 3,000 barrel-per-day flow rate would end up as a minimum rate for an average deepwater well.

[43] Lease Sale 143 was held on September 15, 1993 in the western Gulf, attracting $64.3 million in high bids, more than twice the showing at the previous western sale in 1992.

Evidence was mounting that deepwater reservoirs were fundamentally different than those in the shallows. "Geologists are expecting reservoirs in deep water to have thicker net pay zones," Brown & Root's Jim O'Sullivan told the House of Representatives that September. "This should mean more drainage volume per well and higher production rates than encountered on the shelf" (ibid.). While Congress was busy studying variations on the fiscal relief concept—several members proposed a $5-per-barrel tax credit in lieu of (or in addition to!) royalty relief—industry witnesses adopted the strategy of painting deepwater geology as unknown, risky and expensive whenever the discussion turned to royalty relief terms, while reassuringly affirming that the same geology posed safety and environmental risks "not any greater" than in the shallows (ibid., 8, 11, 88). Texaco was unique among the firms called to testify for its denial that the royalty relief bill would have much of an effect on deepwater economics. It would have only a "marginal impact" on whether an operator decided to invest in a development, Texaco said (ibid., 150). In a turn reminiscent of the area-wide leasing debates of the early 1980s, Phillips Petroleum cautioned that royalty relief would only prove to benefit the largest firms, those already capable of absorbing the "extraordinary risk" of deepwater exploration and production (ibid., 137). If Congress wanted to stimulate investment, Phillips' Randy Nesvold said, it should look instead to amending the byzantine federal corporate tax code.

After meeting with industry groups and Clinton administration staff multiple times over the fall and winter of 1993, Johnston introduced a revised version of his bill on April 11, 1994, and it was favorably reported out of committee by a 17–2 vote. The amended version of S.318 retained the same price thresholds for oil and natural gas as its predecessor, as well as the blanket across-the-board automatic relief clause for all future production beyond 200 meters until "capital costs directly related to such new production have been recovered" (US Senate 1993d, 3). The most meaningful change to the bill at this stage was the addition of Secretarial discretion in deciding which leases over an already-discovered field would qualify to receive royalty relief; this change is what would allow the Secretary to deny relief to the 28 fields in MMS's group of 30, while granting it to the 2 otherwise-uneconomic fields. The bill also acceded to concerns of bureaucratic backlog by requiring an automatic approval of an application for relief on an existing lease, if the Secretary did not act on it within a period of several months. This was added to make the Secretarial review of applications more "palatable" to supporters of the bill who feared that regulatory inertia would prevent decisions from being made in a timely manner (Davis and Neff 1996, 47).

Crafting the bill's language to make it revenue-neutral to address the PAY-GO concerns raised by DOI was the primary challenge to the legislation's success during this period (ibid., 46). Most striking in retrospect is how little attention was given to the possible fiscal effects of granting royalty relief to all future developments automatically. MMS and industry officials routinely said that it was "without question" that the "future" of growth in domestic oil and gas reserves was in the deepwater Gulf (US DOI 1993, 9; US Congress 1992b, 65). Yet the CBO felt that the new lease provision would have little impact on deepwater activity at all (US Congress 1994a, 10). MMS estimated in 1993 that the capital-recovery royalty relief provision for new leases would increase bonus bid totals from $2 million to $5 million annually, at least during the first few years of the policy (US Congress 1993c, 37). Although future royalty receipts would of course go down, MMS director Tom Fry held that a rise in bonus bids would essentially equal those losses out. "[N]o significant budget impacts are expected" from applying relief to all new leases awarded in water depths beyond 400 meters, he maintained (US Congress 1993c, 42).

None seemed to entertain the possibility that a new Auger or Mars-sized discovery—with capital development costs in the billions—would be found on an OCS lease anytime in the near future. This myopia seemed to be a product of the CBO's scoring criteria, which only considered revenue impacts occurring during the first five years after a bill's enactment. Because new leases issued with relief applied to them could take upwards of five or even fifteen years to develop and achieve first oil, their royalty losses would occur well beyond the scope of CBO's assessment, and thus had no impact on the score (Davis and Neff 1996, 47). The CBO ruled that the existing-lease provisions as amended by

Johnston in April 1994 would be revenue-positive for the federal treasury, since it would no longer be extended to fields that could be profitable without further fiscal assistance from the US treasury (US Congress 1994a, 10).

7.3. The Battle of New Orleans

Senator J. Bennett Johnston was determined to get his royalty relief bill pushed through Congress before Washington's attention turned completely to the 1994 mid-term elections. He continued to stress to his colleagues that hunting for oil and gas in water depths beyond 200 meters (656 feet) was an exceedingly formidable and daunting endeavor. Johnston also warned that more job losses were coming if the royalty bill was not implemented, and soon. Echoing an anecdote recounted to him by an executive of an independent oil company, Johnston hazarded that the state of the Gulf oil patch off Louisiana in 1994 was reminiscent of the Battle of New Orleans. That skirmish in the War of 1812 saw a small number of US soldiers beat back a larger British invasion force. As a hit song at its release in 1959, Johnny Horton's ditty about the battle told a glorious story of American bravery and skill in decimating the British ranks with lethal rifle and cannon fire. In quoting one of its lyrics, the Senator was unwittingly comparing the offshore companies in the Gulf with the British soldiers, not his countrymen. It was a clumsy comparison to be sure, but it got the point across well enough. "[There are] Damned few of us left," Johnston said to a group of company men, "and you are getting fewer all the time" (US Congress 1994b, 87). Johnston's self-identification with the oil company employees as "us" was no verbal slip.

Johnston's royalty relief bill was still not primed for battle, as it lacked the full-bore support of the DOI. Meetings with MMS leadership and staff from its economics and resource evaluation divisions in late 1994 prompted a major change in the bill. MMS staff had been developing a volumetric approach to administering royalty relief. Under it, a deepwater field would receive one of several predetermined volumes of royalty-free oil and/or gas, based on water depth. These royalty suspension volume, or RSVs, would escalate to higher levels as the seafloor pulled deeper downward (Rose 2008, 22). It was, as the administration said, the closest one could get to an objective standard for granting relief. The volumetric method was combined with the results of a confidential industry survey acquired by Johnston's Senate committee staff that queried company leaders about the economics of the deepwater. The survey's respondents generally estimated that capital investment costs for a generic field would be recouped once 35% of the field's recoverable reserves had been produced and sold (Davis and Neff 1996, 47). Johnston wrote this this principle into his bill, jettisoning the capital recovery criterion and inserting for three bands of water depth a volume of royalty-free production that aimed to approximate the 35% estimate. Doing so promised to relieve MMS of administrative headaches related to accounting for (and auditing) project costs in order to calculate relief amounts (ibid.). The water depth bands of 200–400 meters, 400–800 meters, and 800+ meters could be easily applied to MMS's current administrative leasing procedures (US Congress 1994c, 38).

Johnston's revised DWRRA bill was re-introduced in the Senate on January 4, 1995. Johnston had tried but failed to get the royalty relief bill passed that winter by attaching it to the Hardrock Mining Reform Act (S.775). He added the deepwater relief language to the bill in June 1994 while it was in conference committee, but the 103rd Congress adjourned before it was brought up for a vote (Davis and Neff 1996, 48). That same month, congressional leaders met with President Clinton to discuss the economic health of the domestic oil and gas industry, both offshore and on. Johnston made a second attempt by attaching the relief language to another unrelated bill, the Alaska Power Administration Asset Sale and Termination Act (S.395). The DWRRA had changed significantly since its last iteration in April 1994. It continued to give the Secretary discretionary power to grant relief to existing leases if doing so would make a "lease or unit" newly economic, but tied the Secretary's hands by applying the royalty-free volumes to all leases eligible for relief (US Congress 1995c 8). These royalty suspension volumes would be retained in the bill as enacted (see Table 3.2.). The new leases provision was also reined in from acting in perpetuity to only

those leases awarded within the five years after the bill's enactment into law. Critically, in the bill's redrafting between mid-1994 and January 1995, its language had to be divided up into several sections, paragraphs and subparagraphs, an unnecessary task back when Johnston wrote his original one-page bill. The switch brokered between MMS and Johnston's office from capital-cost recoupment to royalty volumes had restricted the definition of "new production" from encompassing all future production from existing and future leases to only existing leases. Two new sections of the royalty relief bill were created to address new leases, and the royalty suspension volumes were re-printed within it. Missing in the provision for new leases, however, was the repetition of the oil and natural gas price thresholds that would cap relief if commodity prices rose significantly. It would prove to be a disastrous omission.

Table 3.2. Royalty suspension volumes for oil and gas production under the Deep Water Royalty Relief Act of 1995, for existing leases and "post-act" leases issued 1996–2000

Water Depth of Lease	Royalty Suspension Volume
< 200 meters	0 mmboe
200–400 meters	17.5 mmboe
400–800 meters	52.5 mmboe
> 800 meters	87.5 mmboe

Source: Deep Water Royalty Relief Act of 1995, Title III of Public Law 104-58, enacted November 28, 1995 (109 Stat 564 and 566).

The switch to a volumetric basis for determining royalty relief and the delimiting of the new leases provision to five years won the DOI's support for the bill. But the measure ran into a buzz saw of opposition in the House. Representative George Miller (D-CA) led a stiff opposition to the new leases section of the bill, arguing that it was a "giveaway" to pre-emptively waive royalties on leases that could hold billions of barrels of oil. For his part, Johnston continued to paint the deepwater oil and gas industry as one in the throes of an economic crisis. "[T]he canary in the mine has just died," he said (US Congress 1995a, 3). But Johnston had not refreshed his numbers on the health of the industry, and he continued to cite outdated statistics. His April 1994 committee report on the royalty relief bill quoted an MMS report written a year and a half earlier, showing that the number of offshore rigs in the US had declined from 256 in 1981 to just 52 rigs in 1992 (US Congress 1994a, 3). That figure had more than doubled by April 1994, to 107 rigs—a clear indication of a petroleum basin undergoing a revival (Baker Hughes 1994, 9). Johnston continued to cite trends in oil and gas capital leaving the US as late as 1995 by using data from 1992 (Congressional Record 1995b, S484). Johnston's casualty counts for his Battle of New Orleans were also cherry-picked to show things at their worst. The Senator compared recent lackluster sales in the Gulf against the very first booming area-wide lease sales held in 1983—a comparison that grossly overstated the impression of cataclysmic decline in the industry over the first decade of area-wide leasing (US Congress 1994a, 4). Doing so pitted a $64 million dollar sale held in the western Gulf in September 1993 against the $1.6 billion taken in at the blockbuster August 1983 sale there. Legislators and government officials continued to use bonus bid totals as the primary index of the industry's vibrancy, notwithstanding the Comptroller General's instructions from as far back as the 1970s after the MAFLA lease sale disaster that bonus bid totals are an extremely poor measure of fair market value or an auction's success.

To illustrate the concept, consider the lease over Mississippi Canyon 28 that Exxon had so eagerly bid for in the 1980s. Hypothetically, had the lease been sold under the terms of the DWRRA, it would have received royalty-free production from the second tier of RSVs: lying between 400–800 meters of water, it

would receive 52.5 million barrels of oil equivalent royalty-free. If applied to the Pompano field's development history, production from the lease would have flowed royalty-free for the first six years after it started up. With the oil prices present during Pompano's actual production during the late 1990s, the operator would have earned $1.04 billion dollars before any royalties were due; the royalty payment eliminated was $129.5 million.

George Miller laid into the royalty relief concept throughout the summer and fall of 1995. He alleged—correctly, as the GAO has since affirmed—that MMS did not conduct any "robust" cost/benefit analyses on the royalty relief bill before its passage in 1995 (US Government Accountability Office 2006, 14). MMS officials had been pointing out since 1993 that area-wide leasing had shifted the vast majority of the government's OCS receipts onto royalty payments, and away from bonus bids (see Figure 3.34.). Turning around and lowering royalty receipts just ten years later would effect a "substantial decrease" in OCS revenues (US Congress 1993c, 2). Miller repeatedly reiterated this point to his colleagues in the House as he fought to vote down the royalty relief measure. Miller won a minor parliamentary skirmish in July 1995, and the bill was temporarily pulled from consideration (Davis and Neff 1996, 48). He had convinced many colleagues the House to oppose the bill on two grounds. First, three long and eventful years had passed since the deep water production incentive concept was first floated, and the deepwater Gulf was no longer mired in the doldrums as it had been before. House members quoted liberally from a June 18, 1995 article in the *New York Times* that announced the start of a new oil rush in the deepwater Gulf. Miller read from the House floor from the article: "'The great interest in the May [lease] sale came as no big surprise to serious observers of the industry,'" Miller read, quoting from a magazine article. "*Business Week* had predicted 'furious' bidding at the May 10 lease sale because of a 'feverish black-gold rush in the Gulf,'" he continued (*Congressional Record* 1995a, H7579). This royalty relief bill was "too late" and "out of date," Miller said. The idea for royalty relief in deepwater was "an idea whose time has come and has gone, because technology and the economics of the oil business have overwhelmed that idea" (ibid.). Meanwhile, another member attempted to expand the bill's provisions to include extra relief for subsalt wells (*Oil & Gas Journal* 1995a). Johnston waived off the proposal only because the bill was so advanced in the markup process.

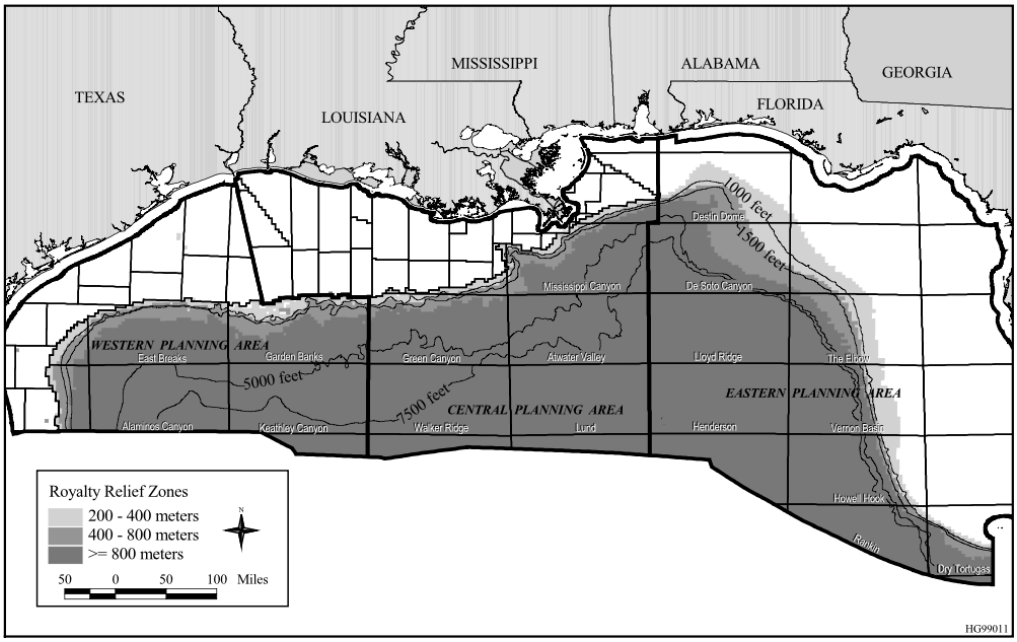

Figure 3.34. Bathymetric map of the deepwater Gulf of Mexico, divided by the water depth bands stipulated in the Deep Water Royalty Relief Act of 1995.

The dominance of the darkest shading indicates that almost all deepwater leases rest beyond 800 meters, and were thus eligible for the maximum amount of royalty relief offered between 1996 and 2000. See also Table 3.1.

Source: US DOI 2000, 3.

Second, Miller and his compatriots in the House reminded their Republican brethren—then newly in control of the lower chamber after the "Republican Revolution" of 1994—that the bill was incompatible with their purported interest in cutting the federal budget deficit and reducing the national debt. "You cannot have it both ways," Rep. Neil Abercrombie (D-HI) said:

> You cannot say that we are going to have deficit reduction, that we are going to cut spending and have table-thumping, table-pounding rhetoric in that regard, and then turn around and give all the money away. This is a real test. (*Congressional Record* 1995a, H7581).

Abercrombie and Miller over-estimated the power of the deficit reduction argument; as in the early 1980s under Watt, it found little traction with those seeking to remove a "restriction" on private enterprise. Anyway, rookie Speaker of the House Newt Gingrich and his Republican House Budget Committee chair John Kasich had already found their nearly $1 trillion in spending cuts elsewhere, mainly by abolishing more than 280 federal programs[44] (Rae 1998, 47). Where it was conceded that the industry had seen a resurgence of interest and profitability since 1992, the volatility of crude prices were cited as having "traumatic effects" on employment in the industry and its outlook (US Congress 1994c, 1). Industry and government officials alike hammered away on the bell of "energy independence" and the need to boost domestic production. Still, job creation was the banner argument that won the day. By the time the House held its final debate on the DWRRA measure on November 8, 1995, any attention paid to protecting the receipt of fair market value or stimulating an increase in federal revenues was nowhere to be found. Replacing Marathon's estimate that $1 in marginal royalty relief would yield $15 to the federal treasury, was a new claim that every $1 billion dollars in new, royalty-free deepwater investment would yield 20,000 new jobs "all over the Nation" (*Congressional Record* 1995c, H11868).

Miller's procedural victory in July 1995 was upended as Republicans in the House began to build support for the bill over October and November. The head of the freshman class of House Republicans—newly representing the majority of southern seats—whipped the 35 new party members who had voted against the DWRRA bill in July. Several Democrats active in the Congressional Oil and Gas Forum also assisted in collecting votes for the bill (Davis and Neff 1996, 51; Lichtman 2008, 414). Johnston and his supporters navigated the royalty relief bill—attached still to the Alaska Power bill—through a series of parliamentary steps and votes that ultimately brought the conference report on the bill to a successful vote in the House on November 8 (Davis and Neff 1996, 51–56). The Senate approved the conference report by a vote of 69–29 on November 14, passing the bill and clearing it for signature by President Clinton. The legislation, as a senior Senate staffer involved in its creation wrote soon after its enactment, had "not come easily" (ibid., 45). An analysis requested by George Miller and circulated by the CBO in mid-1995 had been a major setback, nearly scuttling the bill. The CBO analysis—not an official "scoring," as it extended past the five-year budget window—concluded that extending royalty relief to deepwater would result in a net loss of $300 million to the treasury over a twenty-five year period. This "seriously undermined" the premise of self-funding relief and the offshore industry's credibility (ibid., 51), and it contradicted the CBO's first analysis released in May 1994. The CBO had concluded then that if DOI gave relief to new leases in deepwater, bonus bid receipts "would be likely to rise commensurate with the drop in the present value of future royalty payments"—even on leases that firms were already set to bid on without relief (US Congressional Budget Office 1994, 13).

[44] The subcommittee in the House on appropriations for the DOI also approved a budget in 1995 to lift the moratorium on OCS leasing, but the measure went nowhere (Lester 1996, 7).

