Atlantic Coastal Fish Habitat Partnership Update to the NFHP Board

National Fish Habitat Partnership Board Meeting

March 20, 2019

Arlington, VA

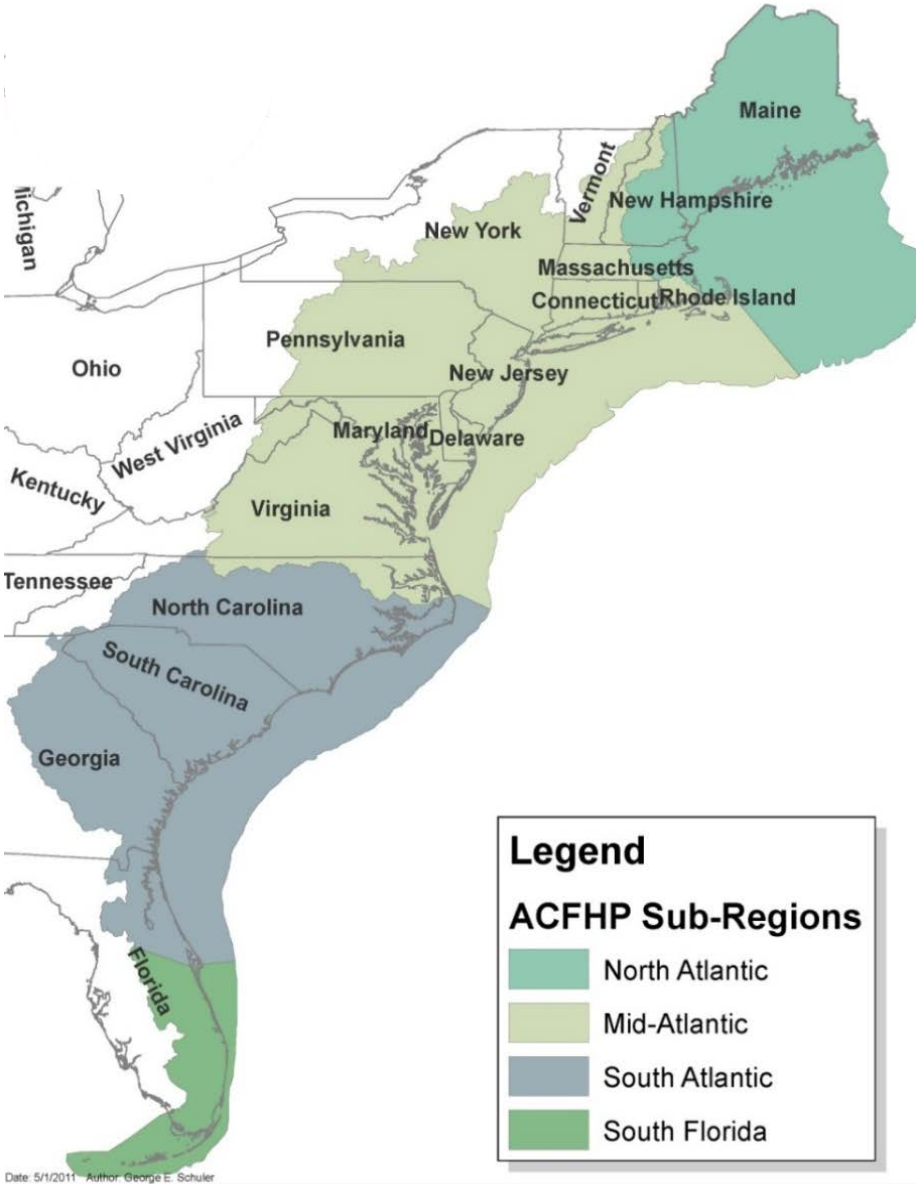
Shutterstock

A Quick Background…

Atlantic Coastal Fish Habitat Partnership

Mission

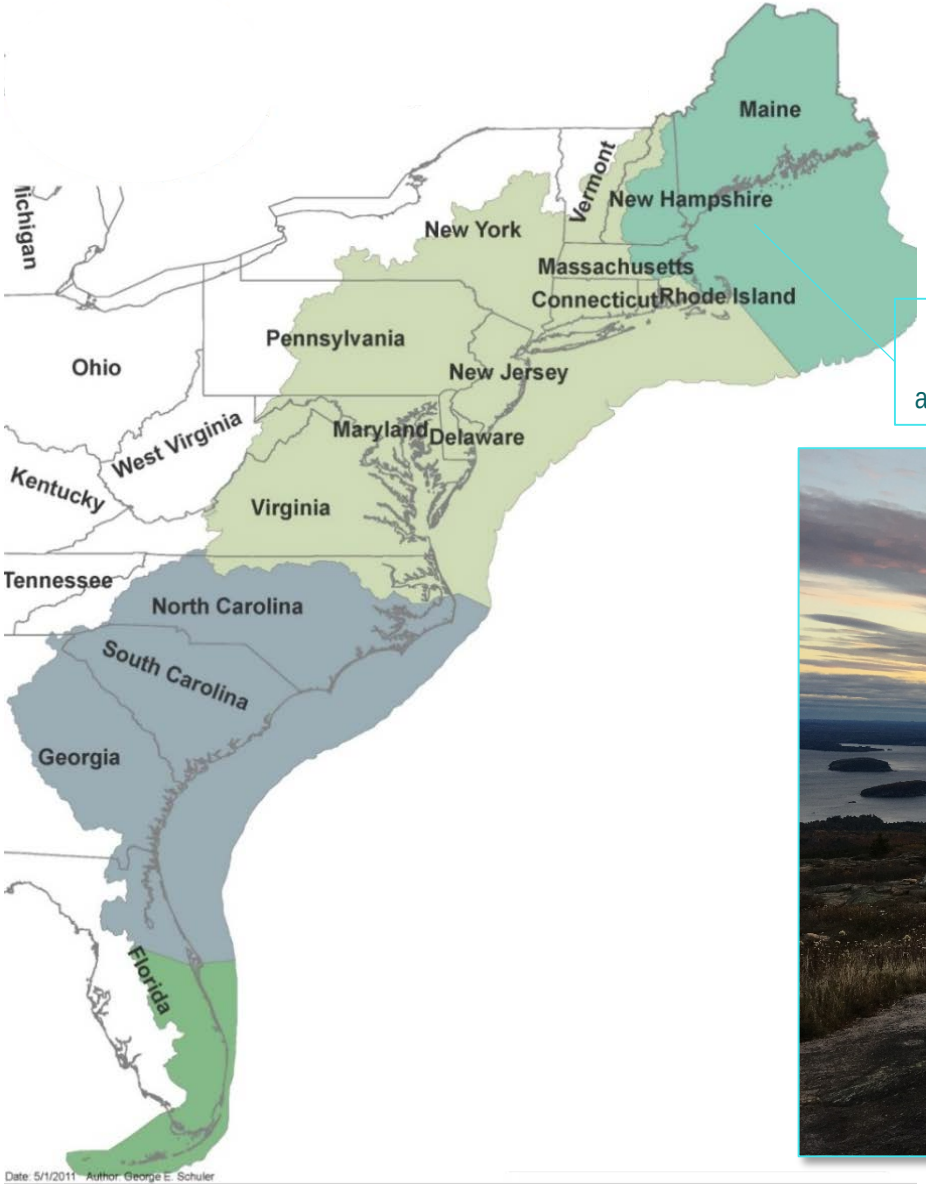
To accelerate the conservation, protection, restoration, and enhancement of habitat for native Atlantic coastal, estuarine-dependent, and diadromous fishes through partnerships between federal, tribal, state, local, and other entities



A Quick Background…

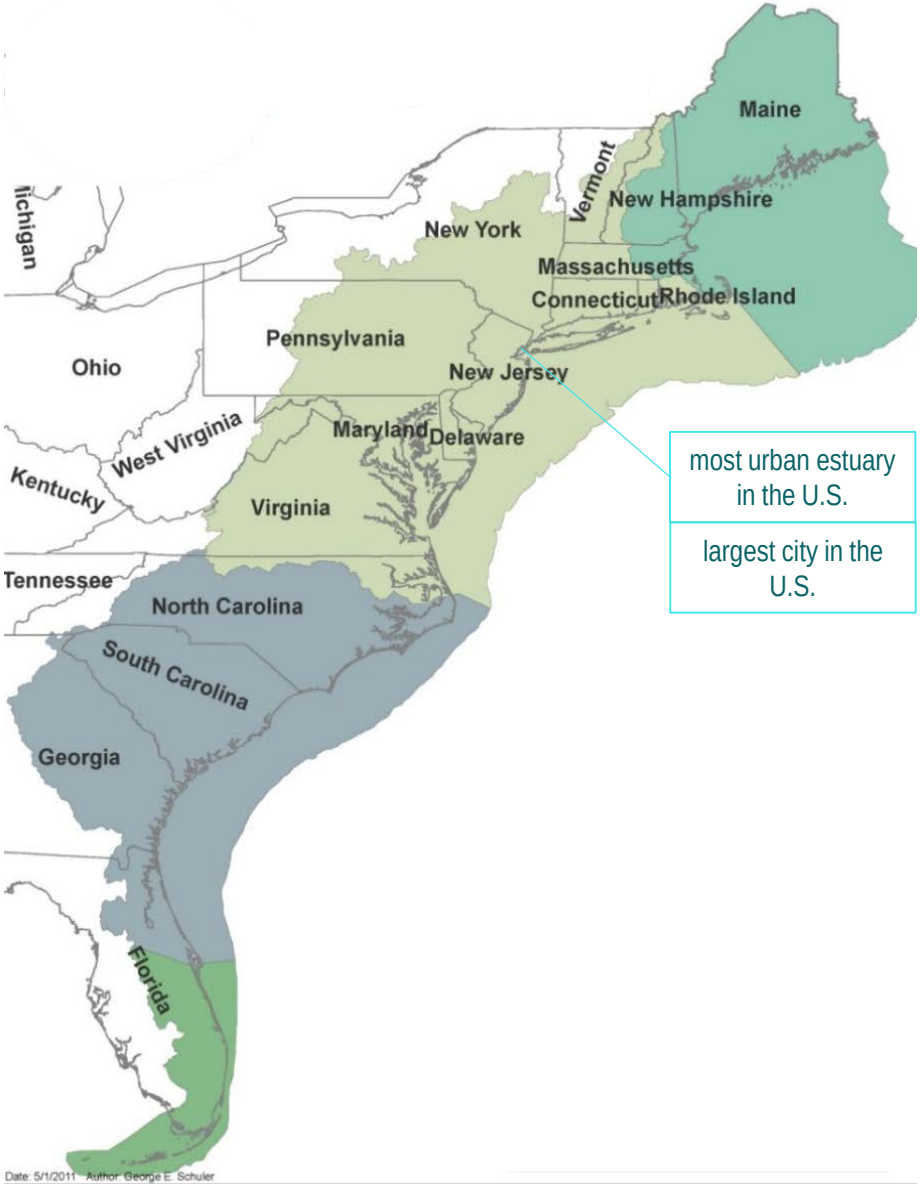
over 25% of the U.S. population
9 of the 10 most densely populated states
cold temperate to tropical Atlantic waters
4 national marine sanctuaries and 1 national monument

A Quick Background…



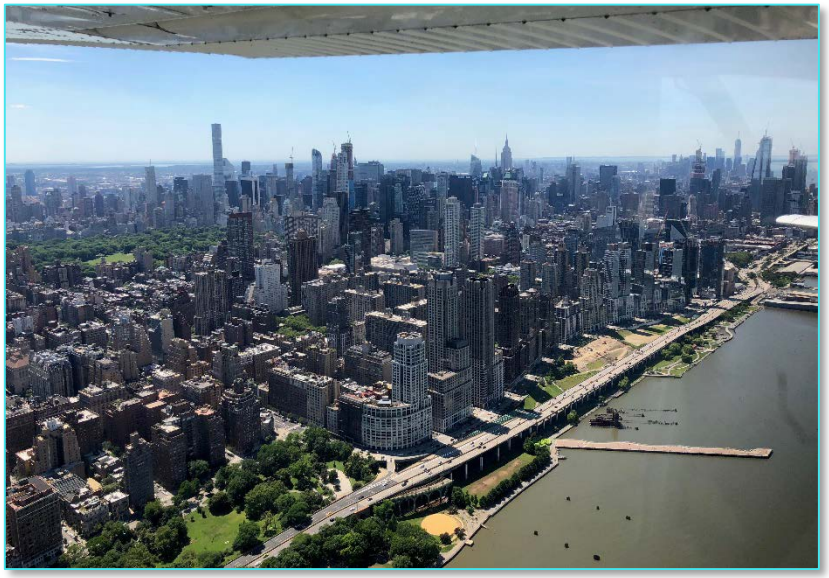
one of the most rapidly warming areas on the planet

