



Northeast Fisheries Science Center Reference Document 12-10

# Commercial Fishery Species Guide

a photo guide to commercially encountered marine fishes  
of the Northwest Atlantic

compiled by Michael Ball and edited by Nicholas Buchan,  
Ian Conboy, Brian Gervelis, Kevin Jackson, Sandra Mataronas,  
and Christopher Sarro

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Integrated Statistics, 16 Sumner St., Woods Hole, MA 02543

**US DEPARTMENT OF COMMERCE**  
National Oceanic and Atmospheric Administration  
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Northeast Fisheries Science Center  
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**Editorial Treatment:** To distribute this report quickly, it has not undergone the normal technical and copy editing by the Northeast Fisheries Science Center's (NEFSC's) Editorial Office as have most other issues in the NOAA Technical Memorandum NMFS-NE series. Other than the four covers and first two preliminary pages, all writing and editing have been performed by the authors listed within. This report was reviewed by the Stock Assessment Review Committee, a panel of assessment experts from the Center for Independent Experts (CIE), University of Miami.

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# COMMERCIAL FISHERY SPECIES GUIDE

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## A Photo Guide to Commercially Encountered Marine Fishes of the Northwest Atlantic

Compiled by Michael Ball

Edited by Nicholas Buchan, Ian Conboy, Brian Gervelis, Kevin Jackson,  
Sandra Mataronas, and Christopher Sarro



Study Fleet  
Cooperative Research  
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# INTRODUCTION

Study Fleet is a partner under the NOAA Fisheries Service Cooperative Research program that works with commercial fisherman to provide quality, fishery-dependent data. At the core of the project lies the fishermen's responsibility to enter haul by haul catch information on as detailed a species level as possible. While fishermen are extremely familiar with species of commercial value, as well as those impacted by regulations, they may not be as familiar with some of the unregulated, or more cryptic discard species. In these situations, without the proper resources, identification and subsequent accurate recording can be troublesome. Although there are many fish guides available to fishermen, the nature of commercial fisheries (along with regulations requiring the immediate disposition of discard species) does not allow enough time to browse large reference documents in order to accurately match up live specimens to sketches. The Study Fleet received a request from participant commercial fisherman to produce a picture guide of selected species to facilitate faster, easier identification, and accurate recording. This guide is a result of that request.

A list of species was initially created by compiling Study Fleet and Northeast Observer Program catch records in order to identify species that were frequently encountered in Southern New England, Georges Bank, and the Gulf of Maine. The resulting list was then cross-referenced with a list of species encountered by the Ecosystems Survey Branch on their bottom trawl surveys. As document length was an important factor, cryptic species inclusion was based more on species size, and likelihood of retention in certain fisheries, rather than strict geographical abundance. For example, a stray triggerfish has a higher chance of being retained in a 6.5" codend than a locally abundant sand lance. Other species in this guide may not be encountered in large mesh otter trawls, yet were included since they may be more prevalent in certain deep water, small mesh, and longline fisheries in which our participant vessels operate. Factors such as water temperature and the northern seasonal migration of southern species also resulted in the inclusion of species that did not make the initial cut, as they may be encountered during the summer and fall fishing seasons. Although commonly retained species were originally omitted to minimize document length, the decision was made to include certain flatfish, skates, and gadids so that the guide may be used by groups that may not have as strong an understanding of retained species as commercial fishermen.

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In addition to the inclusion of resident knowledge and certain easily identifiable visible characteristics, it was necessary to source published material to supplement species descriptions. As all of the species in this guide have been previously described, their key characteristics were gathered from a number of sources. The Guide to Sharks, Tunas & Billfishes of the U.S. Atlantic & Gulf of Mexico (Schulze-Haugen et al, 2003) was particularly helpful in describing certain mackerel and shark species. Characteristics regarding commonly encountered species in the Gulf of Maine were gathered primarily from Fishes of the Gulf of Maine (Bigelow and Schroeder, 2002), while A Field Guide to Atlantic Coast Fishes of North America (Robins and Ray, 1986) and Fishbase (Edited by Froese and Pauly, 2010) proved valuable in identifying characteristics for the more obscure and less frequently encountered species. Common and Scientific Names of Fishes from the United States, Canada, and Mexico (Nelson et al, 2004) was used to provide the accepted and up to date common and scientific names.

## SOURCES

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- Robins R. 1986. A Field Guide to Atlantic Coast Fishes of North America. New York (NY): Houghton Mifflin Company.
- Schulze-Haugen M, Corey T, and Kohler N. 2003. Guide to Sharks, Tunas & Billfishes of the U.S. Atlantic & Gulf of Mexico. Jamestown (RI): Puffin Enterprises.

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## GLOSSARY OF TERMS

**Adipose Fin:** Soft, fleshy fin located behind the dorsal fin and in front of the caudal fin.

**Anal Fin:** Runs lengthwise on the underside of the fish; close to tail and anal opening.

**Anterior:** Front of a fish or crustacean; in front.

**Caudal Fin:** Rear most fin; tail.

**Caudal Peduncle:** Keel; area in front of the caudal fin.

**Concave:** Curving inwards.

**Convex:** Curving outwards.

**Dorsal:** Upper side of fish and crustaceans.

**Gill Arch:** Bony or cartilaginous support structure to which gill rakers are attached.

**Gill Rakers:** Bony or cartilaginous projections off the gill arch.

**Lateral:** Right (or left) side of fish and crustaceans.

**Lateral Line:** Sensory organ, visible as a faint line running down the lateral side of fish.

**Opercle:** Uppermost bone of the gill cover.

**Operculum:** Gill cover.

**Pectoral Fin:** Paired fins located on each side of the fish, typically immediately behind the operculum.

**Pelvic Fin:** Paired fins located on the underside of the fish; location may vary by species.

**Posterior:** Back of a fish or crustacean; behind.

**Preopercular:** Positioned in front of the operculum.

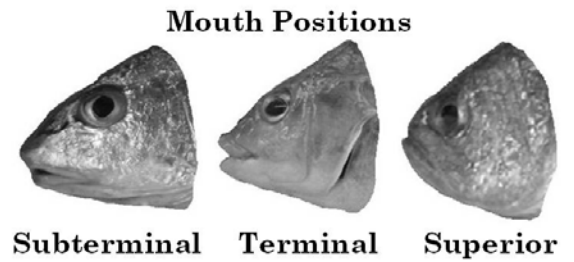
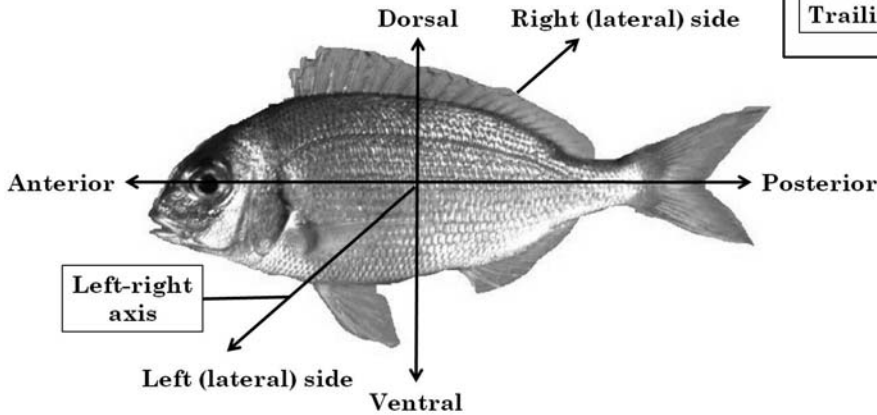
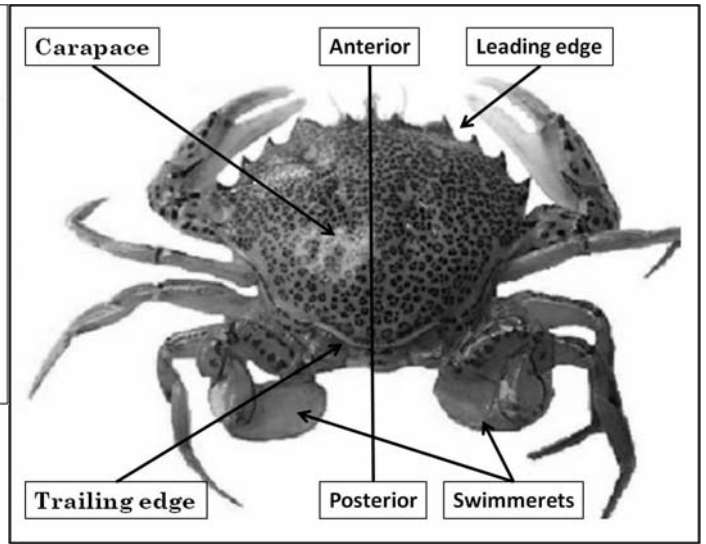
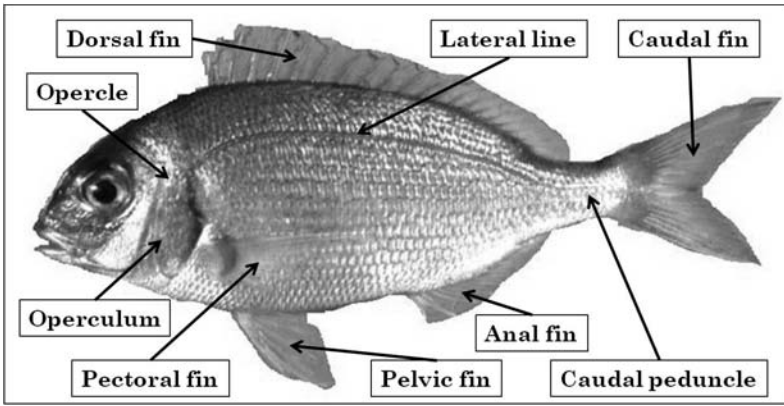
**Scutes:** Rough, protruding scales; typically on the caudal peduncle and/or along the lateral line.

**Subterminal Mouth:** Mouth located on the underside of the snout.

**Superior Mouth:** Uprturned mouth.

**Terminal Mouth:** Mouth located at the tip of the snout.

**Ventral:** Underside of fish and crustaceans.



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## BARNDOOR SKATE (*Dipturus laevis*)

**COLOR:** Brown with dark spots on dorsal surface. Dusky ventral surface.

**BODY:** Wing tips make sharp corners.

**HEAD:** Pointed snout; not clear.

**SPINES:** No mid-dorsal spines on disk. Mid-dorsal row of spines down tail with a row of lateral spines on either side.