The critical moment for the bill and the royalty relief concept itself came in October 1995, when an internal study conducted by MMS staff was released by Secretary of Energy Hazel O'Leary, after it had been withheld by the brass within the DOI (Davis and Neff 1996, 51). The study, which used the same data as the second CBO analysis, estimated a $200 million net gain to the treasury over 23 years, due to the predicted rise in bonus bids (ibid.). Just as the infant MMS had done with the GAO critical of area-wide leasing in 1985, the agency questioned the CBO's methodology for projecting future deepwater development activity, which was the crux of the bill's long-term effect on revenue totals. With the question of budget neutrality long settled due to the granting of discretionary power for Secretarial approval of relief for existing leases, it was the prospect of awarding all deepwater leases from 1996 through November 2000 with automatic royalty suspension volumes that had threatened the bill's demise. Many credit O'Leary's release of MMS's calculation of the bill's long-term effects and a letter she wrote outlining her support for the bill with helping to secure its final passage (ibid.). By the time the Senate approved the DWRRA bill late in the afternoon of November 14, the long-brewing political fistfight between the newly Republican House of Representatives and the White House had grown bloody. All non-essential services of the federal government had been shut down that day, starting at noon. The irony—or incongruity—of the situation was not lost on the twenty-nine Senators who were busy in the chamber, still at work, there to cast their votes in opposition to passing the deep water royalty relief measure. Patty Murray (D) of Washington found it incredible that although the government was shut down and the budget was in disarray, here we are, she said, "on the floor of the Senate debating a major giveaway to foreign oil companies" (*Congressional Record* 1995d, S17-24). She continued, "I stand here today concerned, anxious, and worried."

7.4. The Canary Lives! Misdirection and Mistakes in the DWRRA

Despite the hubbub over the second CBO analysis that Miller commissioned and the dueling estimates over long-term budgetary impacts, the final round of congressional debate on the royalty relief bill paid almost no heed to its new-lease provision. In the House, there was almost no mention of the new-lease provision by its supporters. Four members—Martin Frost (D-TX), Bob Livingston (R-LA), Ken Bentsen (D-TX) and Don Young (R-AK)—rose on the floor to speak in favor of the bill's "targeted deep water royalty relief" (ibid., H11854, H11856, H11857, H11872). The exact phrasing used by the four Gulf Coast congressmen was not mere elocutionary serendipity. Each was expressing their support for the bill by repeating language drawn from Hazel O'Leary's letter in favor of the bill, which itself used the phrase "targeted" relief three times in as many paragraphs (*Congressional Record* 1995c, H11872). During the debate, whenever members were not discussing the rival budget estimates, others stressed the "targeted" concept of relief. Rep. Gene Green (D) from Texas seemed to conflate and confuse the existing-lease and new-lease provisions, saying that the DOI would exempt from royalties only "production that may not be utilized [developed]." Green continued:

> We are giving the DOI the ability to say, "If you will do it, then we will give you that benefit [of royalty relief]." We are really just letting them say, "OK, depend on the market, and if it will work, it will help the Treasury and also help in the creation of jobs." (*Congressional Record* 1995c, H11858)

Green was not alone in what was either understandable confusion over the convoluted leasing process or a good strategy in arguing for of the bill. Jimmy Hayes (D-LA) debuted a similar defense of the DWRRA bill during a floor debate in July. Hayes said, The Secretary of the Interior must certify that the area under consideration for his leniency, and a delay of royalty payments, will not otherwise receive a bid or be drilled upon. It will not happen without the occurrence. It will not happen without his certification. (*Congressional Record* 1995a, H7583) Hayes was not comparing the two different sections of the bill in the above quotation; he was saying that the deep water royalty relief bill as a whole would grant relief only if the Secretary determined that a lease would not be drilled without it.

Perhaps the worst offender in this area was Billy Tauzin (D), longtime House representative from Louisiana. In the July debate, Tauzin's word of choice was "clarification." He said repeatedly that the main purpose of the bill was to "clarify" the Secretary's authority to grant royalty relief on existing leases. Tauzin[45] deserves credit for making that initial distinction between existing and new leases in his speech on the floor, but here, too, the bill's purpose was muddled—perhaps intentionally. Tauzin spoke, "Why is it important to have this 'clarification?'"

> [Because] the Secretary of the Interior currently has the authority in new leases to grant initial royalty holidays based upon water depths.
>
> . . . . Second, he is not sure of his authority in regard to current leases where drills are not going to occur unless some royalty relief is provided. He is asking for a clarification of that authority. . . .
>
> The likelihood is that the Treasury will collect millions upon millions of dollars that it would not otherwise collect because the leases would never get drilled. It is that simple. (*Congressional Record* 1995a, H75811)

It was not that simple. The Secretary of the Interior clearly did not already have the power to grant royalty holidays for new leases. Even if, under a strained reading of the OCSLAA, it was believed that the Secretary already did have the authority to pre-emptively suspend royalties—a view that the DOI itself did not subscribe to—the DWRRA bill did not clarify the limits of Secretarial discretion in giving royalty relief to new leases, but mandated minimum automatic suspension volumes. Tauzin repeated a similar summary argument in favor of the entire bill during the November 8 debate immediately before the DWRRA vote. Tauzin said, "you have to prove that you would not drill it anyhow, unless you get some kind of relief" (*Congressional Record* 1995c, H 11871).

The Louisianan's most effective argument in favor of deep water royalty relief was visual. Early in November, Tauzin spoke in front of a large poster-board, as members of Congress are often wont to do (see Figure 3.35.). Pictured was an outline of Shell Oil's billion-plus dollar and extremely technologically advanced tension-leg platform, named Auger. The facility and its web of vertical marine risers and catenary moorings was superimposed over an areal photograph of Washington, D.C., with the platform's center directly above the 555-foot marble and granite Washington Monument. Like a monster bestriding the city, the yellow and red tentacles of the platform extended north beyond the Northwest gate of the White House and east over the Capitol itself to the Supreme Court building.[46] "There," Tauzin said, "is the bigger reason" why the bill was so essential to pass. Tauzin argued that Auger was technologically

advanced but already soon to be obsolete in the deepwater, because there were not going to be discoveries that large anymore to merit such a large, $1.3 billion facility large enough to reduce marginal costs so much that it achieved an estimated 14.8% after-tax rate of return in 1997 (Bohi 1999, 96); more current estimates place it closer to 20%. "What is happening" in deepwater, Tauzin continued, "is that there are very few high-production [fields] left in the offshore. What is left are marginal areas with a limited

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[45] Tauzin, a longtime Democrat since he first took office in 1972, switched his political affiliation to the Republican Party in August 1995, shortly before the floor debate cited here. Curiously, Jimmy Hayes made the same switch on December 1, 1995; together the two had been the royalty relief measure's strongest public advocates in the House of Representatives.

[46] Placing the Auger outline on top of Washington, DC in particular was a stroke of political genius. Shell Oil had long used an image of the tension-leg platform standing over a city to convey the height and breadth of its footprint, but to date had always used the skyline of New Orleans for the background. The image was so widely circulated that Auger was sometimes called "the TLP that ate New Orleans." For a reproduction of the Auger-New Orleans image, see Leffler, Pattarozzi and Sterling (2011, 182); National Commission on the BP *Deepwater Horizon* Oil Spill and Offshore Drilling (2011, 39).

amount of production, but you have to go real deep to find them . . . [m]ost of the new fields are smaller production fields, but in deep water. That is the problem" (ibid., H11871). This view did not hold up the deepwater Gulf as the unquestionable future of reserves growth in the US, but as a hydrocarbon-starved basin with only slim pickings left to compete for capital and jobs with hotter oil plays around the world. Using Auger as an emblem of technological progress towering over the legislators was an effective counterpoint to those in the chamber who contended that relief was unnecessary.

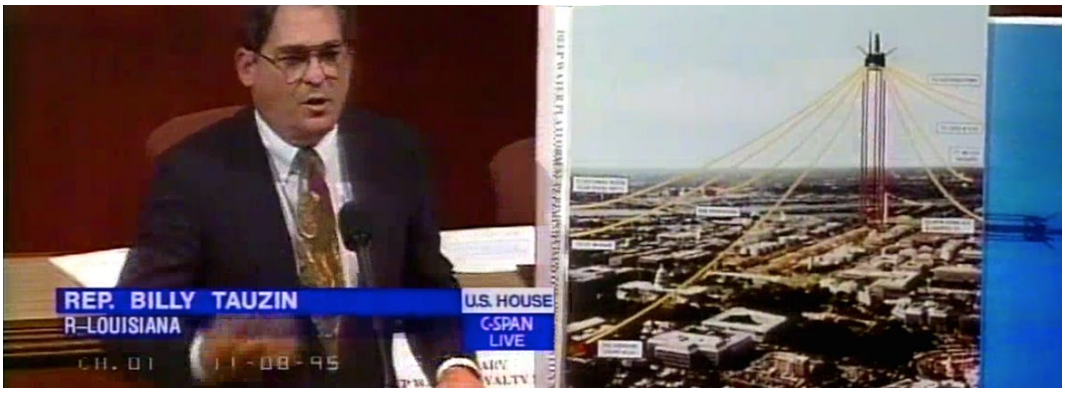

Figure 3.35. Billy Tauzin, representative from Louisiana's 3rd Congressional District, displays an image of Shell's Auger TLP superimposed over the skyline of Washington, DC during debate on the DWRRA on November 8, 1995.

Other DWRRA supporters sought to downplay the significance of royalty revenues to the federal treasury in the first place. Bill Archer (R) of Texas pointed out in the final debate that since the start of the OCS leasing program in 1954, royalties had only brought in $47 billion in revenue, while high bonus bids had totaled more than $56 billion (ibid., H11859). The treasury gets "more money from producers paying for the option to produce leases than from actual production royalties," Archer said (ibid.). While historically true, that figure misrepresented the effect that area-wide leasing had on the makeup of OCS revenues: in 1994, royalties totaled $2.4 billion while bonus bids had brought in just $331 million. Similar figures existed back to 1986, when royalties topped $2.5 billion—or 91% of all OCS revenues that year. The percentage of OCS receipts coming from royalty payments had averaged 82% since the start of area-wide leasing (US DOI 2014f). As is abundantly clear, the revenue-related rationales behind area-wide leasing and deep water royalty relief are wholly contradictory to each other: each sought to reduce one part of the offshore fiscal system in order to remove its financial burden on the industry and shift its payments to the other. Area-wide leasing dramatically reduced bonus bids for deepwater tracts especially, on the hope that future royalty revenues would "more than offset" the lost bonus bids. Deep water royalty relief aimed at achieving the exact opposite.

As with Watt's justification for area-wide leasing, much of the support for the DWRRA was pursued by those with unshakeable faith in the veracity of supply-side economics. "We need to show how this bill is not going to cost the country money," Johnston said—in August 1992, when the bill's provisions were even more advantageous to offshore drillers than the law's final shape (*Oil & Gas Journal* 1992a, 21). As one Department of Energy official supporting the bill said, "we hope" that the higher bid totals will "largely offset the revenue losses" (US Congress 1993c, 6). While the $500 million difference between the second CBO assessment of the royalty relief concept and MMS's late-1995 study seemed to be a product of different forecasting methodologies, the half-a-billion dollar gap is indicative of the hazards endemic to making such a prediction. The unknown and unknowable variables in the royalty relief revenue projection are legion: it predicts the amount of deepwater development for two decades out,

based in part on its prediction of how much additional interest in leasing the law would spur in the short-term after its enactment; both in turn are predicated on oil price assumptions and macro-economic outlooks for growth in gross national product. Most unquantifiable of all was Johnston's premise that only small, marginal oil and gas fields remained in the Gulf deepwater: it was a geologically poor supposition to make, and it proved enormously incorrect.

There was one other irony not lost on Senator Murray as the upper chamber voted to approve the DWRRA law on November 14 as the government sat closed due to budget disputes. Disagreements over the Republicans' proposed steep cuts in social programs and non-defense spending had threatened the pierce the federal debt ceiling and force the government to fund itself via continuing resolution, a temporary funding measure. In fact, while Murray was concerned about the budget, she was not speaking to the deepwater bill when she demurred that she was anxious and worried (*Congressional Record* 1995d, S17–24). Murray was referring to a provision of the Alaska Power Administration Asset Sale and Termination Act, to which Johnston had appended the royalty relief bill. This was the "Alaska bill" that Mike McCurry would refer to during his White House press briefing later that November, and it authorized the export of US oil produced from the North Slope of Alaska, an unprecedented move since the oil crises of the 1970s. The export authorization was pursued because BP and other North Slope oil operators determined that they could sell exported Alaskan oil at higher prices to Pacific Rim countries than to the California market, as they were then required by law to do. The captive export market had created an oversupply of crude in the California market, and allegedly allowed west coast refiners to enjoy extraordinary profits because of it.[47] The operating margins of oil companies in Alaska aside, the full Alaska Act signed by President Clinton on November 28 was of two hands working at cross purposes. Repealing the Alaskan export ban did not square easily with one of the key arguments for granting a royalty holiday: to boost domestic production in order to reduce foreign oil imports. Remarkably, in one breath, Representative Don Young praised the lifting of the export ban while pushing deep water royalty relief as a way to end the over $1 billion spent on purchasing foreign-produced fossil fuels and importing them into the US every week (*Congressional Record* 1995c, H11867).

Royalty relief was originally framed as a targeted incentive, although not in the sense used by Energy Secretary O'Leary. Its first focus was marginal, small and un-economic oil fields located in deep waters—initially, 400+ meters—that would otherwise not be developed without the relief measure. Focus remained heavily on the existing-lease provision even as offshore operators grew increasingly excited about the bill's royalty relief for new leases. Perhaps the after-the-fact connotation of "relief" aided this perception, as the term brings to mind injunctive relief delivered by a court, or the after-effect of taking two aspirin to stop a pounding headache. The new-leases clause in the law is more properly described as a pre-emptive royalty reduction. Johnston's first bill was closer to the mark by calling it an incentive. Rendering a royalty payment in exchange for depleting an extractive and non-renewable natural resource should be understood as part of the normal cost of doing business. It is no different than a widget-making firm purchasing the uncut steel with which to make their product from another supplier. The widget-maker adds value to the steel by transforming it into a sellable widget; the oil company transforms subterranean hydrocarbons locked away under immense pressure into sellable—i.e., produced to the surface—hydrocarbons. The manner and method of transformation is the substantive difference between a widget and crude oil, but it is only incidental to the economic role each raw material plays in the firms' creation of value.

The branding of a production incentive for deepwater as royalty relief has altered the fiscal regime in the Gulf as profoundly as area-wide leasing did. The minimum royalty suspension volume for a field in 2,625 feet of water or deeper would at an oil price of $28—right at the law's price threshold—would

[47] George Miller opposed this measure, too; however, the Department of Energy and other third-party studies concluded that the rise in crude acquisition costs on the West Coast would not be passed on to consumers (see U.S. Congress 1995d).

deliver $306.25 million in net savings to an operator, a magnificent sum. It should be acknowledged that the nature of the royalty suspension volumes does not mean that hundreds of millions of dollars are made available to an offshore operator to fabricate or install a deepwater facility; it works instead by being able to avoid paying the 12.5% royalty rate on the first millions of barrels produced. It might be said that this diminishes the stimulative effect of the relief, but the inclusion of automatic relief for a field could be borrowed against as an extra 12.5% boost to the project's early cash flow, to help finance initial capital expenses. Even groups loathe to commend federal energy policies for any achievements save for deregulation, expressed their pleasure with the size of the royalty suspension volumes. One Scottish oil and gas consulting firm with a strong anti-regulatory bent in their take on offshore policy admitted years later that the law was "extremely generous."

Three long years had passed between Johnston's meeting with Victor Beghini in 1992 and the final push in 1995 to pass the Deep Water Royalty Relief Act. It would be nearly another year before it would go into effect. The first DWRRA lease sales were held for the central Gulf in April 1996, and for the western Gulf in September 1996 (US DOI 2014c). What changed so dramatically over that three-year period? Natural gas prices rose about 30%, but crude oil had remained essentially flat. The US economy was expanding at that point, but no faster or slower than usual. What changed was that drillers hit a milestone in unlocking the mystery of deepwater geology. A spate of deepwater discoveries starting in 1991 "quelled recent doubts about the Gulf's deepwater potential," as *Offshore* magazine reported in June of that year (Crowden 1991, 38). Three discoveries announced in mid-1991 added a jaw-dropping 1 billion boe to deepwater reserves (Koen 1991). As has been extensively documented elsewhere, Auger began to produce oil at such incredible rates that by July 1994 a veritable "new vista" of deepwater petroleum opened up before the industry's eyes (Priest 2007a, 251). Production tests run at the Bullwinkle platform in the summer of 1993 confirmed what many of the best offshore geologists suspected: the deepwater turbidite sandstones could contain reservoirs of world-class size and productivity (Boué 2006, 120). Bullwinkle's wells were expected to flow between 3,000 and 4,000 barrels of oil per day each—above what was expected for a shallow-water field—and they had done so for about a year and a half. After shutting in Bullwinkle's wells for a short period in preparation, the chokes on the wells were loosened and production surged to a rate just shy of 8,000 barrels of oil per day. Shell engineers repeated the process at Auger in the summer of 1994, and two wells were soon flowing at over 10,000 barrels per day each, nearly exceeding the design capacity of the massive tension-leg platform (Priest 2007b, 250–251).

There was no reason why a deepwater well could not produce well over 30,000 barrels per day, a Shell executive told the *Oil & Gas Journal* (1995b) in early November. The entire industry was soon "abuzz" about the promise of the deepwater Gulf (Priest 2007b, 250). "At a stroke," Juan Carlos Boué writes,

> The economics of deepwater production were radically transformed by this discovery. For instance, Shell originally thought that the development of Auger would require drilling thirty wells, which would allow the company to produce 45 MBD [45,000 bbl/d] (assuming a production rate of 2500 BD [2,500 bbl/d] per day per well, with 18 wells operating at any one time). In fact, Auger ended up needing only 14–17 high capacity wells...and total production capacity at peak more than doubled the value originally estimated, which obviously allowed for its costs to be recouped much faster. (Boué 2006, 120)

This was deepwater relief of a different stripe. Shell's monstrous $1.3 billion gamble had paid off far more handsomely than expected, which was still a handsome profit in its own right. Billy Tauzin's poster-board mockup of the Auger facility, with its tension-legs and mooring lines spread over Washington, DC, was a more appropriate symbol of the heartbeat of the industry than he could have anticipated. Auger cemented the industry's belief that floating or buoyantly-tensioned facilities could be deployed in very deep waters while also employing innovative subsea technology below the platform (Priest 2007b, 251). Shell responded creatively to the challenge of high capital expenditures at Auger; in one of the largest transactions of its type to that date, Shell sold roughly 40 million barrels of oil in

advance to outside investors, raising $700 million in the process (Humphries 1995, 997). Auger officially produced its first barrel of oil on April 15, 1994, while the Senate prepared for a hearing on Johnston's revised production incentives bill, now called royalty relief. Appropriately enough, it was Tax Day.