A Quick Background…

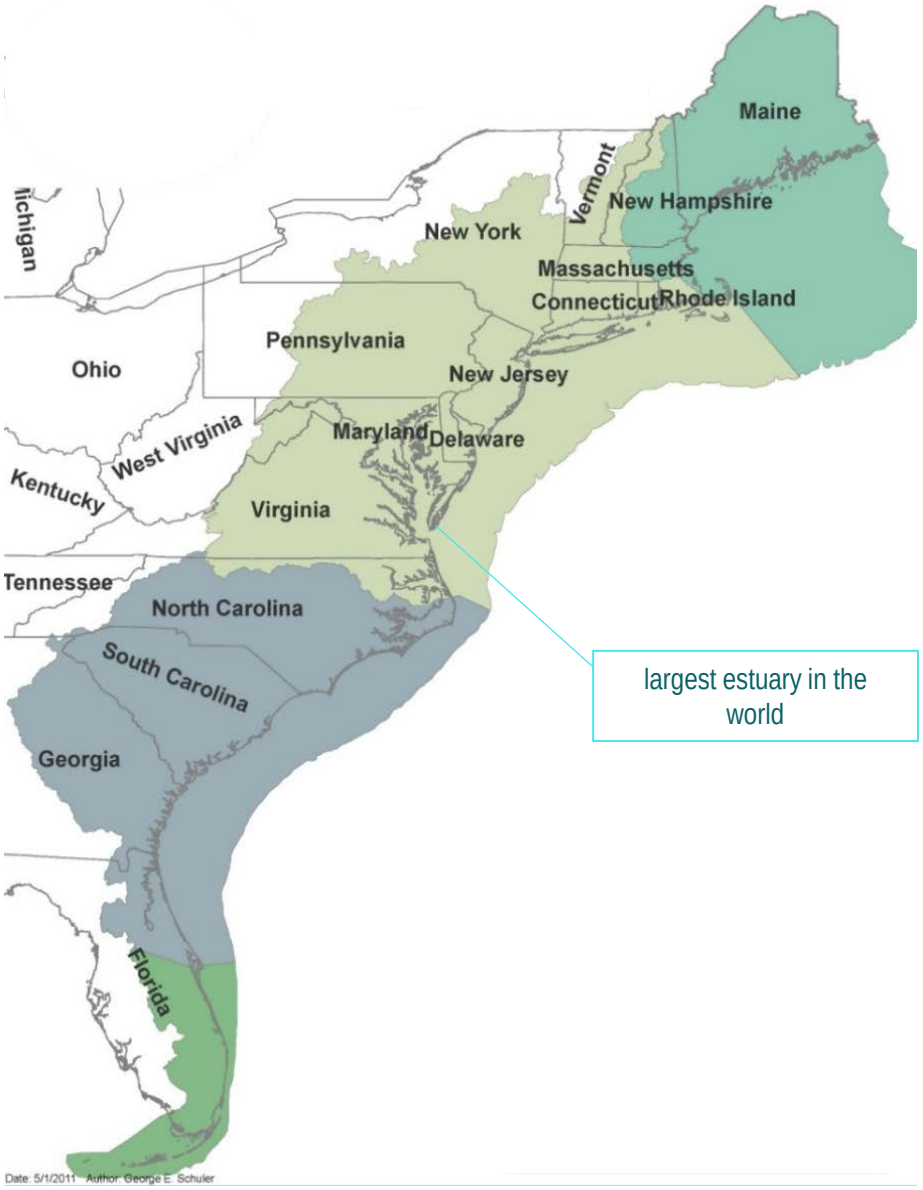


most urban estuary in the U.S.

largest city in the U.S.

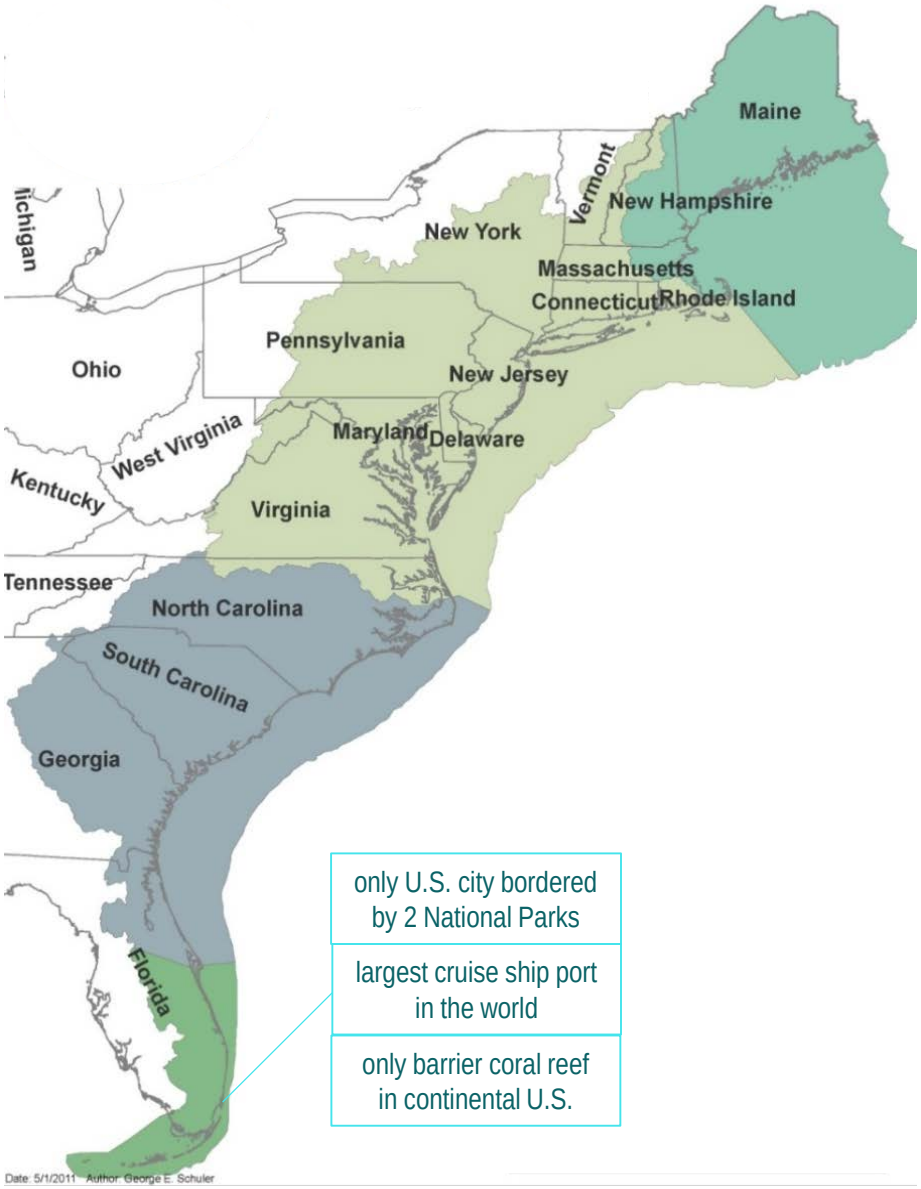


A Quick Background…



largest estuary in the world

A Quick Background…



- only U.S. city bordered by 2 National Parks
- largest cruise ship port in the world
- only barrier coral reef in continental U.S.

A Quick Background…

Making the Connection

From the headwaters to the continental shelf

Between fish and people

Among partners

Our Partners

Priority Habitats

North Atlantic

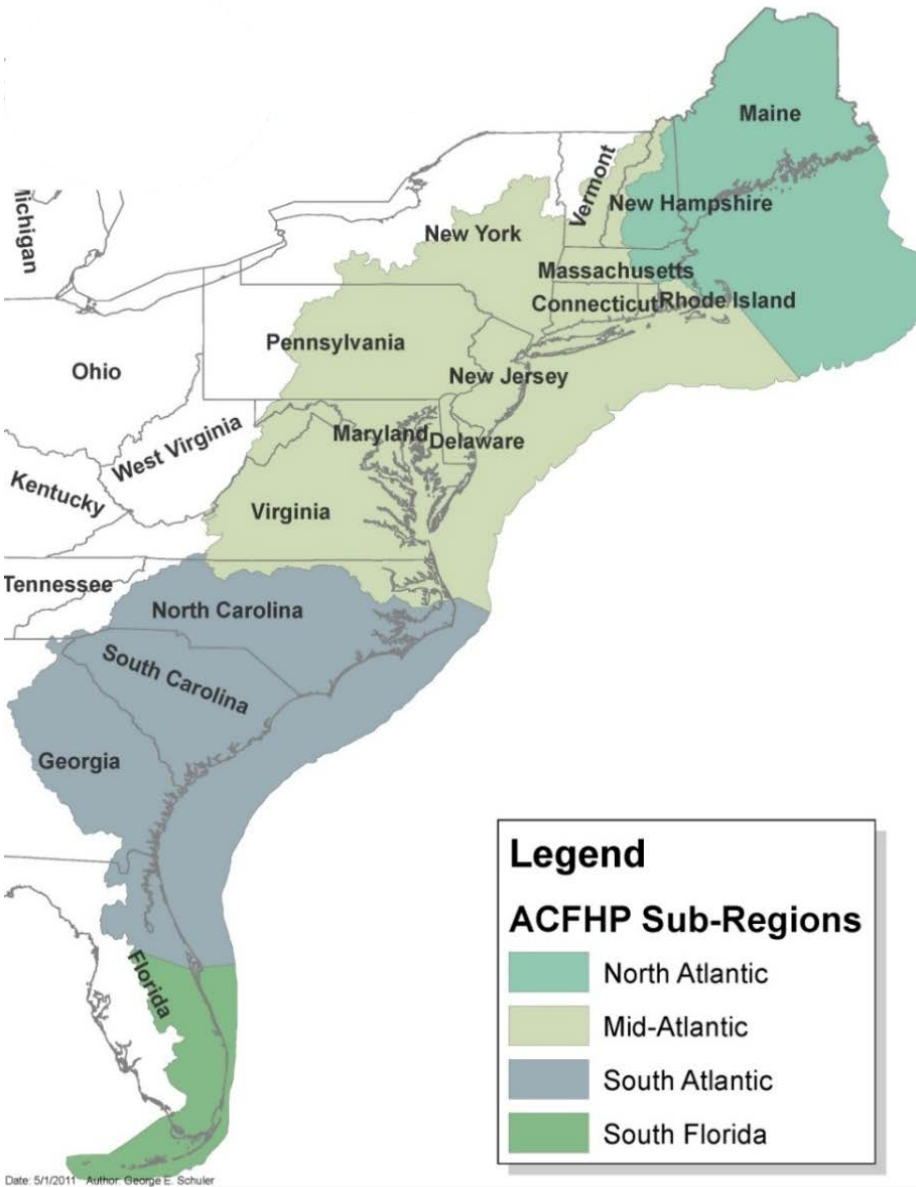
- Riverine bottom
- Shellfish beds
- SAV

Mid- & South Atlantic

- Riverine bottom
- Shellfish beds
- SAV
- Tidal vegetation

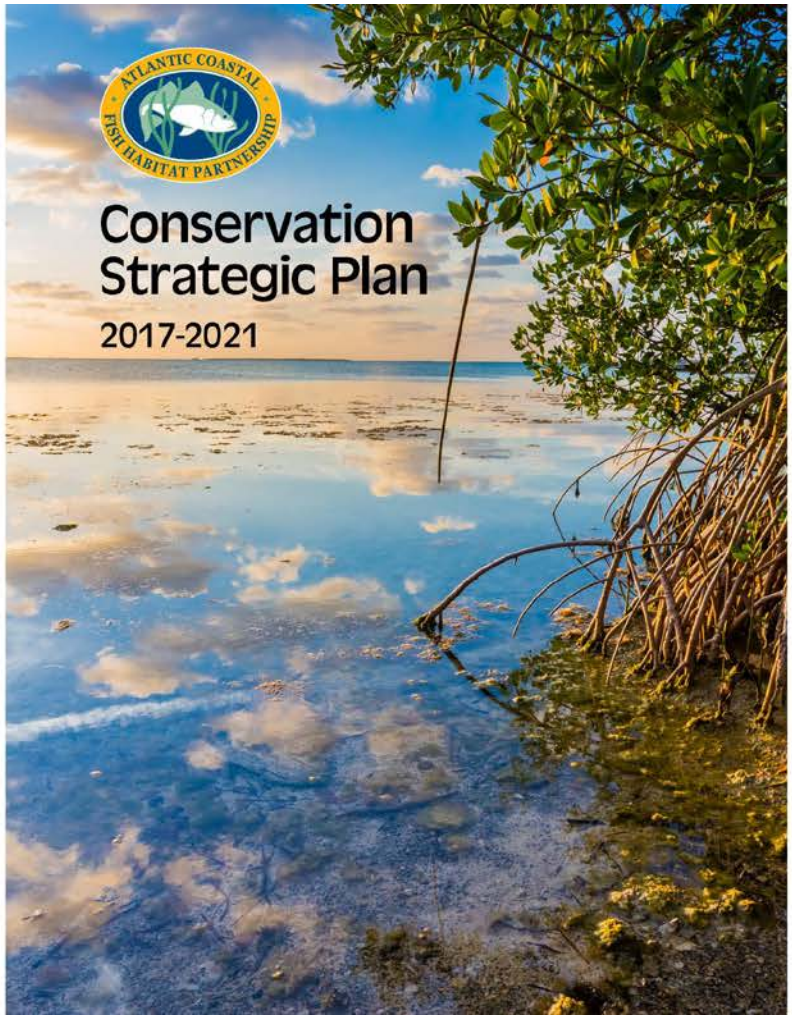
South Florida

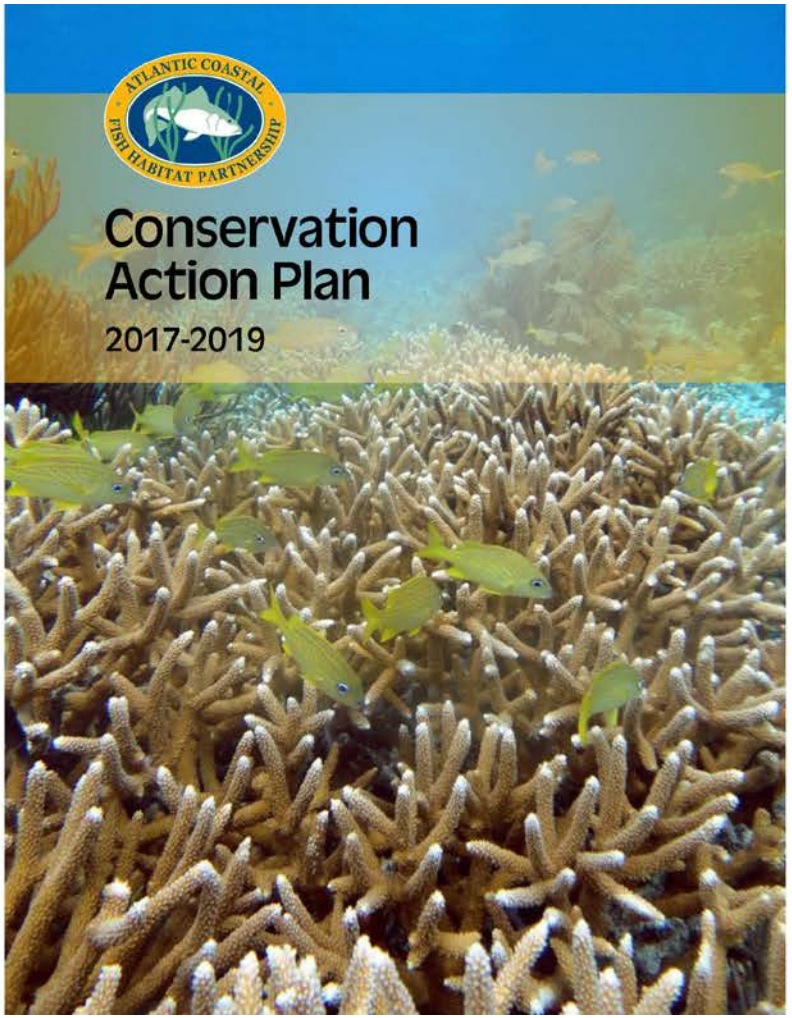
- SAV
- Tidal vegetation
- Coral and live/hard bottom



