

October 28, 2025



**NOAA
FISHERIES**

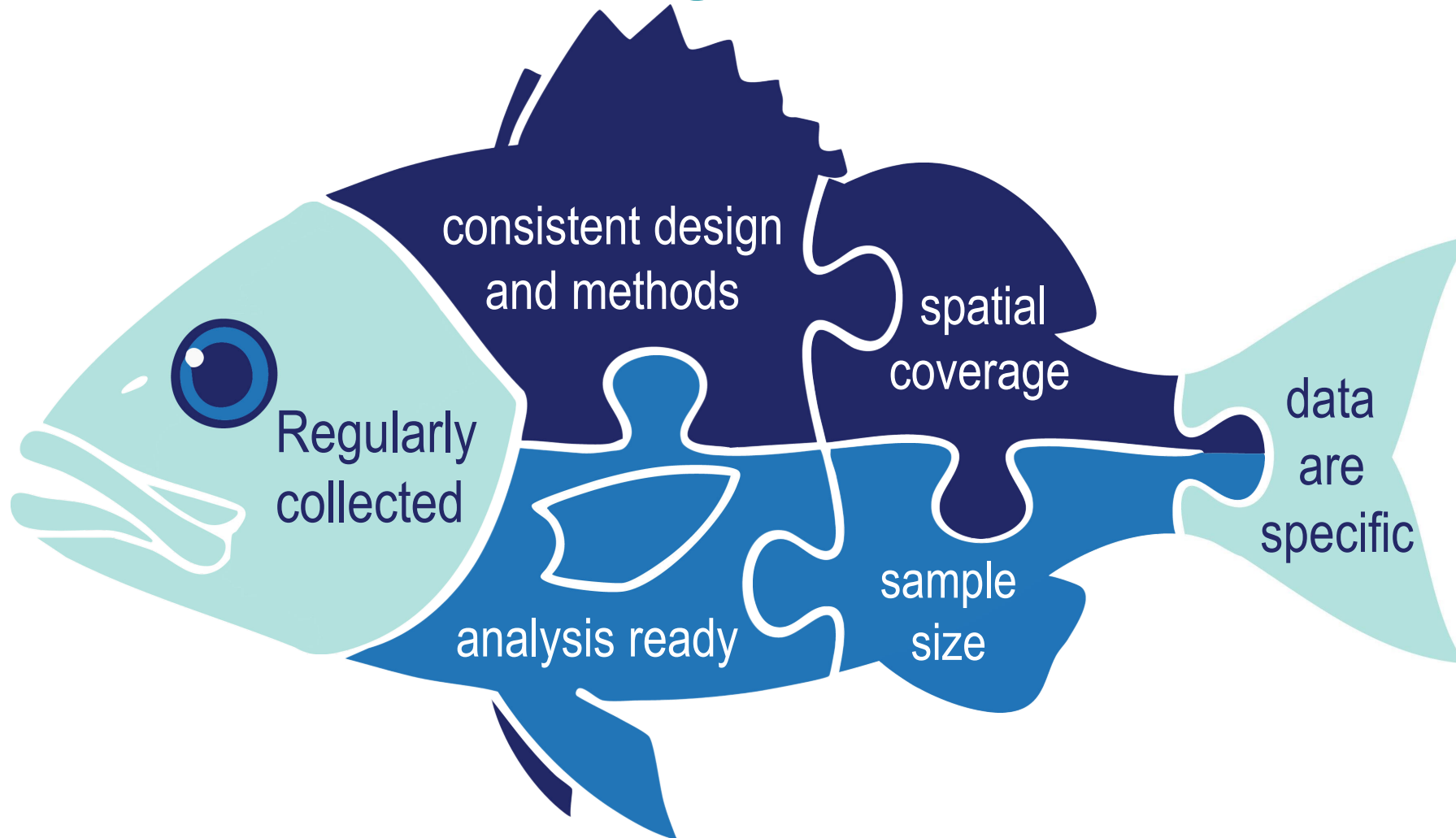
National Coral Reef Monitoring Program's Reef Fish Surveys Support Diverse, Multi-Agency Fisheries Management Efforts

Laura Jay W. Grove, Ph.D.¹, Jeremiah Blondeau¹, Danielle Morley², Jack C. Olson², Michael W. Feeley, Ph.D.³, Vanessa McDonough, Ph.D.⁴, Andrew Morin⁵, Andrew W. Bruckner, Ph.D.⁶, Hunter Noren⁷, Brian K. Walker, Ph.D.⁷, Sara Thanner⁸, Erick Ault⁹, Jerald S. Ault, Ph.D.¹⁰, and **Robert Harper**¹¹



