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# “Palau Fisheries: 2015 Review”

A report on trends in coastal marine resources and fisheries management in Palau

*Prepared for The David and Lucile Packard Foundation*

**CEA** CALIFORNIA  
ENVIRONMENTAL  
ASSOCIATES

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## Introduction from the Packard Foundation

Dear Colleagues,

The David and Lucile Packard Foundation is pleased to share with you a baseline report on fisheries management and coastal marine trends in Palau. This report, “Palau Fisheries: 2015 Review,” identifies trends in key categories that are relevant for monitoring fisheries management and reform.

As part of our commitment to continuous learning, the Packard Foundation currently plans to issue this report on a regular basis to track changes in the status of marine resources and fisheries management in Palau. The Foundation’s strategy in Palau is focused on protecting the health and productivity of the country’s coastal marine environment, and as such, the Foundation depends on timely updates in order to make well-informed decisions. This report seeks to aggregate the best available data on fisheries statistics and trends in order to provide that evidence base. We also hope that the information presented here may be useful for other partners in the field.

We also expect that this report will be useful for our partners. Having access to consistent, valid information will support the field in drawing upon verified data sources to facilitate decision-making and streamlined collaboration.

Thank you for your interest. We welcome your feedback on this report as we seek to improve and enhance future editions.

*John Claussen*

*Program Officer, Western Pacific*

*The David and Lucile Packard Foundation*

## About this report (1/2)

- **Who is the audience for this report?**

The report was commissioned by the David and Lucile Packard Foundation and produced by California Environmental Associates (CEA).

The Packard Foundation will use the findings to inform its monitoring, evaluation, and learning (MEL) approach in Palau. Through its MEL activities, the subprogram seeks to instill learning and continuous improvement in its grantmaking philosophy—and ultimately to refine its grantmaking.

As part of its commitment to share key learnings with the field, the Packard Foundation will also share the report with partners in the marine conservation and management community.

- **What is the timeline for the report?**

This report is the 2015 baseline edition of what is intended to be a regular series for monitoring and tracking relevant changes in coastal marine resources and fisheries management in Palau. Since the objective is to update the report on a regular basis, this baseline report tracks data for the most recent year available by each indicator.

In certain sections, such as political trends, the report includes highlights from the past few years in order to provide necessary context for the baseline edition.

- **What are the indicators tracked in this report?**

This report monitors trends in six key categories that are important for fisheries reform: fisheries statistics, marine reserves, public funding flows for fisheries management, marine-focused philanthropic funding, public reform commitments in the fisheries sector, and political highlights in recent years in Palau.<sup>1</sup> (See slide 6 for additional detail on individual indicators.)

These indicators were selected for the baseline report as they correlate with the MEL framework at the Packard Foundation and provide a proxy on the health of marine resources and the level of public and private funding to support fisheries management in Palau. Future editions of this report may include supplemental information, such as grantee stories on work implemented in the field.

## About this report (2/2)

- **What are the objectives for this report?**

A key impetus for this report was the recognition that decision-makers (whether in the public, private, or civic sector) require good information to make sound decisions. This report, which attempts to aggregate fisheries statistics and trends, will also help provide context for the Packard Foundation's overall strategy and funding plan in Palau. It may also be useful for other partners.

- **Are there data limitations for any of the indicators?**

This report attempts to amalgamate available information about the health of marine resources in Palau. Although data can be limited and of variable quality, it attempts to identify large-scale trends that influence the context for grantmaking in Palau.

Relying on regularly updated data sources such as the FAO as well as analysis from in-country experts, this report seeks to provide a fact-based overview of trends in the landscape (see section, "About the sources" for more details).

- **Are the opportunities to provide feedback on the report?**

The Packard Foundation sees this baseline report as a discussion piece. Through this, we are extending an open invitation to partners for feedback so we can collaboratively work to improve and enhance the report year after year.

Partners are also invited to provide direct feedback to the Packard Foundation through a survey that can be found at the following link: <http://bit.ly/2ay9Ckc>.

## Indicators tracked in this report

This report monitors the following indicators, which are elements currently included in the Monitoring, Evaluation, and Learning (MEL) Plan for the Palau strategy at the Packard Foundation. This report intends to track the specified indicators on an annual basis, with the possibility of adding new indicators based on need. The Packard Foundation initially selected these indicators as proxies for assessing overall governance and fisheries health, given that this information provides important context for the Foundation's strategy in Palau.

Title	Indicator description	Indicator questions
<b>Political moments</b>	Political moments/trends	<i>What key political moments have occurred, including elections, appointments, policy decisions, public commitments, etc.?</i>
<b>Fishery statistics</b>	Fishery sector statistics	<i>What are the total fish landings, commercial value, stock status, fishing effort, fishing trade, etc., that make up annual or semi-annual national fisheries data?</i>
<b>National marine reserves count</b>	Number of national marine reserves	<i>How many marine reserves have been declared (in number and area)?</i>
<b>Public funding flows</b>	Amount of public funds flowing to sector	<i>How much public funding flows for major elements of marine fisheries management (including stock assessments, enforcement, management planning and implementation, staffing levels, etc.)?</i>
<b>Ocean funding</b>	Philanthropic ocean funds	<i>What are the annual ocean-focused funding commitments, in U.S. dollars, from philanthropic partners?</i>
<b>Private sector commitments</b>	Private sector commitments	<i>What are the public fish reform commitments of key private sector fishing, buyer, or retail actors?</i>