Guidance Documents

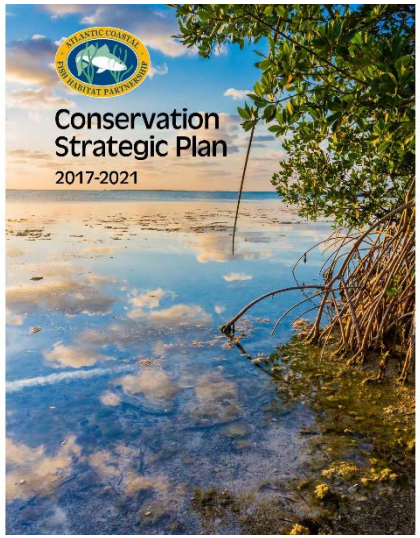
Guiding Documents





Guidance Documents

Conservation Strategic Plan

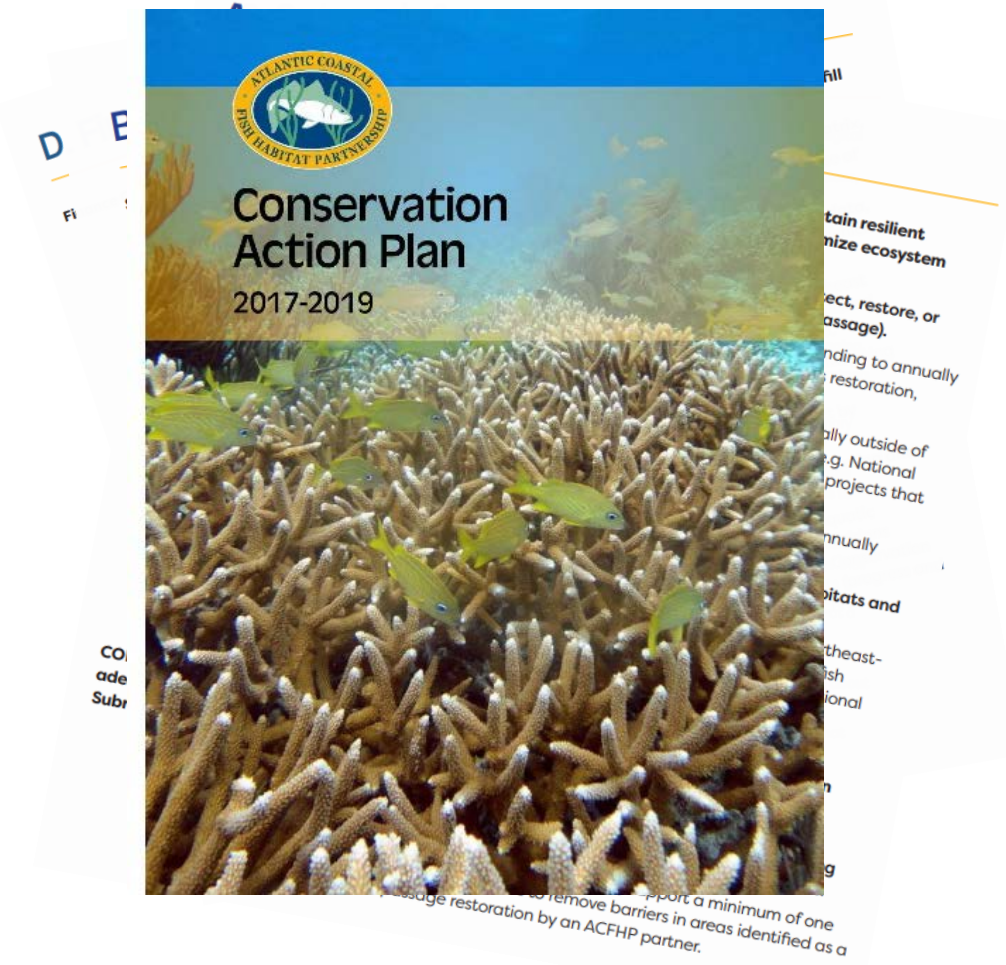


- Background information
- Habitats
- Habitat Threats
- Conservation Objectives
- Science & Data Objectives
- Outreach & Comm Objectives
- Finance Objectives

Guidance Documents

Conservation Action Plan

- Objectives
- Strategies
- Actions



Outreach and Communication

Melissa Laser Fish Habitat Conservation Award

- 2018 – Eric Anderson, Palm Beach County Department of Environmental Resources Management
- 2017 – Jeff Beal, FL Fish and Wildlife Conservation Commission
- 2016 – Bonnie Bick and Jim Long, Mattawoman Watershed Society
- 2015 – Deb Wilson, Nobleboro, ME Fish Habitat Activist

Outreach and Communication

The Usual Suspects

- Facebook posts
- Newsletters
  - ~9 – 12 per year via email
  - ASMFC's *Habitat Hotline Atlantic*
  - Coastal FHP newsletters

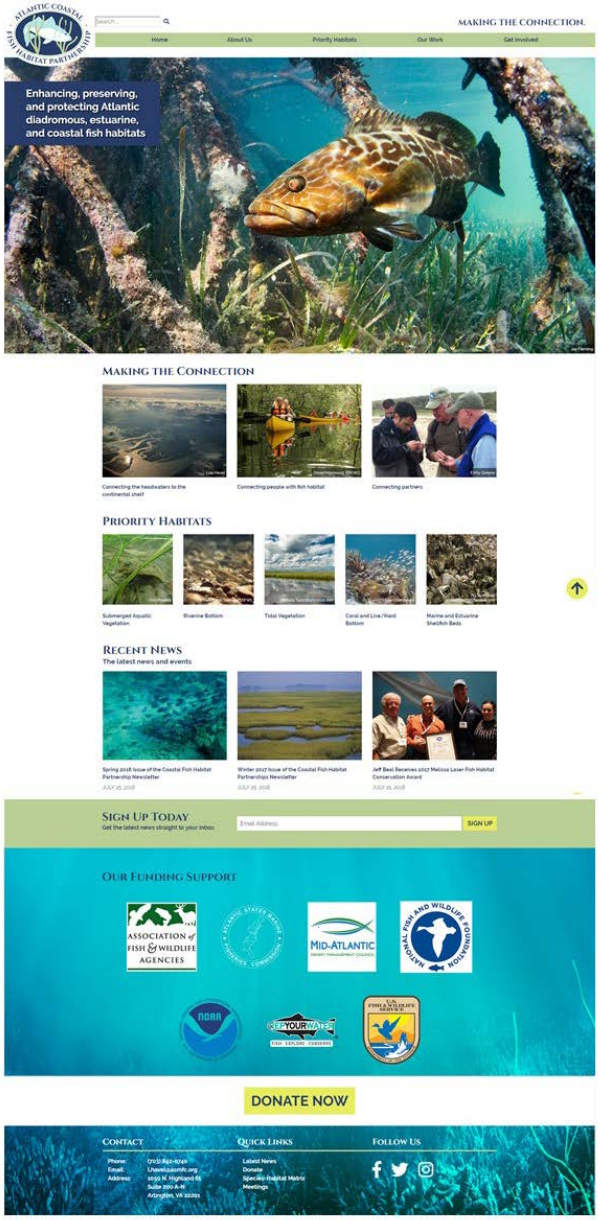
Outreach and Communication

The Usual Suspects

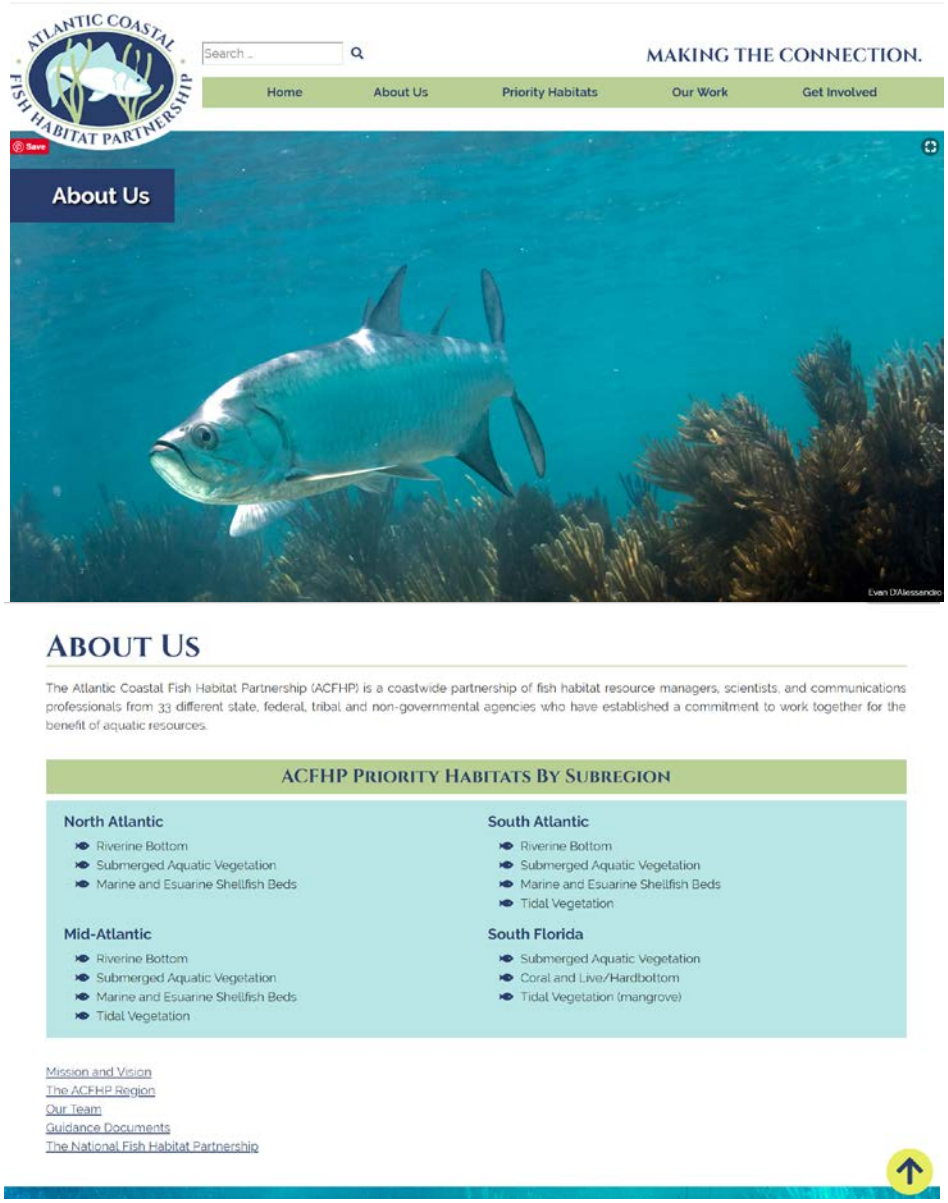
- Conferences
  - American Fisheries Society
  - Restore America's Estuaries/The Coastal Society Summits
  - New England Saltwater Fishing Show
- Meetings
  - ASMFC Policy Board/Habitat Committee/Artificial Reefs Committee
  - Chesapeake Bay River Herring Workshops
  - Chesapeake Bay Program GIT
  - South Atlantic Council Habitat AP

Outreach and Communication

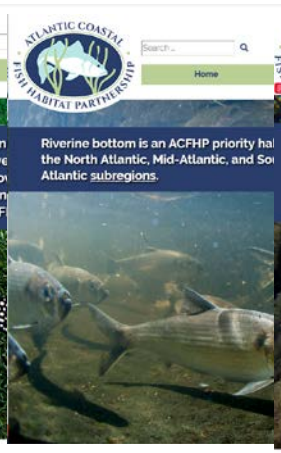
New Website

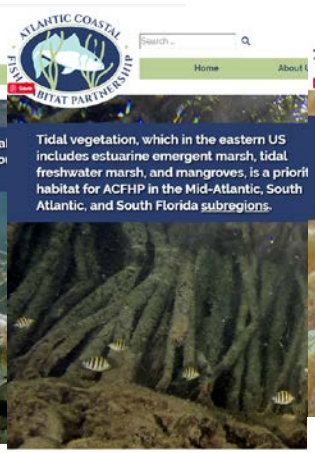


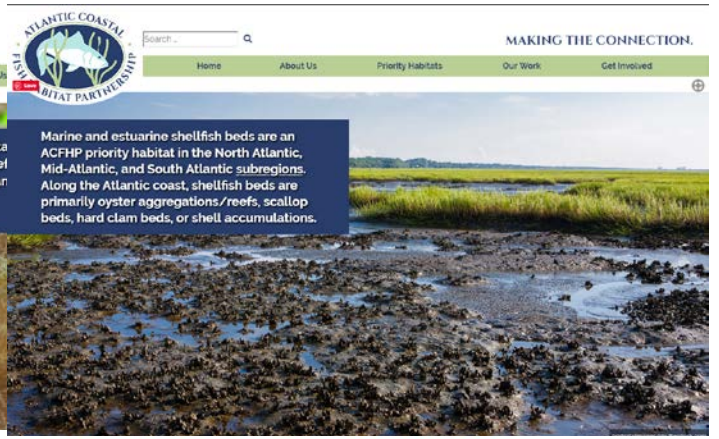
Outreach and Communication



Outreach and Communication







Submerged Aqu

SAV on the Atlantic Coas

Tidal fresh and oligohaline plant species are wild celery and Ceratophyllum demersum, co

Mesohaline and polyhaline plant species are and Ruppia maritima, widgeon grass.