Miller did not feel vindicated by the fantastic production results at Auger; he was infuriated. Not at Shell for their success, but at his colleagues in the House and Senate for seemingly turning a blind eye to the clear preponderance of evidence that the deepwater Gulf was set to "boom" all on its own. More than a year after Auger's start-up, Miller could hardly fathom why the relief bill was still being considered in the lower chamber. "This is not Christmas!" he held forth on the House floor in July 1995, "this is July 25. This is not December 25. . . . We should not be making this [into] Christmas in July for the oil companies, who have already made the determination by putting millions of dollars on the table, billions of dollars into research, to go there and to drill the oil" (*Congressional Record* 1995a, H7579). Miller had a point: the millions of dollars he was referring to had been plunked down by the industry just fifteen days ago at Lease Sale 152 in the central Gulf. Over $307 million in high bids was received, and the oil and gas firms departed with just under 3 million more offshore acres under their belts (US DOI 2014c). It was a clear vote of confidence in deepwater, or at least a showed an abatement of some of the fear that had gripped firms during the dog days of 1992. Miller attempted to push back against the semi-accurate statements made by Billy Tauzin and Jimmy Hayes, to little avail. "It is simply not factual," Miller intoned. "There is no certification by the Secretary for the new leases that we are talking about. And the fact is that this bill says that deep water is 200, 400 meters...And the *Wall Street Journal* tells us this is now profitable, developable oil at 6,000 feet of water" (*Congressional Record* 19951, H7583). Miller's last point was very factual; the news bulletins covering the very first royalty relief sale for the oil and gas industry lauded the high "deepwater bidding" that brought in 442 tracts "in more than 400 m[eters] of water" (Koen 1996, 40). Even with a new fiscal gift named after it, nobody considered any water depth less than 1,300 as *deepwater* anymore.

For five years, every unleased tract located in waters past 200 meters was offered under royalty relief terms whenever a Gulf lease sale took place. Ten such sales were held between April 1996 and August 2000, by which time eight years had passed since a need for relief was taken on by Johnston, and thirteen years after the OCS Policy Advisory Committee first suggested that pre-emptive royalty relief might be a good way to stimulate new deepwater drilling. The sales were utter blockbusters. The first two sales in 1996 together awarded over 700 leases in water depths over 800 meters, a 240% increase from the amount let in 1995 (US DOI 2014a). The overall number of leases sold in 200 meters of water or more doubled from 1995 to 1996 (see Figures 3.21. and 3.36.). The leasing boom did not stop there. One year after the two record-setting lease sales of 1996, Lease Sale 166 in the central Gulf shattered even more vinyl in 1997. More than 5 million acres were leased in a single day, and deepwater tracts continued to dominate industry interest (National Commission on the BP *Deepwater Horizon* Oil Spill and Offshore Drilling 2010, 38).

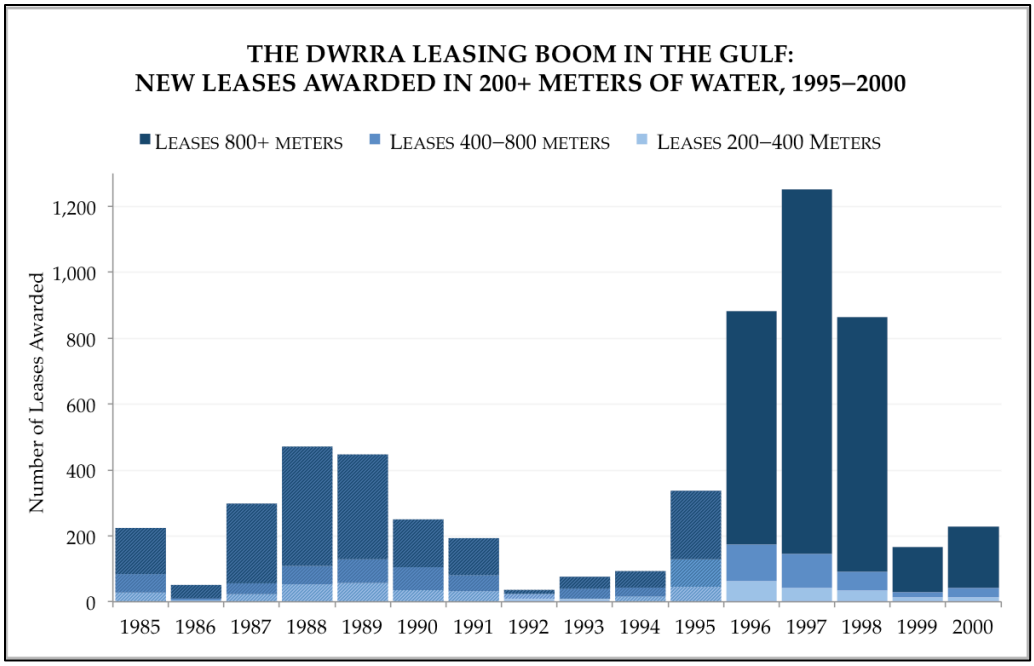

Figure 3.36. The DWRRA leasing boom in the Gulf: new leases awarded in 200+ meters of water, 1995–2000.

The number of new leases awarded under the royalty relief act simply dwarfed the size of previous sales held in the Gulf. Source: US DOI 2014a; US DOI 2014c.

Deepwater became such a clear leasing preference that in the years following the enactment of DWRRA, the basin went from representing one-third of all active leases held in the entire Gulf to well over one-half (Godec, Kuuskraa and Kuck 2002, 6). Clearly, the supporters of the royalty relief law pointed out, the DWRRA had achieved its goals with flying colors: the sales held in 1996 and 1997 alone attracted over $2.3 billion in high bids. "Rarely has a government program been so effective in attaining its objectives," gushed Andrew Derman and Daniel Johnston in an opinion piece in the *Oil & Gas Journal* in May 2000 (Derman and Johnston 2000, 25). Now the deepwater gold rush was on. In the eyes of MMS, the skyrocketing leasing rates—not to mention the billions of dollars in bonus bids collected—signified the effectiveness of the DWRRA. For years to come, MMS documents would re-print in various agency documents a short blurb in praise of the Act. To paraphrase, it reads: the DWRRA led to extensive leasing in the deepwater Gulf. Activity slowly increased from 1992 through 1995, but immediately after the Act was enacted, "deepwater leasing activity exploded" (US DOI 2000a, 5). Later versions noted that deepwater leasing activity slowed down over 1998 and 1999, "possibly because of low oil prices," but that the DWRRA spurred the industry into a variety of activities despite the "significant financial obstacles" of operating at such great depths (ibid., 5, 11). A brief but intense economic crisis in Asia and fears of a large inventory build-up in crude oil pushed prices down in 1998–1999 as OPEC allowed unconstrained production (Maugeri 2006, 172). To MMS's credit, a few of their public relations documents note that other factors like new technologies contributed to the rise in activity. Still, MMS has claimed DWRRA a resounding policy victory, one to be emulated. Understandably so, as both the CBO and the Department of Energy and DOI had publicized since 1992 their expectation that implementing a royalty holiday would increase bonus bids in the short run. Their prediction, they beamed, had come to pass. The offshore industry went one step further in its praise. Just weeks after the western Gulf lease sale held in 1996, Matt Simmons wrote to his colleagues from his post as chairman of the National Ocean Industries Association, the premier lobbying shop for offshore mineral extraction firms. He wrote, "This is a time to take off our hats to the political leaders who helped make this possible" (Von Flatern 1996).

The magnitude of the leasing rush that immediately followed enactment of the DWRRA can be explained by its addition of pre-emptory royalty relief to new leases, but not by the presence of the policy alone.

For one, industry demand was stronger in 1992 and 1993 than it appeared, and as detailed above, lease sales in 1994 and 1995 already began to show a growing and then rapid resurgence in deepwater interest. The Bullwinkle well productivity results were so promising that Shell made its final investment decision to go forward with Mars even before Auger produced its first drop of oil (Priest 2007b, 249). Deepwater momentum had been building since the installation of the Bullwinkle platform over 1988, and important technological foundations for the tension-leg platform, semi-submersible production unit, and buoyant or guyed tower were laid diligently during the 1980s. Almost all of the major deepwater projects chartered before the oil price collapse pressed forward, confident that they could remain profitable even at a $15-per-barrel oil price. The incredibly important rise of 3-D seismological techniques for offshore exploration and development purposes has also been thoroughly documented, but it is difficult to overstate its significance. 3-D seismic technology allowed drillers to see with remarkable precision through miles of rock and before long, under subterranean deposits of salt. Although the technology was little used at the start of 1990, by 1996 nearly 80% of all wells drilled in the Gulf were based on 3-D seismic data, the majority of which was generated in 1990 and 1993 (*Oil & Gas Journal* 1997, 43). By 1994, the technology had garnered widespread interest among operators, especially as its cost began to drop precipitously (US Congress 1994d, 5–6). As "massively parallel" computing power took hold, the time needed to process one kilometer of seismic data decreased from 800 minutes in 1985 to less than 10 minutes in 1995 (Nestvold et al. 1996, 28).

Access to seismic data and its interpretation changed the nature of the game for some offshore players: Exxon's exploratory success rate in the 1990s without and with the use of 3-D seismic was 43% and 70%, respectively (Bohi 1998, 46). 3-D seismic added another figurative dimension to the hunt for offshore reserves: it had deepwater operators returning to leases that they had previously given up on as devoid of petroleum. In Lease Sale 152 in May 1995, roughly 81% of all tracts receiving a bid in the Gulf had been previously leased; new imaging made old prospects appealing once again (Ryser 1995, 33). The *Oil & Gas Investor* reported in the fall of 1994 that the industry was preparing for a "full-scale assault" on the deepwater (Burke 1994). A year later, Anadarko was so energized by its success with sub-salt seismic imaging that they dived deep into the Gulf: we're drilling "as fast as we can go," said head of corporate communications Paul Taylor (Durham 1995).

Second, by publicly citing bonus bid levels as how it would measure the success of the DWRRA, MMS (and Congress) prejudiced the participants in the leasing market towards delivering the desired results. Keenly aware that Congress was debating whether to give them a substantial break on future royalty payments, the industry reacted to this information by making sure to deliver large lease sale results in 1996 and 1997, in terms of total acreage bid upon and the sum of all high bids. Chastened by the public outcry over the 1989 *Exxon Valdez* oil spill, the oil companies avowed that if the federal government now saw fit to give them financial help through deep water royalty relief and to then measure the success of that policy by the outcome of the lease sales, they would happy oblige the DOI. The firms spent heavily on ultra-deepwater leases (800+ meters) in particular at the 1996 and 1997 sales; a natural reaction to its greater royalty suspension volume (see Figures 3.34. and 3.36.; Table 3.2.).

Moreover, the offshore firms had anticipated since 1992 that a deepwater incentives bill was likely to become law in the next few years. They made the wise decision to delay purchasing new leases until the royalty relief measure either went into effect, or they received word that it was definitively put to bed. This delaying action is visible in the lease sale totals over 1992 and 1995; bidding remained very low during 1993 and 1994, when it seemed most likely that the DWRRA would pass. "Producers await tax incentives," read a partial headline of *Offshore* magazine in January 1991 (Dodson and LeBlanc 1991). The squabbles over CBO's long-term revenue projections and a concern that George Miller could derail the bill loosened the clamps somewhat in 1995, and bidding rose measurably that year (oil prices also improved in 1995). Further evidence supports this delaying effect in the number of old leases that were set to expire in the first half of the 1990s (see Figure 3.37.). Because firms large and small acquired the first wave of deepwater leases in the mid-1980s, the end of their five- and eight-year primary terms were

approaching quickly and scheduled to peak in 1992—just as J. Bennett Johnston began advocating strongly for a production incentives bill, and while the industry was truly at the nadir of its fortunes to date in the period after 1986. Granted, some operators delayed replenishing their lease inventories during 1990–1993 out of sheer economic necessity. "Everybody is absolutely frozen solid," CEO of Tatham Offshore remarked in April 1992, stating that his company was in a cash-flow "squeeze" (Pope 1992).

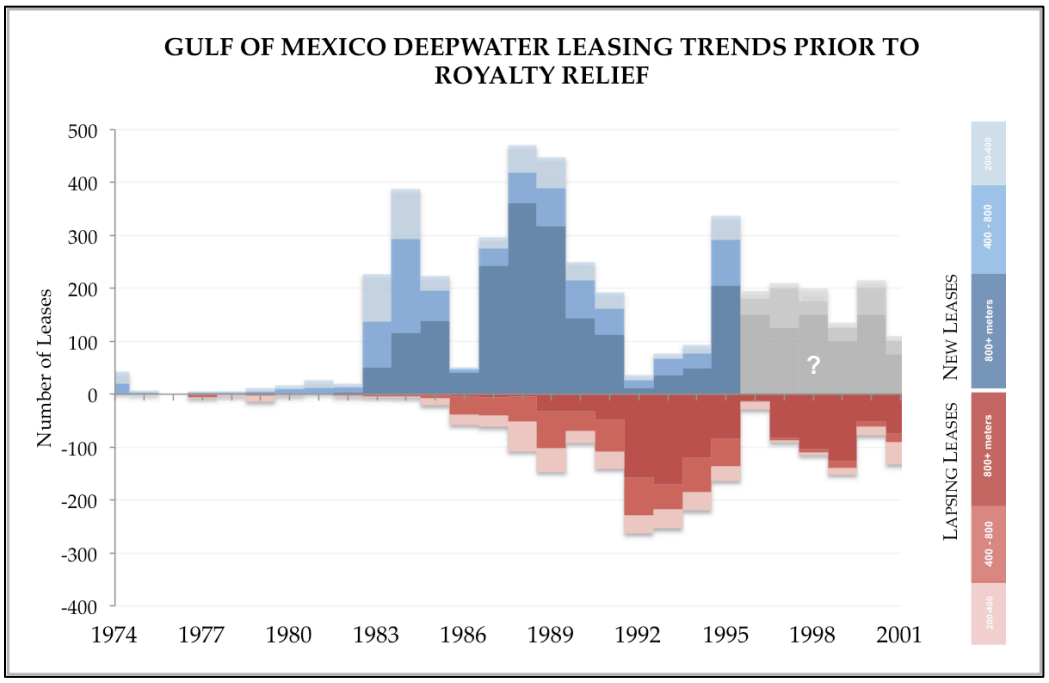

Figure 3.37. Gulf deepwater leasing trends before royalty relief, 1974–2001.

The leasing history of this period from the perspective of early 1996 presents a picture much different than that pictured in Figure 3.36. Leasing levels in 1995 are already on the rebound, and a flush of expiring leases since 1991 makes it seem likely that future sales (grey columns with "?") will bring active and brisk bidding. Source: US DOI 2014a; US DOI 2014c.

Even so, more firms were more than happy to wait to refill their declining lease inventories until Congress acted one way or the other. Some eagle-eyed government officials expected this, in fact: while still MMS director in 1992, Scott Sewell warned that Johnston's bill might actually encourage firms to wait for its passage before bidding upon new and develop existing leases (*Oil & Gas Journal* 1992a, 21). Rep. Sam Gejdenson (D-CT) was also wise to the unintended consequences of the prolonged debate on the measure. "Now, we are telling [the oil and gas companies]," Gejdenson, said, "'Hang on just a minute, if you will wait a little bit, we will give you some extra money!' I do not understand this method of doing business" (*Congressional Record* 1995a, H7582). The offshore firms adopted the same strategy between 1980 and 1983, while Watt's DOI was finalizing its area-wide leasing program. "Industry has saved its money for these sales," the editor of *Offshore* magazine wrote in February 1983 (Burke 1983). DOI officials and Johnston justified the DWRRA by saying that the short-term rise in demand due to the incentive would boost bonus bid revenues enough to more than offset the foregone royalties. By delaying their largest lease acquisitions until 1996 and after, the companies both earned valuable royalty relief while reinforcing the DOI's belief that extending fiscal relief to the offshore industry would always produce the expected results. The irony of this criterion is that it returned the cash bonus bid to its former status as the privileged measure of offshore activity. Area-wide leasing had been implemented to de-emphasize the importance of cash bonuses, arguing with varying degrees of accuracy that it was a hindrance to swift and expeditious development and not a good way to judge a lease sale's success.

By 1997, offshore operators had amassed so many deepwater leases that one investment firm released an analysis that stressed that lease portfolios were so large that there would be a rig shortage if the industry attempted to drill them at the same rate that they had explored their lease holdings in the past (Tyson 1997). The combination of royalty relief, a greatly improved oil price, Auger's ushering in of the deepwater "boom" and a significant rise in company cash flows helped drive the sales in 1996 and 1997. (In explaining the reason behind the "aggressive" bidding in western Gulf Lease Sale 161 in 1996, industry watchers pointed to the a recent rise in the operating cash flows of the offshore firms [Wheatley 1996b].) Operators took the DWRRA sales as an opportunity to amass large inventories of cheap deepwater leases, similar to how they had approached the first area-wide lease sales. And, as they had with area-wide leasing, MMS was taken somewhat by surprise with the sale results. In 1998, the Assistant Secretary for Land and Minerals at DOI was so concerned by the building up of inventories—so large as to be impossible to drill—that he alerted the industry of his disapproval. He wrote in a formal notice of his concern that so many leases were being acquired at the minimum bid level, and that the companies wanted to "bank" tracts rather than use them. It was a strategy, he said, that ran directly against the fair market value standard (*Federal Register* 1998a).

This, too, should not have been a surprise to MMS. The companies took advantage of the short-term relief incentive and scooped up tons of tracts in order to own them for their "option" value. Option value theory has been studied in the petroleum industry since the 1980s, and for its use in offshore oil and gas leasing specifically since at least 1988 (Ashton, Upton, and Rothkopf 2004a, 29). The 1988 study found that offshore lease assets have "option-like" characteristics, as they can change in value rapidly based on changes in the oil price (Paddock, Siegel, and Smith 1988). Given the long lead-time of a deepwater project, two things can dramatically alter the value of a lease that at purchase seems uneconomic. Crude oil prices can jump—and in the mid-1990s, prices really could not get any lower. Or, another firm could drill a successful exploration well near another firm's leases, which will boost their prospectivity and value without them having to expend the cost of drilling first themselves (Rothkopf, Upton, and Schantz 2006, i, 8; Kearney 2011, 5, 37). This practice is borne out by the fact that companies actually do exercise this "option" value as predicted: the majority of leases are drilled at the very end of their lease terms (Ashton, Upton, and Rothkopf 2004a, 31; Boué 2006, 285). The *de minimis* rental rates on OCS acreage were so low that there was effectively zero cost to holding hundreds of tracts in deepwater for their full ten-year terms. The very low $25-per-acre minimum bid also encouraged this "leasing up": recall that the justification made in 1982 by the Watt command at the DOI for setting a $150-per-acre minimum bid threshold was that it would discourage the widespread building of idle inventories offshore (Rose 2008, 18).

7.5. "But they got sloppy": Missed Directions and Omissions in the DWRRA

The 2000s seemed to bring nothing but grief and scandal for MMS, fairly or not. In 2003, the first tremor came in what would become a landslide of litigious difficulty for the agency, as the legal status of the DWRRA faced a serious challenge. It is the new-leases provision of the law that has ultimately had the most profound historical impact, but at the start of 1996 the most pressing royalty relief matter was to address existing, or pre-Act leases. As detailed above, pre-Act leases were required to apply to MMS to receive deep water royalty relief on an existing field that had not yet commercially produced oil or gas by November 28, 1995 when President Clinton signed the bill into law. In total, nine such fields applied for discretionary relief between 1997 and 2005—the Secretarial authority that was "clarified" by the Act—five were approved, two were denied by MMS, and two more were withdrawn by the agency (US DOI 2014d).