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Data Needs for Management



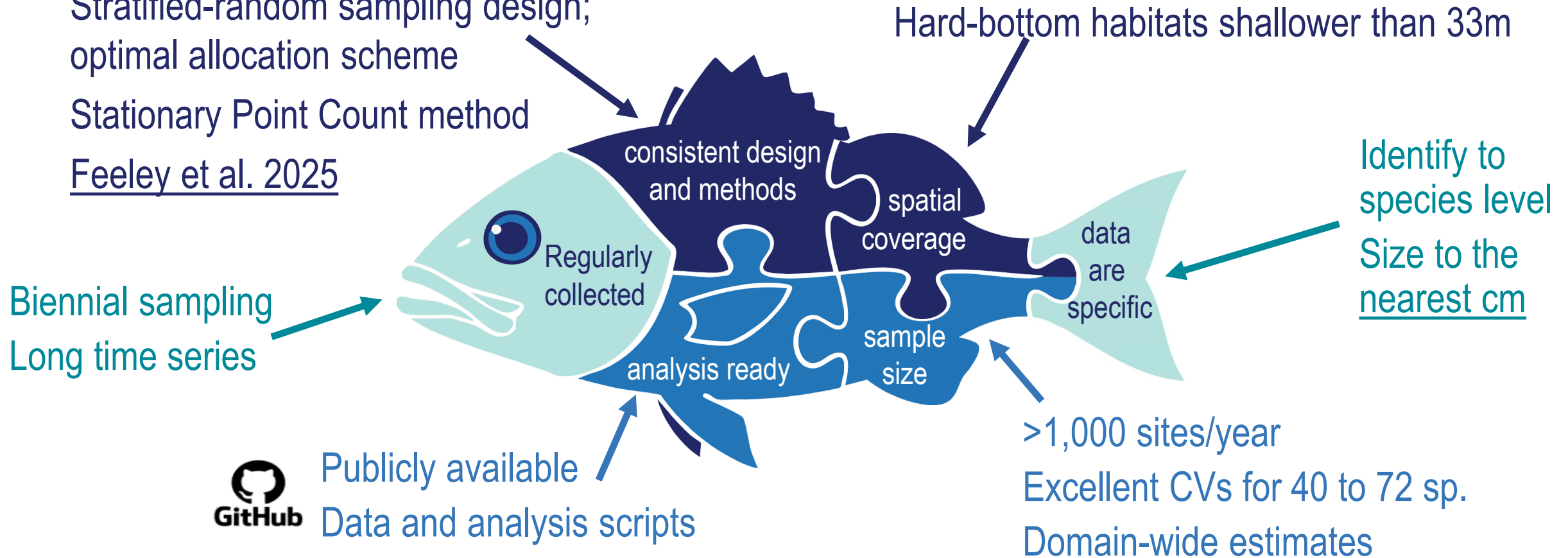
NCRMP Reef Fish Surveys

Fishery-independent survey

Stratified-random sampling design;
optimal allocation scheme

Stationary Point Count method

Feeley et al. 2025



NCRMP Reef Fish Surveys

How are data used for management?

- Support **fisheries management**
 - Inform stock assessments
 - Evaluate effectiveness of spatial closures
 - Evaluate effectiveness of fisheries regulations
- Support **ecosystem management**
 - Evaluate effectiveness of habitat restoration
 - Inform ecosystem status and resiliency efforts



NPS Photo Credits: Rob Waara (top), BNP (bottom)