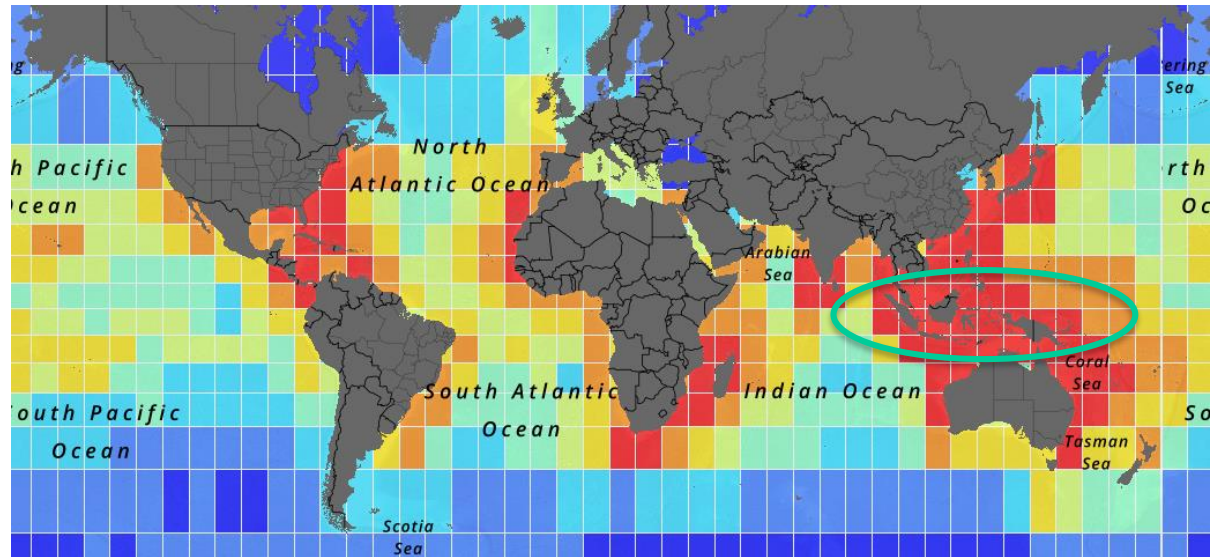
## Background on the Packard Foundation in Palau

- Palau is endowed with both high marine species diversity and high habitat diversity. This makes the region a priority for both conservation and sustainable development.
- Over the past several decades, significant investments have been made to improve coastal and marine resource management in the region. The David and Lucile Packard Foundation began making grants in the Western Pacific region in 1999.
- The stated goal of the current strategy is **“to restore and ensure the health and productivity of coastal marine environments in the face of rapidly increasing fishing pressures.”**
- The following approaches direct its grantmaking:
  - **Investing in reliable marine fisheries governance systems and initiatives** to model improved management and regulation of important fisheries;
  - **Conditioning the policy climate** for effective fisheries management and marine conservation;
  - **Building institutional capacity and leadership** of public, civil society and private sector decision makers, institutions and systems.
- Its strategy also seeks to:
  - **Integrate work across all of the Packard Foundation’s programs and its overarching “Ocean Vision”**
  - **Support improved scientific and economic data collection** and use through links with the Foundation’s Science program; and,
  - **Promote the use of market and supply chains incentives** for improved marine resource management alongside the Foundation’s Marine Fisheries program.

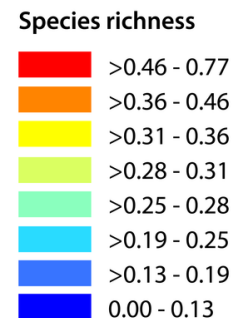
## Palau: a biodiversity hotspot at threat

Palau contains some of the highest marine biodiversity on the planet, as shown in the map at right. It is part of the Coral Triangle, which covers only 2 percent of the global ocean but comprises 76 percent of all known coral species. Yet marine resources are threatened by overfishing and coastal development, limited spatial management of coastal ecosystems, and other pressures. Although the Packard Foundation does not explicitly track biodiversity (to date), the work of the Foundation and numerous partners seeks to protect the region's critical biological diversity and marine-dependent livelihoods.

### Patterns of marine species richness



*The map shows the global patterns of marine biodiversity (species richness) across 13 major species groups, ranging from marine zooplankton to marine mammals.*





# EXECUTIVE SUMMARY



## Though Palau has made notable gains in building the marine reserve network through its Protected Area Network (PAN), there is an important need to improve fisheries management and address unsustainable levels of fishing for multiple stocks.

- In addition to a wide range of coastal resources that local people rely upon, **tuna from the territorial waters of Palau are among the most valuable exports from the Western Pacific region.**
- **Tuna catch in the Western Pacific generally has continued to increase, with skipjack tuna now by far the largest source of tuna catch (1.9 MT in Western/Central Pacific in 2014; much of this is used for canned tuna).** In 2014, the overall tuna catch in Western and Central Pacific water was the highest on record: over 2.8 million MT, accounting for 60% of the global tuna catch. Yellowfin (612,000 MT), albacore (129,000 MT), and bigeye (160,000 MT) are also important. According to the Western Central Pacific Fisheries Commission, only bigeye tuna stocks are significantly overfished, but the catch of skipjack is not being managed for maximum economic yield. Yellowfin is also reaching a level of concern.
- **Palau took important steps to protect its marine resources in the past year by setting aside an ocean reserve larger than the size of California.** In 2015, the government announced plans to establish a 500,000 km<sup>2</sup> reserve by 2021, making it the sixth largest fully protected marine area in the world and building on the marine reserve network already in place in Palau. With this addition, the country has announced that 80% of its EEZ will be closed by 2021 to fishing and 20% will be open for domestic fishing only. The country collaborated with maritime enforcement experts from around the world to develop and approve an enforcement plan for the sanctuary for the next five years (2016-2021). Palau is one of the few countries in the region with a comprehensive protected area network (PAN) support structure: the PAN Office and the PAN Finance office.
- **The Packard Foundation has historically been a long-term leader in philanthropy in Palau.** Increasingly, other funders may be investing in the region, whether as part of larger Western Pacific efforts or country-focused investments.

## Summary of fisheries and aquaculture harvests

- A 2016 report by Gillett provides an estimate of the annual volumes and values of the fishery and aquaculture harvests in 2014, as shown in the chart below.
- Coastal commercial fisheries production in 2014 is estimated at 865 mt, worth US\$3.2 million. The report notes that the methodology for estimating coastal fisheries production is relatively weak given a lack of updated production data.

### Annual Fisheries and Aquaculture Harvest in Palau (2014)

Harvest Sector	Volume (mt and pcs where indicated)	Value (US\$)
Coastal commercial	865	3,200,000
Coastal subsistence	1,250	3,300,00
Offshore locally based	3,987	31,471,000
Offshore foreign-based	4,017	18,555,070
Freshwater	1	10,000
Aquaculture (pcs and mt)	22 mt and 343,800 pcs	285,000
<b>Total</b>	<b>10,142 mt and 343,800 pcs</b>	<b>56,821,070</b>

## Palau's New National Marine Sanctuary

- Palau's National Marine Sanctuary, signed into law on October 28, 2015, will protect 80% of Palau's EEZ.
- By 2020, all extractive activities will be prohibited on the reserve's 500,000 Km<sup>2</sup>, while fishing in the remaining 20% of Palau's EEZ will be restricted to domestic fishing and a few small commercial operations.
- However, implementing the sanctuary and providing adequate enforcement will be the key test in terms of realizing conservation gains. The country has collaborated with management and enforcement experts to create a management and implementation plan for the sanctuary.