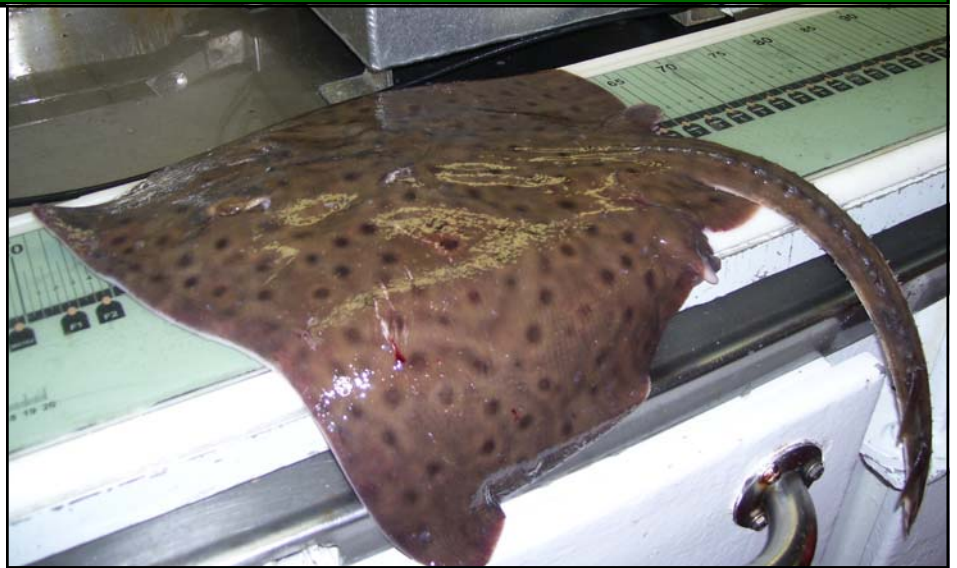


PHOTO CREDIT: NOAA / NMFS / NEFSC / ESB



# RAYS & SKATES

## LITTLE SKATE (*Leucoraja erinacea*)

**COLOR:** Olive-brown with uniform dark spots on dorsal surface. White ventral surface.

**BODY:** Concave anterior edge of disk.

**HEAD:** Blunt snout.

**SPINES:** Mid-dorsal spines present on disk in juveniles, but are lost with maturity. Many dorsal and lateral spines on tail.

**MATURITY:** Sexually mature over 14in. Mature male's claspers extend beyond rear of disk. Mature females have rough patch either side of genital opening. Max size approximately 24in. Immature male's claspers do not extend beyond disk; females lack rough patch near genital opening.



**MAY BE CONFUSED WITH:** Winter skate (pg. 11).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

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## WINTER SKATE (*Leucoraja ocellata*)

**COLOR:** Olive-brown with uniform dark spots on dorsal surface. White ventral surface.

**BODY:** Concave anterior edge of disk.

**HEAD:** Blunt snout.

**SPINES:** Mid-dorsal spines on disk present in juveniles, but are lost with maturity. Many dorsal and lateral spines on tail.

**MATURITY:** Sexually mature over 24in. Mature male's claspers extend beyond rear of disk. Mature females have rough patch either side of genital opening. Immature male's claspers do not extend beyond disk; females lack rough patch near genital opening.



**MAY BE CONFUSED WITH:** Little skate (pg. 10).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

# RAYS & SKATES



# RAYS & SKATES

## SMOOTH SKATE (*Malacoraja senta*)

**COLOR:** Gray-brown dorsal surface. White ventral surface.

**BODY:** Straight anterior edge of disk.

**SPINES:** Small row of mid-dorsal spines on disk; continuing down tail. Small spines posterior to eye. Rest of disk feels like sandpaper and large individuals may have small, sharp spines on edge of disk.



**MAY BE CONFUSED WITH:** Thorny skate (pg. 13).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

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## THORNY SKATE (*Amblyraja radiata*)

**COLOR:** Brown with some dark spots on dorsal surface. White ventral surface.

**BODY:** Shorter tail than other skates of comparable size.

**SPINES:** Large row of mid-dorsal spines on disk; continuing down tail. Scattered dorsal spines on disk.



**MAY BE CONFUSED WITH:** Rosette skate, (pg. 15), smooth skate (pg. 12).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

# RAYS & SKATES

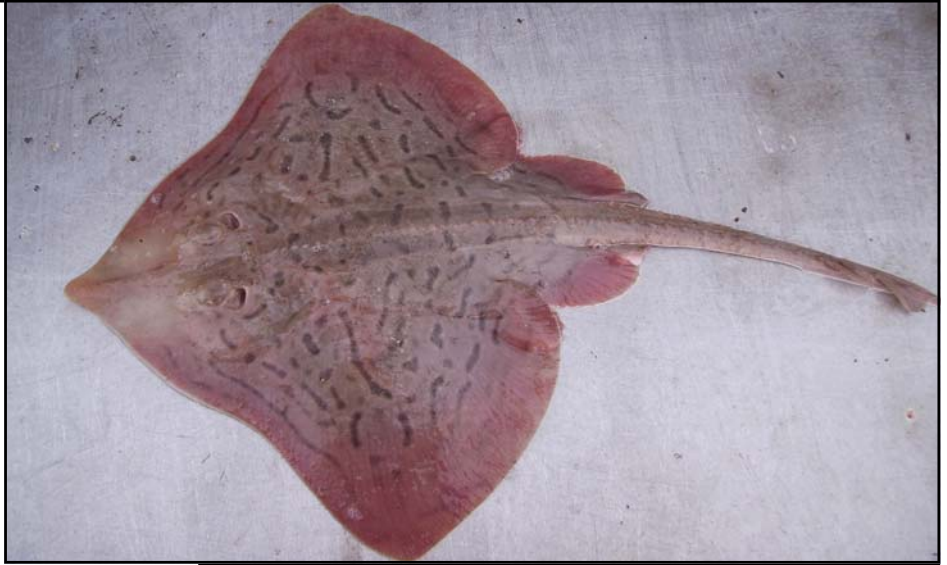
# RAYS & SKATES

## CLEARNOSE SKATE (*Raja eglanteria*)

**COLOR:** Olive-brown with dark bars dorsal surface. White ventral surface.

**BODY:** Pointed snout with slightly concave anterior edge of disk.

**SPINES:** Single row of mid-dorsal spines. Large mid-dorsal and lateral spines on tail.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

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## ROSETTE SKATE (*Leucoraja garmani*)

**COLOR:** Red-brown with distinct rosette patterns on dorsal surface. White ventral surface.

**BODY:** Relatively straight anterior edge of disk. Long tail.

**SPINES:** Several rows of mid-dorsal spines on disk. Dorsal and lateral spines on tail.



**MAY BE CONFUSED WITH:** Thorny skate (pg. 13)

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

# RAYS & SKATES



## RAYS & SKATES

### BULLNOSE RAY (*Myliobatis freminvillei*)

**COLOR:** Olive-brown dorsal surface.

**BODY:** Wings long and pointed with concave posterior edges.

**HEAD:** Broad, projecting snout.

**SPINES:** Spine near origin of tail. Few mid-dorsal spines on adults.



**MAY BE CONFUSED WITH:** Cownose ray (pg. 17).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

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### COWNOSE RAY (*Rhinoptera bonasus*)

**COLOR:** Olive-brown dorsal surface.

**BODY:** Wings long and pointed with concave posterior edges.

**HEAD:** Projecting, squared snout with indentation between eyes.

**SPINES:** Spine near origin of tail.



**MAY BE CONFUSED WITH:** Bullnose ray (pg. 16).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

## RAYS & SKATES

# RAYS & SKATES

## ATLANTIC TORPEDO RAY (*Torpedo nobiliana*)

**COLOR:** Purple-gray dorsal surface. White ventral surface.

**BODY:** Broad disk with flat anterior edge. Robust tail with two dorsal fins.

**SPINES:** No spines on disk or tail.



PHOTO CREDIT: NOAA / NMFS / NEFSC / ESB

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## BUTTERFLY RAY (*Gymnura* sp.)

**COLOR:** Gray-brown dorsal surface with pale spots or blotches.

**BODY:** Disk much wider than it is long. Concave anterior edge of disk. Small tail.

**SPINES:** Smooth butterfly ray does not have a spine on the tail. Spiny butterfly ray has a spine near origin of the tail.



PHOTO CREDIT: NOAA / NMFS / NEFSC / ESB

# RAYS & SKATES



# RAYS & SKATES

## ROUGHTAIL STINGRAY (*Dasyatis centroura*)

**COLOR:** Brown dorsal surface.

**BODY:** Rhombus shaped disk.  
One of the largest species of stingray.

**SPINES:** Irregularly arranged mid-dorsal spines. Scattered dorsal spines, with concentrations across shoulders. Rows of dorsal and lateral spines on tail.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

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# FLATFISH

## ATLANTIC HALIBUT (*Hippoglossus hippoglossus*)

**COLOR:** Variable olive-green right lateral side. White left lateral side.

**BODY:** Right-eyed, robust body.

**FINS:** Concave caudal fin .

**HEAD:** Large, strong jaw with teeth. Top eye has migrated completely to the right lateral side of fish.

**LATERAL LINE:** Lateral line arches significantly over pectoral fin.



**MAY BE CONFUSED WITH:** Greenland halibut (pg. 22).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

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## GREENLAND HALIBUT (*Reinhardtius hippoglossoides*)

**COLOR:** Gray-brown right lateral side. Dusky left lateral side.

**BODY:** Right-eyed.

**FINS:** Concave caudal fin .

**HEAD:** Large jaw with teeth. Top eye has not migrated completely to right lateral side of fish.

**LATERAL LINE:** Straight lateral line.



**MAY BE CONFUSED WITH:** Atlantic halibut (pg. 21).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## FLATFISH

## FLATFISH

## FOURSPOT FLOUNDER (*Paralichthys oblongus*)

**COLOR:** Brown with four distinct spots on posterior half of body.

**BODY:** Left-eyed. Frail body.

**FINS:** Convex caudal fin.

**HEAD:** Large jaw with teeth.

**LATERAL LINE:** Lateral line arches significantly over pectoral fin.



**MAY BE CONFUSED WITH:** Summer flounder (fluke) (pg. 24), witch flounder (pg. 28).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research



## SUMMER FLOUNDER (FLUKE) (*Paralichthys dentatus*)

**COLOR:** Variable olive-green left lateral side. White right lateral side.

**BODY:** Left-eyed. Robust body.

**FINS:** Convex caudal fin.

**HEAD:** Large, strong jaw with teeth.

**LATERAL LINE:** Lateral line arches significantly over pectoral fin.



**MAY BE CONFUSED WITH:** Fourspot flounder (pg. 23), winter flounder (pg. 25).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## FLATFISH

## FLATFISH

## WINTER FLOUNDER (*Pseudopleuronectes americanus*)

**COLOR:** Olive-green right lateral side. White left lateral side.

**BODY:** Right-eyed. Robust body.

**FINS:** Convex caudal fin.

**HEAD:** Small mouth.

**LATERAL LINE:** Straight lateral line.



**MAY BE CONFUSED WITH:** Summer flounder (pg. 24), yellowtail flounder (pg. 26).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## YELLOWTAIL FLOUNDER (*Limanda ferruginea*)

**COLOR:** Red-brown right lateral side with variable rust colored spots.

**BODY:** Right-sided.

**FINS:** Convex caudal fin.

**HEAD:** Indented forehead. Projecting snout with small mouth.

**LATERAL LINE:** Lateral line arches significantly over pectoral fin.



**MAY BE CONFUSED WITH:** American plaice (pg. 27), winter flounder (pg. 25).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## FLATFISH

## FLATFISH

## AMERICAN PLAICE (*Hippoglossoides platessoides*)

**COLOR:** Red-brown.

**BODY:** Right-eyed.

**FINS:** Convex caudal fin.

**HEAD:** Pointed head with large mouth.

**LATERAL LINE:** Arches very slightly over pectoral fin.



**MAY BE CONFUSED WITH:** Witch flounder (pg. 28), yellowtail flounder (pg. 26).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research