Why SAV is Important

Through photosynthesis, SAV removes excer worldwide. This is only 0.2% of the ocean flo effective at storing carbon than terrestrial fore

SAV roots also stabilize sediments and absor communities, but coastal property owners a Overall, SAV contributes to healthy fisheries a

Unfortunately, SAV is one of the most rapidly

Threats to SAV

ACFHP has determined the following are the

Riverine Bottom

Riverine Bottom on the Atlantic Co

Riverine bottom habitat includes the benthos of higher gradie mainstem rivers, and low order coastal streams. It also includes marsh. Riverine bottom is an ACFHP **priority habitat** in the North

Why Riverine Bottom is Important

Riverine bottoms act as spawning and nursing grounds for ma species migrate many miles upstream to spawn in calmer, safe life stages to mature before migrating downstream to marine e as food sources for many fish species.

Rivers transport freshwater to marine ecosystems, connecting ecosystems that rely on it. They also create a wide variety of hab

Despite its importance, more than 80% of riverine habitat is inac current diadromous populations are only a mere 1% of historical

Threats to Riverine Bottom

ACFHP has determined the following are the greatest threats to

Tidal Vegetation

Tidal Vegetation on the Atlantic

Estuarine emergent salt marsh is an environment in the coa daily, while the high marsh floods only during storms and flooded low marsh along much of the Atlantic coast. In additi (Juncus spp.) species compose much of the vegetative comm

Tidal freshwater marsh occurs where the average annual sa upstream of the salt front, where the river essentially backs u These include: giant cordgrass (Spartina cynosuroides), sa pickerelweed (Pontederia cordata), blue flag iris (I. virginica), and

The mangrove ecological community includes four tree sp supratidal shorelines in southern Florida. The four species fou (Avicennia germinans), white mangrove (Laguncularia racemos

Why Tidal Vegetation is Important

Tidal vegetation provides a wide variety of benefits to both species use these areas as nursing and spawning habitat. Th Tidal vegetation sequesters carbon at a rate 2 – 4 times gre mitigate climate change.

Tidal vegetation provides key ecosystem services, such as p habitat for marine species. these areas also help to suppo contribute $1.6 billion in ecosystem services each year to the

Unfortunately, these areas are also facing significant threats, a to 2009, a trend that is reflected on a global scale as well.[2]

Threats to Tidal Vegetation

Coral and Live/Hard

Coral and Live/Hard Bottom on the

Reef-building corals are of the order Scleractinia. Coral accumula exceeds 18 °C (64 °F) throughout the year. Through symbiosis wi communities. A patch reef is an isolated, often circular, coral reef

Soft corals are species of the anthozoan order Alcyonacea. In co skeleton (e.g. sea pens and sea fans). Anemones are cnidarians surrounded by tentacles. They are found in soft sediments.

Live rock is calcareous rock that is spatially removed from the v bacteria, coralline algae, sponges, worms, crustaceans, and other

Macroalgae are large marine multi-cellular macroscopic algae (s ranging from inshore to offshore.

Why Coral Reefs are Important

Known as the rainforests of the sea, coral reefs provide habitat to to their ecological benefits, they protect coastal communities ag sources of medicine.

As a tourist attraction for fishers and divers, the coral reef tract responsible for supporting over 61,000 full and part-time jobs.[2]

Florida's coral reefs, however, are dissolving at a faster rate than showed up only in 2014.[3]

Threats to Coral and Live/Hard Bot

ACFHP has determined the following are the greatest threats to c

- Dredging and coastal
- Water quality degrad
- Vessel operation imp
- Contamination of wat
- Invasive species and
- Climate change

Marine and Estuarine Shellfish Beds

Marine and Estuarine Shellfish Beds on the Atlantic Coast

Oyster aggregations and reefs are structures formed by the Eastern oyster (Crassostrea virginica) that provide the dominant structural component of the benthos, and whose accumulated mass provides significant vertical relief (> 0.5 m).

Scallop beds are areas of dense aggregations of scallops on the ocean floor. Common Atlantic coast species include: (1) the large Atlantic scallop (Placopecten magellanicus), which ranges from Newfoundland to North Carolina; and (2) the medium-sized Atlantic calico scallop (Argopecten gibbus), which occurs from Cape Cod to Florida, as well as in the Gulf of Mexico.

Hard clam beds are dense aggregations of hard clam (Mercenaria mercenaria) found in the subtidal regions of bays and estuaries to approximately 15 m in depth. Clams are generally found in mud flats and firm bottom areas consisting of sand or shell fragments.

Shells of dead mollusks sometimes accumulate in sufficient quantities to provide important habitat as well. Accumulations of Eastern oyster shells are a common feature in the intertidal zones of many southern estuaries.

Why Marine and Estuarine Shellfish Beds are Important

Shellfish serve a variety of functions benefiting both the ecosystem and people alike. They are great for improving water quality. Did you know that a single oyster is capable of filtering 50 gallons of water each day? By doing so, they remove excess nutrients, contaminants and suspended sediments from the water column.

Shellfish also provide habitat and food for estuarine species. Their structure is especially important for nursery species in need of shelter from larger predators. Their sturdy reefs stabilize the sediments and reduce the threat of coastal erosion. For this reason, they are great buffers against storm surge, which is an ever-increasing threat along the Atlantic coast as sea levels rise and storms intensify.

Shellfish, and especially oysters, also contribute millions of dollars to the East Coast's economy. Some even say New York City was built on oysters. They have been a staple food source on the Atlantic coast since before Europeans arrived, and are still considered a delicacy today.

Despite their importance, oyster reefs are on the decline. According to The Nature Conservancy, 85% have been lost globally, making them the most severely impacted habitat on the planet. In the Chesapeake Bay alone, coverage is less than 1% of historic mass.[1]

Threats to Marine and Estuarine Shellfish Beds

ACFHP has determined the following are the greatest threats to marine and estuarine shellfish beds in at least one subregion:

- Water quality degradation and eutrophication
- Sedimentation
- Dredging and coastal maintenance
- Consumptive water withdrawal
- Invasive species and disease
- Vessel operation impacts
- Contamination of water and sediments
- Climate change

Our Submerged Aquatic Vegeta

On the Ground Projects

Conservation moorings (funded):
Massachusetts
Conservation moorings (endorsed):
Massachusetts
Conservation moorings, Rhode Island
Peconic Estuary, New York
Cockles Harbor, New York
Tarpon Cove, Florida
Grassy Flats, Florida

Our Riverine Work

On the Ground Projects

Pelton Stream, Maine
Sheepscot River, Maine
Sheepys Brook, Maine
Exeter Dam, New Hampshire
Wynants Kill, New York
Cotton Gin Mill Dam, Massachusetts
Bradford Dam, Rhode Island
Spoy Pond, New York
West River, Connecticut
Columbia Dam, New Jersey
James River, Virginia
Cape Fear River, North Carolina
Goose Creek, South Carolina
Long Branch Creek, South Carolina

Our Tidal Vegetation Work

On the Ground Projects

North River Farms, North Carolina
Back Sound, North Carolina
Rogue Sound, North Carolina
Stump Sound, North Carolina
Long Branch Creek, South Carolina
Intracoastal Waterway, South Carolina
Guana Peninsula, Florida
Dragline Ditched Restoration, Florida
Indian River Lagoon, Florida
Tarpon Cove, Florida
Grassy Flats, Florida

Our Coral and Live/Hard Bottom Work

Science & Data Projects

Species-Habitat Matrix
Assessment of Existing Information

Our Shellfish Bed Work

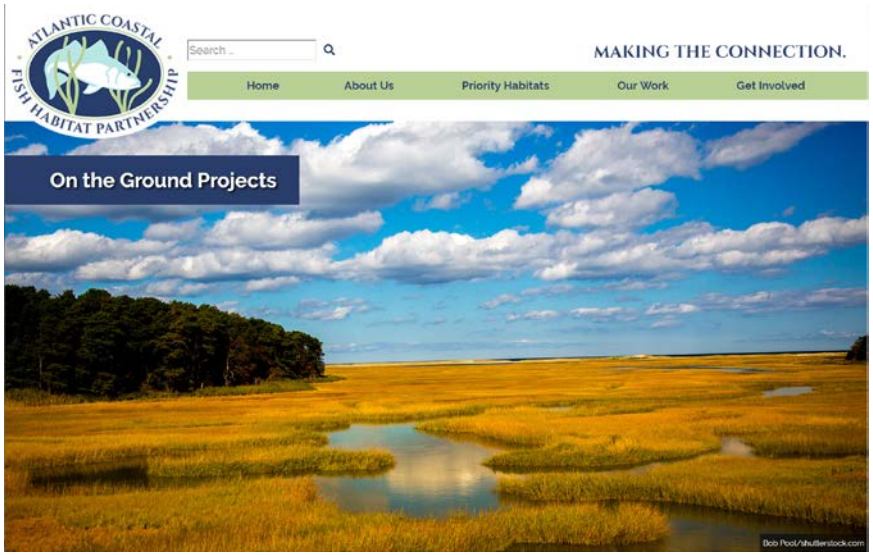
On the Ground Projects

Great Bay Estuary, New Hampshire
North River Farms, North Carolina
Back Sound, North Carolina
Rogue Sound, North Carolina
Stump Sound, North Carolina
Intracoastal Waterway, South Carolina
Back River Bridge, Georgia
Guana Peninsula, Florida
Tarpon Cove, Florida
Grassy Flats, Florida

Science & Data Projects

Species-Habitat Matrix
Assessment of Existing Information

Outreach and Communication



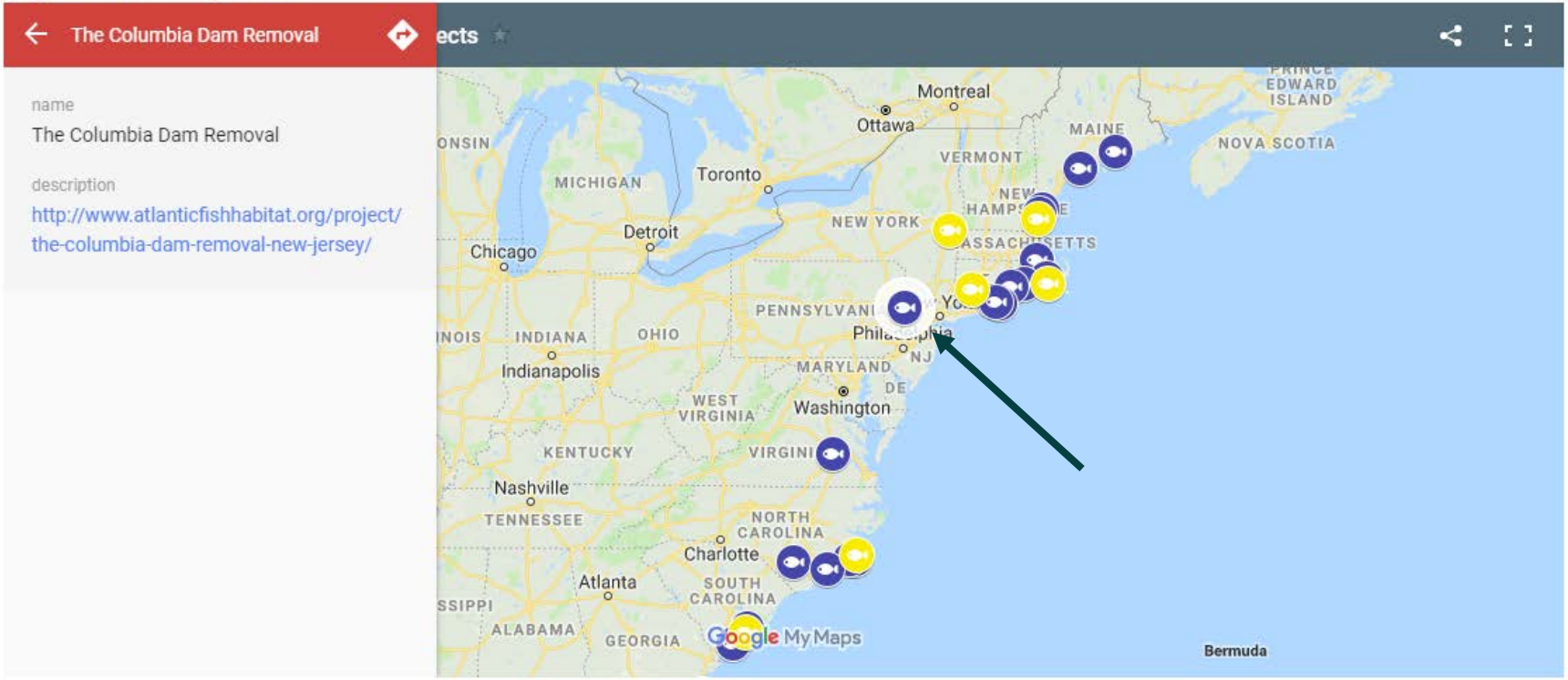
Partners We've Funded

- The Nature Conservancy
- NY Department of Environmental Conservation
- East Carolina University
- Atlantic Salmon Federation
- North Carolina Coastal Federation
- Town of Surry, Maine
- Cape Fear River Watch
- University of North Florida
- Cornell Cooperative Extension
- MA Division of Marine Fisheries
- James River Association
- Marine Resources Council
- SC Department of Natural Resources
- Great Works Regional Land Trust