PALAU

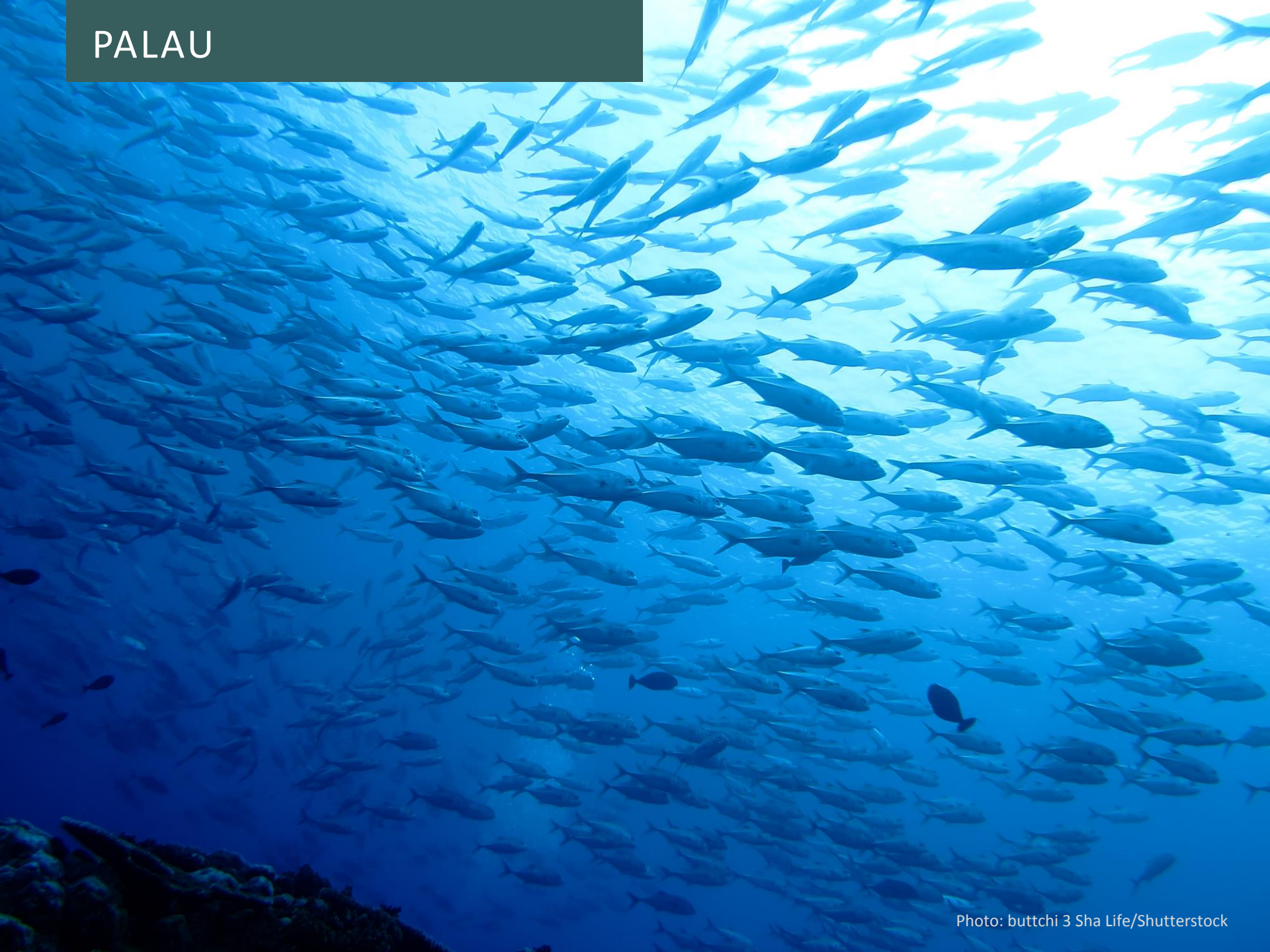


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## Political moments in 2015

A profile of key political moments, including elections, appointments, policy decisions, and public commitments

## Overview of political moments

- 2015 was a momentous year for Palau. Despite considerable pressure from many sides, the Palau National Congress passed legislation that declares 80% of the Palau EEZ as a no-take zone to align with the country's tourism strategy.
- The National Marine Sanctuary Act was passed in October 2015 and prohibits any extractive activities—including fishing and mining, from taking place in the protected area. The sanctuary is now the sixth-largest fully protected marine area in the world. The government is currently collaborating with maritime enforcement experts to develop an enforcement plan for the entire sanctuary.
- The Sanctuary declaration also spelled the five-year transition away from longliners from Japan and other countries towards a Palau-based homegrown tuna industry. Following the five-year transition period, only 20% of Palau's EEZ will be open for domestic fishing (and no foreign fishing).
- In the two northern states of Ngarchelong and Kayangel, the Northern Reefs initiative gained momentum with the ban on the capture of five species of grouper, which were found to be overfished. Size limits were also legislated and are set for enactment in mid-2016.
- A functioning 24-hour Monitoring, Control, and Surveillance base was established in the State of Ngarchelong with support from a variety of entities and partners. The National Fisheries and Wildlife under the Minister of Justice agreed to post full-time staff members and assist with training at the surveillance base.

## Political moments: Policy decisions

### Policy decisions

Both Ngarchelong and Kayangel of the northern communities have passed laws prohibiting harvests of commercially important grouper species for three years, while mandating the governors to work towards putting in place implementing rules and regulations for zoning, fishing permits, additional fisheries regulations and enforcement protocols and processes within 6 months. As a result, WildAid and local lawyers contracted by TNC has initiated work to implement the second phase of the enforcement capacity development work, including infrastructure work on the ground, training and the prosecution process.

The President signed a new Executive Order re-organizing the executive branch bureaus under the current Ministries. This action combined Fish & Wildlife Protection Division and the Marine Law Surveillance Division under one unified bureau. This action makes it easier to mainstream local/community fisheries enforcement programs, especially for the northern reefs community into the national goals and program planning. Discussion toward that end has already begun with the heads of the new Bureau.

A new national law establishing a revolving fund for giant clam farming and conservation program has been implemented by the Bureau of Marine Resources. This has now enabled initial trials for giant clam enhancement programs for certain species in the north while plans for restarting giant clam farming for income are also being developed. The BMR meanwhile has been working with JICA and other funders to secure a large clam breeding and extension unit to support restocking of Clam species and open up opportunities for export.