## WITCH FLOUNDER (*Glyptocephalus cynoglossus*)

**COLOR:** Olive-brown right lateral side. Dusky left lateral side. Dark dorsal, anal, pectoral, and caudal fins.

**BODY:** Right-sided. Thin profile.

**FINS:** Convex caudal fin.

**HEAD:** Small head and mouth. Slime secreting pores on head.

**LATERAL LINE:** Straight lateral line.



**MAY BE CONFUSED WITH:** American plaice (pg. 27), fourspot flounder (pg. 23).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## FLATFISH

## FLATFISH

## GULF STREAM FLOUNDER (*Citharichthys arctifrons*)

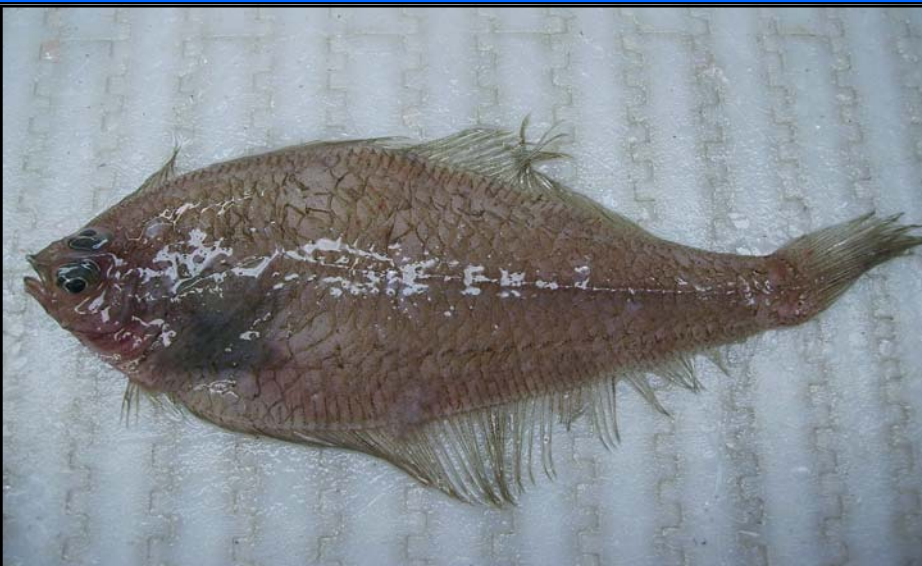
**COLOR:** Light brown.

**BODY:** Left-eyed. Body more elongated than smallmouth flounder. Max size approximately 7in.

**FINS:** Convex caudal fin.

**HEAD:** Snout has small, hard, horn-like projection above mouth.

**LATERAL LINE:** Nearly straight; very slight curve above pectoral fin.



**MAY BE CONFUSED WITH:** Smallmouth flounder (pg. 30).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## SMALLMOUTH FLOUNDER (*Etropus microstomus*)

**COLOR:** Light brown.

**BODY:** Left-eyed. Body deeper than gulfstream flounder. Max size approximately 5in.

**FINS:** Convex caudal fin.

**HEAD:** Snout lacks horn-like projection above mouth.

**LATERAL LINE:** Straight lateral line.



**MAY BE CONFUSED WITH:** Gulf Stream flounder (pg. 29).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

## FLATFISH

## FLATFISH

## WINDOWPANE (SAND DAB) (*Scophthalmus aquosus*)

**COLOR:** Red-brown left lateral side, covered with brown and pale spots that continue onto dorsal, anal, and caudal fins.

**BODY:** Left-eyed, thin body.

**FINS:** Convex caudal fin.

**HEAD:** Blunt head with large mouth, and bony notch on chin.

**LATERAL LINE:** Lateral line arches significantly over pectoral fin.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research



## ATLANTIC COD (*Gadus morhua*)

**COLOR:** Red-green dorsal and lateral surfaces, covered with red-brown spots. White ventral surface. White lateral line.

**FINS:** Three dorsal fins. Slightly forked caudal fin.

**HEAD:** Large chin barbel.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## GADIDS & HAKES

## GADIDS & HAKES

## HADDOCK (*Melanogrammus aeglefinus*)

**COLOR:** Purple-gray dorsal surface. Silver-white ventral surface. Dark lateral line with a dark blotch behind the pectoral fin.

**FINS:** Three dorsal fins. Forked caudal fin.

**HEAD:** Small chin barbel.



**MAY BE CONFUSED WITH:** Pollock (pg. 34).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## POLLOCK (*Pollachius virens*)

**COLOR:** Olive-gray dorsal and lateral surfaces. White lateral line.

**FINS:** Three dorsal fins. Forked caudal fin.

**HEAD:** Very small chin barbel. Lower jaw projects.



**MAY BE CONFUSED WITH:** Haddock (pg. 33).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## GADIDS & HAKES

## GADIDS & HAKES

## CUSK (*Brosme brosme*)

**COLOR:** Light brown above pectoral fin. Pale ventral surface. Dorsal and anal fins are dark, but have white outer edge.

**FINS:** One dorsal and anal fin, partially connected to the caudal fin.

**HEAD:** One large chin barbel.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research



## FOURBEARD ROCKLING (*Enchelyopus cimbrius*)

**COLOR:** Olive-brown above pectoral fin. Pale ventral surface. Posterior tip of second dorsal fin and anal fin have prominent black areas, as does the ventral tip of the caudal fin.

**FINS:** Large leading ray of first dorsal fin. Second dorsal fin and anal fin extend down body.

**HEAD:** One large barbel under the mouth. Three additional barbels on the snout.



PHOTO CREDIT: NOAA / NMFS / NEFSC / ESB

## GADIDS & HAKES

## GADIDS & HAKES

## SILVER HAKE (WHITING) (*Merluccius bilinearis*)

**COLOR:** Silver.

**FINS:** True pelvic and pectoral fins. No filament on first dorsal.

**HEAD:** Mouth dark with large teeth. Lower jaw projects. No chin barbel. Head not as robust as offshore hake.

**GILL RAKERS:** 16-20 gill rakers on first gill arch.



**MAY BE CONFUSED WITH:** Offshore hake (black whiting) (pg. 38).

PHOTO CREDIT: NOAA / NMFS / NEFSC / Cooperative Research

## OFFSHORE HAKE (BLACK WHITING) (*Merluccius albidus*)

**COLOR:** Silver.

**FINS:** True pelvic and pectoral fins. No filament on first dorsal.

**HEAD:** Mouth dark with large teeth. Lower jaw projects. No chin barbel. Eyes a bit larger than silver hake. Head more robust and square between the eyes than silver hake.

**GILL RAKERS:** 8-11 gill rakers on first gill arch.



**MAY BE CONFUSED WITH:** Silver hake (whiting) (pg. 37).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## GADIDS & HAKES

## GADIDS & HAKES

## RED HAKE (*Urophycis chuss*)

**COLOR:** Red-brown.

**BODY:** Larger scales than white hake, which frequently chafe off in gear.

**FINS:** Long filament extends from first dorsal fin. Pelvic filament reaches, or extends beyond, anal opening.

**HEAD:** Small chin barbel.

**GILL RAKERS:** Three gill rakers on upper elbow of first gill arch.



**MAY BE CONFUSED WITH:** Longfin hake (pg. 42), spotted hake (pg. 41), white hake (pg. 40).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research



## WHITE HAKE (*Urophycis tenuis*)

**COLOR:** Olive-brown.

**BODY:** Smaller scales than red hake; do not chafe easily in gear.

**FINS:** Short filament extends from first dorsal fin. Pelvic filament does not reach anal opening.

**HEAD:** Small chin barbel.

**GILL RAKERS:** Two gill rakers on upper elbow of first gill arch.



**MAY BE CONFUSED WITH:** Longfin hake (pg. 42), red hake (pg. 39), spotted hake (pg. 41).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## GADIDS & HAKES

## GADIDS & HAKES

## SPOTTED HAKE (*Urophycis regia*)

**COLOR:** Olive-brown above pectoral fin with black and white dashed lateral line. Black spot on first dorsal fin.

**BODY:** May chafe in gear.

**FINS:** No filament on first dorsal. Pelvic filaments.

**HEAD:** Small chin barbel.



**MAY BE CONFUSED WITH:** Longfin hake (pg. 42), red hake (pg. 39), white hake (pg. 40).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## LONGFIN HAKE (*Urophycis chesteri*)

**COLOR:** Gray-brown. Dark edges on dorsal and anal fins.

**FINS:** Very long filaments extending from the first dorsal fin and pelvic fins.

**HEAD:** Small chin barbel.



**MAY BE CONFUSED WITH:** Red hake (pg. 39), spotted hake (pg. 41), white hake (pg. 40).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

## GADIDS & HAKES

## SCORPIONFISH & SEAROBINS

## ACADIAN REDFISH (OCEAN PERCH) (*Sebastes sp.*)

**COLOR:** Red.

**FINS:** Spiny dorsal, pectoral, pelvic, and anal fins.

**HEAD:** Bony notch present under chin.

**SPINES:** Spines present on operculum.

**INTERNAL:** Gill cavity and inside of mouth pink-flesh colored.



**MAY BE CONFUSED WITH:** Blackbelly rosefish (pg. 44).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research



## BLACKBELLY ROSEFISH (*Helicolenus dactylopterus*)

**COLOR:** Pink-white-orange mottled.

**FINS:** Spiny dorsal, pectoral, pelvic, and anal fins.

**HEAD:** No bony notch under chin.

**SPINES:** Spines present on operculum.

**INTERNAL:** Gill cavity and inside of mouth purple-black.



**MAY BE CONFUSED WITH:** Acadian redfish (ocean perch) (pg. 43).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

## SCORPIONFISH & SEAROBINS

## SCORPIONFISH & SEAROBINS

### STRIPED SEAROBIN (*Prionotus evolans*)

**COLOR:** Red-brown. Black blotch on dorsal fin. Two horizontal black stripes down body.

**FINS:** Long, broad pectoral fins. Lower parts of pectoral rays are free-floating and finger-like; used to maneuver across the bottom.



**MAY BE CONFUSED WITH:** Northern searobin (pg. 46).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## NORTHERN SEAROBIN (*Prionotus carolinus*)

**COLOR:** Brown-green. Black spot on dorsal fin. No dark horizontal stripes down body.

**FINS:** Long, broad pectoral fins. Lower parts of pectoral rays are free-floating and finger-like; used to maneuver across the bottom.



**MAY BE CONFUSED WITH:** Striped searobin (pg. 45).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## SCORPIONFISH & SEAROBINS

## SCORPIONFISH & SEAROBINS

## ARMORED SEAROBIN (*Peristedion* sp.)

**COLOR:** Red-orange.

**BODY:** Large boney plates over entire body.

**FINS:** Long, broad pectoral fins. Lower parts of pectoral rays are free-floating and finger-like; used to maneuver across the bottom.