Stock Assessments

FWC

- Indices & length composition data for fishery-targeted species

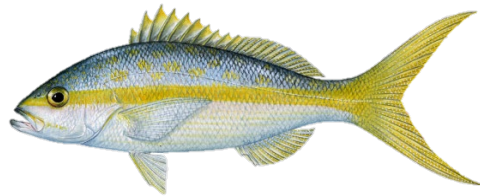
SEDAR37



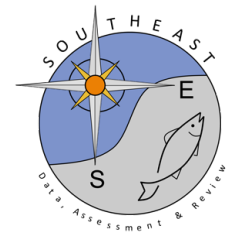
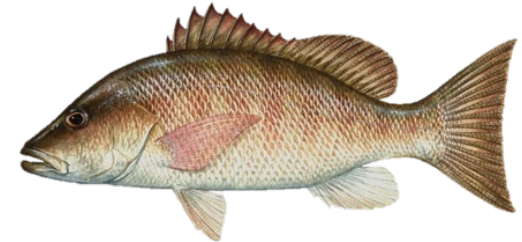
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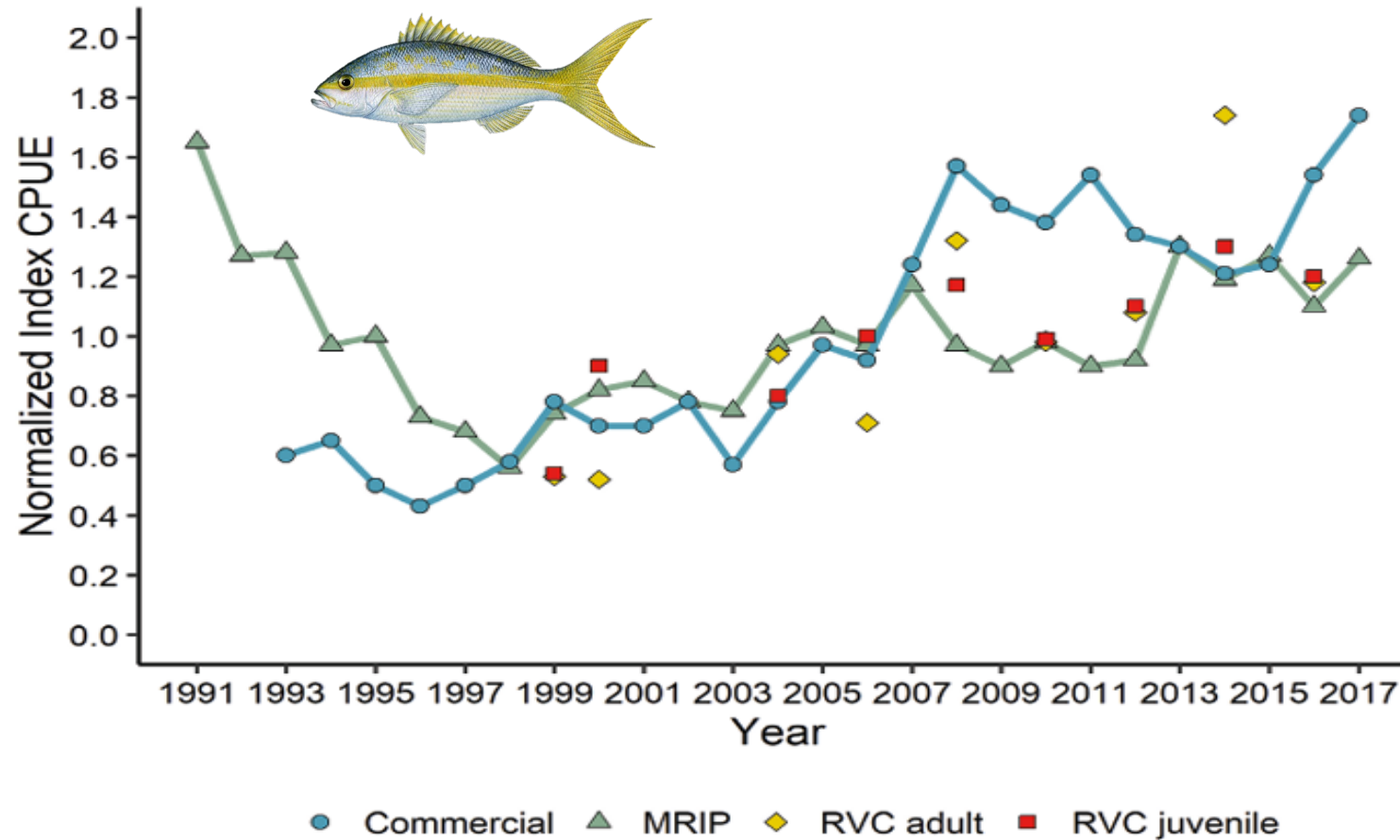
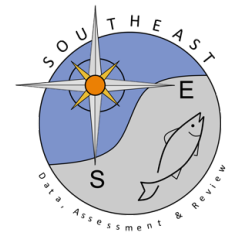
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Stock Assessments