## Political Moments: Public commitments and other national actions

### **Public Commitments**

The Palau National Marine Sanctuary excludes opportunities for the foreign long-line fishery in Palau and creates uncertainty in the co-existence of fisheries and conservation within Palau's EEZ. However, the sanctuary initiative has raised new awareness and increased the urgency for addressing fisheries management and conservation issues, both for coastal and oceanic resources.

The Minister has recognized this opportunity and is now making plans for early scaling up fisheries interventions from the northern reefs lessons to the national level and into the realm of tuna fisheries. For additional capacity support, the Minister is reaching out to the Forum Fisheries Agency and other Regional Entities like SPC for immediate assistance to complement efforts supported by The Nature Conservancy.

### **Other national actions**

In 2015, Congress enacted a new law signed by the president last week to pave way for Palau to connect to the new fiber optic cable from the Philippines to Guam. This is expected to improve service and contribute to Palau's private sector development, including tourism.

Chinese tourists continue to increase (over 50% of arrivals) and their participation in the local business scene is hard to ignore as it has contributed to additional coastal fisheries resource demand and price hikes. Threats to fisheries and conservation as well as contributions to the local economy can only be speculated.

## Political Moments: Regional work

### RFMO/FFA/SPC/PNA and other regional work

Regional organizations have provided successful guidance and support to members for coastal and tuna fisheries development and capacity development. Where they have failed is the collective efforts to produce a cadre of Pacific islanders involved in all aspects of tuna fisheries development management. At the national level of FFA member countries, no more than 10 young upcoming individuals are actively engaged in high-level tuna management decision making in their home countries.

Where individuals are available, the majority of their time is taken up by numerous regional meetings, leaving little time to engage local tuna fisheries stakeholders, especially lawmakers and policy-makers whose understanding and support is needed to consider and enact needed reforms to ensure resource protection to sustain this important industry.

Renewed efforts at the PNA/FFA level led to a new roadmap for fisheries adopted by fisheries ministers in Tuvalu in July 2015. The Ministry of Natural Resources, Environment and Tourism (NMRET) is taking the initiative to follow this road map.

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## Fishery statistics

A profile of elements that make up annual national fishing profiles, including total fish landings, commercial value, stock status, fishing effort, and fishing trade

## Overview of catch trends in Palau

- Data on nearshore catch are relatively limited in Palau. This report provides data on catch trends in the country, to the extent possible, and also provides a supplement on key commodities such as tuna.
- Data from the Secretariat of the Pacific Community (SPC) suggest that many reef fisheries that are based on finfish and invertebrates are exposed to unsustainable fishing, and there is urgent need to bring catches to a sustainable level.<sup>1, 2</sup>
- Current levels of fishing in many areas are unsustainable for reef fisheries, which includes inshore fish and invertebrates and provides an important source of protein for local communities.
- The status of several invertebrates, including lobsters, crabs, and octopuses, is not well understood. Despite contributing an important source of livelihoods and as a basis of food security, few catch statistics are available.
- Tuna likely account for the majority of catch (and the most the valuable exports) from Palau. In 2014, the WCPO share of global tuna catch was 60 percent.<sup>2</sup>
- Since the 1980s, Palau observers have been used for the locally-based foreign fleet to perform duties including collecting data on fishing gear and the size and species composition of catch. The country currently has one permanent observer and three seasonal observers.

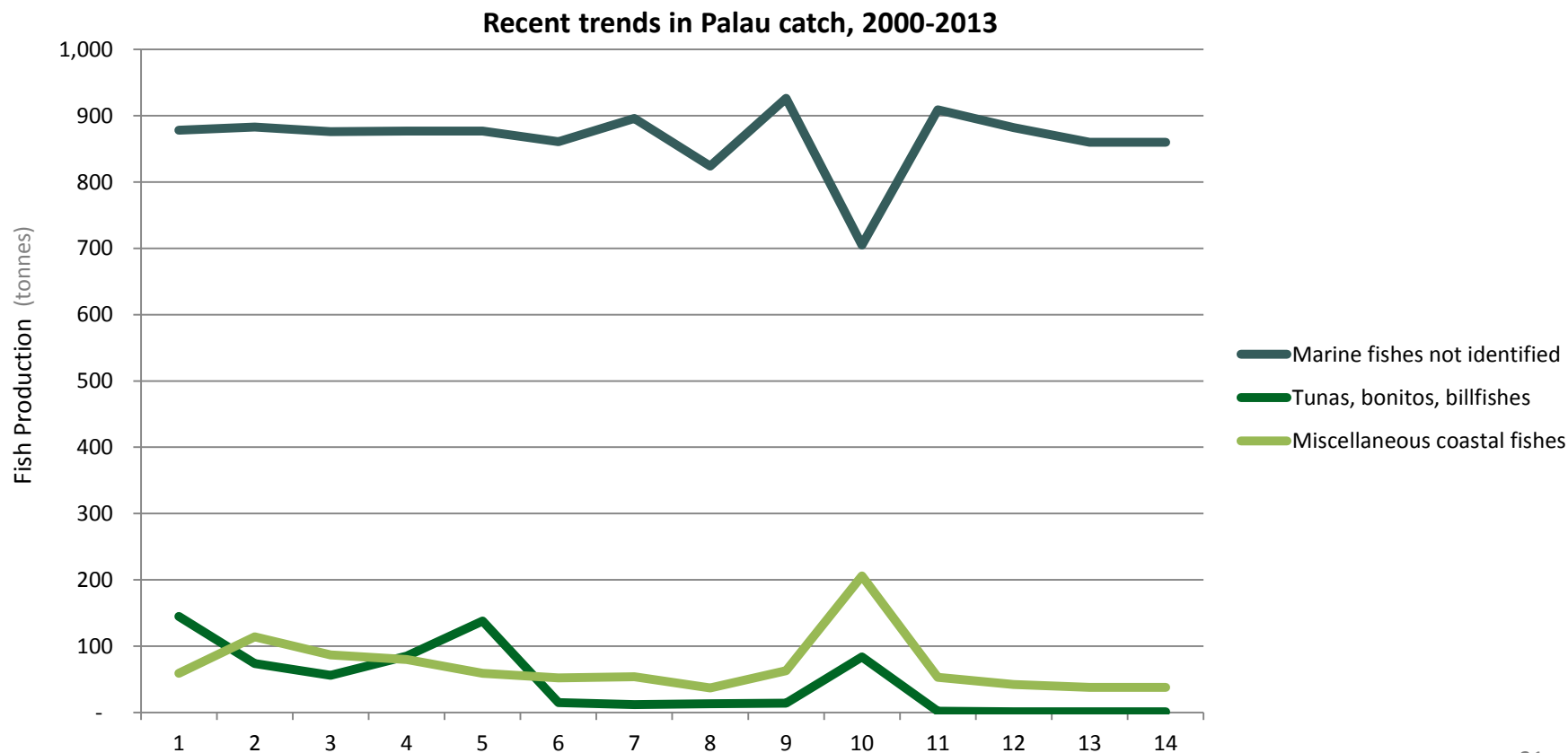
Sources: 1) Secretariat of the Pacific Community. "Status report: Pacific Islands reef and nearshore fisheries and aquaculture." 2013.