**HEAD:** Long barbels under chin. Two small spines protrude forward from snout.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research



## SEA RAVEN (*Hemitripterus americanus*)

**COLOR:** Variable body shading. Brown/orange/yellow.

**BODY:** Body rough to the touch. Many tabs of skin hang off head and spines.

**DEFENSE MECHANISM:** Inflates with water. Often comes up in gear in this state.



**MAY BE CONFUSED WITH:** Shorthorn sculpin (pg. 50).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## SCULPINS

## SCULPINS

## LONGHORN SCULPIN (*Myoxocephalus octodecemspinosus*)

**COLOR:** Green-brown mottled.

**DEFENSE MECHANISM:** May vibrate when held.

**SPINES:** Large Preopercular spines on gill cover.



**MAY BE CONFUSED WITH:** Shorthorn sculpin (pg. 50).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## SHORTHORN SCULPIN (*Myoxocephalus scorpius*)

**COLOR:** Brown mottled. Light spots on ventral surface.

**HEAD:** Large head and mouth.

**DEFENSE MECHANISM:** May vibrate when held.

**SPINES:** Short Preopercular spines on gill cover.



**MAY BE CONFUSED WITH:** Longhorn sculpin (pg. 49), sea raven (pg. 48).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## SCULPINS

## SCULPINS

## MOUSTACHE SCULPIN (*Triglops murrayi*)

**COLOR:** Red-brown. Black bar on snout just above jaw and below eyes.

**BODY:** Tapered body with plate like scales along lateral line. Long anal fin. Small, max size approximately 4in.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research



## ATLANTIC MENHADEN (*Brevoortia tyrannus*)

**COLOR:** Yellow tint. Variable dark spots on side; fade with age. Dark spot behind opercle.

**BODY:** Deep body.

**HEAD:** Head approximately 1/3 length of body.

**SCUTES:** Scutes along ventral surface; rough to the touch.



**MAY BE CONFUSED WITH:** Alewife (pg. 53), American shad (pg. 55), blueback herring (pg. 54).

**PHOTO CREDIT:** MBL / Flescher Collection

## HERRING

## HERRING

## ALEWIFE (*Alosa pseudoharengus*)

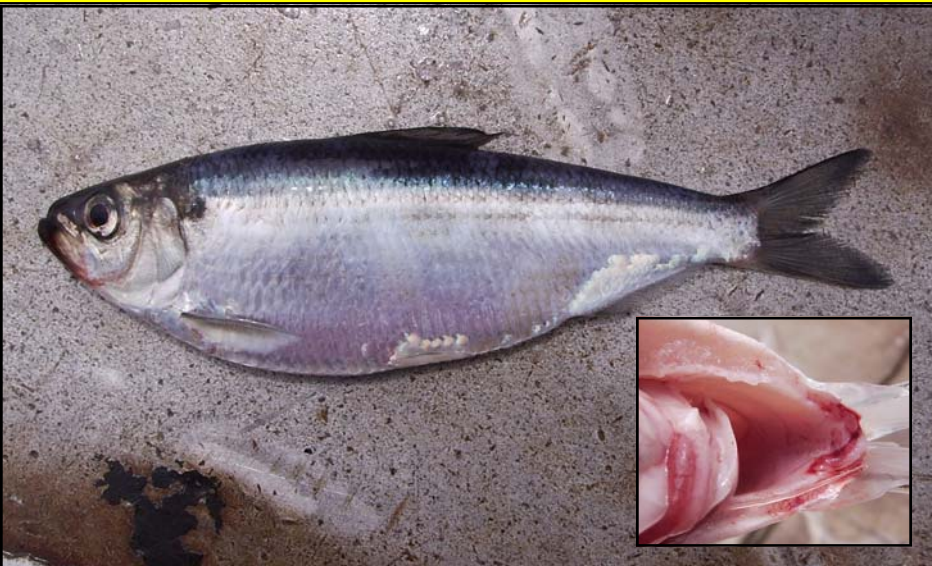
**COLOR:** Blue-green dorsal surface. Dark spot behind opercle.

**BODY:** Deep body.

**HEAD:** Eye diameter greater than snout length. Lower jaw protrudes slightly when mouth is closed.

**SCUTES:** Scutes along ventral surface; rough to the touch.

**INTERNAL:** Pink gut cavity lining.



**MAY BE CONFUSED WITH:** American shad (pg. 55), Atlantic menhaden (pg. 52), blueback herring (pg. 54).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## BLUEBACK HERRING (*Alosa aestivalis*)

**COLOR:** Blue dorsal surface.  
Dark spot behind opercle.

**BODY:** Deep body.

**HEAD:** Eye diameter smaller than snout length. Lower jaw protrudes slightly when mouth is closed.

**SCUTES:** Scutes along ventral surface; rough to the touch.

**INTERNAL:** Dark gut cavity lining.



**MAY BE CONFUSED WITH:** Alewife (pg. 53), American shad (pg. 55), Atlantic menhaden (pg. 52).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / FSB

## HERRING

## HERRING

## AMERICAN SHAD (*Alosa sapidissima*)

**COLOR:** Dark blotch behind opercle. Line of round, dark spots begin behind operculum and continue along lateral line.

**HEAD:** Lower jaw does not protrude beyond upper jaw. Jaw originates under eye.

**SCUTES:** Scutes along ventral surface; rough to the touch.

**INTERNAL:** 59-73 gill rakers on lower limb of first gill arch



**MAY BE CONFUSED WITH:** Alewife (pg. 53), Atlantic thread herring (pg. 56), Atlantic menhaden (pg. 52), blueback herring (pg. 54).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research



## ATLANTIC THREAD HERRING (*Opisthonema oglinum*)

**COLOR:** Green-blue dorsal surface. Dark spot behind opercle. Spots may continue down lateral line. Faint horizontal streaks above lateral line.

**BODY:** Deeply curved ventral surface.

**HEAD:** Pointed head.

**FINS:** Long 'thread' protrudes off posterior base of dorsal fin.

**SCUTES:** Scutes along ventral surface; rough to the touch.



**MAY BE CONFUSED WITH:** Alewife (pg. 53), American shad (pg. 55), blueback herring (pg. 54).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

## HERRING

## HERRING

## ATLANTIC HERRING (*Clupea harengus*)

**COLOR:** Blue-green dorsal surface.

**BODY:** Long and slender.

**FINS:** Dorsal fin bisects body.

**SCUTES:** No scutes along ventral surface; smooth to the touch.



**MAY BE CONFUSED WITH:** Round herring (pg. 58).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## ROUND HERRING (*Etrumeus teres*)

**COLOR:** Blue-green dorsal surface.

**BODY:** Long and slender. Body rounded in cross section. Max size approximately 10in.

**SCUTES:** No scutes along ventral surface; smooth to the touch.



**MAY BE CONFUSED WITH:** Atlantic herring (pg. 57).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

## HERRING

## MACKEREL

## ATLANTIC MACKEREL (*Scomber scombrus*)

**COLOR:** Blue-green above pectoral fin with wavy dark bars that terminate around the lateral line.

**FINS:** Anal fin origin directly under second dorsal fin origin.



**MAY BE CONFUSED WITH:** Atlantic chub mackerel (pg. 60).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research



## ATLANTIC CHUB MACKEREL (*Scomber colias*)

**COLOR:** Blue-green above pectoral fin with wavy dark bars that terminate around lateral line. Bars turn into spots below lateral line.



**MAY BE CONFUSED WITH:** Atlantic mackerel (pg. 59).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / FSB

## MACKEREL

## MACKEREL

## KING MACKEREL (*Scomberomorus cavalla*)

**COLOR:** No markings on adults. Juveniles have dark spots on lateral surface.

**LATERAL LINE:** Lateral line turns downward quickly at second dorsal fin, drops down, and then curves back up to caudal fin.



**MAY BE CONFUSED WITH:** Spanish mackerel (pg. 62).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

## SPANISH MACKEREL (*Scomberomorus maculatus*)

**COLOR:** Large brass colored spots on lateral surface. Dark first dorsal fin.

**LATERAL LINE:** Lateral line slopes evenly downward posterior to pectoral fin with no sudden drops or undulations.



**MAY BE CONFUSED WITH:** King mackerel (pg. 61).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

## MACKEREL

## MACKEREL

## ATLANTIC BONITO (*Sarda sarda*)

**COLOR:** Blue-green dorsal surface with dark horizontal stripes. Juveniles may have obscure vertical bars. No spots below pectoral fin.

**BODY:** Undulating lateral line.

**HEAD:** Large mouth.



**MAY BE CONFUSED WITH:** Little tunny (false albacore) (pg. 64).

**PHOTO CREDIT:** MBL / Flescher Collection

## LITTLE TUNNY (FALSE ALBACORE) (*Euthynnus alletteratus*)

**COLOR:** Wavy bars on dorsal surface. 3-7 dark spots between pectoral and pelvic fins.

**FINS:** Concave first dorsal fin. Short and broad pectoral fins.



**MAY BE CONFUSED WITH:** Atlantic bonito (pg. 63).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

## MACKEREL

## MACKEREL

## SKIPJACK TUNA (*Katsuwonus pelamis*)

**COLOR:** Purple-blue dorsal surface. Silver lateral sides and ventral surface. 4-6 horizontal dark stripes below pectoral fin.

**FINS:** Concave first dorsal fin.



**PHOTO CREDIT:** University of Cape Verde / Rui M. Freitas



## BLUEFIN TUNA (*Thunnus thynnus*)

**COLOR:** Dark iridescent-blue dorsal surface. Silver lateral sides and belly. Red-brown second dorsal fin stands taller than first dorsal fin.

**FINS:** Short pectoral fins end before origin of second dorsal fin. Yellow finlets with dark edges.



PHOTO CREDIT: NOAA / NMFS / NEFSC / FSB

## MACKEREL

## JACKS

### BANDED RUDDERFISH (*Seriola zonata*)

**COLOR:** Dark band from corner of eye to top of head. Vertical bands on body present in juveniles, but fade with age.

**BODY:** Fleshy keel anterior to caudal fin.



**MAY BE CONFUSED WITH:** Greater amberjack (pg. 69), pilotfish (pg. 68).

PHOTO CREDIT: NOAA / NMFS / NEFSC / ESB

## PILOTFISH (*Naucrates ductor*)

**COLOR:** 5-7 vertical bars visible in all ages. No dark band from corner of eye to top of head. Bars extend onto dorsal, anal, and caudal fins. Caudal fin has white tips.

**BODY:** Fleshy keel anterior to caudal fin.



**MAY BE CONFUSED WITH:** Banded rudderfish (pg. 67), greater amberjack (pg. 69).

**PHOTO CREDIT:** Academia Sinica, Taiwan / Dr. Kwang-Tsao Shao

## JACKS

## JACKS

## GREATER AMBERJACK (*Seriola dumerili*)

**COLOR:** Brown with horizontal yellow stripe along lateral line. Olive-brown band from snout, through eye, to origin of first dorsal fin. No vertical bands on body.