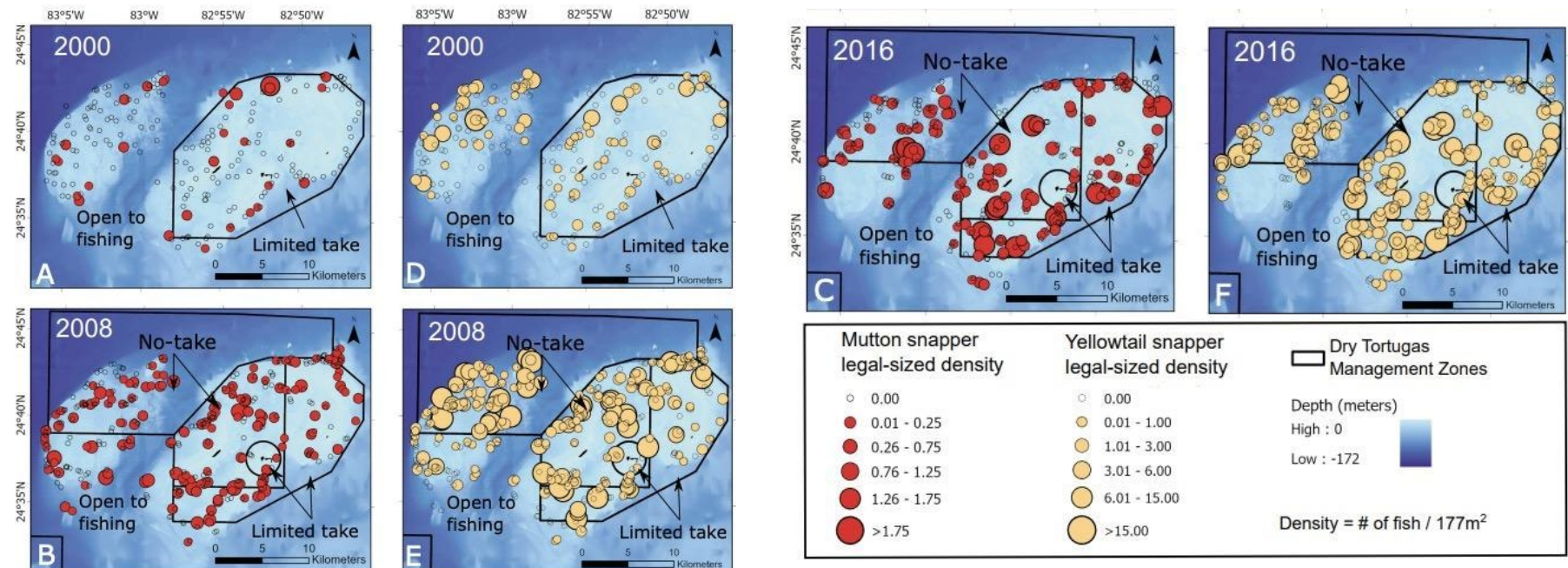
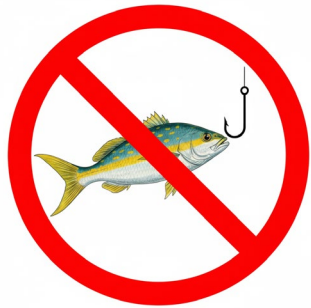


Keller et al. 2024 (image courtesy of SEDAR64 in 2020)

Spatial Management

Dry Tortugas National Park (NPS & FWC)

Research Natural Area



Keller et al. 2024

Fishing Regulations



- NPS & FWC developed new park-specific fishing regulations
- FWC implemented new regulations in July 2020



Prepared by Dr. Vanessa McDonough, Biscayne National Park

Fishing Regulations

NEW SIZE LIMITS

Targeted Species Common Name	Minimum Size	
	Before 2020	2020 – 2025
Gray snapper	10 inches TL	12 inches TL
Lane snapper	8 inches TL	10 inches TL
Mutton snapper	18 inches TL	19 inches TL
Schoolmaster snap.	10 inches TL	12 inches TL
Yellowtail snapper	12 inches TL	14 inches TL
Red grouper	20 inches TL	24 inches TL
Gray triggerfish	12 inches TL	14 inches TL
Bluestriped grunt	none	10 inches TL
White grunt	none	8 inches TL
Hogfish	16 inches TL	no change

GOAL: Increase targeted species size within Biscayne National Park by 20%

NEW BAG LIMITS

Total aggregate bag limit: 10 fish/person/day from below list (species-specific bag limits still apply)

Grouping	Common Names
All species	Grunts and Snook
Single species	Great barracuda, hogfish, tripletail, cero mackerel, ladyfish, and silver jenny
Drum	Black and red drum, spotted seatrout
Flounder	Gulf, fringed, southern, and summer
Grouper	Black and red grouper, coney, graysby, red and rock hind
Jacks	African and Florida pompano, banded rudderfish, blue runner, crevalle and yellow jack, greater and lesser amberjack, permit
Porgies	knobbed, jolthead, sheepshead, and whitebone porgy, sheepshead
Snapper	Gray, lane, mutton, schoolmaster, and yellowtail snapper
Triggerfish	Gray and ocean triggerfish