Outreach and Communication

On the Ground Projects

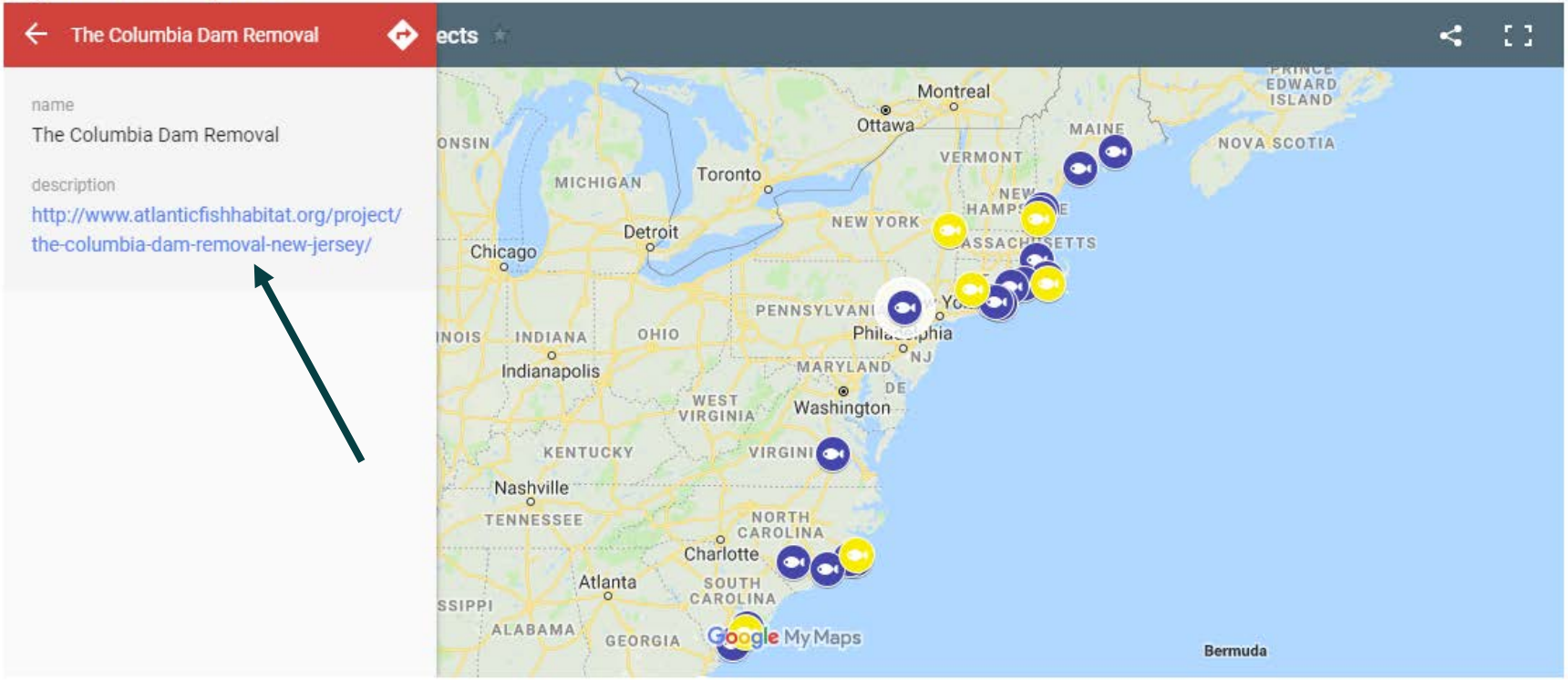
Click on a fish to learn more about a particular conservation project. Purple icons represent ACFHP-funded projects, and yellow icons represent projects endorsed by ACFHP.



Outreach and Communication

On the Ground Projects

Click on a fish to learn more about a particular conservation project. Purple icons represent ACFHP-funded projects, and yellow icons represent projects endorsed by ACFHP.



Outreach and Communication

Search …

MAKING THE CONNECTION.

Home | About Us | Priority Habitats | Our Work | Get Involved

The Columbia Dam Removal, New Jersey

click photo to view photo gallery

Knowlton Township, New Jersey

Funded in FY2018 through the National Fish Habitat Action Plan.

The Nature Conservancy is working with partners to remove the Columbia Dam on the Paulins Kill. This project will open approximately 20 miles of streams to migratory fish, including American shad, river herring, sea lamprey, and American eel. It will also improve in-stream habitat for resident fishes and macroinvertebrates, and improve water quality in the former impoundment. The Columbia Dam is located less than 0.25 miles upstream of the confluence with the Delaware River, and is currently a complete barrier to fish passage.

Columbia Dam Removal Factsheet

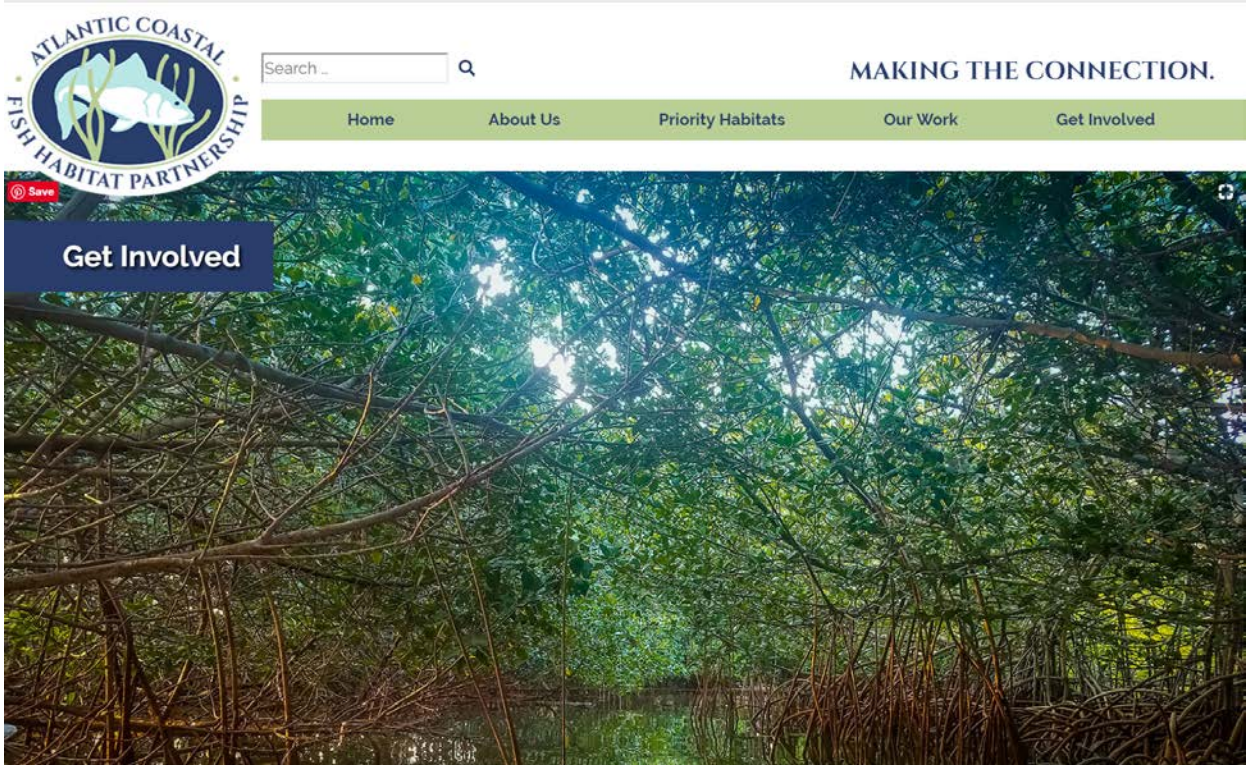
NJ Department of Environmental Protection Columbia Dam Removal factsheet

Text and photos provided by The Nature Conservancy.

Press Articles

- Princeton Hydro summer 2018 article
- Princeton Hydro summer 2018 article #2
- New Jersey Herald winter 2018 article
- WFMZ 69 News summer 2018 article
- New Jersey DEP summer 2018 press release

Outreach and Communication

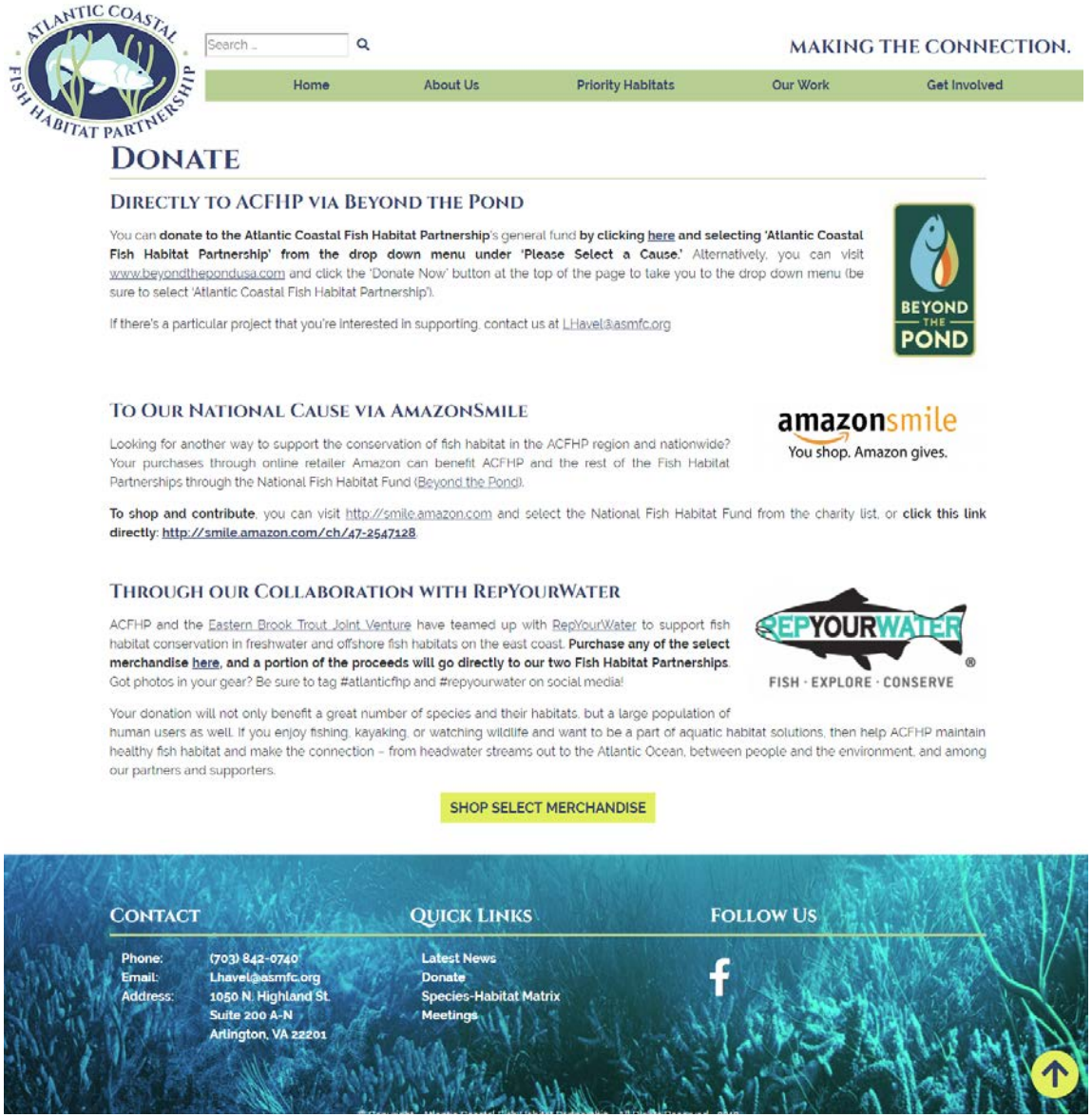


Get Involved

There are a variety of ways to help us achieve our mission. If you're interested in conserving fish habitat along the Atlantic coast, see below for ways you can make a difference!

Meetings
Donate
Stay in Touch
Funding Opportunities
Project Endorsement
Melissa Laser Fish Habitat Conservation Award
Join Us

Outreach and Communication



Search ...

MAKING THE CONNECTION.

Home | About Us | Priority Habitats | Our Work | Get Involved

DONATE

DIRECTLY TO ACFHP VIA BEYOND THE POND

You can **donate to the Atlantic Coastal Fish Habitat Partnership**'s general fund **by clicking here and selecting 'Atlantic Coastal Fish Habitat Partnership' from the drop down menu under 'Please Select a Cause.'** Alternatively, you can visit www.beyondthepondusa.com and click the 'Donate Now' button at the top of the page to take you to the drop down menu (be sure to select 'Atlantic Coastal Fish Habitat Partnership').

If there's a particular project that you're interested in supporting, contact us at LHavel@asmfc.org

TO OUR NATIONAL CAUSE VIA AMAZONSMILE

Looking for another way to support the conservation of fish habitat in the ACFHP region and nationwide? Your purchases through online retailer Amazon can benefit ACFHP and the rest of the Fish Habitat Partnerships through the National Fish Habitat Fund (Beyond the Pond).