**BODY:** Fleshy keel anterior to caudal fin.



**MAY BE CONFUSED WITH:** Banded rudderfish (pg. 67), pilotfish (pg. 68).

**PHOTO CREDIT:** Hawaii Biological Survey / Dr. John E. Randall

## ROUGH SCAD (*Trachurus lathami*)

**COLOR:** Iridescent. Darker blue dorsal surface

**BODY:** Body elongate and slightly laterally compressed.

**HEAD:** Eye diameter smaller than snout length.

**SCUTES:** Large scutes present along entire length of lateral line.



**MAY BE CONFUSED WITH:** Bigeye scad (pg. 71), round scad (pg. 72).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## JACKS

## JACKS

## BIGEYE SCAD (*Selar crumenophthalmus*)

**COLOR:** Yellow streak along lateral line.

**HEAD:** Large eye; diameter larger than snout length.

**SCUTES:** Scutes present on posterior half of lateral line.



**MAY BE CONFUSED WITH:** Rough scad (pg. 70), round scad (pg. 72).

**PHOTO CREDIT:** Pedro Niny Duarte © ImagDOP



## ROUND SCAD (*Decapterus punctatus*)

**COLOR:** Black spot on tip of opercle. Row of black spots along anterior half of lateral line.

**BODY:** Long body.

**SCUTES:** Scutes present along caudal peduncle and posterior half of lateral line.



**MAY BE CONFUSED WITH:** Bigeye scad (pg. 71), rough scad (pg. 70).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## JACKS

## JACKS

## ATLANTIC BUMPER (*Chloroscombus chrysurus*)

**COLOR:** Black spot on opercle. Black saddle on caudal peduncle.

**BODY:** Body deepest at center.

**FINS:** Long sickle shaped pectoral fins.

**LATERAL LINE:** Anterior half of lateral line arches over pectoral fin.



**MAY BE CONFUSED WITH:** Blue runner (pg. 74).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

## BLUE RUNNER (*Caranx crysos*)

**COLOR:** Black spot on tip of opercle.

**BODY:** Thin body profile.

**LATERAL LINE:** Arched lateral line over pectoral fin.

**SCUTES:** Scutes present along caudal peduncle and posterior half of lateral line.



**MAY BE CONFUSED WITH:** Atlantic Bumper (pg. 73).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

## JACKS

## JACKS

## ATLANTIC MOONFISH (*Selene setapinnis*)

**COLOR:** Silver.

**BODY:** Laterally compressed body. Ventral surface curves down from mouth and gradually upwards towards caudal fin.

**FINS:** Dorsal and anal fins do not have lobes.

**HEAD:** Steep, concave forehead.



**MAY BE CONFUSED WITH:** Lookdown (pg. 76).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

## LOOKDOWN (*Selene vomer*)

**COLOR:** Silver.

**BODY:** Laterally compressed body. Extremely thin and plate-like. Ventral surface horizontal under head before angling upwards towards caudal fin.

**FINS:** Long lobes on front of dorsal and anal fins.

**HEAD:** Steep forehead.



**MAY BE CONFUSED WITH:** Atlantic moonfish (pg. 75).

**PHOTO CREDIT:** MBL / Flescher Collection

## JACKS

## JACKS

## PERMIT (*Trachinotus falcatus*)

**COLOR:** Silver. May have dark area posterior to pectoral fin. Dark pectoral fins. Dark anterior edges of dorsal and anal fins.

**FINS:** Long anterior lobes of dorsal and anal fins.

**HEAD:** Forehead turns downward above eye.



**PHOTO CREDIT:** NOAA / NMFS / SEFSC / Pascagoula Laboratory; Collection of Brandi Noble



## BANDED DRUM (*Larimus fasciatus*)

**COLOR:** Olive-gray dorsal surface. Silver ventral surface. Vertical dark bands.

**HEAD:** Large, superior mouth. No barbels on chin.



**MAY BE CONFUSED WITH:** Atlantic croaker (pg. 79), black drum (pg. 81), spot (pg. 80).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

## DRUMS

## DRUMS

## ATLANTIC CROAKER (*Micropogonias undulatus*)

**COLOR:** Diagonal bar pattern comprised of small dark spots. Spotted dorsal fins.

**HEAD:** Subterminal mouth with small chin barbels.



**MAY BE CONFUSED WITH:** Banded drum (pg. 78), black drum (pg. 81), spot (pg. 80).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

## SPOT (*Leiostomus xanthurus*)

**COLOR:** Distinct spot behind operculum. Diagonal bar pattern made up of small dark spots.

**FINS:** Forked caudal fin.

**HEAD:** Subterminal mouth.



**MAY BE CONFUSED WITH:** Atlantic croaker (pg. 79), banded drum (pg. 78), black drum (pg. 81).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## DRUMS

## DRUMS

## BLACK DRUM (*Pogonias cromis*)

**COLOR:** Silver-gray with 4-5 vertical dark bars in juveniles. Dark fins.

**HEAD:** Many chin barbels.



**MAY BE CONFUSED WITH:** Atlantic croaker (pg. 79), banded drum (pg. 78), red drum (pg. 82), spot (pg. 80).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB



## RED DRUM (*Sciaenops ocellatus*)

**COLOR:** Bronze. Obscure stripes.  
Black spot(s) near caudal fin.

**HEAD:** Terminal mouth.



**MAY BE CONFUSED WITH:** Black drum (pg. 81).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

## DRUMS

## DRUMS

## NORTHERN KINGFISH (*Menticirrhus saxatilis*)

**COLOR:** Dusky bands on body.  
Bands make V-shaped saddle beneath first dorsal fin.

**FINS:** Elongated leading rays of first dorsal fin. Undulated caudal fin.

**HEAD:** Subterminal mouth with barbel under chin.



**MAY BE CONFUSED WITH:** Southern kingfish (pg. 84).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research



## SOUTHERN KINGFISH (*Menticirrhus americanus*)

**COLOR:** Dusky bands or blotches on body. No V-shaped saddle beneath first dorsal fin.

**FINS:** Undulated caudal fin.

**HEAD:** Subterminal mouth with barbel under chin.



**MAY BE CONFUSED WITH:** Northern kingfish (pg. 83).

**PHOTO CREDIT:** NOAA / NMFS / SEFSC / Pascagoula Laboratory; Collection of Brandi Noble

## DRUMS

## DRUMS

## WEAKFISH (SEATROUT) (*Cynoscion regalis*)

**COLOR:** Dark olive-blue dorsal surface. Spots may form obscure diagonal lines.

**HEAD:** Large, superior mouth. Two large fangs on upper jaw. No chin barbels.



**MAY BE CONFUSED WITH:** Silver seatrout (pg. 86), spotted seatrout (pg. 87).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## SILVER SEATROUT (*Cynoscion nothus*)

**COLOR:** Silver-gray. Dorsal and lateral surfaces may have faint, irregular spots.

**HEAD:** Large, superior mouth. Two large fangs on upper jaw. No chin barbels.



**MAY BE CONFUSED WITH:** Spotted seatrout (pg. 87), weakfish (seatrout) (pg. 85).

**PHOTO CREDIT:** NOAA / NMFS / SEFSC / Pascagoula Laboratory; Collection of Brandi Noble

## DRUMS

## DRUMS

## SPOTTED SEATROUT (*Cynoscion nebulosus*)

**COLOR:** Many dark spots that extend onto dorsal and caudal fins. Broad dark stripe on lateral surface in juveniles.

**HEAD:** Large, superior mouth. Two large fangs on upper jaw. No chin barbels.



**MAY BE CONFUSED WITH:** Silver seatrout (pg. 86), weakfish (seatrout) (pg. 85).

**PHOTO CREDIT:** MBL / Flescher Collection

## SHEEPSHEAD (*Archosargus probatocephalus*)

**COLOR:** Black and white alternating vertical bars. Black fins.

**HEAD:** Large incisor teeth protrude from mouth.



PHOTO CREDIT: NOAA / NMFS / NEFSC / ESB

## PORGIES, SPADEFISH, WRASSES, & GRUNTS

## PORGIES, SPADEFISH, WRASSES, & GRUNTS

## PINFISH (*Lagodon rhomboides*)

**COLOR:** Yellow horizontal lines run down body. Dark shoulder spot centered on lateral line. Dark vertical bars.



**MAY BE CONFUSED WITH:** Pigfish (pg. 93), red porgy (pg. 91), scup (pg. 92), sea bream (pg. 90).

PHOTO CREDIT: MBL / Flescher Collection



## SEA BREAM (*Archosargus rhomboidalis*)

**COLOR:** Blue-silver. Narrow horizontal bronze stripes. Dark blotch behind operculum, immediately below lateral line; fades after death (darkened on photo to illustrate location).



**MAY BE CONFUSED WITH:** Pigfish (pg. 93), pinfish (pg. 89), red porgy (pg. 91), scup (pg. 92).

**PHOTO CREDIT:** NOAA / NMFS / SEFSC / Pascagoula Laboratory; Collection of Brandi Noble

## PORGIES, SPADEFISH, WRASSES, & GRUNTS

## PORGIES, SPADEFISH, WRASSES, & GRUNTS

## RED PORGY (*Pagrus pagrus*)

**COLOR:** Head and body silver-red. Pink dorsal, caudal and pectoral fins.

**HEAD:** Round rear nostril.



**MAY BE CONFUSED WITH:** Pigfish (pg. 93), pinfish (pg. 89), scup (pg. 92), sea bream (pg. 90).

**PHOTO CREDIT:** MBL / Flescher Collection

## SCUP (*Stenotomus chrysops*)

**COLOR:** Silver. Faint, irregular vertical bars on body; fade quickly after death.

**FINS:** Anterior dorsal fin ray is the longest; rays decrease in size towards caudal fin.

**HEAD:** Steep forehead.



**MAY BE CONFUSED WITH:** Pigfish (pg. 93), pinfish (pg. 89), red porgy (pg. 91), sea bream (pg. 90).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## PORGIES, SPADEFISH, WRASSES, & GRUNTS

## PORGIES, SPADEFISH, WRASSES, & GRUNTS

## PIGFISH (*Orthopristis chrysoptera*)

**COLOR:** Gray with bronze and yellow markings.

**FINS:** First and second dorsal fin rays short. Concave tail.

**HEAD:** Pointed snout. Steep forehead.



**MAY BE CONFUSED WITH:** Pinfish (pg. 89), red porgy (pg. 91), scup (pg. 92), sea bream (pg. 90).

**PHOTO CREDIT:** MBL / Flescher Collection

## ATLANTIC SPADEFISH (*Chaetodipterus faber*)

**COLOR:** Dark vertical bars; occasionally absent on large adults.

**BODY:** Disk shaped. Laterally compressed.

**FINS:** Anterior lobes of second dorsal and anal fin longest.



PHOTO CREDIT: NOAA / NMFS / NEFSC / ESB

## PORGIES, SPADEFISH, WRASSES, & GRUNTS

## PORGIES, SPADEFISH, WRASSES, & GRUNTS

## CUNNER (*Tautoglabrus adspersus*)

**COLOR:** Gray-brown.

**FINS:** Dorsal fin terminates in soft lobe.

**HEAD:** Pointed head with terminal mouth. Sharp, even teeth; sometimes protruding.



MAY BE CONFUSED WITH: Tautog (pg. 96).