GOAL: Increase targeted species abundance within Biscayne National Park by 20%



Prepared by Dr. Vanessa McDonough, Biscayne National Park

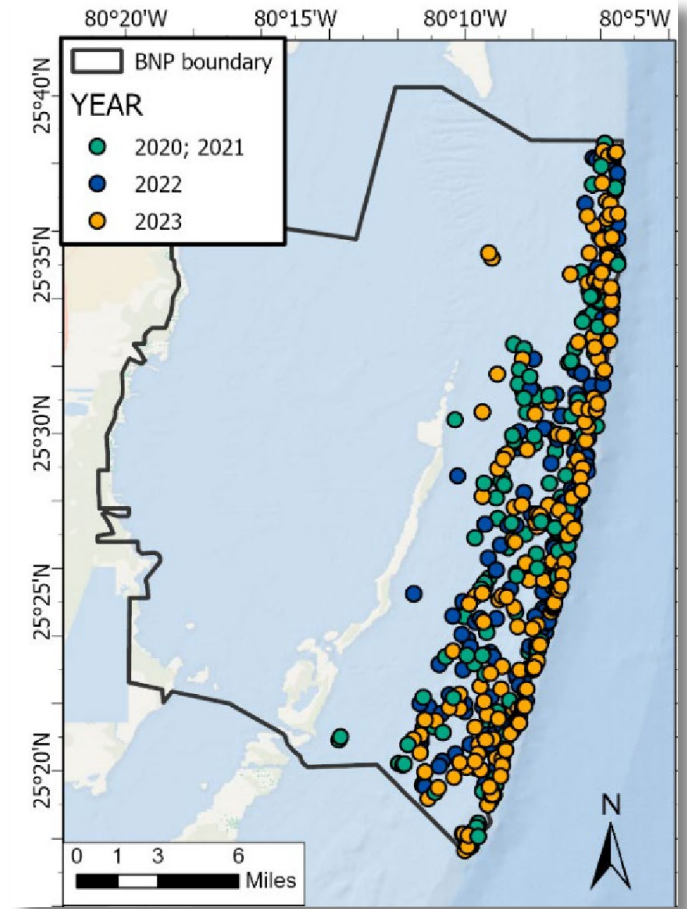
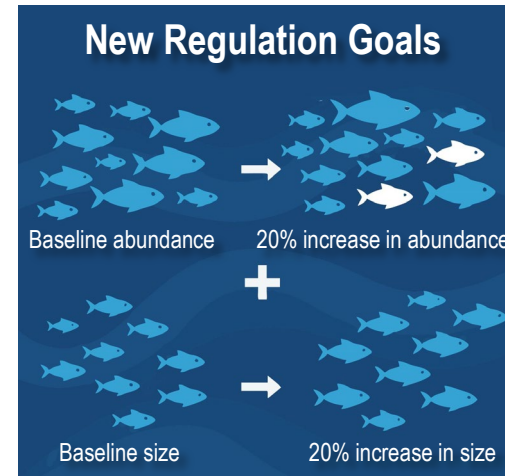
Fishing Regulations

Reef fish surveys built upon NCRMP's framework

- Increased sampling periodicity:
 - annual surveys (v.s. biennial sampling)
- Increased sample size:
 - 180 sites within BNP (v.s. ~80 sites)

Are the new fishery regulations effective?

- Post-implementation monitoring (2020–2025)
- Analyses anticipated in 2026

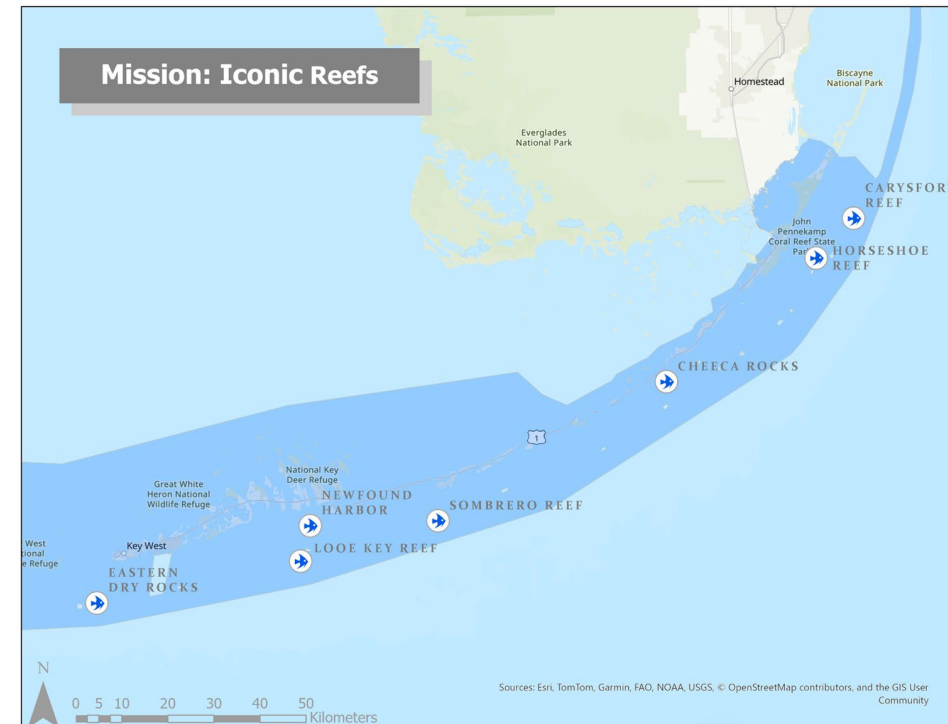


Habitat Restoration

NCRMP surveys used to monitor progress and effectiveness of restoration efforts in the Florida Keys National Marine Sanctuary