The royalty relief law was not born fully formed. In order to administer the DWRRA, MMS staff had to issue two temporary or interim regulations and then two final regulations by which to guide both the discretionary relief application process, and the specific terms of the sales for 1996–2000. Almost immediately after the government shutdown ended as Speaker Gingrich's budget gambit came to an ignominious end, someone noticed a mistake. Since the very first relief bill that Senator Johnston introduced, the section giving the Secretary discretion to grant relief to existing leases had meant just that—to individual leases. When the bill shifted away from using a capital-cost recovery model to using the volumetric basis that MMS personnel had developed, a key fact was lost in translation: MMS economists and resource evaluators had calculated the Royalty Suspension Volumes with the understanding that they would be applied to whole fields, not individual leases. It was a small difference that could have outsized consequences. A "field" in MMS terminology was an oil or gas reservoir(s) designated as one unit regardless of whether it underlay one tract or five. If, say, a field was discovered underneath two post-Act leases (issued between 1996 and 2000 inclusive), its owners would have quite a good argument behind them that under the plain text of the law, they should receive twice the amount of royalty-free production spelled out in Table 3.2. Before long, one offshore operator would make precisely that argument.

The DWRRA contains the phrase "individual lease or unit" when detailing which pre-Act existing leases could apply for discretionary relief. When drawing up the royalty suspension volumes, though, MMS staff had intended them to be applied to fields, not individual leases. This made sense, since an application for relief on an existing lease would only be granted after analyzing them on a field basis (Rose 2008, 24). Congress "misinterpreted" the royalty volume calculations that MMS had submitted to them, and perhaps been a little too "rushed" or a "little bit careless" in getting the legislative text correct (ibid.). MMS released an interim regulation stating as much in May 1996. It tenuously cited the authority conveyed by Congress' addition in the DWRRA of the phrase "or unit" after "individual lease" as allowing the agency to choose between the two and allow only one royalty suspension volume on a field that was under multiple leases (*Federal Register* 1996b, 27267). Where several leases (and/or differing owners) covered a field, MMS would require a joint application, again so that royalty relief would be granted to help make the field economic, since that was the original intent of the Act. To do otherwise would be to grant many times "the amount [of relief] necessary to make development of the field economically viable" (ibid.). If an existing pre-Act lease and a newly issued post-Act lease with automatic relief ended up covering the same field, the mandated royalty relief for the new lease would trump the other and receive the relief.

The statute's language regarding the new post-Act leases would be a more difficult issue to wrangle. Unlike the existing-lease section of the DWRRA, the new-lease provision bore no mention of possible choice between a "lease or unit." MMS recognized this and attempted to pre-emptively squelch the error. In its Interim Rule published in the *Federal Register* on March 25, 1996 through the formal notice-and-comment procedure required of most executive agencies, MMS fired a shot over the bow of those who might contest their interpretation that RSVs for newly awarded leases should apply strictly to fields, not every single new lease. They foresaw the possibility that future deepwater discoveries drilled on post-Act leases could lie under multiple DWRRA leases, allowing a single field to receive many times the amount of relief that Congress intended. Or so it seemed. MMS turned to the legislative history of the Act in its interim regulation as evidence for its field-based approach. They quoted Bennett Johnston in his role as the bill's champion and key sponsor as saying,

> It is only with respect to those leases that would not otherwise be drilled, either existing or future leases, that this amendment would provide that incentive. * * * The Secretary of the Interior wanted the incentive to be sufficient but not too much. That took a lot of negotiating. * * * [The legislation] should bring on at least two new fields with approximately 150 million barrels of oil equivalent from existing leases and it significantly improves the economics of 10 to 12 possible and probable fields. (Federal Register 1996a, 12023; emphases in the original)

MMS officials admitted that the statute as written did not unambiguously resolve the matter, but they also defended the field basis as the most reasonable and judicious approach. It was clear, the agency wrote, that Johnston and other members of his committee recognized that the royalty suspension volumes were "based on assumptions of the economic *field* size relative to cost," again quoting Johnston's statements during hearings on the bill in 1995 (*Federal Register* 1996a, 12023). Granting relief on each lease over a field "hardly would further the Act's purpose of providing an economic incentive to develop new fields and 'leases that otherwise would not be drilled'" (ibid.).

That MMS's interpretation had little legal merit to stand on was abundantly clear in the tone of the interim rule, which is all the more notable given the lifeless prose that typically fills every page of the *Federal Register*. The above quotation referring to the Act's purpose to develop "leases that otherwise would not be drilled" does not come from the statute at all, but from the same Johnston quotation cited in the rule—and it is a misquotation at that.[48] Remarkably, the agency appears in the text to flex its regulatory muscles in an attempt to intimidate operators from pressing the issue in the courts. "[A]s Congress was also doubtless aware when it enacted deepwater royalty relief," the rule reads, "the OSCSLA sets no maximum royalty on Federal oil and gas leases":

> Instead, it authorizes the Secretary to set an initial royalty rate of '*no less* than 12½ per centum' (emphasis added) [this parenthetical is in the original –ed.] per unit of production for new leases issued under the new bidding system...and mandated for use for the next 5 years . . . .

Once again, the interim rule, by adopting the approach of applying the royalty suspension volumes on a field basis, may avoid the need for including a higher royalty in the lease at this time. (*Federal Register* 1996a, 12024)

It was as bold a statement as formal bureaucratese goes: "don't test us," MMS seemed to say; or else, "push hard enough trying to get unfair royalty relief and see what happens." Not cowed, the industry soon pushed. As Marshall Rose recounts, the period was a hectic time for the incredibly busy agency—administering two flavors of royalty relief, pursuing new valuation rules, and more—and some at MMS hoped that Congress would clarify the law by passing a brief amending statement. However, "getting a technical clarification from the bowels of [the] main Interior [Department headquarters] to the Congress is very, very difficult," Marshall Rose explained. "You couldn't barely get it out of main Interior, let alone get it up to the Congress" (Rose 2008, 25). Without the technical fix, MMS's implementing regulations were extremely vulnerable to judicial review.

Shell Oil had successfully won a lease over Mississippi Canyon Block 110 at the central Gulf lease sale in March 1997. Shell, Santa Fe Snyder and their other partners drilled the tract in the summer of 1998, located between the Pompano and Cognac fields, and hit pay sands (*Santa Fe Snyder v. Norton* 385 F.3d 884 [2004]). MMS classified the new reservoir as belonging to the Amberjack field, an oil field discovered in 1986 and developed by BP in 1991 with a fixed-jacket platform set in 1,030 feet of water. As a result of MMS's determination, the lease was deemed ineligible for automatic royalty relief, and so the litigation began. A district court ruled in favor of Shell and Santa Fe Snyder in 2003, and the Fifth Circuit upheld the ruling in October 2004. DOI's regulation was held to be inconsistent "with the unambiguous language of the statute" (ibid.). As the *New York Times* noted in 2006 as the scandals began to mount around MMS, the district court judge had written in the 2003 ruling, "[i]f the [Interior] department 'disagrees with Congress's policy choices, then such arguments are best addressed to Congress'" (Andrews 2006b).

MMS had seemed to be poised for a legal and political showdown judging by the tenor of their regulation for new leases, but Marshall Rose and others were at least somewhat surprised by the outcome. When the

[48] The author(s) of the Interim Rule for Post-Act Leases inverted Johnston's phrase, "those leases that would not otherwise be drilled," into "leases that otherwise would not be drilled."

regulation was first issued in 1996, the offshore firms—"including Shell," Rose said—had commented on Interior's field-versus-lease argument and "had no problem with it":

> It wasn't until they made a discovery and realized that they would have to share the volume suspensions with the other lessees on the field, that they decided that, well, maybe this wasn't a good interpretation of the statute . . . . Conceptually, we knew that [the DOI's] was the right interpretation, but we lost legally. (Rose 2008, 27)

The DOI did lose and it lost big. The *New York Times* estimated that the lost revenues from the devolution of royalty suspension volumes from existing fields to individual leases could top $5 billion (Andrews 2006b). The career professionals at MMS were frustrated by the outcome and its revenue implications. "[W]e gave the numbers to the Congress," Rose said, "So we know what we meant, and Congress knew what we meant...[b]ut they got sloppy and they wound up writing it [incorrectly]" (Rose 2008, 28). The *Santa Fe Snyder* case threatened to upend the economic balance that the DWRRA was at least ostensibly designed to achieve, between higher bonuses and higher future royalty payments. The decision cut a large slice out of those yet-to-be-written royalty checks. The most astonishing aspect of the debacle is that it is now little more than a footnote in the revenue history of the deepwater Gulf. Another textual error in the text of the DWRRA law threatened to utterly dwarf any revenue losses caused by *Santa Fe Snyder*. The culprit: the omission on the new-leases section of the Act of the price thresholds for crude oil and natural gas.

One industry analyst called to Capitol Hill in the summer of 1994 to testify on the royalty relief bill certainly had a way with words. As a witness before the House, he was discussing the role that the price thresholds were supposed to play in the bill. He stopped himself at one point and said that the most important thing about the thresholds is that you better make sure you have them in the final text. What will things looks like if crude oil prices hit $40, and you have no way to cut off an unneeded royalty relief package? The answer: "it is going to look like holy hell, and there is going to be all hell to pay" (US Congress 1994c, 96).

All hell broke loose in 2006. By this point, there seemed to be little under the purview of MMS that was not under review or an investigation of some sort, and the Deep Water Royalty Relief price threshold calamity was no exception. The broad outline of the issue is fairly straightforward and was widely reported on during the last two years of the George W. Bush administration. It came to light that for two years during the five in which royalty relief was offered on all leases in water depths beyond 200 meters, the oil and natural gas price thresholds set in the Act and present there since Johnston's first production incentives bill had been inadvertently left off the individual lease documents signed by the DOI and offshore lessees in the Gulf. Marshall Rose recounted that his first knowledge of the issue came when a leaseholder telephoned him in 2000, saying the firm wasn't sure whether they owed royalties or not (Rose 2008, 32). It appeared to be an innocent mistake, but one that should not have fallen through the many levels of management within MMS and the upper levels of management at DOI. Here, too, it seemed that things had "gotten sloppy": two divisions within MMS had crossed wires during 1998 and 1999 over which regulatory documents had to be prepared, filed, and referred to before the lease sales could be held. The individual lease contracts for those years—instead of re-printing the price threshold language from the DWRRA—pointed to the final regulation that was being prepared within MMS to govern royalty relief for new leases (ibid., 30). One employee even placed an internal call within the agency to double-check that the price thresholds were in the final rule; and was told, "Oh, yeah. It's in the final rule. Don't worry about it" (ibid.). The lease sales went forward, apparently without anyone noticing that under the lease contract, new deepwater developments could receive royalty relief even if the price of crude oil shot through the roof, past $100 per barrel or even $200 per barrel (see Figure 3.38.).

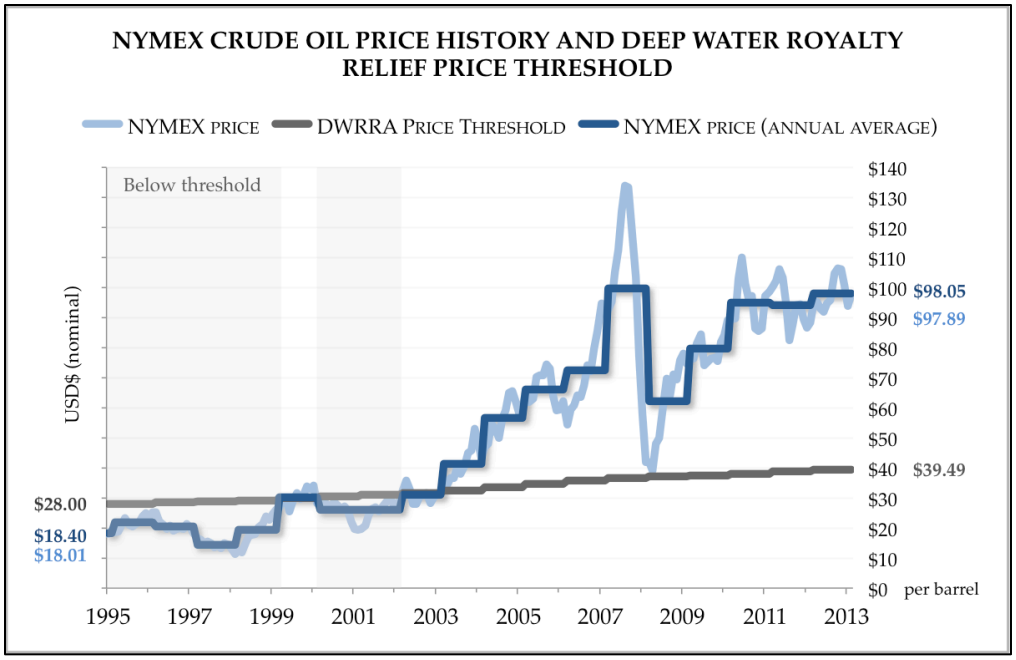

Figure 3.38. NYMEX crude oil price history and deep water royalty relief price threshold, 1995–2013.

The royalty relief price threshold for crude oil (dark grey line) is set against the crude oil price on the NYMEX exchange (light blue line), and the yearly average of the same (dark blue line). Since the law's enactment in November 1995, through the end of 2014, crude oil prices have remained below the DWRRA threshold only during 1996–1999 and 2001–2002. Source: US Department of Energy 2014; US Federal Reserve Bank of St. Louis 2014.

Much of the resulting investigation focused on the process by which so many lease contracts were executed by the DOI even after they were reviewed by the Solicitor's office, a sort of general counsel for the department. As Chairman of the House Committee on Oversight and Government Reform, Darrel Issa (R-CA) led a lengthy inquiry into the matter. He hauled MMS appointees and senior DOI officials before his committee and railed against them, unable to understand how so many employees had signed off on a stack of lease contracts with incomplete terms and conditions. In a particularly dramatic hearing in June 2006, Issa held up a stack of papers from a lease sale and pointed to the pages of signatures "and counter-signatures" that were stacked in neat columns from top to bottom. He pointed to the printed *Xs* before each blank line that indicate where each official was to sign (see Figure 3.39.). "For those who are members on the panel, take note," Issa said. He continued holding up the papers, saying,

> I have actually never seen anything other than our founding documents that had quite this many signatures on it. I would trust that John Hancock read before signing. (US Congress 2006b, 3)

The hearing room broke out in muted laughter, which placated Issa at least a little. "I was hoping to get at least a little reaction from that," he said with a smile to the audience before him.

Exhibit 7

United States Department of the Interior

MINERALS MANAGEMENT SERVICE
Washington, DC 20240

OFFICIAL
FILE COPY

FEB 9 1999

Memorandum

To: Sylvia Baca
Acting Assistant Secretary, Land and Minerals Management

From: Cynthia Quarterman Cynthia Quarterman
Director, Minerals Management Service

Subject: Outer Continental Shelf (OCS) Oil and Gas Lease Sale 172, Central Gulf of Mexico—Decisions on Final Notice of Sale

Your decision is sought on the terms and conditions to be included in the final Notice of Sale for Sale 172 in the Central Gulf. The sale is scheduled for March 17, 1999.

Under section 19(c) of the Outer Continental Shelf Lands Act (OCSLA), you are required to accept the recommendations of the Governor of an affected State regarding the size, timing, or location of the sale if you determine, "that they provide for a reasonable balance between the national interest and the well-being of the citizens of the affected State." In November 1998, we provided the Governors of Alabama, Mississippi, Louisiana, and Texas the opportunity to make recommendations on the proposed Notice of Sale. Only the Governor of Alabama responded to this request. Governor James of Alabama, in his letter of January 6, 1999, stated that he remains opposed to leasing south and within 15 miles of the Baldwin County coastline (He also expressed his concerns regarding leasing in this area in his comments on the proposed Notice of Sale for Sale 169.); but if MMS chooses to offer blocks in this area for lease, he strongly urges MMS to impose a lease stipulation on Mobile Area, Block 829 to minimize potential visual impacts of new oil and gas facilities that may be required. See Attachment 1 for more information.

Section 307(c)(1) of the Coastal Zone Management Act, as amended, requires that: "each Federal agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved State management programs." In October 1998, the MMS sent consistency determinations to the States of Alabama, Mississippi, Louisiana, and Texas, finding that proposed Sale 172 was consistent to the maximum extent practicable with the enforceable policies of their coastal management plans. All four States concurred with our determinations. In their concurrence letter of December 4, 1998, the Louisiana Department of Natural Resources expressed concern over potential OCS-related wetlands loss, urging that MMS find means to compensate Louisiana for direct and indirect effects of OCS-related activities on wetlands. They stated their concern about the infrastructure costs incurred by the State to meet the growing needs of deepwater development,

LD 9-0322

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Figure 3.39. Exhibit 7 from Issa's 2006 congressional hearing on price thresholds.

Source: US Congress 2006b, 109.

Journalists and Congressional investigators turned their attention towards the back offices of the agency. With so many people reviewing these critically important and legally complex lease documents, Issa postulated, someone must have realized the government's error. At least some of the oil and gas companies noticed, Issa said; the industry's well-compensated lawyers "must have known that the missing price thresholds would eventually cast doubt on the validity of the leases" (US Congress 2006b, 4). Issa was incredulous that nobody had tipped off the DOI about the omission. Others suspected less nefarious evils at play; as the agency's entire history attests to, its staff members were stretched too thin. "There was too much work going on at the time," Marshall Rose explained in a 2008 interview, "and it was not surprising that there would be a mistake. It was just unfortunate that this was the nature of the mistake. So [the price thresholds] were inadvertently omitted from the sale documents because of the feeling that they were in the final notice..." (Rose 2008, 31–32). Either way, members of Congress—especially those on oversight committees—love a good cover-up, and there certainly was enough evidence to suggest that if it wasn't a cover-up proper, that somebody had knowingly left the issue covered.

The massive amounts of royalty revenues that were likely lost due to the blunder heated the issue to a fever pitch. The GAO estimated in 2008 that federal government revenue losses from the 1998 and 1999 leases alone could range from $5 to $15 billion (US Government Accountability Office 2008, 3). Allegations flew: employees from Chevron alleged that Chris Oynes, longtime MMS Regional Director for the Gulf of Mexico OCS Region, was told about the missing price thresholds in 1999 (see Figure 3.32.). Oynes testified before the House that he did not recall any such conversation (US Congress 2006c, 40). As with the ethics and RIK scandals that had plagued MMS's other subdivisions, a major investigation was launched by the department's Office of Inspector General. The OIG focused on the actions of the reviewing attorneys in the Solicitor's office, and several pieces of evidence from elsewhere in the department that someone had discovered the mistake and taken more clandestine efforts to fix the issue, but had since covered up any misconduct (US DOI 2007b, 6–10, 12). The OIG's investigation discovered that Oynes was copied on an email sent in June 2000 by another senior DOI official, and the OIG's exhaustive report documented several moments at which MMS officials may or may not have learned that price thresholds were missing on the leases (ibid., 17, 15). Enough bad blood and counter-accusations were levied between the heads of two MMS subdivisions that one ended up taking—and passing—a polygraph exam regarding an eleventh-hour phone call that altered the thresholds' inclusion in the final regulation (US Congress 2007a, 8). As the due investigations wound to a close, nothing that was uncovered supported much in the way of a solid conclusion beyond a chronic mismanagement within the agency. Oynes openly admitted that those shortcomings were present in the region under his control. The price threshold mistake, he concluded, was the result of "poor processes in MMS" (US Congress 2006c, 28). There was not much else of its inner workings that the agency could account for.