To shop and contribute, you can visit http://smile.amazon.com and select the National Fish Habitat Fund from the charity list, or **click this link directly: http://smile.amazon.com/ch/47-2547128**

THROUGH OUR COLLABORATION WITH REPYOURWATER

ACFHP and the Eastern Brook Trout Joint Venture have teamed up with RepYourWater to support fish habitat conservation in freshwater and offshore fish habitats on the east coast. **Purchase any of the select merchandise here, and a portion of the proceeds will go directly to our two Fish Habitat Partnerships.** Got photos in your gear? Be sure to tag #atlanticfhp and #repyourwater on social media!

Your donation will not only benefit a great number of species and their habitats, but a large population of human users as well. If you enjoy fishing, kayaking, or watching wildlife and want to be a part of aquatic habitat solutions, then help ACFHP maintain healthy fish habitat and make the connection – from headwater streams out to the Atlantic Ocean, between people and the environment, and among our partners and supporters.

SHOP SELECT MERCHANDISE

CONTACT

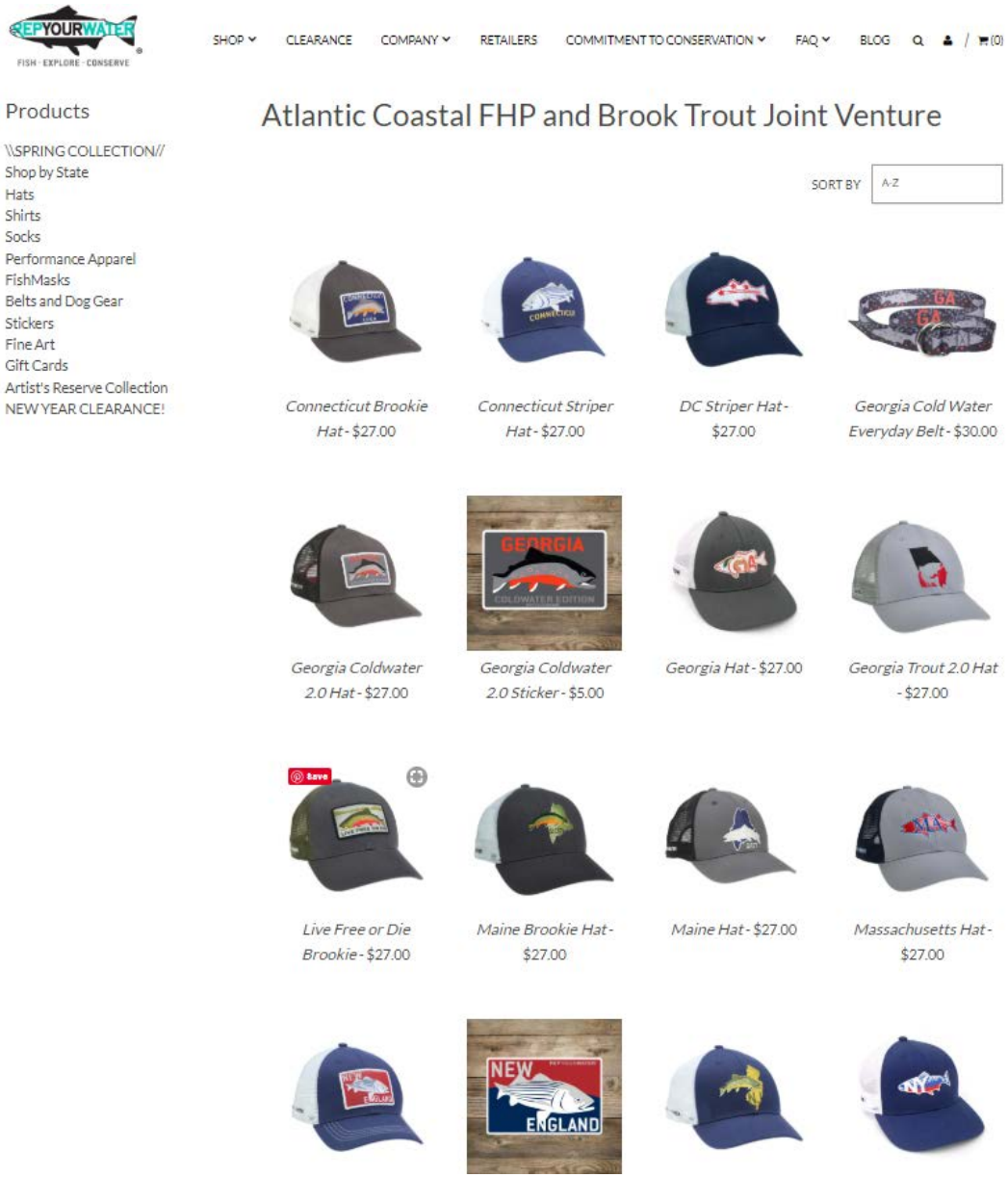
Phone: (703) 842-0740
Email: Lhavel@asmfc.org
Address: 1050 N. Highland St. Suite 200 A-N Arlington, VA 22201

QUICK LINKS

Latest News
Donate
Species-Habitat Matrix
Meetings

FOLLOW US

Outreach and Communication



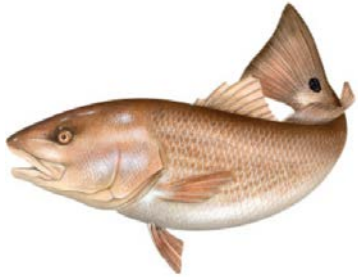
Species-Habitat Matrix Tool

- A tool for evaluating the relative importance of a specific habitat type to a given life history stage for an individual species

- Assess importance of habitat in terms of:
  - Shelter
  - Direct trophic links
  - Spawning
  - Nurseries

Science and Data

- 131 different species across four regions
  - All ASMFC-managed species
  - All Council-managed species
  - All other native diadromous species
  - Select state-managed and unmanaged species
  - Not included: bivalves and species without a marine or estuarine life stage



Science and Data

- Life stages
  - Eggs – Larvae
  - Juvenile/Young of Year (YOY)
  - Adults
  - Spawning Adults
    - Only if fundamentally different from adult, non-spawning habitat

Science and Data

Habitats

- Marine & estuarine shellfish beds
  - oyster aggregations/reef
  - Dead shell accumulations
  - Scallop beds
  - Hard clam beds

Science and Data

Habitats

- Coral and live/hard bottom
  - Coral reefs
  - Patch reef, soft corals, or anemone
  - Live rock

Science and Data

Habitats

- Macroalgae
  - *Fucus* spp.
  - *Laminaria* spp.
  - *Ulva lactuca*

Science and Data

Habitats

- Submerged aquatic vegetation
  - Tidal fresh & oligohaline spp.
  - Mesohaline & polyhaline spp.

Science and Data

Habitats

- Tidal vegetation
  - Estuarine emergent marsh
  - Tidal freshwater marsh
  - Mangrove

Science and Data

Habitats

- Unvegetated coastal bottom
  - Loose fine bottom
  - Loose coarse bottom
  - Firm hard bottom
  - Structured sand habitat

Wikipedia.org/Simm Sepp

Science and Data

Habitats

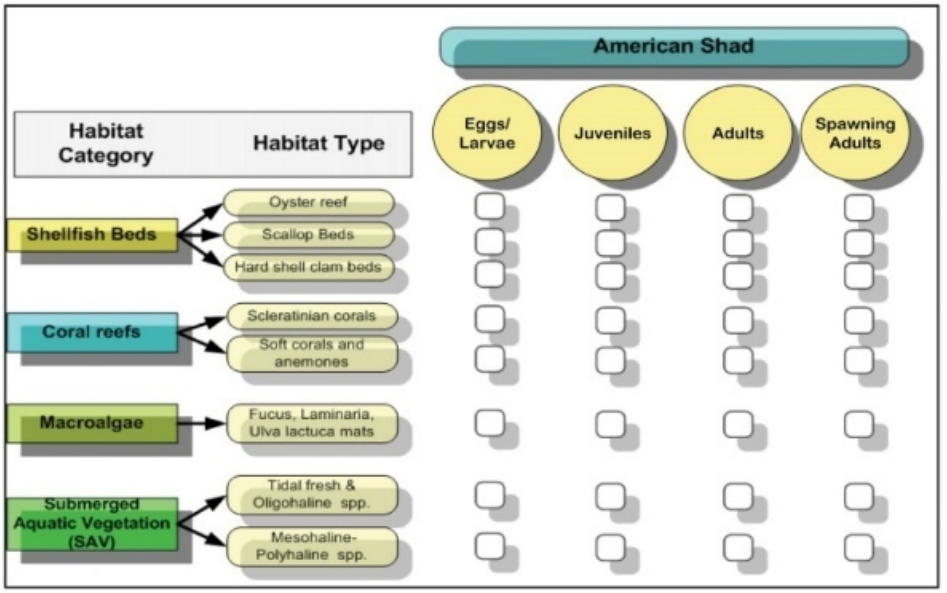
- Riverine bottom
  - Higher gradient headwater tributaries
  - Lower gradient tributaries
  - Higher gradient large mainstem rivers
  - Lower gradient large mainstem rivers
  - Low order coastal streams
  - Non-tidal freshwater mussel beds
  - Coastal headwater ponds
  - Non-tidal freshwater marsh

Science and Data

Scoring and analysis

Ranks:

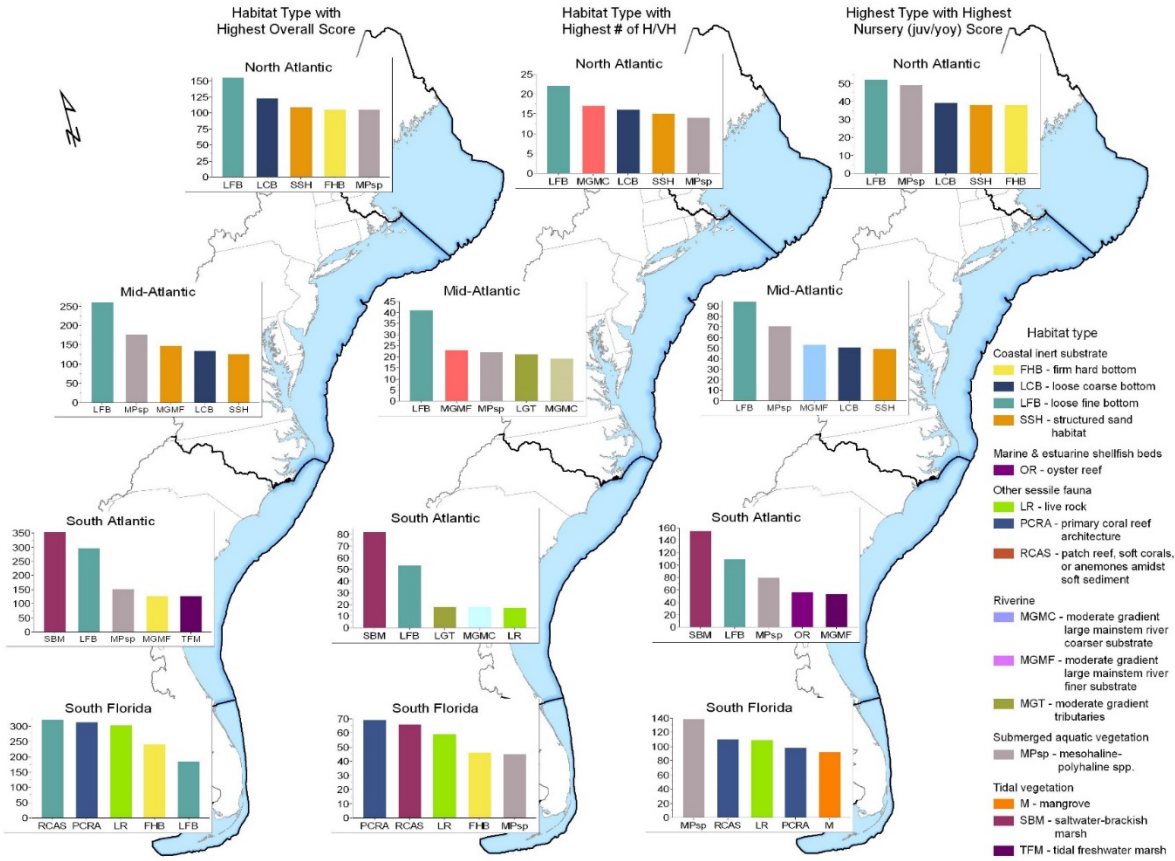
- Very high (4): essential contributor
- High (3.5): primary habitat
- Moderate (2): 1 of many habitats used
- Low (1): used incidentally
- Unknown (to science)
- Blank: not present