(Coral Restoration Foundation)



Ecosystem Assessments / Plans



NOAA Technical Report, OAR-AOML-52
<https://doi.org/10.25923/f7ce-st38>

Florida Keys Integrated Ecosystem Assessment Ecosystem Status Report

K.A. Montenero
C.R. Kelble
E. Spooner

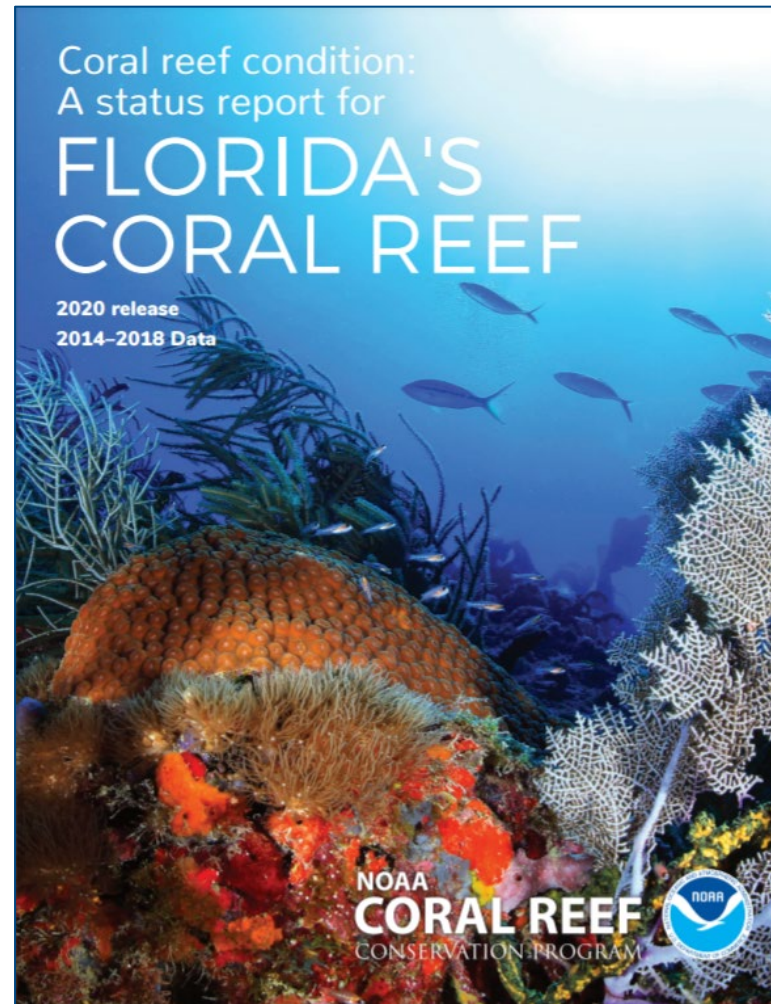
Atlantic Oceanographic and Meteorological Laboratory
Miami, Florida

September 2020

U.S. DEPARTMENT OF
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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OFFICE OF OCEANIC AND ATMOSPHERIC RESEARCH



Office of National Marine Sanctuaries
National Oceanic and Atmospheric Administration



Florida Keys National Marine Sanctuary: Restoration Blueprint

Final Management Plan

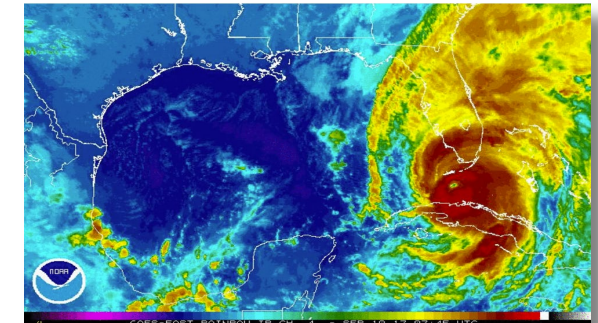
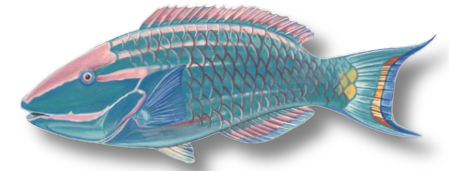
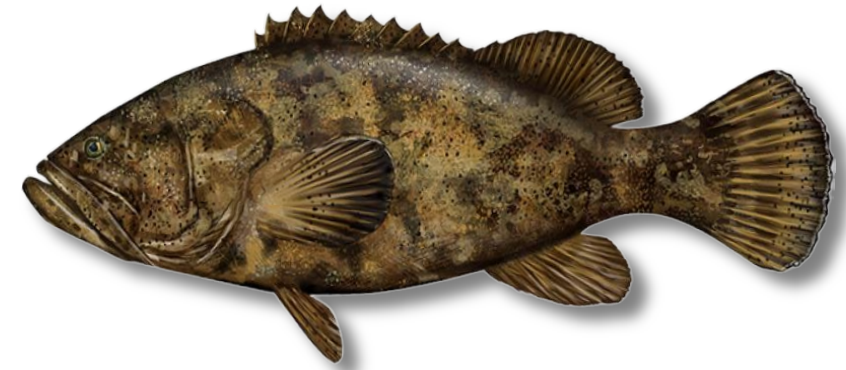