Figure 3.32. MMS Regional Director Chris Oynes shares the results of Central Gulf of Mexico Lease Sale 182 with MMS Director Johnnie Burton on March 20, 2002.

The sale received a respectable 697 bids on 506 tracts, and pulled in nearly $356 million in bonus bids. The longtime MMS Director for the Gulf of Mexico OCS Region, Oynes served in that capacity from 1995 until 2007, when Burton promoted him to MMS Associate Director for Offshore Minerals Management. Oynes came under fire for his involvement in the Deep Water Royalty Relief price threshold scandal, and in the wake of the 2010 *Deepwater Horizon* blowout, for overseeing an ethically suspect and technically outmatched regulatory program. Source: US DOI Online Image Library, Photograph ID number 363.

There was yet another circle of all hell yet to descend to in the price thresholds saga. The issue metastasized when Kerr-McGee filed suit against the DOI on March 17, 2006. While the inquiries over which bureaucratic official was to blame for the omission of price thresholds on two years of leases sucked up all the political air around royalty relief, Kerr-McGee mounted a formidable legal challenge against MMS's decade-old reading of the statute. The District Court for the Western District of Louisiana ruled in Kerr-McGee's favor, a victory for the firm that invalidated the application of price thresholds on any post-Act DWRRA lease. The federal government appealed the decision immediately. Similar in some ways to the *Santa Fe Snyder* case, the merits of the *Kerr-McGee Oil & Gas Corp. v. US Department of Interior* 554 F.3d 1082 (5th Cir. 2009) hinged upon differences between the structure of the existing-lease and new-lease provisions in the DWRRA. In theory, the two sections of the Act should work in parallel: each addresses the period either before or after November 28, 1995, each relies upon its own specific implementing regulation issued by MMS, and each bore the proviso of the minimum royalty suspension volumes as reprinted in Table 3.2. As interpreted by MMS and by most of the deepwater operators, both sections were also subject to the imposition of price thresholds, set in the law at $28 per barrel of oil, and $3.50 per BTU of natural gas in NYMEX trading. Pursuant to the DWRRA, the starting prices would be recalculated at the end of each calendar year according to the gross domestic product implicit price deflator. Oil and natural gas prices would be averaged arithmetically at the end of the year to determine whether the threshold(s) had been exceeded (see Figure 3.38.). Of course, as detailed above, when Johnston's proto-DWRRA bill as drawn up in 1992 was expanded to encompass different authorities for each type of lease, the royalty suspension volumes were ultimately reprinted in both sections, while the price thresholds were not.

The US Court of Appeals for the Fifth Circuit ruled on January 12, 2009 that the imposition of oil and natural gas price thresholds on new leases was not supported by the statute, and were thus illegal. Kerr-McGee was producing from eight post-Act leases that contained price thresholds. Each began production in the 2000s. Following the law's plain language, and the precedent set in *Santa Fe Snyder*, the court said

that any price threshold set on new leases was unlawful because an authority to set as much is simply absent from the text, and that their imposition would violate the section in the DWRRA that requires the royalty suspension volumes to be "not less than" one of the three volumes (*Kerr-McGee Oil* v. US Dept. Interior 554 F.3D 1082 [2009]).

The decision hit the DOI hard, and its ramifications were potentially massive. The government petitioned the Supreme Court for a writ of certiorari in July 2009 to expedite a final resolution to the legal battle. Solicitor General (and future Associate Supreme Court Justice) Elena Kagan argued in the cert petition that the new-leases section of the DWRRA, in spelling out when relief should be granted on leases sold between 1996 and 2000, in fact directly references the existing-leases section. Because the existing-leases provision as enacted allowed the Secretary to set the criterion for granting relief to those leases based on "a period, volume, or value of production," which also "may vary," the new-leases section in citing it, must be governed by it. The only proviso is that for the new leases, the law specifies exactly what volumes of royalty relief are to be used—when it is authorized under the criterion set by the Secretary (Petition for a Writ of Certiorari, *Kerr-McGee Oil v. U.S. Dept. Interior* No. 09-54 docket [US July 13, 2009]). "In other words," Kagan wrote, "although Congress in Section 304 [for new leases] 'set' minimum royalty suspension volumes, it otherwise incorporated Section 303 [existing leases], including its grant of authority to 'vary' during lease administration the suspension volumes set by Congress," Kagan wrote.

Kagan's argument is clear and convincing, although the plain text of the statute is indeed ambiguous. Under a traditional use of the *Chevron* "two-step" standard for judicial review of agency action, "a reviewing court must determine whether Congress has spoken clearly on the issue at hand . . . [if] Congress's intent is unclear as to the immediate question, including where Congress is silent, at step two the court's role is to defer to any reasonable agency interpretation of the pertinent statutory language" (Garvey 2010, 2). While MMS's interpretation of the statute is more than reasonable given the Act's legislative history—not to mention that almost every offshore operator had independently reached the same conclusion—the Court held that Congress "refrained from specifically establishing such price thresholds." The blunder, while regrettable, is an understandable outcome of the complex legislative machinery of the modern US Congress. What few empirical studies conducted on how members of Congress and their professional staff draft statutory language suggest that detailed knowledge of how the courts interpret law is hard to come by. Indeed, even where legal scrutiny of bills under progress is easily accessible, the multiple aims of legislation often preclude bill language from being crafted with perfect legal precision (Garrett 2008, 366).

Except for Kerr-McGee, the rest of the industry believed that Congress had indeed established such price thresholds: Texaco revealed in 2006 that in the 1990s they never contemplated that oil prices would get so high as to approach the threshold (U.S. Congress 2006c, 26). ExxonMobil had stopped claiming deep water royalty relief years before, aware that prices had exceeded the threshold triggers. Several other offshore operators seconded this point. Chevron indicated that they had bid on all DWRRA leases between 1996 and 2000 believing that the price thresholds applied, and stated that their absence would not have affected how much they bid. At no time during the course of the 1990s, Chevron said, did they envision the possibility that crude oil would hit $70 per barrel. "We assumed, maybe with good intent, that MMS intended to leave [the price thresholds] out" of the individual lease documents in 1998 and 1999, a Chevron representative told Congress. "Did [their absence then] encourage us to bid more?" he continued. "No, I'd say it was in our minds, but what we really bid [on] was geologic risk" (U.S. Congress 2006b, 90). While disappointing to many, the Supreme Court's refusal to hear the case should not be surprising. In recent years, the Court has split 5–4 on similar *Chevron*-type issues, even in circumstances where the statutory language under consideration was far clearer than that in the DWRRA of 1995. As Yule Kim explains,

> There are other cases in which strict application is simply ignored; courts, after concluding that the statutory language is plain, nonetheless look to legislative history, either to confirm that plain meaning, or to refute arguments that a contrary interpretation was "intended." (Kim 2008, 41)

What is most striking about Kerr-McGee's overall legal strategy is how much its public relations defense differed from the company's (very strong) legal argument. On June 21, 2006, with the case still pending, Kerr-McGee Senior Vice President and General Counsel Gregory F. Pilcher testified before a House committee about why his company had filed suit against the DOI. Pilcher's pitch was aimed in part at underlining Kerr-McGee's status as a good neighbor in the Gulf, noting that his company had either won or been a finalist for the agency's annual "SAFE Award" for safe and environmentally-sound offshore operators for several years running (US Congress 2006b, 80). The main thrust of his argument was a replay of the misdirection and omissions in the legislative and political history of the Act explicated above. Pilcher cuts right to the quick, directly quoting senior administration officials like Hazel O'Leary, MMS Deputy Director Walter Cruikshank, Bob Armstrong, and Chris Oynes in their praise for the legislation's success in bringing in high bonus bid revenues. Pilcher recites the panoply of impressive deepwater statistics amassed during the five years that the law's mandatory post-Act lease provisions were in place: nearly 4,000 new deepwater leases were awarded, billions of dollars were accepted in high bids, and leasing surged during 1996 and 1997 compared to the paltry sales of 1993 and 1994 (ibid., 74). The very strong lease sales of 1995 are omitted from Pilcher's narrative, notably, as they do not fit this trend. The DWRRA has "succeeded probably beyond the most optimistic dreams of most of us," Pilcher said, quoting directly from Oynes's preface to the annual MMS celebratory review study of deepwater activity.

The legal merit of the decision aside, the critical point is what Pilcher's subtext laid out for DOI officials to consider. Pilcher's point was this: if MMS wants to accept credit for this enormous success of this particular industry incentive, it must treat as unquestionable fact Kerr-McGee's statement that the absence of price thresholds on new leases was a key part of the incentivizing equation for them and other deepwater operators. Kerr-McGee believed without any doubt that price thresholds were not applicable to tracts sold under the new-leases provision, Pilcher said. This belief was solid within the firm, despite never discussing the issue with DOI personnel, Pilcher admits (ibid., 77). Part of Kerr-McGee's understanding all along, Pilcher explains, is that, because Kerr-McGee knew their interpretation of the price threshold issue was correct, they acquired leases and took no legal or administrative action to clarify their meaning until the issue was forced by a 2004 MMS notification that because commodity prices had just exceeded the triggering thresholds, the agency was suspending the royalty holiday. It was at this point, Pilcher said, that Kerr-McGee, "consistent with Interior's administrative review procedures," challenged the price thresholds as unlawful (ibid.).

Pilcher's testimony makes a strained interpretation of the Act's legislative history that denies any intention by Johnston or others to apply price thresholds to new leases. In Kerr-McGee's submission to Congress, the Act's legislative history begins not with the 1992 production incentives bill, but with Johnston's twice-revised bill that was re-introduced in the Senate in 1995 (ibid., 78). Kerr-McGee's history thus ignores statements made by Johnston in the Senate and to the press that a price threshold "cutoff" was a core concept of the bill (*Oil & Gas Journal* 1992a). Selectively quoting from committee hearings held on the bill, Kerr-McGee argued that the Secretary's attempt to apply price thresholds to new leases is not an interpretation of the law, but instead an example of Secretarial discretion or regulatory overreach. Deep Water Royalty Relief is a success, this line of argument went, only when government admits fault and gives Kerr-McGee the maximum amount of relief possible—even as crude oil prices shot past $100 per barrel. Anything less, Pilcher said, would malign the DOI as obstructing the fair and free lease sale markets that promised price threshold-free royalty relief from 1996 to 2000.

Chapter 8. Conclusion: The Secret of the Sea

When Jimmy Carter and his staff flew out over the Gulf to land on the *Yorktown Zapata* in late July 1977, his helicopter likely passed over a small Louisianan port located on the state's southern border, perched on an edge between the wetlands and the open Gulf. Port Fourchon is the only port in Louisiana with direct access to the open water, and as such has experienced astronomical growth in the last two decades as the deepwater industry entered boom times (Russell 2006). A study of the port's economic contributions to the region conducted in 2014 estimated that Fourchon adds over $11.2 billion annually in direct business sales to the Louisiana economy, and that every port job supports 5.2 jobs elsewhere in the state (gCaptain 2014). The installation of the Louisiana Offshore Oil Port (LOOP) in the mid-1990s was another boon to business at Port Fourchon, which houses a pressure-boosting station for the LOOP pipeline. The port also signed a large contract with Shell Oil in 1995 to receive 100,000 barrels of oil per day from the deepwater Mars tension-leg platform, further cementing Fourchon's status as the hub of choice for deepwater operations (Theriot 2012, 195; Theriot 2014, 178–179). By the mid-2000s, Fourchon had become the land base for 90% of deepwater projects in the Gulf (Redden 2009), and the port won the dubious honor of serving as the major staging area for the commercial and federal responses to Hurricanes Katrina, Rita, and Ike, as well as to the *Deepwater Horizon* well blowout and oil spill (see Figures 3.40. and 3.41.).

Because of its precarious liminal placement, Fourchon is accessible by land through but one single, narrow route. Despite all the bustling port activity it supports, that road—Louisiana Highway 1—remains a small, two-lane highway. Because it crisscrosses wetlands as well as open water for much of its southernmost stretch, Highway 1 is especially susceptible to floods, storms, and the more mundane aggravation of a traffic backup due to an occasional vehicle breakdown or flat tire. Heavy truck traffic on the route increased from 87,000 trips per year in 1994 to over 211,000 trips in 2001, a level of growth that has almost certainly continued apace (Jayawardana and Hochstein 2004, 5). Yet, only in 2011 did the "Gateway to the Gulf" expressway finally receive any appreciable attention from a construction crew. State-hired contractors rehabilitated a seven-mile stretch of Highway 1 and also raised its roadbed several feet to better resist storm surges. Still, many characterize the road as a "Third World highway" (Radtke 2006) in need of repair, not to mention more than a single lane running in each direction.

Who should pay for the renovation and expansion of Louisiana Highway 1? Despite its importance to the national OCS program and US energy security, the highway's maintenance is managed no differently than any other roadway in the state. What federal funding is available for road construction in Louisiana is unrelated to the state's OCS activity. For that reason, Highway 1 serves as a fitting symbol for the state of OCS federal-state revenue sharing politics in the deepwater era. Although the route has facilitated the fantastic growth in offshore activity witnessed in the Gulf from 1995 to the present day, its vulnerable roadway remains curiously immune to the riches extracted from the OCS. And it is not for a lack of funds that Port Fourchon has been stiffed. The OCS program brought in $9 billion in federal receipts over fiscal year 2013 (royalties on production accounted for roughly 67% of that total). Bonus bids from lease sale auctions held in the Gulf have recently enjoyed their best years since the fevered days of 2008, when the price of crude oil hit an all-time high. Calendar years 2012 and 2013 each saw Gulf lease sales together rake in over a billion dollars annually.

The prospect of OCS revenue sharing between the federal government and coastal States remains an unpopular one with legislators at the national level. Its best chance at passage since the OCSLAA came with the presidency of George H.W. Bush, who pushed a revenue-sharing provision during early negotiations around his Energy Policy Act of 1992. Once the CBO ruled that the measure would violate the revenue-neutrality standard of PAY-GO, the proposal was squashed (Fitzgerald 2001, 229–231). As a freshman Senator, Mary Landrieu (D-LA) reopened the issue in 1999 by launching a major legislative push on the matter, seeking to secure billions of dollars for Louisiana. In the end, revenue sharing was omitted from the final draft of the coastal impact law up for re-authorization that Landrieu hoped to

amend (Theriot 2014, 187–189). The only real change to the OCS revenue system came when President George W. Bush signed the Gulf of Mexico Energy Security Act of 2006, which allows the Gulf states to receive a portion of revenues on production from a small sliver of the eastern Gulf. That area is regarded by the industry as only marginally prospective at best, and, though the law is slated to expand in fiscal year 2017 (to include some revenues from a portion of the more productive central Gulf), the program's monies for the coastal states are presently capped at $500 million annually. Several Gulf Coast lawmakers have introduced legislation in Congress to accelerate the removal of the half-billion dollar cap, but it is likely to remain in force until its scheduled expiration—in 2056.

The dramatic run-up in crude oil prices between 2006 and 2008 changed many minds on Capitol Hill about the wisdom of keeping the Watt-era offshore leasing moratoria in place. On a sweltering summer day in Washington, DC, President George W. Bush announced from the White House Rose Garden that he was lifting the executive moratorium on oil and gas leasing outside of the Gulf and parts of Alaska, and called on Congress to do the same. The average cost of a gallon of regular unleaded gasoline in the US had just hit $4.11, and Bush called on the legislature to act swiftly and decisively to expand domestic sources of crude oil supply (US Department of Energy 2014). "With this action," Bush said, "the executive branch's restrictions on this exploration have been cleared away." Unwittingly echoing his predecessor Gerald Ford, Bush continued, "it's been almost a month since I urged Congress to act—and they've done *nothing*" (C-SPAN 2008). The speech helped motivate the Democratic coalition in Congress to follow suit, and the appropriations riders were not renewed, expiring on September 30, 2008. Missing from Bush's Rose Garden statement, though, was any mention that the presidential ban or restriction that he was countermanding that afternoon had been put in place by his own father, George H.W. Bush (ibid.).

Today, a few areas of the OCS remain withdrawn from leasing due to environmental reasons, but the OCS is tentatively open for development in a manner not witnessed since the early 1970s. Because lease sales must be planned for through the five-year program instructed by the OCSLAA, this planning process will likely serve as the battleground for future showdowns over offshore development. As a consequence of the *Deepwater Horizon* disaster, new offshore oil and gas leasing is currently restricted through 2017 to areas already open for activity.[49] In July 2014, the DOI approved the plans of several oil and gas service companies to conduct a new generation of seismic surveys off the eastern seaboard, the first to be performed in thirty years (Dlouhy 2014b). In January 2015, the DOI released its first proposal for the number and timing of OCS lease sales for the next five-year planning period, between 2017 and 2022. As was widely expected, the draft proposal includes at least one major Atlantic lease sale covering waters off Virginia, North and South Carolina, and Georgia (US DOI 2015; see Davenport 2015).

Federal waters off the northern coast of Alaska remain a hotbed of industry interest, particularly for Shell Oil, even after a series of embarrassing technical blunders in 2012 delayed the start of their long-awaited Arctic exploratory drilling program (see Funk 2015). Shell faces higher regulatory scrutiny after both drilling rigs under its control in the region lost station and ended up beached on an Alaskan shore. One of the two rigs, the decades-old drillship *Noble Discoverer*, suffered a small explosion and fire in late 2012, the result of Shell and Noble's poor maintenance of the rig. The vessel was found to be in violation of numerous US Coast Guard safety rules; Noble later reached a $12.2 million settlement with the

[49] After the *Deepwater Horizon* blowout and subsequent months-long oil spill changed the political calculus of offshore oil in the US, President Obama temporarily withdrew an area off Virginia and Alaska's Bristol Bay from leasing until 2017. In 2014, Obama extended the Bristol Bay moratorium indefinitely. In January 2015, Obama further designated portions of the Beaufort and Chukchi Seas as off-limits for development consideration.

Department of Justice, pleading guilty to eight felony charges (ibid.). Furthermore, Shell's $400 million subsea containment dome, a critical piece of equipment designed to enclose a runaway well in Alaska's harsh, frozen conditions, failed dramatically during its first sea trial, "crushed like a beer can" after Shell lost control of the dome (Krauss 2012; Funk 2015). Despite the supermajor's less-than-stellar operational record there to date, the Obama White House continued to support Shell's exploration at the Burger prospect in the Chukchi Sea (until Shell's efforts came up dry in late 2016), and in federal court defended the DOI's actions to proceed with drilling in the region (Krauss 2014).

The promise of new domestic production was a major reason why Congressional Democrats opted to lift the offshore moratoria in 2008, even in the absence of a federal-state revenue sharing agreement. The National Petroleum Council estimated recently that an additional 1 million barrels of oil per day and 3.8 bcf of natural gas per day could come from the OCS in 2025, provided that once-prohibited areas are made (and kept) open to drilling, and presuming that the industry will spend more than $100 billion on offshore developments in US waters (Humphries and Pirog 2012, 12). Though expanded oil and gas production or rising federal revenues is never a downside to a policy that expands offshore drilling, the truth is that both these benefits are increasingly of middling interest to policymakers. Concerns over finding a balance between fair market value and other competing dictates of the OCSLAA have given way to the primacy of protecting profits. Environmental protection is still an objective, of course, but a simple discourse of "job-creating" versus "job-killing" policies has come to dominate political discussion over OCS issues.