2) "Tuna catch and stock health in Western Central Pacific Fisheries Commission Catch Area," WCPFC-CA, 2015.

Note: The SPC covers 22 Pacific Island countries and territories, including Palau.

## Recent trends in Palau wild catch

- Unidentified marine fishes comprise the vast bulk of Palau catch. It is likely that a lot of this is tuna, as well as other coastal and marine fishes.
- Aquaculture production in Palau is relatively low volume and low value at present. The BMR and other funders such as JICA are currently working to secure a large clam breeding and extension unit to support restocking of Clam species and to develop export opportunities.



## Characteristics of tuna fishing in Palau

- Palau is an influential member of the Parties of the Nauru Agreement (PNA, which includes eight countries from the Western Pacific. The PNA controls the world's largest sustainable tuna purse seine fishery and around 50% of the global supply of skipjack tuna, the most commonly canned tuna.
- The locally-based foreign longline fleet of Chinese Taipei and the offshore-based longline and purse seine fleet of Japan are the dominate players in the tuna fishery in Palau's EEZ.
- The following table shows a breakdown of the number of active vessels in the Palau EEZ by flag, gear, and by size category.

**Number of foreign fishing vessels, by year, by flag, by gear and size category,  
active in the WCPFC Convention Area, 2014**

Flag	Gear	No. Vessels	0-500 GRT*	501+
Belize	Longliner	1	1	0
Japan	Longliner	28	28	0
Japan	Purse Seiner	21	21	0
Taiwan	Longliner	41	41	0
Vanuatu	Longliner	1	1	0

\*Gross Registered Tonnes (GRT) is the unit for vessel size.

## Recent catches by Palau-based longliners

- The following table shows a breakdown of catches in recent years for the locally based offshore fleet in Palau.
- In 2014, it is estimated that the Palau-based offshore fishing caught 3.987 mt, worth \$US31 million to fishers. This figure include the catches shown below as well as the single Palau-based pole-and-line tuna vessel (which caught 100 mt in 2014).

**Catches by Palau-based Longliners (2010-2014)**

	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
Tuna catch Chinese Taipei longliners (mt)	1,616	1,505	809	1,075	2,486
Tuna catch Belize longliners (mt)	0	0	5	237	504
Total catch longline adjusted for bycatch (mt)	2,101	1,957	1,058	1,706	3,887
Value adjusted for bycatch and transport (US\$)	16,086,400	15,652,000	8,465,600	13,644,800	31,096,000

## Foreign-based offshore catches in the Palau zone

- The following table shows a breakdown of catches in recent years for the locally based offshore fleet in Palau.
- In 2014, it is estimated that the Palau-based offshore fishing caught 3.987 mt, worth \$US31 million to fishers. This figure include the catches shown below as well as the single Palau-based pole-and-line tuna vessel (which caught 100 mt in 2014).

**Catches by Palau-based Longliners (2010-2014)**

	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
Volume purse seine catch in the Palau zone (mt)	336	0	738	310	2,825
Volume longline catch in the Palau zone, adjusted for bycatch (mt)	745	945	1,032	1,021	1,192
Value purse seine catch, adjusted for transport (US\$)	621,869	0	1,365,890	573,748	5,228,510
Value longline catch, adjusted for bycatch and transport (\$)	8,329,100	10,565,100	11,537,760	11,414,780	13,326,560



## Contribution of fisheries to food security

- As with many Pacific Island countries, fish consumption is high in Palau, particularly among rural communities that have a high dependence on subsistence fishing.
- According to a 2008 paper by Bell et al, Palau has a national average per capita fish consumption of 33.4 kg, with higher consumption in rural areas (43.3 kg).
- Some studies note that the estimate of fish consumption in Palau is complicated by the country's large tourist population.
- A 2009 study by Gillett put forth reservations about the fish production levels from the 2006 Palau household income and expenditure survey, which is used to produce the estimate by Bell et al (2008). Other sources, such as results from SPC ProcFish, propose a consumption rate in Palau that is roughly twice as high as the Bell et al. (2008) study.

### Annual per capita fish consumption (kg), determined from household income and expenditure surveys<sup>1</sup>

	National	Urban	Rural
<b>Palau</b>	33.4	27.8	43.3
<b>Fiji</b>	20.7	15.0	25.3
<b>PNG</b>	13.0	28.1	10.2
<b>FSM</b>	69.3	67.3	76.8

Note: "Food security" means that all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and preferences for an active and healthy life (World Food Summit 1996).

Source: 1) Bell et al, 2008. "Planning the use of fish for food security in the Pacific." *Marine Policy*. 01/2009; 33(1):64-76; World Fishing and Aquaculture, "Fiji battling to save its waters." 2015.

## Fishing contribution to GDP: Official estimate

- The official estimate of the contribution of fisheries to nominal GDP is based on Bureau of Budget and Planning data. In 2014, fisheries contributed 2.2% of Palau's GDP.
- This estimate includes shore-based services and excludes the operation of some locally-based industrial fishing vessels.

Fisheries contribution to the Palau GDP (US\$ thousands)

	2010	2011	2012	2013	2014
Aquaculture	84	912	807	454	337
Fishing support services	568	519	705	703	589
Fishing coastal fish	1,721	1,808	1,912	1,977	2,008
Fishing coastal non-fish	88	168	371	77	205
Subsistence	1,989	2,090	2,210	2,286	2,321
Total fisheries	4,450	5,497	6,005	5,497	5,460
Palau GDP	183,642	200,774	215,539	228,310	249,082
Fisheries as a % of a GDP	2.4%	2.7%	2.8%	2.4%	2.2%

Data: Bureau of Budget and Planning (unpublished data)

## Fishing contribution to GDP: Alternative estimate (Gillett 2016)

- As an alternative estimate, Gillett (2016) uses production values and value added ratios (VARs) to determine the fishing contribution to GDP in Palau. Based on this method, the fishing contribution of US\$11.5 million represents 4.6% of the \$249 million GDP of Palau (as compared to the 2.2% value contribution from the official estimate).
- The alternative estimate is not intended to replace the official estimate; instead, it provides a fisheries-oriented perspective to identify the economic contribution of locally-based fleets. The official estimate, in contrast, seeks to capture a picture of the entire national economy, though fluctuations of the industrial tuna industry may mask changes in the economic landscape.