January 2025 | sanctuaries.noaa.gov

NCRMP Reef Fish Surveys

How are data used?

- Support **fisheries management**
 - Stock assessments
 - Evaluate effectiveness of fisheries regulations
 - Evaluate effectiveness of spatial closures
 - Monitor U.S. Endangered Species Act
 - Ecosystem-based fisheries management
- Support **ecosystem management**
 - Evaluate effectiveness of habitat restoration
 - Inform ecosystem status efforts
 - Evaluate communities associated with resilient reefs
 - Monitor ecologically important and introduced species
- Evaluate response to **environmental change**
 - Assess impact of severe weather events, long-term changes, etc.
- **Provide context** to research and monitoring





Thank you to all of our partners!

25 years of collaborative reef fish sampling

NOAA NCRMP CRCP Funded (Project #743)

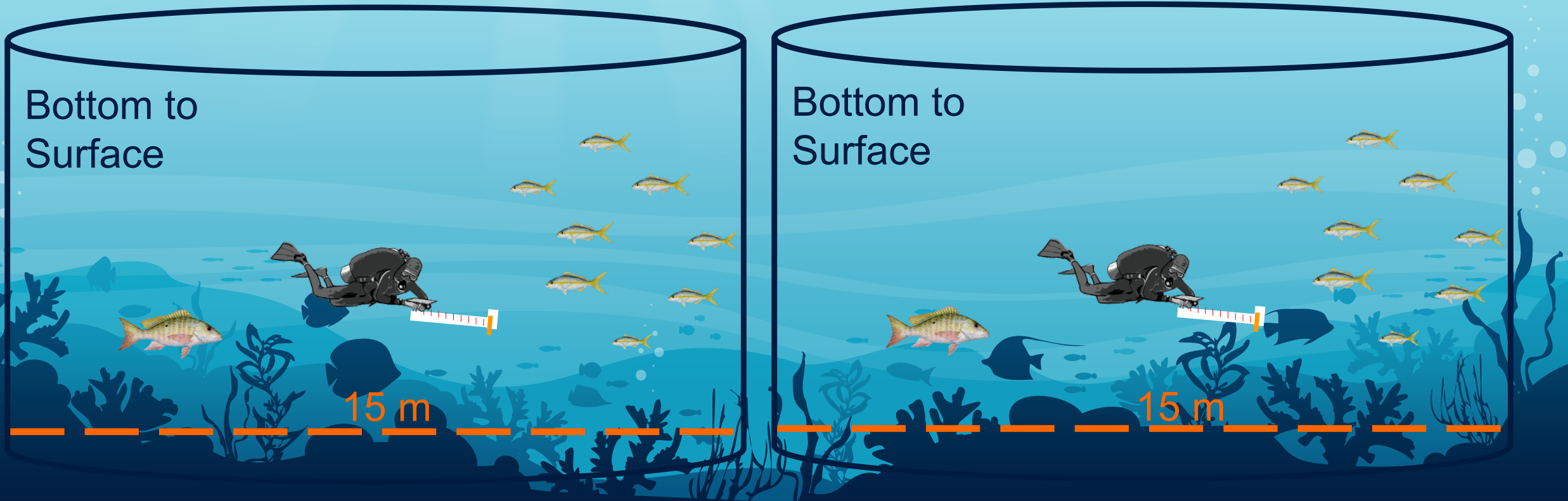


Photo by Erin Cain

Questions?