The national importance of OCS revenues has steadily declined since the 1970s, even though the federal budget deficit has risen both in gross terms and relative to the nation's total federal receipts. The size of the gross national product and federal budget of the US has simply outgrown even the largest revenue contribution that the OCS oil and gas program could possibly muster. After peaking at over 2% of total federal receipts in the 1970s, offshore revenues first dipped below 1% of annual receipts in 1985, and today represent less than one- third of one percent of federal revenue. In an age of billion-dollar profit margins and the nearly trillion-dollar spending authorization granted to the Troubled Asset Relief Program of 2008, even the greatest haul from a blockbuster OCS lease sale auction is but a rounding error in federal spending figures. The $60 billion or greater sum that will be lost due to the absent price thresholds in the DWRRA of 1995 seems insignificant in comparison.

The shrinking importance of OCS revenues to lawmakers also stems from erosion in the belief that the US public must receive the fair market value for the offshore resources that it owns. The DOI certainly pursues the capture of that value by administering fair lease sales and dutifully collecting royalty payments. However, the notion that receiving fair market value for publicly owned fossil fuels should be a major policy goal of the federal government remains but a quaint idea outside of a handful of bureaucratic circles. Because the astronomic jump in oil prices in 2007 and 2008 was followed almost immediately by the financial crisis and "great recession," the OCS is caught up in a new politics in Washington, DC that orbits around the twin poles of budget austerity and chronic unemployment. Whether decades of moratoria have chipped away at the concept of collective public ownership of natural resources or whether the task of drilling offshore seems so challenging to the public that they believe that anyone tough enough to prospect there should not have to forfeit any profits from their work, government stewardship of OCS resources is viewed today by many as a de facto restriction on private businesses. This shift towards a view of public ownership as a hindrance to free enterprise is nowhere more clear than in the response of most of the offshore oil and gas industry to the *Deepwater Horizon* explosion and blowout in 2010.

8.1. Just When You Thought It Was Safe . . .

When the *Deepwater Horizon* semi-submersible drilling rig exploded on April 20, 2010 after suffering a catastrophic loss of well control in nearly 5,000 feet of water, those in the industry versed in the

complexities of engineering a deepwater well understood almost immediately that the explosion's effects would be disastrous. The blowout of BP's well on the Macondo prospect killed 11 men on board the rig—none of them employed by BP—and began 87 days of uninhibited flow from the well. (Some pointed out that despite all the industry's self-praise for its outer space-like technological prowess, it took the Apollo XI spacecraft just ten days to travel to the moon and back in 1969.) The inability to cap the gusher in a timely fashion led to the cancellation of several lease sales that had been planned for Alaska and off the southern coast of Virginia. President Obama made three trips to the Gulf Coast during the BP oil spill crisis, visiting Grand Isle and Port Fourchon in the process (see Figures 3.42. and 3.43.). As oil and gas gushed out of the seafloor with no end in sight, BP stumbled through attempt after misguided attempt to cap the well. One such effort—a bid to lower a massive steel cofferdam over the well—came a hair's breadth away from escalating the disaster at Macondo: on its trip down to the seafloor, the rectangular containment dome filled with buoyant hydrocarbons, and BP's engineers were left powerless as it uncontrollably rocketed up "toward the ships on the ocean surface," laden with flammable oil and gas (National Commission on the BP *Deepwater Horizon* Oil Spill and Offshore Drilling 2011a, 146).

Source: Charles Dharapak, Associated Press; White House Photo Office. All rights reserved.

Figure 3.42. Marine One flies along the Louisiana shoreline aboard Marine One on June 4, 2010, to meet with Gulf Coast residents affected by the *Deepwater Horizon* oil spill.

Obama made three such trips to the Gulf during the crisis.

Source: Wikimedia Commons; White House Photo Office. All rights reserved. Photo edited for size.

Figure 3.43. President Obama eyes a tarball found near Port Fourchon on May 28, 2010.

Photo visually echoes Richard Nixon on the beach in Santa Barbara in 1969 (see Figure 3.11.). Standing is Lafourche Parish President Charlotte Randolf.

In all, in one single day, the well would gush out as much oil as MMS had estimated would be leaked on the OCS over the next forty years (Zebrowski and Leach 2014, 48). With the crisis pressing on, and with no end in sight to the around-the-clock video stream of oil bursting forth from the broken Macondo wellhead, the Obama administration on May 30 instituted a temporary six-month moratorium on the drilling of new deepwater wells in the Gulf and across the OCS.

The specifics of the moratorium order set the lower bound of deepwater at 500 feet (152 meters), a depth much shallower than the 400-meter isobath typically agreed to be the "true" depth threshold for deepwater. The justification for the temporary ban was clearly stated in the administration's order: it was set in place while industry and government scientists and engineers could (first) stop the flow of oil and gas from the well. It was also instituted so that before more drilling began, investigators could study the causes of the blowout so as to take immediate measures in the short term to prevent a similar incident from happening again. The temporary ban was implemented with the explicit understanding that it would be lifted earlier if these two conditions were met before the six months were out (US DOI 2010, NTL No. 2010-N04). Everyone agreed, or so it seemed, that if a second blowout of that magnitude in the Gulf occurred while the Macondo well was still out of control, the situation would become even more catastrophic. Responding to one unprecedented deepwater blowout had already stretched the financial and operational resources of the supermajor BP and the US Coast Guard to the extreme; fighting two might well have proven impossible.

The well was not even capped before some oilmen and politicians from the Gulf Coast dubbed it "Obama's job-killing moratorium." Their criticism against the order was fierce and cutting. Senator David Vitter (R-LA) said publicly that the moratorium would cost the Gulf Coast "more jobs and economic devastation than the oil spill itself" (Hammer 2010b). Other conservative pundits predicted that the moratorium—not the explosion and sinking of the *Deepwater Horizon* rig or the blowout—would bring the Gulf region to its knees, to an economic "point of no return" (Morin 2010). Not long after the temporary ban was handed down, the Louisiana Oil and Gas Association (LOGA) assembled an event at the Cajundome in Lafayette, Louisiana, called the "Rally for Economic Survival." Author Rowan Jacobsen recounts the incredible scene he witnessed there:

> Eleven thousand people packed the place to hear the [Louisiana] governor [Bobby Jindal], lieutenant governor, and, of all people, the executive director of the Louisiana Seafood Promotion and Marketing Board rail against Obama for stealing their jobs. Nobody blamed BP or [drilling rig contractor] Transocean...."Enough is enough!" raged Lieutenant Governor Scott Angelle in his thick Cajun accent. "It is time to stop punishing innocent American workers to achieve some unrealistic political agenda." (Jacobsen 2011, 167–168)

Opponents of the Obama administration wielded the moratorium as a cudgel with which to hammer President Obama. Precisely what "unrealistic political agenda" the drilling ban was supposedly in furtherance of was unknown. If it was a desire to "crush" the fossil fuel industry, as many alleged, it made the White House's decision to proceed with new offshore drilling in the Atlantic and off Alaska an exceptionally odd policy choice. On March 31, 2010, just weeks before the Macondo blowout, Obama unveiled his plan to open the eastern Gulf, Atlantic, and northern coast of Alaska to new leasing for the first time in decades. Not content to simply announce the proposal with a press release, the President spoke about his decision and other energy security policies at a made-for-television photo-op held at Andrews Air Force Base in Maryland. Obama stood before an F-18 "Green Hornet" fighter jet (equipped to fly using alternative biofuels) and a massive US flag (Broder 2010). Industry groups praised the action but expressed their disappointment that it did not go further. To many environmentalists, though, the policy was so abhorrent that one prominent member of an oceans advocacy group called it a "wholesale assault on the oceans" (ibid.).

Almost immediately after it was issued, the temporary moratorium was challenged in federal court. The Court of Appeals for the Fifth Circuit—based in New Orleans—issued a preliminary injunction against the ban on June 22, 2010, deeming it an arbitrary and capricious action by the DOI. The federal government appealed, but its request was denied on July 8. The judge claimed that the moratorium would cause "irreparable harm" to Gulf communities (Zebrowski and Leach 2014, 154). Four days later, DOI Secretary Ken Salazar issued a second moratorium order to replace the first, this time using not water depth as the criterion for the ban's lower bound, but whether the offshore well used a subsea blowout preventer, or seafloor BOP, as *Deepwater Horizon* had. This delimiting of the moratorium based on technical practice did not mollify the industry. They continued to chafe at the measure as illegal and warned that it was bringing economic disaster to the Gulf petroleum industry. Seemingly not grasping the paradox in their position, the industry claimed that the moratorium was unjustified because offshore operators could continue to drill safely 100% of the time in deepwater—even though one of the largest oil companies in the world was struggling daily to cap the Macondo well.

Before any of the slew of investigations into the incident that would be chartered were even underway, the cause of the blowout in some quarters was ruled a "black swan event," one that cannot be anticipated or prevented. Whether the cause was negligence or shoddy workmanship on the part of BP—or just a freak occurrence—much of the offshore oil and gas industry in the US argued that the blowout was not repeatable. This conclusion is extremely attractive to the technical expert and layperson alike; it is indeed a cognitive dissonance to accept that such a technologically advanced vessel like *Deepwater Horizon* could successfully drill many miles below the seafloor, yet could not stop such a slow-moving disaster like BP's loss of well control. One common refrain is that the accident was so unprecedented as to have been unimaginable in advance; as one industry member explained it, the blowout "caught everyone off guard" (George E. King Engineering 2010, 17). However, even a cursory review of the history of government-industry collaboration on OCS safety matters contradicts this. As noted above, warnings about deepwater blowouts date back at least to the 1960s. By way of example, one of many DOI documents produced since then noted, in 2000, that the industry had only "limited" experience in deepwater well control, and that a large blowout "could easily turn out to be a potential showstopper for the OCS program if the industry and MMS do not come together as a whole to prevent such an incident" (US DOI 2000b, 64).

The Macondo incident was no black swan event or mere "accident." As Gene Beck, an Associate Professor of Petroleum Engineering at Texas A&M University remarked during a 2011 deepwater drilling symposium held in Houston, the blowout was not a "one-in-a-million incident." Instead, "there are many other opportunities for similar events to occur" in the future (C-SPAN 2011). Though numerous steps led up to the incident, the cause of the blowout was "not an overly complex set of conditions," Beck explained. BP's managers chose to remove the single barrier to the well's flow without having first set another tested barrier in place. "Throughout my career," Beck said, "that's . . . what I was taught to *not* do" (ibid.; emphasis in the original, as delivered).

The administration's rationale for the moratorium found little truck with offshore operators, who continued to buck at the measure and paint it as an attack on US businesses and job creation. One sketch published in the *Washington Post* by famed political cartoonist Tom Toles perfectly captures this sentiment (see Figure 3.44.). Whatever the President did in response to the spill was largely irrelevant in this view, because conservative business interests held it as a condition of fact that the federal government's regulatory role on the OCS is not legitimate. The cartoon satirically depicts a suited elephant (a conservative politician) resisting federal "government interference in the private market" when it steps in to stop the flow of oil into the open sea. Yet notably, as historian Allan J. Lichtman has explicated, the core commitment of the conservative movement in the twentieth century has been to promote and protect "private enterprise, not [necessarily] free enterprise." The movement's goal in his estimation is not just to limit government intrusion or preserve the functioning of free markets. Lichtman explains that conservatives have "carved out innumerable exceptions to free markets for business

subsidies and friendly regulations" (Lichtman 2008, 3). The conservative criticism of the drilling moratorium found its most visible moment on September 8, 2011, when President Obama addressed a special joint session of Congress to speak on an employment bill the White House was pushing. During the address, Jeff Landry, a freshman Republican House member from Louisiana, unfolded from his pocket a white sign and held it before him in the chamber, for all the television cameras to see. Pinched between his thumb and forefinger, the sign read, in all-capital serif letters, "DRILLING = JOBS."

Figure 3.44. Political cartoon by Tom Toles published in the *Washington Post* at the height of the BP *Deepwater Horizon* oil spill in June 2010.

Toles' wit and depiction of the conservative reaction to the spill perfectly captures how deeply an ideology of perfect competition in the private marketplace has permeated even the issue of drilling safety legislation for the OCS.

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8.2. Blind Faith

Reports published by industry and oil and gas consultants since the blowout are rife with censure of the moratorium's economic effects. Many predicted a mass exodus of deepwater rigs from the Gulf, but that never materialized (some rigs did leave, but the deepwater rig count has instead surged since 2010). The spill had not yet stopped when the first such studies were released. In October 2010, a group at Southern Methodist University in Texas estimated that the slowdown in issuing new well-drilling permits in shallow waters alone endangered nearly 40,000 Gulf Coast petroleum jobs (Clemente 2012, 2). A few studies in particular caught the attention of the popular press. The first was an input-output analysis of the moratorium's effects on GNP and employment in the Gulf Coast petroleum industry. Conducted by Joseph R. Mason, a Louisiana State University economist and partner at a local energy consulting firm, the study was funded by the Save U.S. Energy Jobs group, a short-lived issue-focused entity set up by an industry advocacy group to oppose the moratorium. The Save U.S. Energy Jobs mission statement reads,

While the [*Deepwater Horizon*] accident itself is tragic, it is important to separate the actions of one bad actor from the rest of the industry. The far[-]reaching [sic] impacts of this disaster should not include cutting off access to our domestic energy resources...and the much needed jobs [that] energy production provides to hard[-]working [sic] Gulf residents. (American Energy Alliance 2010)

The report is about as objective as this purpose suggests. Mason set out to "estimate the total economic harm" of the moratorium, and determined in July 2010 that it would destroy $2.7 billion in national economic output, and cost the US 12,046 jobs in total (Mason 2010, 3). He predicted that the Gulf Coast region would lose 8,169 jobs alone due to the moratorium, primarily within the petroleum sector (ibid., 12). For his calculations, Mason relied on economic data generated by the Louisiana Mid-Continent Oil and Gas Association, and an estimate made by industry consulting firm Wood Mackenzie of the amount of oil and gas production in the Gulf that would be delayed or deferred by the drilling ban (Mason 2010, 3; Morin 2010).

Without question, several rigs did leave the basin for brighter climes, and the inability to spud new development wells to boost production from always-declining deepwater fields shifted the production profile of the Gulf into the future by an appreciable amount of time. However, the consulting firm's estimate in particular failed to differentiate between the delaying impacts of the blowout itself and that of the moratorium. In April 2010, BP had five deepwater rigs under contract in the deepwater Gulf. After April 22, three of those rigs, *Discoverer Enterprise*, *GSF Development Driller II*, and *GSF Development Driller III* were all moved away from their drilling projects to the Macondo wellsite to assist in drilling relief wells and in containment operations. Only one BP-operated rig was not at Macondo and so was idled as a result of the ban. The other rig whose drilling or production was lost was, of course, *Deepwater Horizon* herself. The firm included in its estimate of moratorium-caused production deferment the normally-scheduled drilling results of *Discoverer Enterprise*, *GSF Development Driller II,* and *Development Driller III*, in addition to the sole BP rig idled by the temporary moratorium. This blames the administration's drilling ban—and not BP's blowout—for the fact that these rigs were used to cap the well rather than keep drilling.

As the mission statement of the Save U.S. Energy Jobs group intimates, in 2010 and 2011 the industry vacillated between defending deepwater drilling in general by pointing the blame at BP as a negligent actor, and circling the wagons by calling the accident an unintentional "black swan" accident (see Mason 2010, 4). Shell Oil and others did publicly state that they would never have drilled the well in the manner that BP did, but none of the majors were very vocal in expressing that position (Wearden 2010). Regardless, this view of oil and gas activity on the OCS as private business activity in which government can only interfere is fundamentally at odds with the basic economic and legal arrangement that is agreed to when a firm chooses to bid for and sign an OCS leasing contract. Because the federal government has "paramount rights in and power over" all offshore submerged lands, it is well within its rights—both as landlord and as guarantor of the national and public interest—to restrict certain drilling practices offshore, as it did when DOI issued the temporary deepwater moratorium.

Both law and historical precedent have long made it clear to any firm wanting to go into business on the OCS that the possibility of just such a shutdown is real. Because an OCS lease is a contract, it is legally binding like any other, but the courts have carefully circumscribed the rights that a firm acquires when it is awarded a lease. For example, in 1977, a federal court upheld the DOI's ability to arrest lease operations or change some terms of an executed lease after the fact, if new circumstances warranted it (Coggins and Nagel 1990, 526). In 1980 he D.C. Circuit Court of Appeals held that environmental study of offshore areas could occur in OCS waters after they had been leased, and that the conclusions of those studies could be used to prevent subsequent drilling activity on the lease (ibid.). *Interior v. California* 464 US 312 (1984), which addressed the consistency provisions of the CZMA, clearly holds that "a lessee

has no traditional property interest but rather only an exclusive right to pursue further administrative permission to develop the leasehold." Litigation over a number of leases bought by Mobil Oil in the mid-Atlantic reaffirmed that OCS leases are subject to all existing statutes under the OCLSAA, as well as future regulations (Fitzgerald 2001, 251; emphasis added). Leases only grant "priority over other interested parties in submitting for federal approval a plan for exploration, production, or development" (ibid.). A good riposte to those firms that object to these strictures might mimic the response of Texas state Senator A.R. Schwartz at the Project Independence hearing held in Houston in 1974: if the shape of the playing field is so ridiculous, then why were are those companies engaged in business on the OCS in the first place? Or else, it might echo what Rep. D'Amours said in 1981 when he, too, lamented, "the terrible plight of the oil industry as it took these terribly unacceptable risks to put up money to find oil" in the Gulf.

Fortunately for the Gulf Coast, the dire predictions made by Senator Vitter and Joseph Mason never came to pass. Some deepwater production was indeed deferred after the BP oil spill, and offshore activity in general declined over the short-term, but today the basin is experiencing some of the headiest days of economic and project development growth in its storied history (see Dlouhy 2014a). Recent slumps in the price of crude oil and the stubbornly high costs of operating in deepwater have made some of the region's brightest outlooks seem a tad too rosy, but deepwater projects in the Gulf still promise world-class returns. Even with oil prices threatening to dip below $40 for the first time in years, at the time of this writing in early 2015, deepwater activity in the Gulf promises to boom throughout 2015, with annual production totals for the year ahead expected to top 2014's figures by nearly 25%. The first line of a January 2015 article published in *USA Today* says it all; speaking of Port Fourchon, it declares: "Whoever is warning that slumping crude prices will curb oil production hasn't told the tenants of this bustling oil port" (Jervis 2015). In early 2014, the largest deepwater project to come online since the *Deepwater Horizon* blowout started up when Shell Oil began to pump oil at its Mars "B" (or Olympus) TLP. The facility began production ahead of schedule and under budget (Gilbert, Harder and Scheck 2014). The Mars "B" project was long in gestation at Shell, but was green-lighted in 2010—around the time of the blowout. Such optimism for the deepwater Gulf's future is not limited to Shell alone; attendance at the annual Offshore Technology Conference in Houston in 2014 broke the 100,000 mark in 2014 for the first time since 1982.