Science and Data

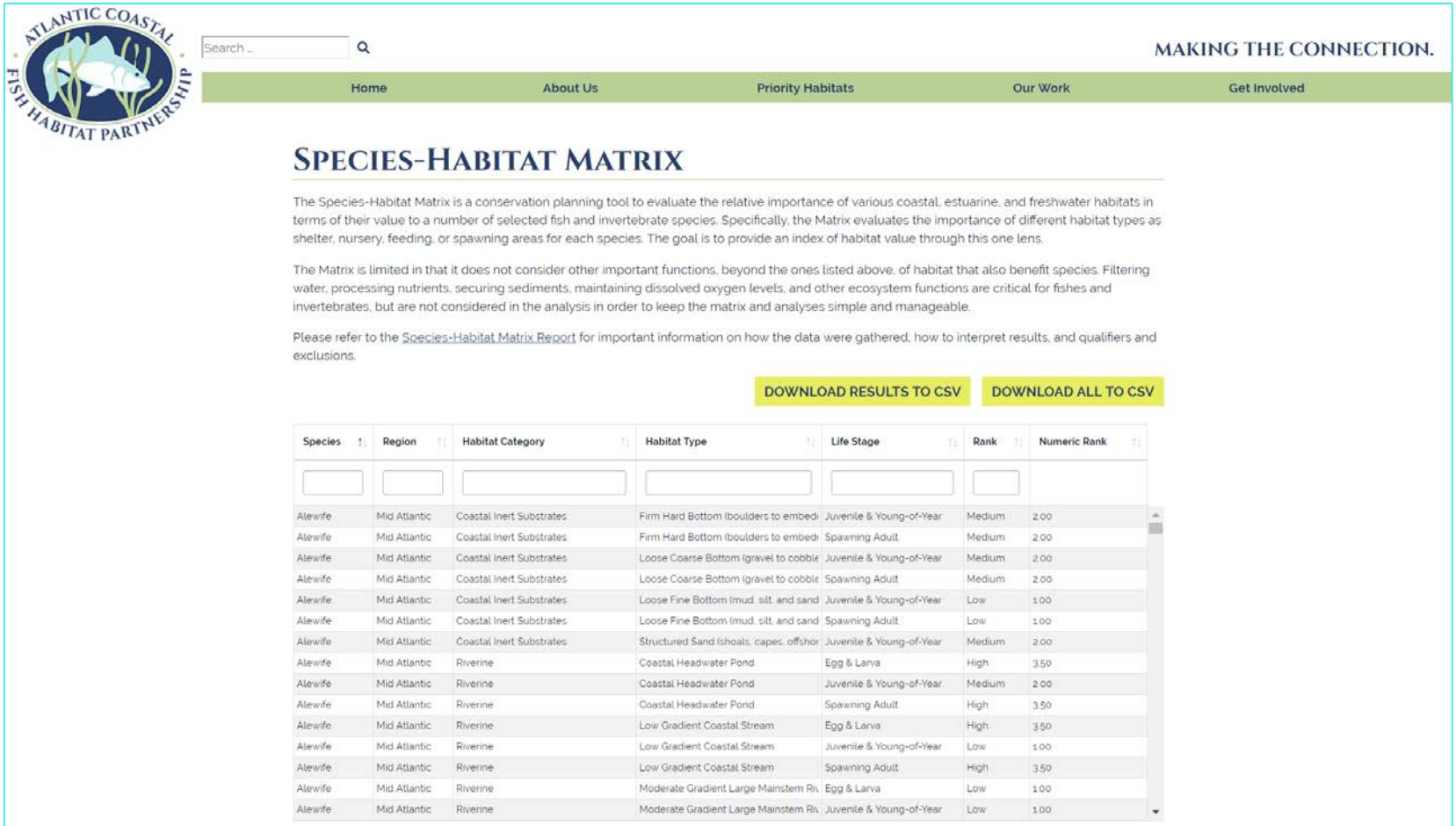
Publication

- *BioScience* April 2016
- Kritzer et al.



Science and Data

Online Query Database



Science and Data

Species	Region	Habitat Category	Habitat Type	Life Stage	Rank	Numeric Rank
	× South Atlantic × South Florida	× Submerged Aquatic Vegetation		× Egg & Larva × Juvenile & Young-of-Year		
American Eel	South Atlantic	Submerged Aquatic Vegetation	Mesohaline & Polyhaline Species	Juvenile & Young-of-Year	Medium	2.00
American Eel	South Atlantic	Submerged Aquatic Vegetation	Tidal Fresh & Oligohaline Species	Juvenile & Young-of-Year	Medium	2.00
American Shad	South Atlantic	Submerged Aquatic Vegetation	Mesohaline & Polyhaline Species	Juvenile & Young-of-Year	Medium	2.00
American Shad	South Atlantic	Submerged Aquatic Vegetation	Tidal Fresh & Oligohaline Species	Juvenile & Young-of-Year	High	3.50
Atlantic Croaker	South Atlantic	Submerged Aquatic Vegetation	Mesohaline & Polyhaline Species	Juvenile & Young-of-Year	Medium	2.00
Atlantic Croaker	South Atlantic	Submerged Aquatic Vegetation	Tidal Fresh & Oligohaline Species	Juvenile & Young-of-Year	Medium	2.00
Atlantic Menhaden	South Atlantic	Submerged Aquatic Vegetation	Mesohaline & Polyhaline Species	Egg & Larva	Low	1.00
Atlantic Menhaden	South Atlantic	Submerged Aquatic Vegetation	Mesohaline & Polyhaline Species	Juvenile & Young-of-Year	Low	1.00
Atlantic Menhaden	South Atlantic	Submerged Aquatic Vegetation	Tidal Fresh & Oligohaline Species	Egg & Larva	Low	1.00
Atlantic Menhaden	South Atlantic	Submerged Aquatic Vegetation	Tidal Fresh & Oligohaline Species	Juvenile & Young-of-Year	Low	1.00
Atlantic Sharpnose Shark	South Atlantic	Submerged Aquatic Vegetation	Mesohaline & Polyhaline Species	Juvenile & Young-of-Year	Low	1.00
Atlantic Sharpnose Shark	South Atlantic	Submerged Aquatic Vegetation	Tidal Fresh & Oligohaline Species	Juvenile & Young-of-Year	Low	1.00
Atlantic Silverside	South Atlantic	Submerged Aquatic Vegetation	Mesohaline & Polyhaline Species	Egg & Larva	High	3.50
Atlantic Silverside	South Atlantic	Submerged Aquatic Vegetation	Mesohaline & Polyhaline Species	Juvenile & Young-of-Year	Medium	2.00

Science and Data

Hab in the MAB

Characterizing black sea bass habitat in the Mid-Atlantic Bight

Objective

To improve our understanding of the relationship between black sea bass abundance and habitat characteristics

Expected Outcome

Understand the influence of habitat on fisheries productivity and recruitment, and better manage the fishery.

Science and Data

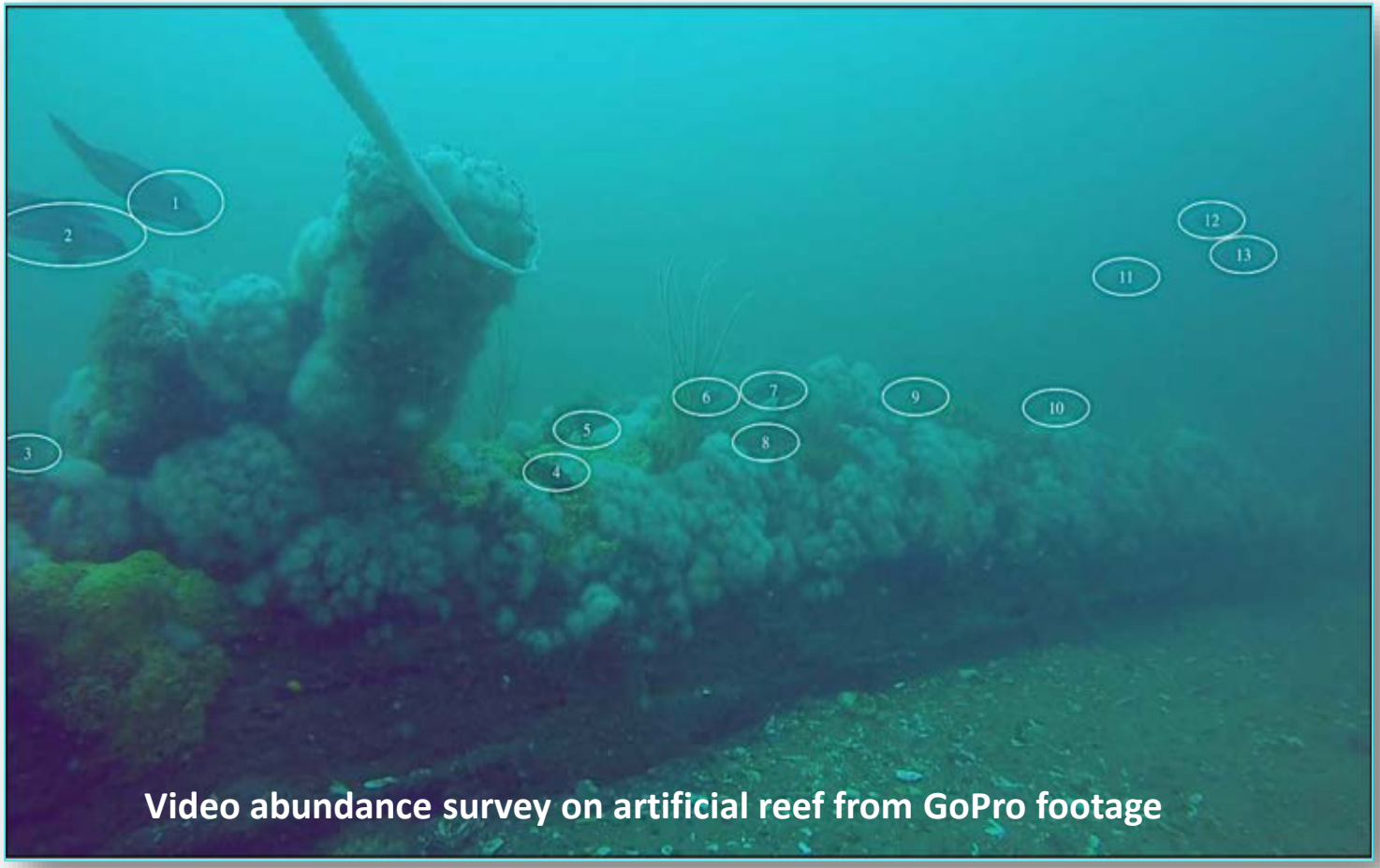
Hab in the MAB

Characterizing black sea bass habitat in the Mid-Atlantic Bight

- Determine the preference of BSB for particular habitats by assessing their abundance, size structure, and feeding ecology within natural and artificial reefs
- Improve the understanding of the habitat characteristics of natural and artificial reefs
- Determine if reduced fragmentation and increased connectivity of habitats increases fish recruitment

Science and Data

Video Surveys



Video abundance survey on artificial reef from GoPro footage

Images courtesy of B. Stevens, UMES

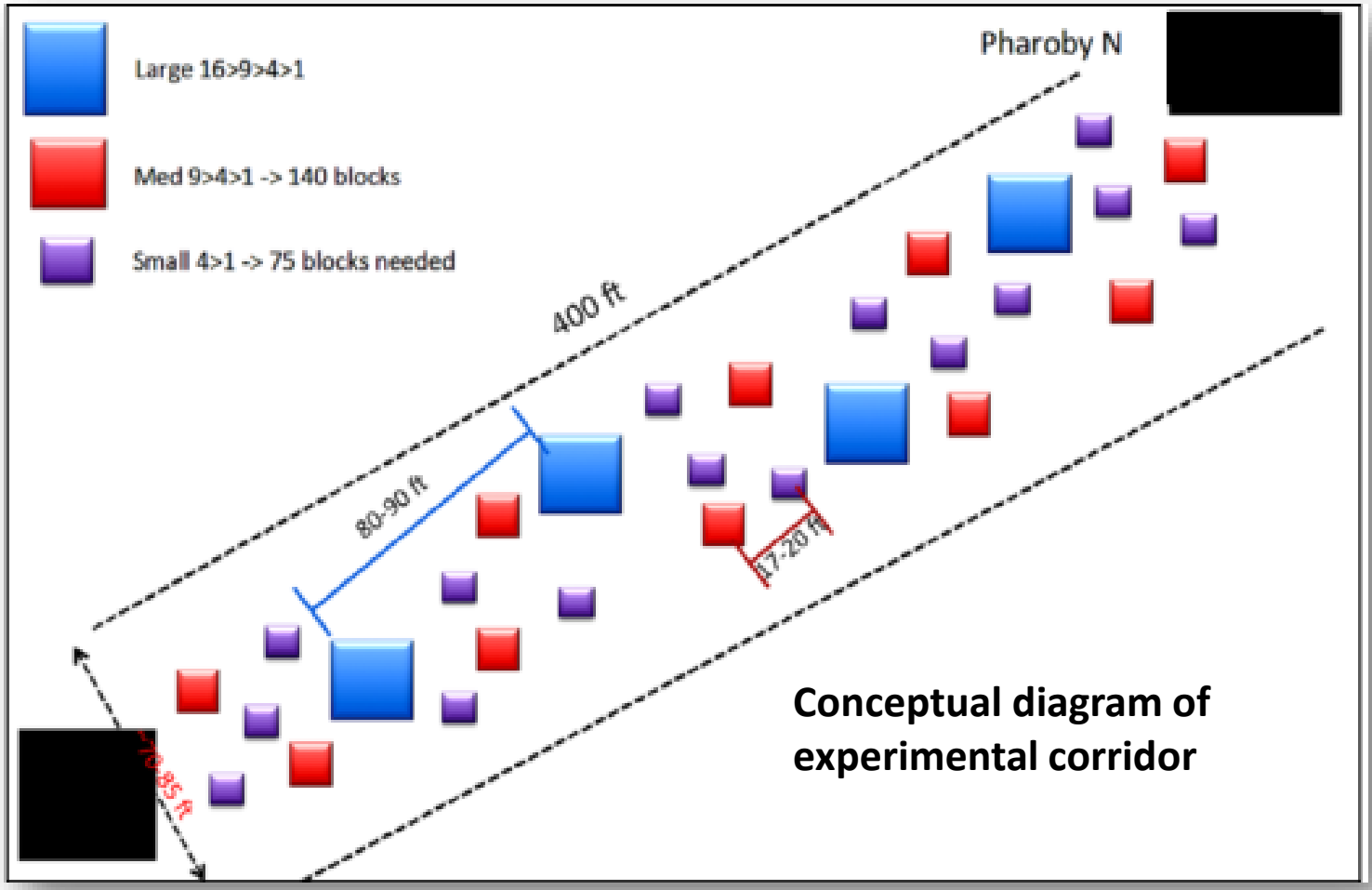
Science and Data

Stable Isotope Analysis & Aging

Images courtesy of B. Stevens, UMES

Science and Data

Habitat Connectivity



Images courtesy of B. Stevens, UMES

Science and Data

Southeast Fish Habitat Conservation Mapping

Objective

To spatially prioritize fish habitat protection and restoration sites through GIS mapping and analyses for the southeast region of the U.S. from NC to FL for ACFHP on-the-ground conservation prioritization

Expected Outcome

To help ACFHP and partners identify where best to invest efforts and future project funds.