PHOTO CREDIT: NOAA / NMFS / NEFSC / Cooperative Research



## TAUTOG (*Tautoga onitis*)

**COLOR:** Green-brown blotched. White chin.

**FINS:** Dorsal fin terminates in soft lobe.

**HEAD:** Blunt head with terminal mouth. Teeth irregular; protruding.



**MAY BE CONFUSED WITH:** Cunner (pg. 95).

**PHOTO CREDIT:** MBL / Flescher Collection

## PORGIES, SPADEFISH, WRASSES, & GRUNTS

### BASSES

## SNOWY GROUPER (*Epinephelus niveatus*)

**COLOR:** Gray-brown with white spots that continue onto dorsal fin. Dark saddle on caudal peduncle in juveniles.



**MAY BE CONFUSED WITH:** Warsaw grouper (pg. 98), wreckfish (pg. 99).

**PHOTO CREDIT:** NOAA / NMFS / SEFSC / Pascagoula Laboratory; Collection of Brandi Noble

## WARSAW GROUPER (*Epinephelus nigritus*)

**COLOR:** Brown. Dark saddle on caudal peduncle in juveniles.



**MAY BE CONFUSED WITH:** Snowy grouper (pg. 97), wreckfish (pg. 99).

**PHOTO CREDIT:** NOAA / NMFS / SEFSC / Pascagoula Laboratory; Collection of Brandi Noble

## BASSES

## BASSES

## WRECKFISH (*Polyprion americanus*)

**COLOR:** Gray-brown. White trailing edge on caudal fin.

**FINS:** Convex caudal fin.

**HEAD:** Rough head. Ridge on opercle.



**MAY BE CONFUSED WITH:** Snowy grouper (pg. 97), warsaw grouper (pg. 98).

**PHOTO CREDIT:** Pedro Niny Duarte © ImagDOP

## BLACK SEA BASS (*Centropristis striata*)

**COLOR:** Variable olive-gray coloration with white spots Horizontal white bands on dorsal fin.

**FINS:** Spiny dorsal fin. Three-lobed caudal fin.

**HEAD:** Large mouth. Adult males have projecting forehead.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## BASSES

## BASSES

## BLACKMOUTH BASS (*Synagrops bellus*)

**COLOR:** Body, mouth, and gill cavity black.

**BODY:** Scales chafe easily in gear.

**FINS:** Two dorsal fins.

**HEAD:** Prominent fang-like teeth. Large eyes.



**PHOTO CREDIT:** MBL / Flescher Collection



## STRIPED BASS (*Morone saxatilis*)

**COLOR:** Olive-gray dorsal surface. 7-8 dark horizontal stripes on lateral sides.

**FINS:** Forked caudal fin.

**HEAD:** Large mouth



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## BASSES

### LATERALLY COMPRESSED

## OPAHI (*Lampris guttatus*)

**COLOR:** Blue dorsal surface. Pink ventral surface. Many small white spots. Fins, lips, and eyes bright red.

**HEAD:** No teeth.



**PHOTO CREDIT:** NOAA / NMFS / PIRO

## GRAY TRIGGERFISH (*Balistes capriscus*)

**COLOR:** Olive-gray.

**FINS:** Undulating dorsal and anal fins.

**HEAD:** One or more large scales behind operculum. Small mouth.



**PHOTO CREDIT:** NOAA / NMFS / SEFSC Pascagoula Laboratory; Collection of Brandi Noble

**LATERALLY COMPRESSED**

**LATERALLY COMPRESSED**

## BUTTERFISH (*Peprilus triacanthus*)

**COLOR:** Gray dorsal surface. Silver lateral surface.

**BODY:** Row of pores below anterior base of dorsal fin.



**MAY BE CONFUSED WITH:** Harvestfish (pg. 106).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## HARVESTFISH (*Peprilus paru*)

**COLOR:** Silver; iridescent.

**BODY:** No pores below dorsal fin.

**FINS:** Long dorsal and anal fin lobes.



**MAY BE CONFUSED WITH:** Butterfish (pg. 105).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

**LATERALLY COMPRESSED**

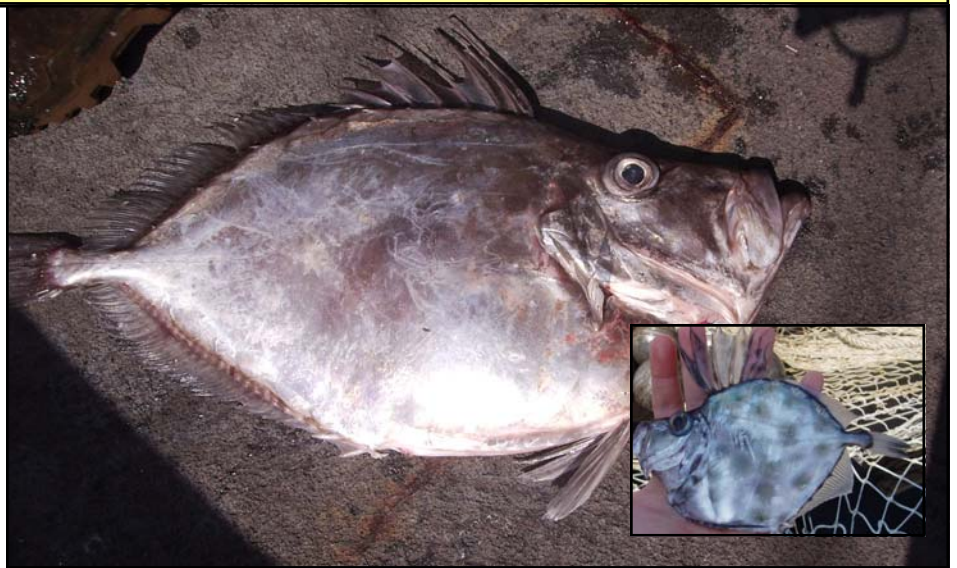
**LATERALLY COMPRESSED**

## BUCKLER DORY (JOHN DORY) (*Zenopsis conchifera*)

**COLOR:** 12-24 obscure dark spots on juveniles. Obscure, dark mid lateral blotch posterior to operculum.

**BODY:** Deep body.

**HEAD:** Large mouth. Lower jaw projects.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research, NOAA / NMFS / NEFSC / ESB



## DEEPBODY BOARFISH (*Antigonia capros*)

**COLOR:** Pink-red.

**BODY:** Body deeper than it is long.

**FINS:** Dorsal and anal fins with long anterior spines.

**HEAD:** Superior mouth.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## LATERALLY COMPRESSED

## EEL-LIKE FISH

### ATLANTIC CUTLASSFISH (*Trichiurus lepturus*)

**COLOR:** Silver; iridescent.

**BODY:** Body laterally compressed; long. Tail tapers to a point.

**FINS:** No pelvic fins.

**HEAD:** Lower jaw longer than upper jaw. Large, fang-like teeth.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

## CONGER EEL (*Conger oceanicus*)

**COLOR:** Dark gray dorsal surface. Pale ventral surface. Dark edges on dorsal and anal fins.

**HEAD:** Lower jaw shorter than upper jaw.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## EEL-LIKE FISH

## EEL-LIKE FISH

## ATLANTIC HAGFISH (*Myxine glutinosa*)

**COLOR:** Purple.

**BODY:** Protein secretion pores on lateral surface; posterior to head.

**HEAD:** Barbels around jawless mouth. No rasping plate.



**MAY BE CONFUSED WITH:** Sea lamprey (pg. 112).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

## SEA LAMPREY (*Petromyzon marinus*)

**COLOR:** Gray-green mottled.

**BODY:** Cartilaginous skeleton.

**FINS:** Two dorsal fins.

**HEAD:** No barbels around mouth.  
Round rasping plate.



**MAY BE CONFUSED WITH:** Atlantic hagfish (pg. 111).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

## EEL-LIKE FISH

## EEL-LIKE FISH

## FAWN CUSK-EEL (*Lepophidium profundorum*)

**COLOR:** Light brown. Pale spots on lateral surface.

**BODY:** Body tapers to a point.

**HEAD:** Long rostral spine, reaching tip of snout.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research



## ROCK GUNNEL (*Pholis gunnellus*)

**COLOR:** Mottled brown-red. Dark bar slants from origin of dorsal fin to eye; and from eye down to origin of mouth. 10-14 black spots along base of dorsal fin.



PHOTO CREDIT: © Trevor Meyer

## EEL-LIKE FISH

## EEL-LIKE FISH

## WRYMOUTH (*Cryptacanthodes maculatus*)

**COLOR:** Red-brown. Two or three horizontal rows of spots running down body

**BODY:** Body tapers to a point.

**HEAD:** Superior mouth.



PHOTO CREDIT: NOAA / NMFS / NEFSC / Cooperative Research

## OCEAN POUT (*Zoarces americanus*)

**COLOR:** Dark gray dorsal surface. Pale ventral surface. Dark edges on dorsal and anal fins.

**HEAD:** Lower jaw shorter than upper jaw.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## EEL-LIKE FISH

## EEL-LIKE FISH

## ATLANTIC WOLFFISH (*Anarhichas lupus*)

**COLOR:** Blue-gray. Vertical dark bars along body.

**BODY:** Body deepest near head.

**HEAD:** Large teeth with strong jaw.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB



## BLUEFISH (*Pomatomus saltatrix*)

**COLOR:** Iridescent blue-green dorsal surface. Silver lateral sides and ventral surface.

**FINS:** Small, spiny first dorsal fin. Second dorsal fin larger. Forked caudal fin.

**HEAD:** Large mouth with prominent teeth.



PHOTO CREDIT: NOAA / NMFS / NEFSC / FSB

## OTHER ROUND FISH

## OTHER ROUND FISH

## TILEFISH (*Lopholatilus chamaeleonticeps*)

**COLOR:** Blue dorsal surface with yellow spots.

**FINS:** Fleshy tab in front of dorsal fin.

**HEAD:** Large head. Mouth low on head.



**MAY BE CONFUSED WITH:** Blueline tilefish (pg. 120).

PHOTO CREDIT: NOAA / NMFS / NEFSC / Cooperative Research



## BLUELINE TILEFISH (*Caulolatilus microps*)

**COLOR:** Gray-blue. Narrow blue stripe from underside of eye to tip of snout.

**FINS:** No fleshy tab in front of dorsal fin.



**MAY BE CONFUSED WITH:** Tilefish (pg. 119).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## OTHER ROUND FISH

## OTHER ROUND FISH

## BIGEYE (*Priacanthus arenatus*)

**COLOR:** Red-orange.

**FINS:** Rounded dorsal and anal fin.

**HEAD:** Large eye.



**MAY BE CONFUSED WITH:** Short bigeye (pg. 122).

**PHOTO CREDIT:** MBL / Flescher Collection

## SHORT BIGEYE (*Pristigenys alta*)

**COLOR:** Red-orange. Pale caudal fin with black trailing edge. Black spots present on juveniles.

**BODY:** Deep body.

**FINS:** Spiny dorsal fin.

**HEAD:** Large eye. Superior mouth.



**MAY BE CONFUSED WITH:** Bigeye (pg. 121).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## OTHER ROUND FISH

## OTHER ROUND FISH

## BARRELFISH (*Hyperoglyphe perciformis*)

**COLOR:** Gray-brown.

**BODY:** Deep body.

**HEAD:** Blunt snout. No scales on top of head.



**PHOTO CREDIT:** University of Barcelona / José M. Blanco-Moreno.

## BEARDFISH (*Polymixia lowei*)

**COLOR:** Silver.

**FINS:** Dorsal fin origin bisects body and extends towards caudal fin.

**HEAD:** Two long barbels under chin. Blunt snout.



PHOTO CREDIT: MBL / Flescher Collection

## OTHER ROUND FISH

## OTHER ROUND FISH

## NORTHERN PUFFER (*Sphoeroides maculatus*)

**COLOR:** Olive-gray with many small dark spots. Vertical dark bars on lateral surface. White ventral surface.

**HEAD:** Small mouth.

**DEFENSE MECHANISM:** Inflates with water.



PHOTO CREDIT: MBL / Flescher Collection



## NORTHERN STARGAZER (*Astroscopus guttatus*)

**COLOR:** Olive-brown dorsal surface with small white spots that become larger towards lateral surface. Horizontal bars on caudal fin extend onto body.