Moreover, it seems that the damage done to the Gulf Coast economy by the heavy oiling of its beaches—as well as the five-month moratorium—had little impact at all on the region's employment figures. A study conducted for the National Bureau of Economic Research (NBER) by Harvard economist Joseph E. Aldy concluded in August 2014 that the "point of no return" predicted by some pundits never materialized. Instead of the rampant job losses predicted, Aldy found that "Louisiana coastal parishes, and oil-intensive parishes in particular, experienced a net increase in employment and wages" (Aldy 2014a). The federal response to the spill acted like a fiscal stimulus to the entire northern Gulf Coast region; Aldy found the employment effect of the spill and drilling ban to be "a fairly precise zero effect," or a net increase of 10,000 to 20,000 jobs in the immediate coastal areas (Tankersley 2014). Where job losses did materialize, they were clustered in the tourism-focused communities of the Florida panhandle, where oiling was lighter than expected but the fear of tarred and toxic beaches caused plenty of psychic damage to the state in the mind of US vacationers (Aldy 2014b, 1). This was where the real economic damage was done. Tourism employs more of the Gulf Coast population than the petroleum industry. Moreover, unlike coastal tourism concerns, offshore oil and gas is not very labor-intensive relative to its use of capital. Despite the large contribution of the industry to the Louisiana economy, average wages remain at the near bottom rung of all states. The median per capita income is just over $15,000 per year (Zebrowski and Leach 2014, 88).

Aldy's is an empirical study with far greater statistical reliability than Mason's report, and it lacks the ideological biases of those studies produced by the oil and gas consulting firms (which all have the oil companies as their largest clients, including BP). His retrospective analysis indicates that the justification

for the moratorium itself played a significant role in keeping economic harm to the industry at a minimum. The temporary nature of the ban—it could be lifted sooner than six months if conditions changed—in Aldy's words "may have created an incentive for rig owners to wait to lay off workers or relocate rigs" (Aldy 2014b, 6). Even before the Macondo well was capped, major regional employers like oilfield service companies Baker Hughes (acquired by Halliburton in 2014) and Schlumberger announced they would temporarily relocate many Gulf Coast jobs to other areas, and avoid issuing sweeping layoffs (Hammer 2010a). Most telling of all, as Aldy's NBER-Harvard report points out, under pressure from the White House and President Obama himself, BP set aside a $100 million fund to compensate any offshore rig workers who lost their jobs due to the moratorium. The final tally of claims made under this fund was less than 400, many of which asked only for assistance to cover temporary unemployment (Aldy 2014b, 5). Finally, only 5 of the 46 deepwater rigs operating in the Gulf at the time of the blowout had left the region by the time the moratorium was lifted[50] (ibid.).

The novel argument that budded during the 1980s that the federal government was routinely capturing in excess of fair market value morphed in the deepwater era into a catch-all critique that the DOI only hinders development and job growth by not offering more of the OCS for lease and by not loosening its fiscal terms. It found its origin in the frustration that offshore oilmen felt in the 1960s and 1970s when Interior rejected many of their high bids as insufficient to convey fair market value. The rising bonus bid levels of the late 1960s, the higher financial stakes involved in prospecting off the edge of the continental shelf, and the calls to accelerate leasing after the 1973 oil crisis nudged bureaucrats and drillers alike to reconsider what was fair as it pertained to fair market value in the OCSLAA. By the time Watt entered the picture in 1981 and vastly expanded the size of offshore lease sales, the offshore E&P industry had settled on defining the market for OCS leases by fiat—except when they didn't. They rejected key parts of the OCS program like minimum bid thresholds and bid adequacy evaluation as components of an unfair market, arguing that the only true determinant of market value is the price placed on a tract by the bidders during a sale of new leases. Yet, when it was convenient, firms adopted the position that any winning high bid they submitted on a tract that exceeded the DOI's estimate of its worth was by definition in excess of fair market value.

The solution to this problem was the expansion of acreage offerings, which effected a rapid decline in both tract-by-tract competition and the average amount that a company needed to spend to acquire a lease. Area-wide leasing began with great promise, but after only three years it shed a critical part of assuring fair market value—indeed, its keystone, as a circuit court ruled—when the per-acre minimum bid was lowered from $150 back down to just $25 per acre in 1986. Still, the conservative approach to OCS access associated with Watt found its most perfect form in the DWRRA of 1995. The Act squelched the best selling point that area-wide leasing had going for it: that a reduction in one vehicle of obtaining the government's due economic rent would, without question, raise the other vehicle's receipts. Each plan promised that the future revenues from the other source (whether bonus bids or royalties) would "more than pay for" its temporary revenue declines. The policymakers who put area-wide leasing and royalty relief into play provided inadequate research or data to justify either position, and, of course, the two policies work at cross-purposes, ultimately reducing the value the public sees from every side of selling an OCS lease. Multiple studies routinely place the deepwater Gulf as having one of the most generous fiscal or government take statistics, or private rate of return, second only to the Brazilian offshore at 25.5% to 29.5% IRR (CreditSuisse 2013, 3).

Because the bonanza from deep water royalty relief has proven so immense, the industry has invested a fair amount of money in trying to defend the policy to government and academic circles. Every so often,

[50] Note also that in June 2011, the administration granted lease term extensions (known as "Suspensions of Operations") to non-producing deepwater leases affected by the five-month moratorium, an action not required by statute or contract (Bureau of Ocean Energy Management, Regulation and Enforcement Notice to Lessees (NTL) No. 2011-N05, June 29, 2011).

a group like the American Petroleum Institute will commission a study by one of the major oil and gas consulting firms like IHS-CERA, Advanced Resources International, Wood Mackenzie, or Quest Offshore, to narrowly analyze the impact of a policy like the DWRRA or opening the eastern portion of the Gulf for development (Boman 2013; Boman 2014). Paeans to the stimulative effect of royalty relief are a favorite subject of these types of reprots. One such study touted the Act's influence by simply detailing the fact that $3 billion was spent on leases between 1996 and 2000 (Palomo 2010; Daco, Gault, and Novak 2010; Radford 2010). Though that is true, it unfairly conflates what stimulative effect the law may have had with the underlying leasing demand present anyway. This particular study was published at an unfortunate time: April 21, 2010, a day after the *Deepwater Horizon* rig exploded, but one day before it sank a mile down to the seafloor. As the rig burned, the American Petroleum Institute's director of Upstream and Industry Operations Erik Milito was on a media blitz to promote the positive results of the DWRRA study; it continued at least until the rig started to list and the study touting "deepwater" felt unseemly (Seeley 2010; Dlouhy 2010).

Apologists for the law's salubrious effects on the deepwater Gulf were in especially rare form in 2000, when the post-Act provisions from the law were set to expire—as measures designed to be a temporary "relief" must by definition do. In the pages of the *Oil & Gas Journal*, two especially vocal supporters of the DWRRA, consultants Andrew Derman and Daniel Johnston, questioned whether any offshore operator could continue to justify exploration in the deepwater Gulf without additional royalty relief. If the policy ceased, they wrote, the US risked "suffocating its most promising oil and gas province" (Derman and Johnston 2000, 24). Derman, writing with Gregg Jacobsen, even made the claim that because the DWRRA lease sales of the mid-1990s had been so successful, the policy must be extended because a large number of leases would soon expire in the mid-2000s (Derman and Jacobsen 2000, 52). To not extend the deepwater royalty relief measures beyond 2000, they said, would be to arbitrarily raise the price of "used" acreage. Warning that a downturn in the industry might lie ahead in the absence of more relief, Derman and Jacobsen cited the fall-off in leasing activity during 1999 and 2000 as evidence of waning interest (ibid., 54), conveniently failing to point out that the point of reference for those declining sales was the record-breaking Gulf lease sales of 1996 to 1998 (see Figure 3.37.).

Others did not wait until 2000 to push for a permanent extension of, if not the DWRRA, then the royalty relief concept in general. Remarkably, after going through a year of banner lease sales in deepwater, MMS considered (at the industry's behest) whether to extend royalty relief to all non-producing leases in any water depth in the Gulf (*Platt's Oilgram News* 1997). When MMS pondered raising the minimum per-acre bid from $25 to $37.50 in 1998, the industry let forth streams of vocal opposition (Spencer 1998). As a result, it was not raised until 2004. When MMS officials also considered raising the lease royalty rate from 12.5% to 16.67% for deepwater lease sales held after 2000—that is, after the DWRRA would expire—they received another earful. The editor of *Offshore* magazine called the potential change "a classical 'bait and switch' campaign" (LeBlanc 1998). International Association of Drilling Contractors chief Bernie Stewart remarked, "a deal is a deal. It is far too soon to renegotiate a bargain just struck" (*Platt's Oilgram News* 1998). The deal struck in 1995—which was indeed a bargain—was always set to expire by design in 2000, but the industry wanted to paint any sunsettting of a temporary relief measure as the government imposing new fiscal burdens on offshore firms. When George W. Bush raised deepwater royalty rates in 2007 after the price of crude oil shot past $100 per barrel, API registered its disapproval in the former oilman and Republican son of former Zapata Corporation co-founder (see Figure 3.24.). "Raising costs in an astronomically expensive and risky area to do business is bad policy," Erik Milito said, "and ill-advised" (Walsh 2007).

As with the prophecies of economic demise made during the five months of the 2010 moratorium, these dire predictions also never came true. Not only were the leases sold between 1996 and 2000 acquired with generous volumes allowed to be extracted royalty-free, the list of discoveries made on leases sold during that period reads like a *Who's Who* of the deepwater Gulf's largest and most remarkable finds. The list includes fields like Great White, Tobago, Big Foot, Cascade and Chinook, Jack and St. Malo,

Julia, Stones, Kaskida, Blind Faith, Marco Polo, Shenzi, Tahiti, Tubular Bells, Lucius, Hadrian, and many more. Many of these elephants were acquired at extraordinarily low bonus bid prices, running against the grain of MMS's expectation that bid levels would be much higher during the post-Act lease sales because of the royalty relief incentive. For example: for a sum of $5.3 million, Shell Oil bought three leases in September 1996 over the Great White prospect; the field is estimated to contain more than 400 million barrels of oil equivalent (mmboe). The two leases over Chevron's Blind Faith discovery were awarded in 1996 and 1999, for just under $5 million in total; the field is estimated to contain well over 100 mmboe. The two leases covering the vast majority of the Jack field were purchased by Chevron in April 1996 for just $215,712 each—an amount only about fifty thousand dollars over the minimum bid required to obtain the tracts. The Jack-St. Malo development could contain as much as 500 mmboe and is certain to make the company tens of billions of dollars after coming online in December 2014, even despite its staggering investment cost of $7.5 billion (Larino 2014).

How much of the deepwater Gulf's fantastic success can be explained by the DWRRA royalty relief incentive applied during the second half of the 1990s? As the policy recedes into the past with each passing year, more and more scholars have taken a stab at unpacking the law's effects. Peter Ashton, Lee Upton III, and Michael Rothkopf concluded recently that the policy indeed increased competition for individual leases, number of leases awarded, and the amount bid on a per-acre measure. That conclusion is evident and comes without controversy. Through excellent econometric analysis, they estimated that the presence of the DWRRA incentive resulted in the leasing of an additional 258 leases in depths of 200-plus meters of water during each year between 1996 and 2000. Most of those were in depths beyond 800 meters of water (Ashton, Upton, and Rothkopf 2004a, 17). Based on their findings, the authors conclude that the increase in bonus bids received during the five years of royalty relief sales would offset only a portion of the lost future royalty revenue. They explain that there is "a clear trade-off" between boosting short-term bonus bid receipts (an incident to which is the discovery of more reserves), and a decrease in total royalty revenues (ibid., 9). This flies directly in the face of how deep water royalty relief was sold to Congress: as a supply-side, self-financing measure that would more than make up for the foregone royalties. Ashton, Upton, and Rothkopf agree that the law stimulated lease sale bidding activity—that much is undisputed—but they acknowledge that its blanket new-leases provision makes any comparison to a counterfactual virtually impossible. With so many world-class fields discovered on leases let over a lengthy five years (as measured by the industry's technical progress), the idea that most of them would not have been discovered without the advent of the DWRRA defies the imagination. Indeed, the 2004 study found no strong correlation between deepwater exploration drilling and the size (i.e., success) of a lease sale, explaining that the surge in the number of leases acquired is a poor measure of much else than that fact alone (ibid., 38).

The most succinct diagnosis of what royalty relief wrought comes from Juan Carlos Boué. He explains that by cutting the price on deepwater tracts right at the cusp of a surge in interest in the basin, all MMS achieved was "to forego the chance to collect massive excess profits [i.e., economic rent] when these in fact materialized (from the mid 1990s onwards)" (Boué 2002, 62–63). Ashton, Upton, and Rothkopf welcome any rebuttal of their (or Boué's) claims, but they note that the law's most strident defenders simply "do not provide any quantitative estimate of the likely increase in revenues" (ibid., 31).

Boué wrote in 2002 with exceptional perspicacity that the "symbolic significance of the royalty relief initiative cannot be stressed strongly enough" (Boué 2002, 23). The errors in the DWRRA statutes will have a massive financial effect on the federal treasury, of course, but what Boué speaks to here is the precedent that deep water royalty relief set by granting generous tax breaks to an oil and gas basin that was known at the time to be the "most prolific and profitable producing area in the USA for the foreseeable future" (ibid.). After decades of systematically altering the definitions of "fair" and "market" and their meanings in the standard of "fair market value" present in the OCSLAA, royalty relief finally changed the boundaries of what qualifies as "value" to the federal government. The argument implied in deep water royalty relief divorces the private value created by offshore oil and gas activity from the

public landlord's capture of economic rent. Here, value is most valuable when it is retained by firms—not the public treasury.

The symbolic value of the royalty "relief" idea has without question secured its place in the fiscal toolbox of OCS regulators. Even the two-fold failure of the original Act to withstand the *Santa Fe Snyder* and *Kerr-McGee* legal challenges seems to have done little to mar its reputation as an incentivizing stimulus. Royalty relief has demonstrated a remarkable staying power. Although the post-Act DWRRA incentives did expire in November 2000, the program was continued afterwards on a discretionary basis. Not someone easily confused with being a friend of the fossil fuel industry, even Vice President Al Gore supported continued royalty relief measures in deepwater as part of his platform during his 2000 run for the presidency[51] (Alpert and Walsh 2000). After 2000, the department continued to offer discretionary relief on a sale-by-sale basis, only this time with smaller RSVs and with price thresholds unquestionably included. Leadership at MMS in 2001 began a push to offer royalty relief for "deep gas," or natural gas deposits located in shallow water but at geological horizons far below the typical offshore natural gas well. Even here, complications around price thresholds continued to dog MMS. Secretary of the Interior Gale Norton—who, incidentally, once worked for James Watt's Mountain States Legal Foundation—raised the price threshold for natural gas in 2004 under the Deep Gas Program just one year before prices rose to then-record-high levels (Andrews 2006b). Locked in a political struggle with the Office of Management and Budget over where to set the price threshold level, Secretary Norton won out, and OMB "caved" (Rose 2008, 43).

In the end, even the law's architect has lamented the error in its language that has caused him and the DOI so much grief. "I got out the [Act's] language a few days ago," J. Bennett Johnston said in a 2006 *New York Times* interview. "I had it out just long enough to know that it's got a lot of very obscure language" (Andrews 2006b). DOI officials tried to convince offshore operators to voluntarily re-negotiate the faulty DWRRA leases during the George W. Bush administration, and some did. Shell Oil stated openly that they had believed all along that price thresholds were applicable to new leases. The GAO has estimated that the field-lease error will cost $17 million in lost revenues for pre-Act leases, but upwards of $10 billion for those issued between 1996 and 2000. The commonly-cited amount of revenues lost due to the omission of price thresholds is $60 billion, which MMS calculated in October 2004 when crude oil prices were under $60 per barrel (US Government Accountability Office 2007, 3). With spot prices for West Texas Intermediate crude hovering between $80 and $100 per barrel since 2010 until very recently in early 2015 at the time of this writing (when the per-barrel price of crude oil dipped below $50 for the first time since 2009), it is likely that the $60 billion estimate will prove to be very much on the low side (US Department of Energy 2014).

8.3. Epilogue: "Only those who brave its dangers"

The confluence of the royalty-in-kind scandal, allegations of a cover-up of the DWRRA price threshold error, the constant issuance of Office of Inspector General reports on criminal and ethical lapses at MMS, and the agency's role in the *Deepwater Horizon* disaster have caused many in the popular press and the academy to ask: was MMS "captured" by the oil and gas industry? The perception that it was contributed to Secretary Salazar's June 18, 2010 reorganization of the agency's responsibilities into three new bureaus, which first stripped royalty collection away into a separate entity, the Office of Natural Resources Revenue. The Bureau of Ocean Energy Management (BOEM) took on the responsibilities of pre-lease resource evaluation, five-year program planning, and leasing activities. The new Bureau of Safety and Environmental Enforcement (BSEE) was to focus narrowly on post-lease permitting, technical

[51] While a presidential candidate in 2000, Texas Governor and former oilman George W. Bush actually opposed the extension of the DWRRA program past its planned expiration in November 2000.

regulatory matters, and enforcement (National Commission on the BP *Deepwater Horizon* Oil Spill and Offshore Drilling 2011a, 55; Hogue 2010). Though there are many potential causes behind the phenomenon of "capture" in any agency, OCS revenues were singled out for special blame for having a corrupting influence on the regulatory mindset and enforcement willpower of MMS. In a recent monograph published on the theory and evidence of regulatory capture, Daniel Carpenter and David Moss define the slippery concept as:

> The result or process by which regulation, in law or application, is consistently or repeatedly directed away from the public interest and toward the interests of the regulated industry, by the intent and action of the industry itself. (Carpenter and Moss 2013, 13)

The heightened scrutiny placed on MMS in the wake of *Deepwater Horizon* raised allegations that it was held captive to outside oil and gas influence for several different reasons. One was that regulators would weaken enforcement to protect the firms they saw as their "clients," or to secure future employment with them. A second viewpoint followed what Carpenter and Moss call "cultural capture," which creates an agency environment in which the regulators identify with and think like the regulated so strongly that they becoming unable to frame issues and problems from a neutral perspective (ibid., 17, 20). A third explanation held that MMS, if captured by the oil and gas industry, had been so by design, charged by the OCSLAA to pursue multiple goals but with the expeditious development of the OCS as its clear priority (Lester 1992, 90; see Wilder 1993). Indeed, a "lack of nuance" characterizes capture discussions (Carpenter and Moss 2013, 3, 9), and though disasters like the *Deepwater Horizon* blowout can bring much-needed scrutiny to the workings of an ossified bureaucracy, the shock of the calamity can also bring with it an attendant psychological bias to definitively apply blame to some group that is liable for quick governmental reform (Carrigan and Coglianese 2012).