Fisheries contribution to the Palau GDP (US\$ thousands)

Harvest sector	Gross value of production (Us\$)	Value added ratio (VAR)	Value added (US\$)
Coastal commercial	3,200,000	0.70	2,240,000
Coastal subsistence	3,300,000	0.80	2,640,000
Offshore locally based			
Longline	31,096,000	0.20	6,219,200
Pole-and-line	375,000	0.60	225,000
Freshwater	10,000	0.95	9,500
Aquaculture	285,000	0.60	171,000
<b>Total</b>	<b>38,266,000</b>		<b>11,504,700</b>

## Value of fishery product exports

- In 2014, the export value of Palau’s fishery products was \$19.1 million.
- The table below likely lists the overseas shipment of catch from locally-based offshore vessels under “fish processing,” considered as an export of a service (rather than an export product).
- The value of “exports of other goods” is not delineated to determine the value of reef fish exports. It is also unclear as to whether fish exports as passenger baggage are included in the data for official exports.

Value of fishery product exports (US\$ millions)

Harvest sector	2011	2012	2013	2014
<b>Exports of goods</b>	12.8	15.0	14.4	19.1
Re-exports	11.2	12.8	13.1	17.8
Fuel	10.2	11.7	10.2	11.5
Other, mostly capital goods	1.0	1.1	3.0	6.3
Other exports	1.6	2.3	1.3	1.3
<b>Exports of services</b>	102.8	104.0	125.7	142.4
Fish processing	1.1	1.5	1.5	1.2

Data: Graduate School (2015)

## Fisheries-related employment in Palau

- The table below shows that formal employment in the fishing sector in Palau is relatively small, primarily made up of non-Palau citizens, and workers receive a wage which is roughly half of the country's average wage.
- Though formal employment in the fishing sector may be comparatively small, there is a higher proportion of Palau citizens involved in subsistence fishing. Additionally, many people have non-formal fishing jobs.

Employment data in the fishing sector

	2010	2011	2012	2013	2014
Number of fishing workers	92	87	85	81	83
Total number of workers in Palau	10,044	9,931	9,973	10,108	10,386
Fishing workers as a % of all workers	0.9%	0.9%	0.9%	0.8%	0.8%
Fishing workers that are Palau citizens	22	19	19	15	17
Palau citizen fishing workers as a % of all fishing workers	23.9%	21.8%	22.4%	18.5%	20.5%
Fishing average wages (US\$)	4,434	4,589	4,856	4,983	5,459
All workers average wages (US\$)	8,541	8,898	9,188	9,265	9,950
Fishing wages as a % of average wages	54	51.6%	52.9%	53.8%	54.9%

Note: The number of workers includes both full-time and part-time workers.

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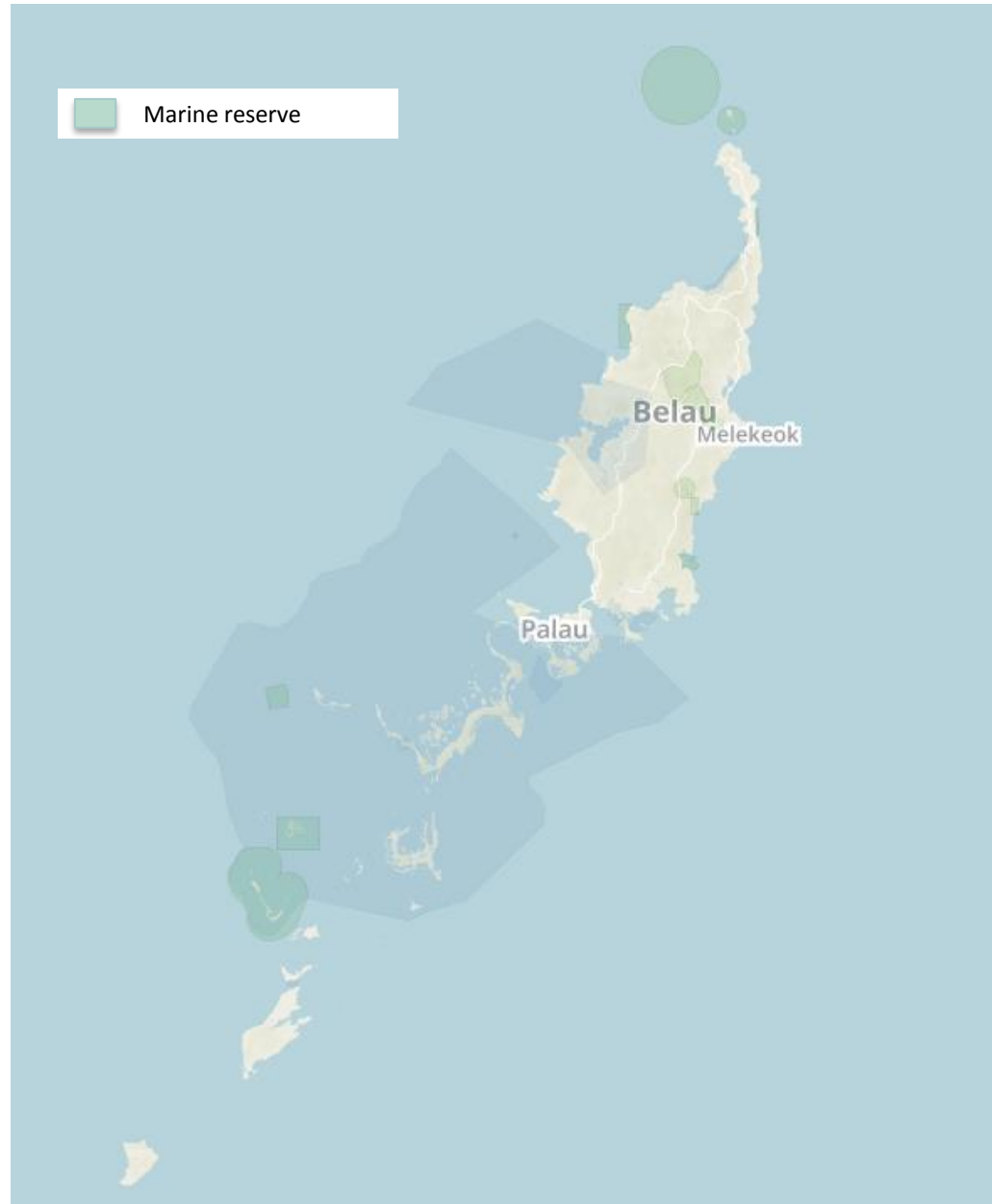
## National marine reserves

A profile of marine reserves that are explicitly and intentionally attached to the management of a fishery

## Palau now leads the world in highest percentage of its exclusive economic zone set aside for full protection.

The designation of the new sanctuary, announced in October 2015, protects 80% of Palau's EEZ. Management and enforcement will be key to ensure that the designation is more than a "paper park."