**HEAD:** Superior mouth.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## OTHER ROUND FISH

## OTHER ROUND FISH

## COBIA (*Rachycentron canadum*)

**COLOR:** Dark dorsal surface. Pale ventral surface. Two horizontal white stripes run to caudal fin on lateral surface; may fade with age.

**FINS:** Anterior dorsal fin consisting of 8 spines that can fold into body.

**HEAD:** Lower jaw protrudes past upper jaw; more prominent in adults.



**PHOTO CREDIT:** NOAA / NMFS / SEFSC Pascagoula Laboratory; Collection of Brandi Noble

## LIZARDFISH (*Synodus sp.*)

**COLOR:** Green-brown. About 8 diamond shaped marks on lateral surface.

**BODY:** Body wider than it is tall.

**FINS:** Anal fin base the same length or longer than dorsal fin base.

**HEAD:** Pointed, triangular snout.



PHOTO CREDIT: UMASS / Dr. Joseph H. Kunkel

## OTHER ROUND FISH

## OTHER ROUND FISH

## REDEYE GAPER (*Chaunax stigmaeus*)

**COLOR:** Red-orange blotched.

**BODY:** Stitching pattern around head and on body.

**HEAD:** Superior mouth.



PHOTO CREDIT: NOAA / NMFS / NEFSC / Cooperative Research

## GOOSEFISH (MONKFISH) (*Lophius gastrophysus*)

**COLOR:** Variable olive-brown dorsal surface with darker pectoral, dorsal, and caudal fins. White ventral surface.

**FINS:** First dorsal fin spine located immediately posterior to mouth, and has small flap of skin at it's tip (lure for prey).

**HEAD:** Extremely large mouth with prominent teeth. Lower jaw projects significantly. Two large shoulder spines immediately posterior to head.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## OTHER ROUND FISH

## OTHER ROUND FISH

## NORTHERN SENNET (*Sphyraena borealis*)

**COLOR:** Silver. Darker dorsal surface.

**FINS:** Pelvic fins begin below origin of dorsal fin.

**HEAD:** Lower jaw protrudes past upper jaw and has fleshy tip.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB



## ATLANTIC SAURY (*Scomberesox saurus*)

**COLOR:** Blue-green dorsal surface. Dark spot above pectoral fin.

**FINS:** Row of finlets behind dorsal and anal fins.

**HEAD:** Long, needle-like jaws. Upper and lower jaw are the same length.



PHOTO CREDIT: NOAA / NMFS / NEFSC / ESB

## OTHER ROUND FISH

## OTHER ROUND FISH

## LONGSPINE SNIPEFISH (*Macroramphosus scolopax*)

**COLOR:** Orange-red dorsal surface. Silver lateral surface.

**BODY:** Laterally compressed. Body deepest at middle. Ventral surface slopes up from center towards head and caudal fin.

**HEAD:** Long snout.

**SPINES:** Dorsal spine as long as snout. When depressed, dorsal spine reaches middle of caudal fin.



PHOTO CREDIT: NOAA / NMFS / NEFSC / Cooperative Research

## ATLANTIC ARGENTINE (*Argentina silus*)

**COLOR:** Silver. Adipose fin has yellow tint.

**BODY:** Scales chafe easily in gear.

**FINS:** Adipose fin present anterior to caudal fin.

**HEAD:** Large eye.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## OTHER ROUND FISH

## OTHER ROUND FISH

## ALLIGATORFISH (*Aspidophoroides monoptyerius*)

**COLOR:** Green-brown.

**BODY:** Long body; smooth on top. Alligator-like scales.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

# LUMPFISH (*Cyclopterus lumpus*)

**COLOR:** Blue-gray.

**BODY:** Sucker on ventral surface. Rows of lumps on lateral surface, and on dorsal surface that run from head to caudal peduncle.

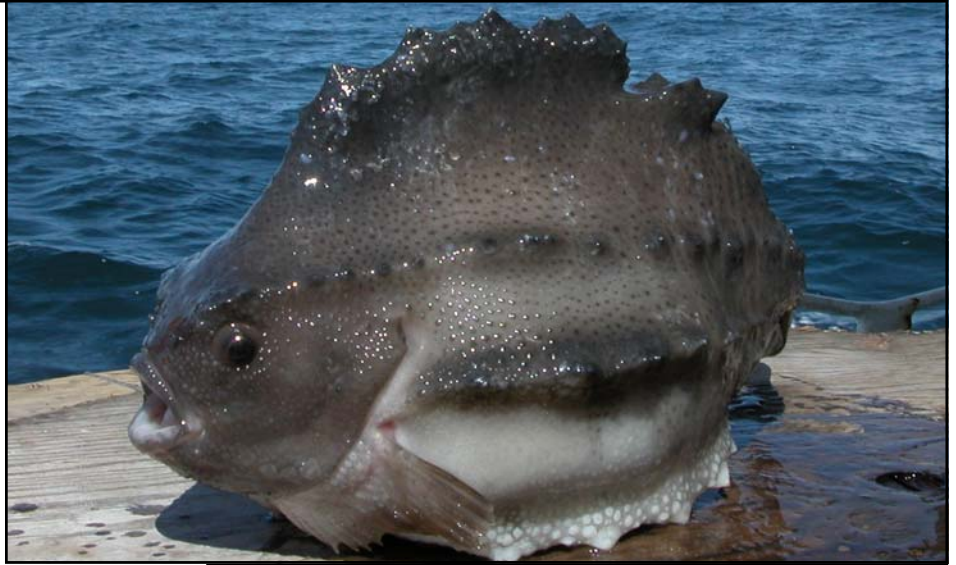


PHOTO CREDIT: UMASS / Dr. Joseph H. Kunkel

## OTHER ROUND FISH

## OTHER ROUND FISH

# GRENADIER (Family Macrouridae)

**COLOR:** Blue-black.

**BODY:** Body tapers to a point.

**FINS:** First dorsal spine has serrated front edge.



PHOTO CREDIT: NOAA / NMFS / NEFSC / Cooperative Research



## BLUE CRAB (*Callinectes sapidus*)

**COLOR:** Blue.

**CARAPACE:** Long, horizontal spines protrude from each side of carapace.

**APENDAGES:** Blue appendages. Swimmerets.



**MAY BE CONFUSED WITH:** Speckled crab (pg. 139).

**PHOTO CREDIT:** MBL / Flescher Collection

## CRUSTACEANS & INVERTEBRATES

## CRUSTACEANS & INVERTEBRATES

## SPECKLED CRAB (*Arenaeus cribrarius*)

**COLOR:** Olive-brown. White spots cover carapace and claws.

**CARAPACE:** Long, horizontal spines protrude from each side of carapace.

**APENDAGES:** Swimmerets.



**MAY BE CONFUSED WITH:** Blue crab (pg. 138), lady crab (140).

**PHOTO CREDIT:** MBL / Flescher Collection

## LADY CRAB (*Ovalipes ocellatus*)

**COLOR:** Gray. Purple speckles cover carapace and claws.

**CARAPACE:** No horizontally protruding spines from sides of carapace.

**APENDAGES:** Swimmerets.



**MAY BE CONFUSED WITH:** Speckled crab (pg. 139).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

## CRUSTACEANS & INVERTEBRATES

## CRUSTACEANS & INVERTEBRATES

## JONAH CRAB (*Cancer borealis*)

**COLOR:** Olive-brown.

**CARAPACE:** Wide, oval carapace. Leading edge of carapace has jagged, undefined teeth.

**APENDAGES:** No swimmerets.



**MAY BE CONFUSED WITH:** Rock crab (pg. 142).

**PHOTO CREDIT:** UMASS / Dr. Joseph H. Kunkel

## ROCK CRAB (*Cancer irroratus*)

**COLOR:** Red-brown.

**CARAPACE:** Wide, oval carapace. Leading edge of carapace has smooth, defined teeth.

**APENDAGES:** No swimmerets.



**MAY BE CONFUSED WITH:** Jonah crab (pg. 141).

**PHOTO CREDIT:** UMASS / Dr. Joseph H. Kunkel

## CRUSTACEANS & INVERTEBRATES

## CRUSTACEANS & INVERTEBRATES

## SNOW CRAB (*Chionoecetes opilio*)

**COLOR:** Purple-brown.

**CARAPACE:** Smooth, rounded carapace with no prominent spines.

**APENDAGES:** Long smooth appendages. No swimmerets.



**MAY BE CONFUSED WITH:** Inflated spiny crab (pg. 144).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB



## INFLATED SPINY CRAB (*Rochinia sp.*)

**COLOR:** Red-orange.

**CARAPACE:** Round like spider crab.

**APENDAGES:** Very long claws and legs.



**MAY BE CONFUSED WITH:** Northern stone crab (pg. 145), snow crab (pg. 143).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## CRUSTACEANS & INVERTEBRATES

## CRUSTACEANS & INVERTEBRATES

## NORTHERN STONE CRAB (*Lithodes maja*)

**COLOR:** Orange-red dorsal surface. White ventral surface.

**CARAPACE:** Many large spines on carapace.

**APENDAGES:** Spines on all appendages. No swimmerets.



**MAY BE CONFUSED WITH:** Inflated spiny crab (pg. 144)

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

## DEEP SEA RED CRAB (*Chaceon quinquedens*)

**COLOR:** Bright red.

**CARAPACE:** 5 spines on each side of carapace's leading edge.

**APENDAGES:** No swimmerets. Thick appendages.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## CRUSTACEANS & INVERTEBRATES

## CRUSTACEANS & INVERTEBRATES

## SPIDER CRAB (*Libinia emarginata*)

**COLOR:** Green-brown.

**CARAPACE:** Rounded carapace with pointed rostrum. Carapace covered with many small bumps. Hairs and algae grow on carapace.