Allegations that the agency was the lapdog of the oil and gas industry were overblown, and so too was the conclusion drawn by some that the investigations into MMS blithely settled on a conclusion of regulatory capture as an explanation of MMS's failures related to *Deepwater Horizon*. In the most comprehensive study of capture and MMS to date, Christopher Carrigan assesses the mechanisms of regulatory capture, and finds the evidence wanting (Carrigan 2013, 291). Citing the co-chair of the National Commission on the BP *Deepwater Horizon* Oil Spill and Offshore Drilling, chartered by President Obama to investigate the root causes of the blowout, Carrigan recounts William K. Reilly's comment that MMS was "overly susceptible to industry influence, certainly outgunned and possibly captured"[52] (ibid., 245). This statement, to Carrigan, was a jump to conclusions not supported by the evidence. In his diagnosis of the agency's ills, Carrigan adopts the premise that the Offshore Energy arm of MMS was made subservient to the Revenue Management group and its "pursuit of tax revenue" (ibid, 267). In doing so, he confuses the tension in MMS between the promotion and regulation of the industry with a conflict between the agency's royalty collection task and its charge to regulate for operational and technical safety. Yet the inherent tension within MMS was that the groups administering the industry's expansion (through lease sales, reviewing deepwater well permitting, etc.) answered to the same leadership as those responsible for beefing up the technical requirements—and thus, costs—of operating in deepwater. Carrigan also elides Oil Spill Commission co-chair Reilly's qualification of MMS as possibly captured; its staff was instead careful to avoid a simplistic conclusion that the agency had been made industry's captive. One senior advisor to the National Oil Spill Commission testified that "the concept of 'agency capture' does not do justice to the complexities of the modern OCS bureaucracy and offers little insight into the inherent problems of managing OCS lands" (Priest 2010, 2).

[52] Disclosure: the author served as a staff policy analyst for the Oil Spill Commission from 2010 to 2011.

If MMS was captive to any interest group, it was to the US Congress (National Commission on the BP *Deepwater Horizon* and Offshore Drilling 2011a, 55–85). If the mission to increase revenues aligned with taking a light touch on safety and regulatory matters anywhere in the agency, it was within MMS's Offshore Energy division itself. As this paper has shown, royalty management within MMS seemed to be such an afterthought and a chronic organizational struggle because it is handled entirely after the leasing and development stages of an offshore project. Safety regulations compete with the pre-lease promotion function, in which a general desire to keep industry costs low and bonus bid receipts high could influence decisions about what requirements should be imposed on offshore operators. In this sense, the MMS bureaucracy was "captured' by design," as Charles Lester writes. "Its primary mission, notwithstanding its additional environmental mandate, [was] to develop the OCS" (Lester 1992, 89–90).

Far more so than to the industry, MMS was captive to the demands of Congress—and, it should be said, given the framework of US democracy, properly so. What little empirical evidence exists on how Executive agencies make regulatory choices conforms to this conclusion. As Jessica Leight explains, the evidence that outside interest groups are able to effectively guide agency regulatory decisions is "mixed at best," and is also "open to some potentially serious methodological criticism," as well (Leight 2009, 226–237). The actions of bureaucrats like those at MMS are almost always traceable back to the choices made and preferences expressed by the three governing branches (Calvert, McCubbins, and Weingast 1989, 589). Elsewhere, Amy Zegart has shown that Congress indeed effectively exercises strong control over agencies (Zegart 2010). Since the 1970s, agencies with OCS responsibilities in particular have had little leeway over the largest OCS policy decisions, which were instead decided at the highest echelons of the Executive branch (Gramling 1996, 131). In other words, MMS's generally pro-development history is in line with the ambiguity of Congress's directives given in the OCSLA, the OCSLAA amendments, and the creation of MMS during the marketplace-oriented Reagan administration. That Congress exercised very little oversight of MMS between 1982 and 2010 on drilling safety or environmental protection matters suggests that the legislature itself is the entity influenced by the industry, not the agency (Engstrom 2012, 37).

Time and again in MMS's history, Congress gave the agency hard, "quantifiable" goals to achieve, rather than support to balance the multiple "fuzzy goals" that the OCSLAA requires them to pursue all at once (Biber 2009, 16). Take as an illustration of this J. Bennett Johnston's remarks in 2006 about the DWRRA and its influence on the deepwater economy. While Johnston admitted that the legislative language was poor, he still argued that the law had been a smashing success: "The lease sales were—went up tremendously. Went up 400 percent in a matter of five years," Johnston said. "400 percent. I mean that's success. I don't think you're going to get people to believe that. But it is true" (Public Broadcasting Service 2006).

MMS placed so much focus on industry needs because Congress repeatedly chose to assess the agency's performance by its revenue figures, either by lease sale bonus bid totals or by counting the number of tracts leased annually. Raising revenue totals was not the key motivation behind MMS's initiatives, but it has been the primary way that other government bodies have adjudged its policy success (Wilder 1993). No other easily relatable criterion for assessment existed. In 2001, MMS attempted to develop an index with which to measure "fair market value;" the index was calculated as the ratio of the high bonus bids accepted, to the MMS value estimates for the tracts (US DOI 2001, 12). This ratio, as can be expected, is fundamentally flawed. MMS set as its "fair market value goal" a ratio of (1.8) ± (0.4). For example, this means that achieving the higher figure (+1.8) would have the agency receiving $1.8 million in high bids on tracts valued to be worth just $1 million. Because area-wide leasing pushed the tract evaluation procedure until after the receiving of bids, the index creates a clear incentive to lowball tract value estimates after the fact, in order to boost the ratio. Curiously, given area-wide leasing's increased reliance on the marketplace for determining fair market value, the ratio does not incorporate any measure of competition at all. The ± fair market value index is also by necessity an arbitrary figure.

Even in reviewing the richest evidence of industry's capture of MMS—that pertaining to the issuance of safety regulations—Congress' hand is evident. After a slew of major industrial accidents occurred in the early 1990s, the agency floated the possibility of requiring offshore firms to operate under a Safety and Environmental Management Plan, or SEMP. (Doing so would have placed a greater burden for operational safety on deepwater operators, raising costs, but likely preventing an accident like *Deepwater Horizon*.) After requesting the industry's input on the matter, MMS at first delayed making a regulatory decision, and on multiple occasions nearly every year until 1998 the agency either deferred taking action or diluted the rule's regulatory bite, asking the industry merely to voluntarily comply with the SEMP standard, before ultimately abandoning the push altogether (National Commission on the BP *Deepwater Horizon* Oil Spill and Offshore Drilling 2011a, 71; see Hewett 2010). Without question, the industry helped to sink the measure, but the more perverse influence over this regulatory failure was, again, Congress. Even under circumstances of high interest group influence, studies indicate that Congress remains the "single most important source of [regulatory] initiatives" undertaken by an executive entity (Kerwin, Furlong, and West 2010, 602). It appears that Congress was neither the source of, nor even a supporter of, the SEMP proposal. This fact helps to explain why the start of MMS's regulatory push for the SEMP requirement was so weak: the SEMP requirement was not published as a Proposed Rule, or even an Advanced Notice of a Proposed Rulemaking—very early precursors to a new regulatory requirement—but as a mere Request for Comments. As Susan Yackee explains, the content of a Proposed Rule at its very first appearance is "probably a better indicator [than the rule's ultimate outcome] of the amount of influence [that] business has" over the process (Yackee 2013, 229). If MMS suffered from "cultural capture" at all, it was in its management's inability to grasp or refusal to understand that the risk of a catastrophic subsea blowout was much higher than the offshore operators depicted it to be (DeParle 2010). This inaction, however, is not wholly damning, either. The capture scholarship shows that managers choose to focus on risks that they know they can manage or mitigate—in part to insulate themselves from potential blame (Black 2010, 314, 337–338). Though the agency had ample warning and evidence that subsea BOP stacks were extremely likely to fail in waters deeper than 1,000 feet—and since at least 1969, warning that operators had absolutely no capacity to cap a deepwater well in the event of a blowout—MMS officials did not have the political backing to successfully pursue such costly issues.

As former Assistant Secretary of the Interior for Policy, Budget and Administration during the Reagan years, when J. Robinson West testified to the National Oil Spill Commission in 2010 he described the Service as surrounded by "unloving critics" and "uncritical lovers" (West 2010, 1). It is no surprise that the OCS program remains highly politicized. Its size, import and national consequences assure as much. A large body of political science literature shows that voters—even high-information voters—are prone to forming opinions on policy issues with little or no recourse to a complex review of the facts. And though the OCS is no exception, offshore drilling has occupied a special, if ignoble, place in US political history as major partisan dividing line. Not long after his tenure as Director of MMS ended, Bettenberg recalled in an interview that factual policy information regarding the OCS played little role in influencing policy substance. "It is a journalistic type of debate," he recalled, "and a very political debate, and is almost devoid of substantive content" (Farrow 1990, 139).

A recent study published in *Public Understanding of Science* tested public confidence in a series of claims about the safety of offshore oil drilling along the California coast, by measuring the reaction of study participants. The study's data was collected eight years before the *Deepwater Horizon* disaster. Study participants were told that a report showed offshore drilling to be either more or less safe than previously believed. Then, participants were told that an industry-funded group, an environmental advocate, or a neutral government group conducted the report. The study's authors discovered that ideology drove how participants rated the trustworthiness of the hypothetical reports. The source of the drilling report had little effect on the participants' beliefs; instead, those respondents who expressed a position at the outset rated the "reports favoring their position to be far more credible than reports opposing it" (Carlisle et al. 2010). Participants were simply not swayed by factual data that countered

their beliefs. For example, the study authors wrote, "respondents who favored oil drilling were unaffected by the source [of the drilling report] if the message was that [drilling] was riskier [than previously believed]" (ibid.). In other words, the drilling policy debate is so fractured that the public believes that data from any source is fundamentally untrustworthy.

In late August 2014, the US District Court for the Eastern District of Louisiana handed down a decision on a series of civil charges filed by the federal government and other plaintiffs against BP to determine liability for the *Deepwater Horizon* disaster and spill. BP has already paid out roughly $28 billion in claims (Robertson and Krauss 2014) unrelated to the civil litigation. But the ruling on *In re: Oil Spill by the Oil Rig "*Deepwater Horizon*" in the Gulf of Mexico, on April 20, 2010* at first set up the oil firm for as much as an additional $7 to $18 billion in civil penalties under the Clean Water Act. Judge Carl J. Barbier ruled that the company acted recklessly, with gross negligence and with willful misconduct before the blowout occurred (731 F. Supp. 2d 1352 [J.P.M.L. 2010]). Barbier wrote that BP disregarded multiple warnings and safety steps so egregiously that they together "evince an extreme deviation from the standard of care and a conscious disregard of known risks" (130). The motivation for several such acts was expressly profit-driven, made to save costly rig time and minimize equipment expenses. Judge Barbier also slammed BP for hiding, from investigators and the public, the existence of a fateful call on the night of the blowout about the results of a critical test, which showed that the loss of well control could have easily been prevented. Barbier concluded that BP intentionally withheld knowledge of the call "to avoid casting further blame on BP" (72).

Given the decision's financial ramifications and the ruling's findings of fact about the sequence and causes of the blowout, a great deal of attention has been paid to the possible fines that BP faces under the Clean Water Act, and rightly so. The maximum potential fine under a ruling of gross negligence and willful misconduct is $4,300 per barrel released (Krauss and Schwartz 2012); BP asked that it receive a lesser per-barrel fine of $3,000 (Gilbert 2015). As of January 2015, the decision on BP's final per-barrel fine remains before the court, although Barbier has raised the "uncommon" possibility that he might allow BP to pay its Clean Water Act penalties in installments (ibid.). The Department of Justice sought the maximum fine in the third phase of the trial, writing in its brief: "If ever there was a case that merits the statutory maximum, this is it" (Guillén 2014). BP did win a major victory on January 15, 2015, when, in the tiral's second phase, Barbier ruled that BP would be responsible for penalties on just 3.19 million barrels of oil released, setting the official release figure much lower than the federal government's estimate of 4.2 million barrels,[53] but higher than BP's lowballed estimate of 2.45 million barrels[54] (Larino 2015a; Malakoff 2015). That decision alone decreased BP's potential maximum fine from $18 billion to $13.7 billion, and the company's stock price jumped nearly six percent at the news (Valentine 2015). In February, Barbier ruled that Anadarko, as partial owner of the Mississippi Canyon 252 lease, is liable for a Clean Water Act fine up to $1 billion (Larino 2015b). Anadarko argued that because the firm had no

[53] The "best estimates" made by non-BP entities reviewed by the court put the amount released into the Gulf at 4.2 million barrels of oil, with the top of the ranges typically at 4.7 million, but ranging as high as 5.2 million. Though the President's Oil Spill Commission did not specifically address spill volume estimates, they pointed out, in January 2011, that a consensus had emerged among government and independent scientists that 4.2 million barrels were spilled directly into the Gulf (National Commission on the BP *Deepwater Horizon* Oil Spill and Offshore Drilling 2010b, 19). See McNutt et al. (2012) for support for the government's 4.2 million-barrel figure.

[54] Even in this favorable ruling for BP, Judge Barbier was at pains to point out that "The evidence shows that BP repeatedly told government officials that its best estimate for flow rate was 5,000 barrels of oil per day, while BP's internal documents showed there was little basis for this estimate and actual flow rates were significantly higher. Indeed, BP pled guilty to obstruction of Congress, 18 U.S.C. § 1505, for making such misrepresentations in response to a Congressional Committee inquiry" (*In re: Oil Spill by the Oil Rig "*Deepwater Horizon*" in the Gulf of Mexico, on April 20, 2010*, Findings of Fact and Conclusions of Phase Two Trial, 32).

operational role in the well or in causing the blowout—a conclusion that the court affirmed in the trial's first phase—they should not be subject to Clean Water Act penalties. Barbier rejected this claim, as the Act makes no distinction between passive and active ownership in an offshore well. Speaking to Anadarko's attorneys, Barbier said, "You seem to be making more of a policy argument [than a legal argument] as to why a non-operator should not be subject to penalties under the Clean Water Act. If that's the case, I think you're in the wrong venue. You need to go to Congress" (ibid.). The civil trial will conclude in 2015, and, if the litigation after the *Exxon Valdez* spill in 1989 is any guide to the future, the appeal process may stretch on for more than a decade (Rushe 2015).

Receiving very little attention in the press, however, is the matter of assessing royalties on the crude oil and natural gas spewed out by the Macondo well. Section 308 of the Federal Oil and Gas Royalty Management Act (FOGRMA) holds that

Any lessee is liable for royalty payments on oil or gas lost or wasted from a lease site when such loss or waste is due to negligence on the part of the operator of the lease, or due to the failure to comply with any rule or regulation, order or citation issued under this Act or any mineral leasing law. (30 U.S.C. § 1756)

Already, BP has pled guilty to 14 criminal charges in a November 2012 deal signed with the Department of Justice, agreeing to a criminal fine of $4.5 billion. Pursuant to the plea, BP admitted that it had negligently caused the deaths of eleven men aboard *Deepwater Horizon* and had negligently caused the resultant oil spill (US Department of Justice 2012). BP has also been cited by the BSEE for 12 instances of violating operating regulations in their drilling of the Macondo well. With Judge Barbier's finding of gross negligence and willful misconduct, it seems all but certain that BP will be assessed an 18.75% royalty payment on the value of the oil spilled directly into the Gulf, per the FOGRMA. Compared to the supermajor's other liabilities from the spill, that check will be refreshingly low, at somewhere between $6 and $7 million dollars. To date, the Office of the Solicitor of the DOI has declined to comment on whether BP will be liable for such a royalty payment.

Such a royalty payment would not cover all of the oil spilled from the Macondo well. As the oil spill progressed, BP eventually deployed a collection boom that allowed for roughly 810,000 barrels of the discharged oil to be brought to the surface and transferred to shore. Under normal practice, because this crude was sold once brought ashore, royalty payments are immediately assessed. Yet even here, at least one firm has decided to fight the federal government to get out of paying royalties on oil produced from the deepwater Gulf (Schlanger 2011). Once the oil began to be shipped to shore, BOEM issued a letter to BP on July 15, 2010, instructing them to report the production on the captured oil, and to begin paying royalties (*Anadarko Petroleum Corporation*, 181 IBLA 388 [2012]). BP did so, and as operator of the lease, began paying Anadarko for the firm's one-quarter share of the sales proceeds from the captured production, pursuant to its 25% ownership of the MC 252 lease. Anadarko refused the check, telling BP and BOEM that they were entitled to no proceeds from the well because the captured and sold oil was not "production." They argued that existing MMS regulations required that a "successful" well completion be established before any oil and gas flowing out of it could be deemed "production." Exploration activities by definition had not yet concluded when the Macondo well blew out, Anadarko's lawyers argued, because the lessees had not yet filed a Development Operations Coordination Document—a regulatory document routinely required on the OCS—with MMS (181 IBLA 400, [2012]).

The DOI Board of Land Appeals (IBLA) rejected Anadarko's tortured premise. While the statute from the Outer Continental Shelf Lands Act defines "production" as "those activities which take place after the successful completion of any means for the removal of minerals" (43 U.S.C. § 1331(m)), the IBLA ruled that "any means," and not the word "successful," is the operative term in the statute (181 IBLA 409). As the IBLA decision explained, Anadarko's lawyers were at great pains in their appeal not

to use any wording that would suggest that the oil was produced; they opted instead for phrases like: discharged volumes, captured oil volumes, captured hydrocarbons, the subject volumes, uncontrollable discharge, or—best of all—volumes that prematurely escaped. "We conclude," the appeals board decision held, "that production by any other name is still production" (ibid., 407). Anadarko was ordered to pay the public the royalties they owed: about $1.1 million.

In quoting Henry Wadsworth Longfellow's "The Building of a Ship" at the launch of *Oceanographer* in 1966, Lyndon Johnson chose a poem that speaks to the parallels between oceangoing travel and the long trajectory of a human life. Johnson might well have selected another of Longfellow's masterpieces, "The Secret of the Sea" (Longfellow 1848). In that poem, a ghostly helmsmen stands perched aboard an ancient ship, calling out to the poem's speaker:

"Wouldst thou,"--so the helmsman answered,

"Learn the secret of the sea?

Only those who brave its dangers

Comprehend its mystery!"

The helmsman's invocation of the high dangers and deep mystery of the sea reminds us of the ultimate tangibility of offshore oil and gas resources. Long before hydrocarbons can be extracted or a fair market value assessed on them, roughnecks like those on *Yorktown Zapata* or helmsmen from *Deepwater Horizon* must challenge the depths to persuade underground reservoirs to yield their natural bounty to human hands. It remains a calling fraught with peril. Here, determined bravery and steeled muscles reign supreme; offshore, as one journalist learned after visiting the industrial work site atop BP's fixed-jacket Pompano production platform in the deepwater Gulf, there are "no skinny forearms" (Rauch 2001, 35).

The secret of the sea is perhaps that it remains impervious to human control, try though we will to order it into a vast, invisible grid, or mold it into the hierarchy of a bureaucratic structure. Teams of capable federal officials manage the OCS—but there is a reason so many Presidents have flown to tour a deepwater drilling rig or walk the beaches of the US coast, hoping to witness the action as close up as possible. Revenues from offshore oil and gas ultimately derive from their extraction, and only those who face such dangers in person can fully comprehend the promise and peril of deepwater treasures.

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BOEM
Bureau of Ocean Energy Management

Bureau of Ocean Energy Management (BOEM)

The mission of the Bureau of Ocean Energy Management is to manage development of U.S. Outer Continental Shelf energy and mineral resources in an environmentally and economically responsible way.

BOEM Environmental Studies Program

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