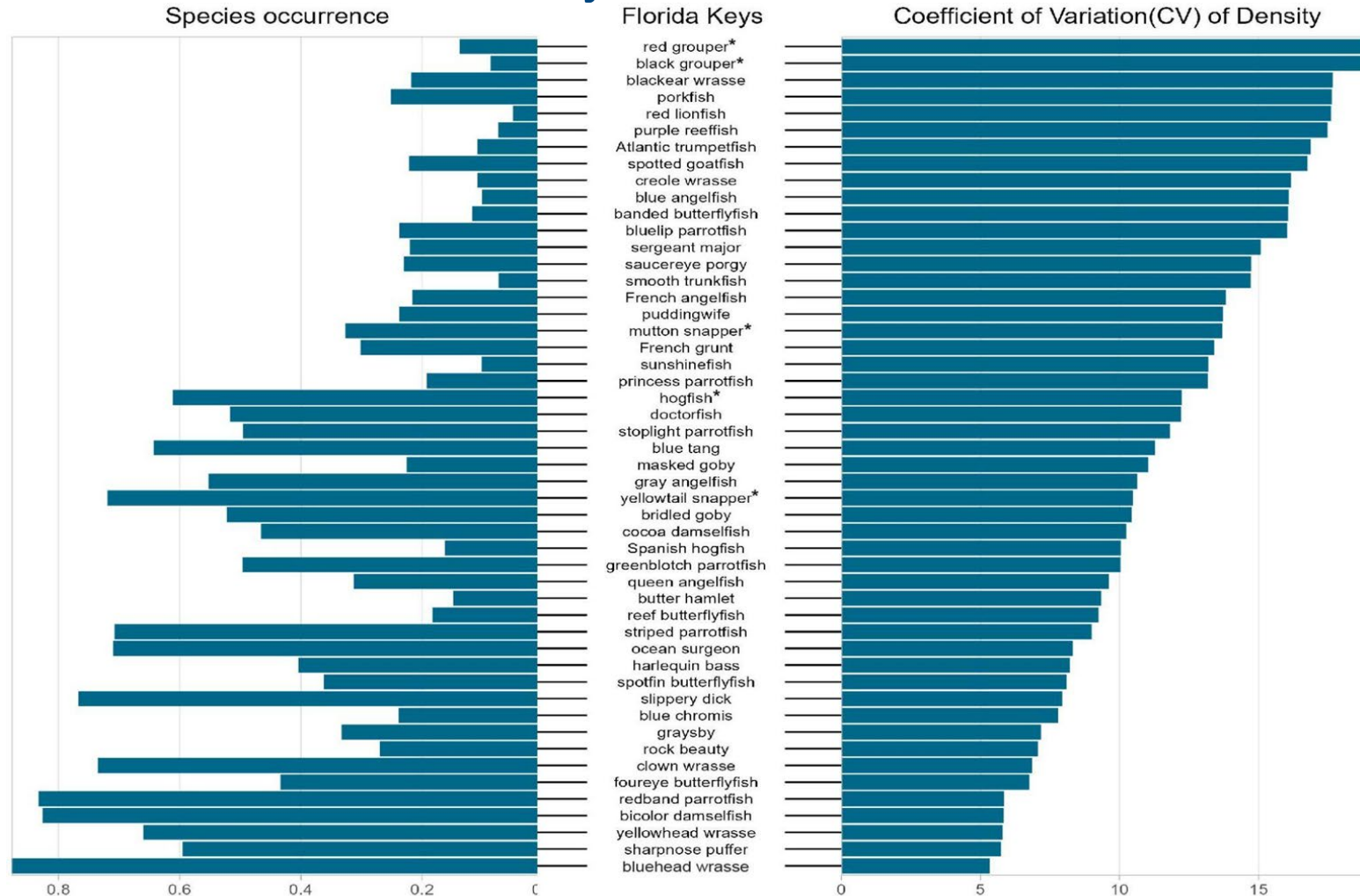
Stationary Point Count Survey Method

- method modified from Bohnsack and Bannerot, 1986
- NCRMP protocol (CRCP 2024)
- Narrative and Standard Operating Procedures (Feeley et al. 2025)



NCRMP Fish

Data visualizations for FL Keys



Allocation Species in Florida



Red Grouper
Epinephelus morio



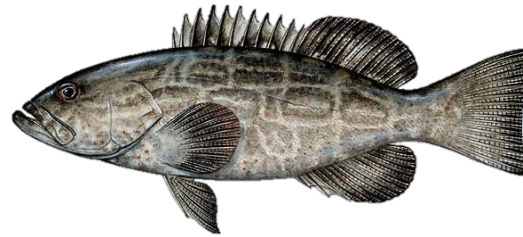
Hogfish
Lachnolaimus maximus



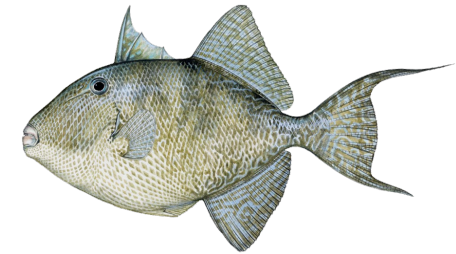
Mutton Snapper
Lutjanus analis



Yellowtail Snapper
Ocyurus chrysurus



Black Grouper
Mycteroperca bonaci



Gray Triggerfish
Balistes capriscus