**APENDAGES:** Hairs and algae grow on appendages. No swimmerets.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB



## GLADIATOR BOX CRAB (*Ancanthocarpus alexandri*)

**COLOR:** Red-brown.

**CARAPACE:** Rounded carapace with two spines that curve off trailing edge.

**APENDAGES:** One large spine protruding horizontally off each claw.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## CRUSTACEANS & INVERTEBRATES

## CRUSTACEANS & INVERTEBRATES

## GALATHEID CRAB (*Munida sp.*)

**COLOR:** Red-orange.

**CARAPACE:** Shrimp-like carapace.

**APENDAGES:** Very long claws.



**PHOTO CREDIT:** NOAA Office of Ocean Exploration; Operation Deep Scope 2005 Expedition



## MANTIS SHRIMP (*Squilla sp.*)

**COLOR:** Brown.

**CARAPACE:** Flattened carapace.

**APENDAGES:** Long pair of strong mantis-like claws.



PHOTO CREDIT: NOAA / NMFS / NEFSC / ESB

## CRUSTACEANS & INVERTEBRATES

## CRUSTACEANS & INVERTEBRATES

## LOLIGO (LONGFIN) SQUID (*Loligo pealeii*)

**COLOR:** Olive-brown.

**BODY:** Skin chaffs easily in gear. Fin base approximately half the length of the mantle.



**MAY BE CONFUSED WITH:** Illex (shortfin) squid (pg. 152).

PHOTO CREDIT: NOAA / NMFS / NEFSC / Cooperative Research

## ILLEX (SHORTFIN) SQUID (*Illex illecebrosus*)

**COLOR:** Orange-red.

**BODY:** Skin usually stays intact. Fin base approximately one third the length of mantle.



**MAY BE CONFUSED WITH:** Loligo (longfin) squid (pg. 151).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

## CRUSTACEANS & INVERTEBRATES

## ATLANTIC STURGEON (*Acipenser oxyrinchus*)

**HEAD:** Lips less than 60% width of head at that point. Indentation on head between eyes.

**SCUTES:** Complex pattern of post anal ventral scutes.



**MAY BE CONFUSED WITH:** Shortnose sturgeon (pg. 154).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / FSB

## STURGEON



# STURGEON

## SHORTNOSE STURGEON (*Acipenser brevirostrum*)

**HEAD:** Lips greater than 60% width of head at that point. No indentation on head between eyes.

**SCUTES:** Simplified pattern of post anal ventral scutes.



**MAY BE CONFUSED WITH:** Atlantic sturgeon (pg. 153).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / FSB

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## ATLANTIC ANGEL SHARK (*Squatina dumeril*)

**COLOR:** Brown.

**FINS:** Broad pectoral fins.

**HEAD:** Nasal barbels. Large eyes.

**SPINES:** Spines along back from head to dorsal fins.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

# SHARKS



# SHARKS

## CHAIN DOGFISH (*Scyliorhinus retifer*)

**COLOR:** Light brown. Distinct chain-like pattern.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

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## ATLANTIC SHARPNOSE SHARK (*Rhizoprionodon terraenovae*)

**COLOR:** Gray dorsal surface. Pale ventral surface. Faint white blotches scattered on lateral surface of adults.

**BODY:** Small; comparable in size to dogfish.

**HEAD:** Long, pointed snout. Real teeth; compared to grinding plates of dogfish.



**MAY BE CONFUSED WITH:** Smooth dogfish (pg. 158), spiny dogfish (pg. 159).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / ESB

# SHARKS

# SHARKS

## SMOOTH DOGFISH (*Mustelus canis*)

**COLOR:** Uniformly gray.

**FINS:** No spines projecting from anterior base of dorsal fins.

**HEAD:** Grinding plate instead of true teeth.



**MAY BE CONFUSED WITH:** Atlantic sharpnose shark (pg. 157), spiny dogfish (pg. 159).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

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## SPINY DOGFISH (*Squalus acanthias*)

**COLOR:** Gray with variable pale spots.

**FINS:** Spine projecting from anterior base of both dorsal fins.

**HEAD:** Grinding plate instead of true teeth.



**MAY BE CONFUSED WITH:** Atlantic sharpnose shark (pg. 157), smooth dogfish (pg. 158).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

# SHARKS

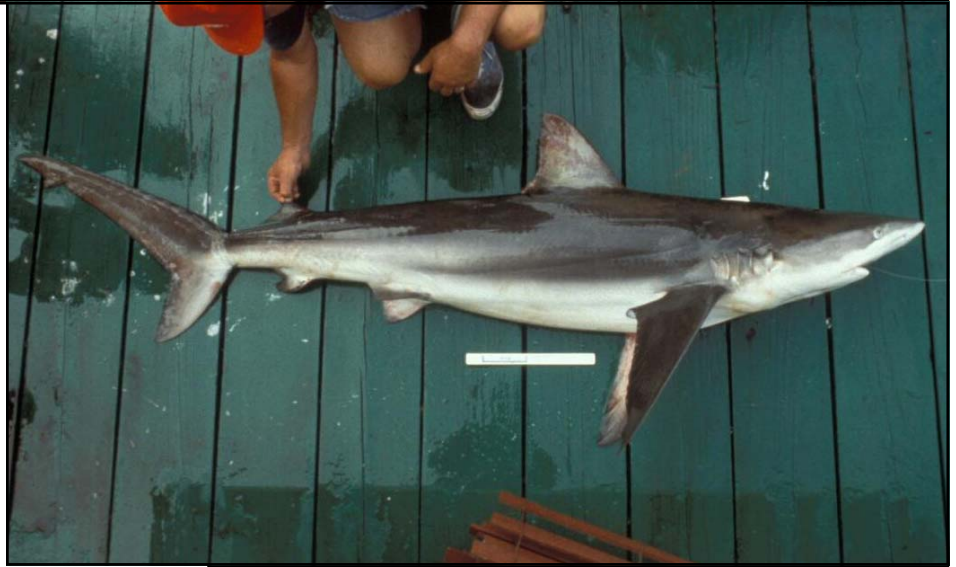


# SHARKS

## DUSKY SHARK (*Carcharhinus obscurus*)

**COLOR:** Blue-gray dorsal surface.  
White ventral surface.

**FINS:** First dorsal fin originates slightly anterior to free tips of pectoral fins.



**MAY BE CONFUSED WITH:** Sandbar (brown) shark (pg. 161).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Apex Predators

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## SANDBAR (BROWN) SHARK (*Carcharhinus plumbeus*)

**COLOR:** Brown.

**FINS:** Very large first dorsal and pectoral fins. First dorsal begins over mid-point of pectoral fins.

**HEAD:** Long, pointed snout.



**MAY BE CONFUSED WITH:** Dusky shark (pg. 160).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Cooperative Research

# SHARKS



# SHARKS

## PORBEAGLE (*Lamna nasus*)

**COLOR:** Blue-gray dorsal surface. White ventral surface. White lower posterior edge of first dorsal fin.

**BODY:** Stout body with large black eyes. Secondary smaller keel under posterior section of main lateral keel.

**HEAD:** Pointed snout.

**HABITAT:** Cold water shark; prefer water temperatures in the 50's to low 60's (degrees Fahrenheit).



**MAY BE CONFUSED WITH:** Blue shark (pg. 165), shortfin mako (bonito) shark (pg. 164), white shark (pg. 163).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / FSB

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## WHITE SHARK (*Carcharodon carcharias*)

**COLOR:** Blue-gray dorsal surface. White ventral surface.

**BODY:** Heavy, torpedo shaped body.

**FINS:** Crescent shaped caudal fin; both lobes about equal size, supported by thick keel.

**HEAD:** Conical snout. Black eyes. Triangular, serrated teeth.



**MAY BE CONFUSED WITH:** Blue shark (pg. 165), porbeagle shark (pg. 162), shortfin mako (bonito) shark (pg. 164).

**PHOTO CREDIT:** NOAA / NMFS / NEFSC / Apex Predators

# SHARKS

# SHARKS

## SHORTFIN MAKO (BONITO) (*Isurus oxyrinchus*)

**COLOR:** Indigo-purple dorsal surface. Silver lateral surface. White ventral surface.

**BODY:** Single keel on caudal peduncle.

**HEAD:** Large, well developed eye. Pronounced knife-like teeth.

**HABITAT:** Warm water shark; prefer water temperatures greater than 60 degrees Fahrenheit.



**MAY BE CONFUSED WITH:** Blue shark (pg. 165), porbeagle shark (pg. 162), white shark (pg. 163).

**PHOTO CREDIT:** NOAA / NMFS / PIRO

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## BLUE SHARK (*Prionace glauca*)

**COLOR:** Bright blue.

**BODY:** Sleek body

**FINS:** Long pectoral fins.

**HEAD:** Pointed snout. Large eyes.



**MAY BE CONFUSED WITH:** Shortfin mako (bonito) shark (pg. 164).

**PHOTO CREDIT:** NOAA / NMFS / PIRO

# SHARKS



# SHARKS

## TIGER SHARK (*Galeocerdo cuvier*)

**COLOR:** Gray with vertical tiger-stripe markings.

**HEAD:** Wide, blunt snout. Sickle shaped teeth.



PHOTO CREDIT: NOAA / NMFS / NEFSC / FSB

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## THRESHER SHARK (*Alopias vulpinus*)

**COLOR:** Blue-brown. White ventral surface.

**FINS:** Long caudal fin; about half the total length of body.

**HEAD:** Small, curved teeth.



PHOTO CREDIT: NOAA / NMFS / NEFSC / ESB

# SHARKS



# SHARKS

## BASKING SHARK (*Cetorhinus maximus*)

**COLOR:** Gray-blue.

**BODY:** Extremely large gill slits.

**HEAD:** Massive, conical snout.  
Subterminal mouth.



**PHOTO CREDIT:** NOAA / NMFS / NEFSC / FSB

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The CRD series uses the American Fisheries Society's guides to names of fishes, mollusks, and decapod

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For in-text citation, use the name-date system. A special effort should be made to ensure that all necessary bibliographic information is included in the list of cited works. Personal communications must include date, full name, and full mailing address of the contact.

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Once your document has cleared the review process, the Editorial Office will contact you with publication needs – for example, revised text (if necessary) and separate digital figures and tables if they are embedded in the document. Materials may be submitted to the Editorial Office as files on zip disks or CDs, email attachments, or intranet downloads. Text files should be in Microsoft Word, tables may be in Word or Excel, and graphics files may be in a variety of formats (JPG, GIF, Excel, PowerPoint, etc.).

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## **Publications and Reports of the Northeast Fisheries Science Center**

The mission of NOAA's National Marine Fisheries Service (NMFS) is "stewardship of living marine resources for the benefit of the nation through their science-based conservation and management and promotion of the health of their environment." As the research arm of the NMFS's Northeast Region, the Northeast Fisheries Science Center (NEFSC) supports the NMFS mission by "conducting ecosystem-based research and assessments of living marine resources, with a focus on the Northeast Shelf, to promote the recovery and long-term sustainability of these resources and to generate social and economic opportunities and benefits from their use." Results of NEFSC research are largely reported in primary scientific media (*e.g.*, anonymously-peer-reviewed scientific journals). However, to assist itself in providing data, information, and advice to its constituents, the NEFSC occasionally releases its results in its own media. Currently, there are three such media:

*NOAA Technical Memorandum NMFS-NE* -- This series is issued irregularly. The series typically includes: data reports of long-term field or lab studies of important species or habitats; synthesis reports for important species or habitats; annual reports of overall assessment or monitoring programs; manuals describing program-wide surveying or experimental techniques; literature surveys of important species or habitat topics; proceedings and collected papers of scientific meetings; and indexed and/or annotated bibliographies. All issues receive internal scientific review and most issues receive technical and copy editing.

*Northeast Fisheries Science Center Reference Document* -- This series is issued irregularly. The series typically includes: data reports on field and lab studies; progress reports on experiments, monitoring, and assessments; background papers for, collected abstracts of, and/or summary reports of scientific meetings; and simple bibliographies. Issues receive internal scientific review and most issues receive copy editing.

*Resource Survey Report* (formerly *Fishermen's Report*) -- This information report is a regularly-issued, quick-turnaround report on the distribution and relative abundance of selected living marine resources as derived from each of the NEFSC's periodic research vessel surveys of the Northeast's continental shelf. This report undergoes internal review, but receives no technical or copy editing.

**TO OBTAIN A COPY** of a *NOAA Technical Memorandum NMFS-NE* or a *Northeast Fisheries Science Center Reference Document*, either contact the NEFSC Editorial Office (166 Water St., Woods Hole, MA 02543-1026; 508-495-2350) or consult the NEFSC webpage on "Reports and Publications" (<http://www.nefsc.noaa.gov/nefsc/publications/>). To access *Resource Survey Report*, consult the Ecosystem Surveys Branch webpage (<http://www.nefsc.noaa.gov/femad/ecosurvey/mainpage/>).

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