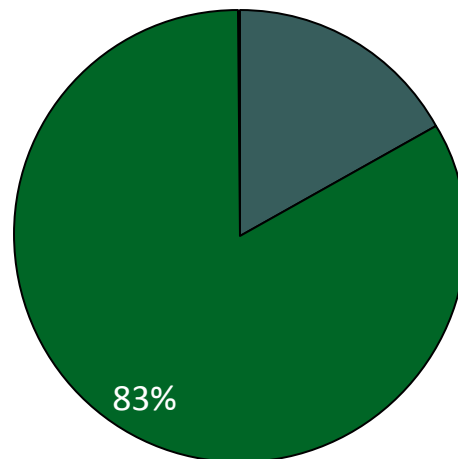
The Protected Area Network Fund, which is sourced through visitor fees, provides approximately \$2 million per year to support marine and terrestrial areas in the country.



## Palau Reserves Overview

Designation	Count
Conservation Area	10
Fishing Reserve	3
Sanctuary	3
Spawning Area	3
Marine Sanctuary	1
Co-Managed Area	1
Permanent PAN Site	1
Zoning Management Area	1
Wildlife Preserve	1
Wildlife Conservation Area	1
Managed Area	1
Terrestrial Reserves	6
<b>Total</b>	<b>30</b>

### Marine Area Protected\*

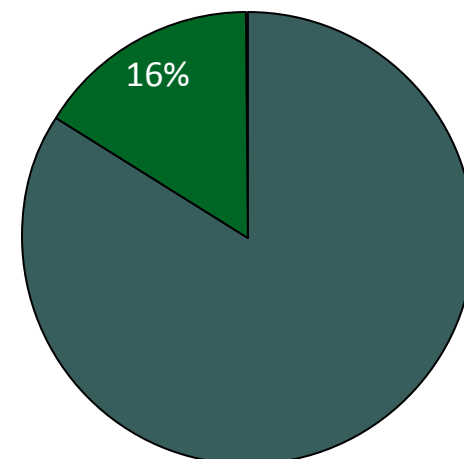


Km<sup>2</sup> Marine Area: 608,155

Km<sup>2</sup> Protected: 504,023

Percent EEZ protected: 2% implemented; 82% planned when incorporating the 2015 sanctuary designation

### Terrestrial Area Protected



Km<sup>2</sup> Land Area: 501

Km<sup>2</sup> Protected: 80

Percent land protected: 16%

\*: Includes Palau's National Marine Sanctuary, announced October 28, 2015.

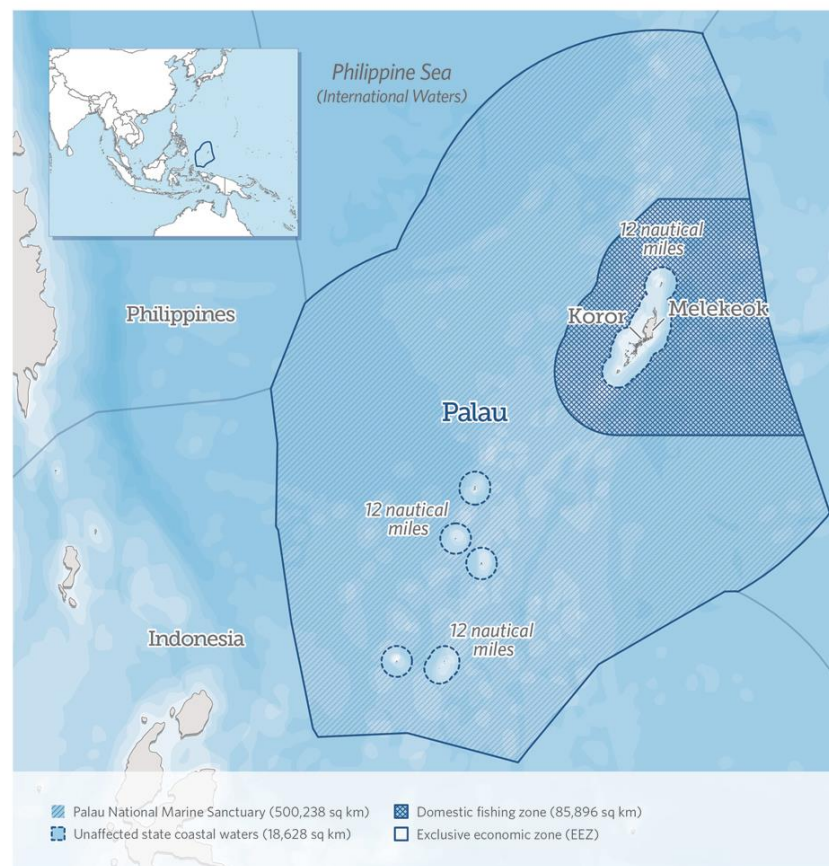
Source: IUCN and UNEP-WCMC (2015), The World Database on Protected Areas (WDPA) [On-line], [01/2016], Cambridge, UK: UNEP-WCMC. Available at: [www.protectedplanet.net](http://www.protectedplanet.net); National Geographic, 2015



## Phase-in for the Palau National Marine Sanctuary

- In order to ensure the sustainability and feasibility of the massive effort of implementing the Palau National Marine Sanctuary, the sanctuary will be phased in over a five-year period (2016-2021).
- The plan will divide the EEZ into two areas: a) a fully protected sanctuary which covers 80 percent of Palau's EEZ and b) a highly regulated fishing zone that covers roughly 20 percent of the EEZ and is reserved for local fishermen and small-scale commercial fisheries.
- To help support domestic food security, most fish exports from the sanctuary area will be prohibited. The domestic commercial longline fishing fleet will also be reformed and will include observer oversight on 100 percent of vessels.

Palau National Marine Sanctuary



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## Public funding flows

A profile of public funding flows for fisheries management (including stock assessments, enforcement, management planning, implementation, and staffing levels)

## Public funding for coastal fisheries management

- In Palau, as with many other Pacific Island Countries and Territories (PICTs), there is considerable under-investment in fisheries management. Compared to the global best practice of fisheries management accounting for roughly 6% of a country's fisheries value, the total fisheries budget in Palau is only 2.8%. The coastal fisheries budget is 2.7% of coastal fisheries value in Palau.



This chart shows the operational budgets a) for coastal fisheries and staffing with coastal fisheries duties b) in comparison to the Inshore Fisheries Act (IFA). The ICTs are ranked by development status according to the Human Development Indicators of UNDP (2014). Color codes represent projected fish supply according to Bell et al. (2015).

Source: Govan, 2015. "Preliminary review of public expenditures of the Fisheries Agencies of Pacific Island Countries and Territories: Policy, operational budget and staffing support for coastal fisheries." Final report to the SPC Division of Fisheries, Aquaculture, and Marine Ecosystems.

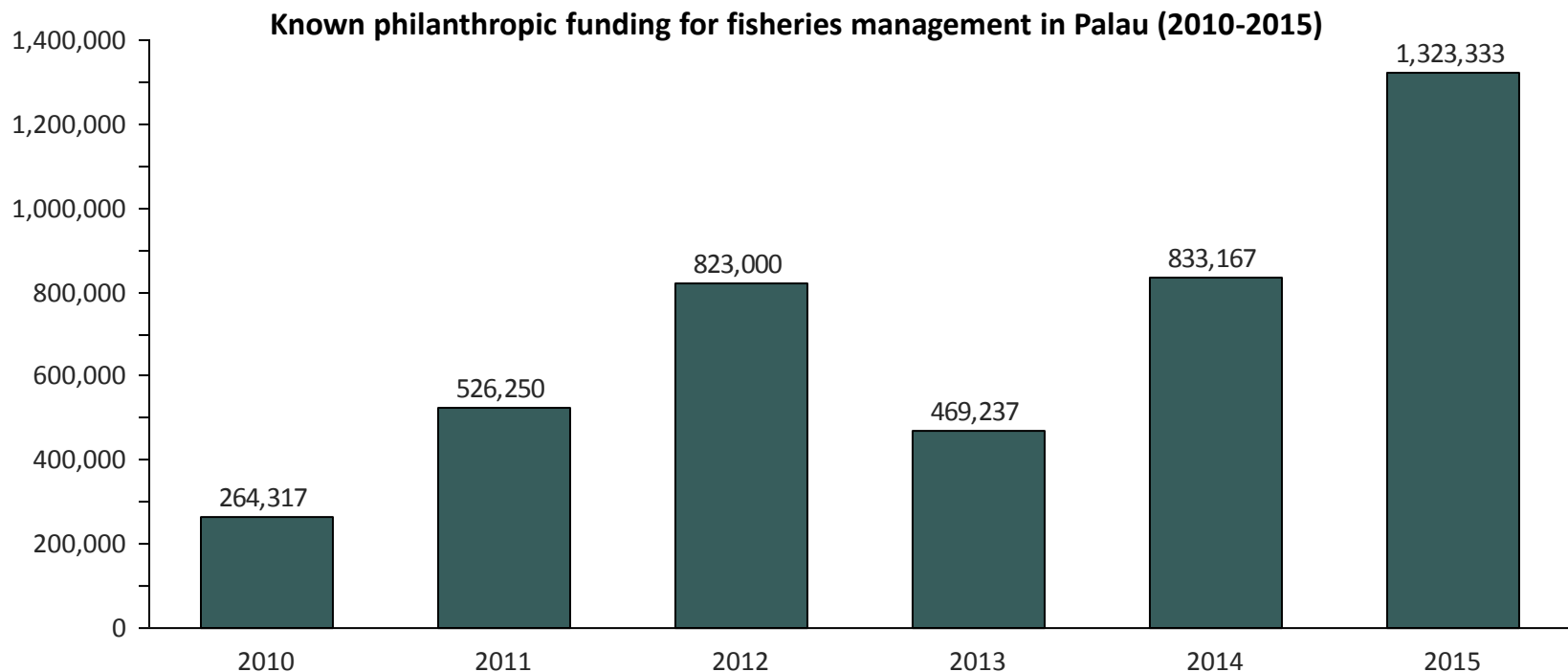
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# Ocean funding

A profile of annual ocean-focused funding commitments from philanthropic partners and the donor community

## Philanthropic funding in Palau

- Packard has been one of the primary donors focused on marine issues in Palau over recent years, along with other funders such as Anne Ray Charitable Trust and the Nippon Foundation. Other foundations, such as the Moore Foundation and Marisla Foundation, have made grants at the Western Pacific level.
- Beyond the philanthropic sector, GEF has been an important funder from the development aid community. It awarded a total of \$10.1 million to Palau, which included a \$4.4 million grant to improve the Protected Areas Network (including both terrestrial and marine reserves).
- Many grants are awarded as multi-year grants. The graph below captures when funding was committed, rather than when it was disbursed; as such, it may not fully capture year-by-year funding.



# SOURCES



Photo: Ethan Daniels/Shutterstock

## Overview of sources

- This report relied on a variety of resources, including consultations with country experts, government reports, public databases, and individual outreach to multilaterals and foundations.
- As described in the introduction, the intent of this report is to create a baseline of statistics for the year 2015, primarily referencing regularly-updated sources that can provide consistent benchmarks for future editions of this report.
- There are certain fields for which data availability is relatively limited. For instance, the levels of funding from bi/multilaterals for the fisheries sector is not well-catalogued. Although development aid funding databases exist, our experience shows that these organizations code grants and loans using different classifications, leading to somewhat inconsistent results across the databases. We are hopeful that initiatives such as the Maritime Donors Group—which includes development aid partners such as the World Bank, USAID, JICA, and others—will provide timely information on fisheries funding in the region over the coming years.
- The information presented here is based on the best available resources covering the region’s fisheries sector. We welcome feedback from partners as we seek to improve upon the report for future editions.



Photo: ITPhoto/ Shutterstock

*We welcome your feedback on this report and encourage you to share any comments with the Packard Foundation through a survey found at the following link:*

<http://bit.ly/2ay9Ckc>





Photo: Stubblefield Photography

“Palau Fisheries: 2015 Review”  
Prepared for The David and Lucile Packard Foundation

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