Science and Data

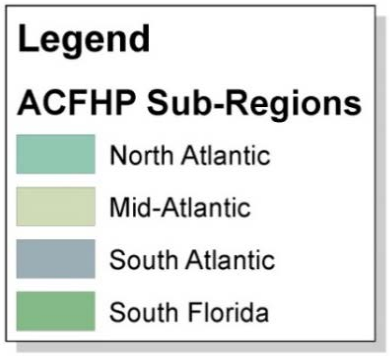
Scope

Mid- & South Atlantic

- Riverine bottom
- Shellfish beds
- SAV
- Tidal vegetation

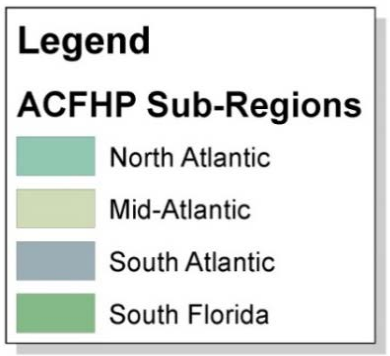
South Florida

- SAV
- Tidal vegetation
- Coral and live/hard bottom



Science and Data

Scope



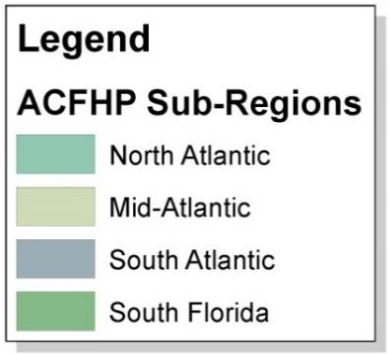
Northern Scenario

- **Riverine bottom**
- Shellfish beds
- SAV
- Tidal vegetation

Diadromous assessment

Science and Data

Scope



Northern Scenario

- Riverine bottom
- **Shellfish beds**
- **SAV**
- **Tidal vegetation**

Estuarine assessment

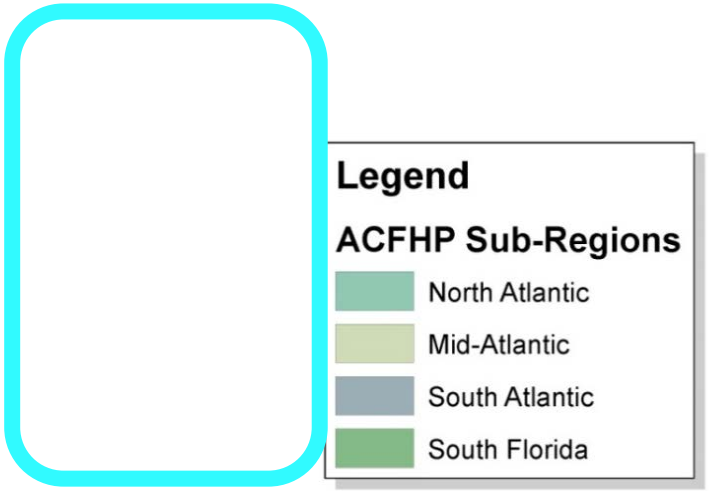
Science and Data

Scope

Southern Scenario

- **SAV**
- **Tidal vegetation**
- Coral and live/hard bottom

Estuarine assessment

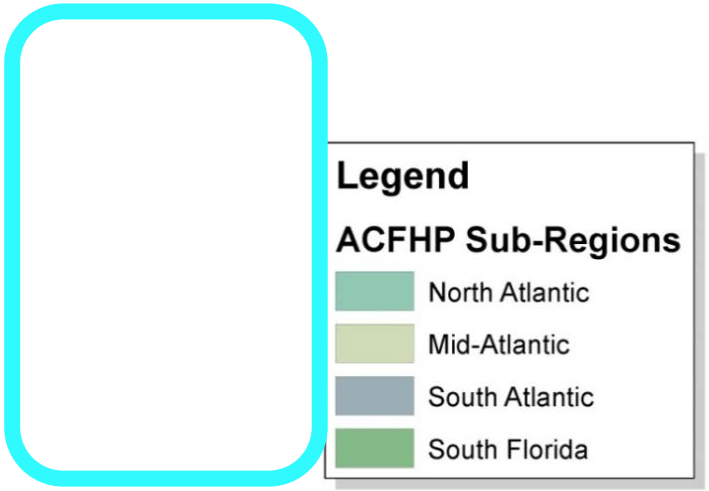


Science and Data

Scope

South Florida

- SAV
- Tidal vegetation
- **Coral and live/hard bottom**



Coastal assessment

Science and Data

Scope

- Northern diadromous scenario
  - NHD catchment in watersheds with diadromous fish or drained into them
- Northern and southern estuarine scenario
  - 1-km^2 hexagon
- Southern coastal scenario
  - varied

Science and Data

Metrics and scoring

- Science & Data Committee webinar June 2017
- Science & Data Committee meeting Sept 2017
  - Metrics that covered the entire region
  - Metrics that most impact fish habitat
  - Tried to not be redundant
- Steering Committee meeting Oct 2017 & May 2018
- Science & Data committee webinar June 2018

Science and Data

Diadromous Assessment

Variable	Measurement	Metric
Impervious surface	area above the catchment that is impervious surface	10 points if <5% cumulative impervious surface
Point source pollution	Density of sites in catchment	10 points if catchment is ranked in the lowest 25% for pollution (least polluted)
Non-point source pollution	% of catchment covered by agriculture	10 points if the catchment is ranked in the lowest 25% for pollution (least polluted)
Riparian buffers	% of floodplain area with natural land cover	10 points if the catchment is ranked in the top 25% for natural coverage
Potential for species access	Diadromous species presence	10 points if the catchment has at least one diadromous species present
Flow alteration	Volume of all reservoirs per unit area of watershed	10 points if the catchment is ranks in the lowest 25% for volume
Fragmentation	Density of road crossings + dams in catchment	10 points if the catchment had zero dams downstream to the ocean. 10 points if the catchment is ranked in the lowest 25% for fragmentation (least amount of crossings and dams).
Sturgeon Critical Habitat	Sturgeon Critical Habitat designation	10 points if the catchment is designated Atlantic sturgeon Critical Habitat

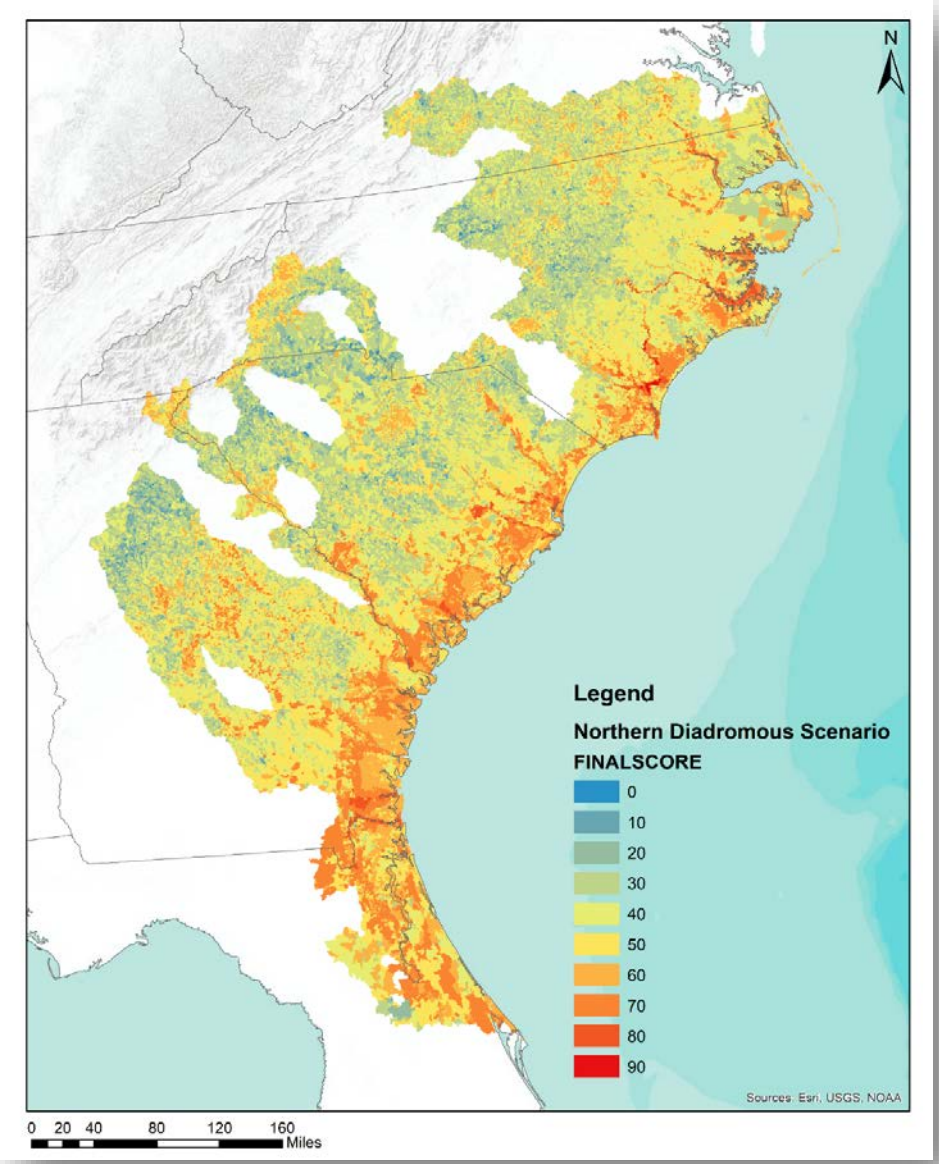
Science and Data

Flow Alteration

Volume/sqkm of storage in watershed above catchment

Science and Data

Diadromous Assessment



Science and Data

Estuarine Assessment

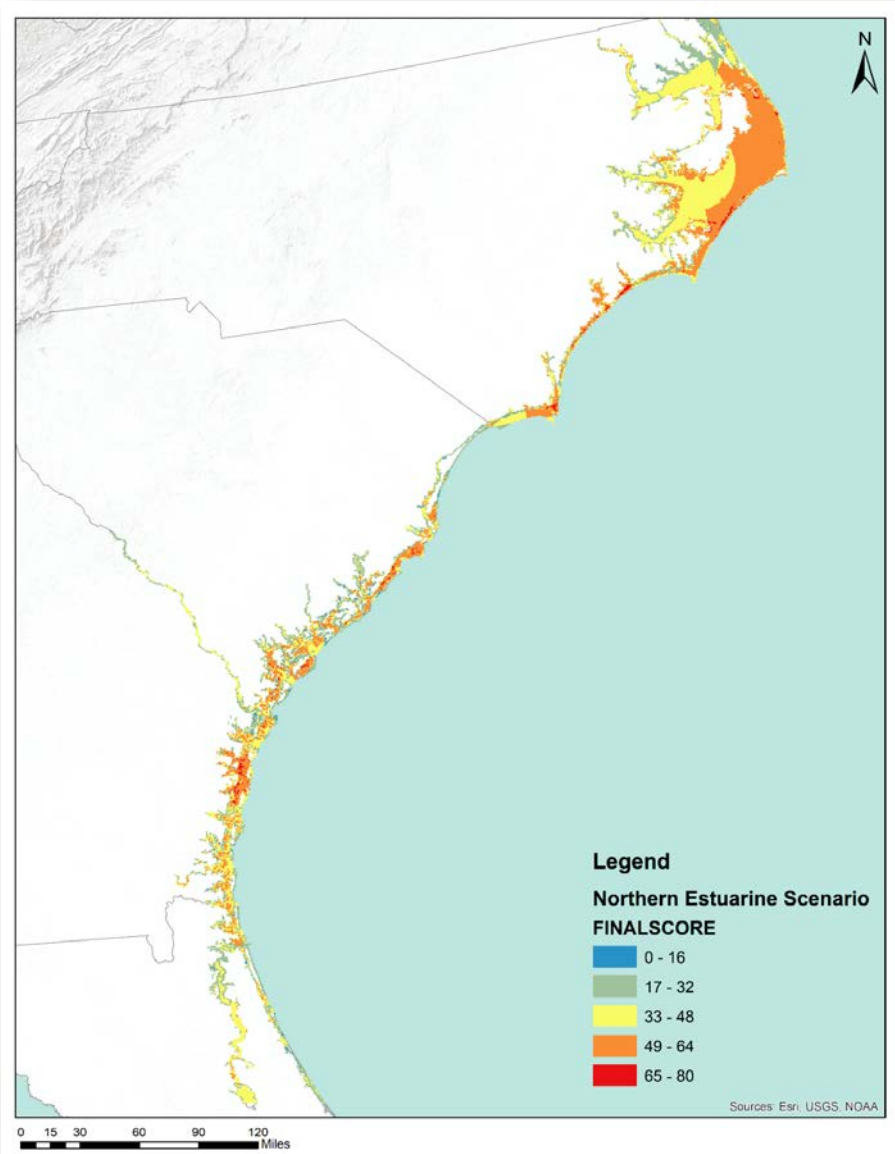
Variable	Measurement	Metric
Seagrass and oyster reef habitat	% of polygon covered by seagrass or oyster reef	10 points if the polygon ranks in the top 25% for coverage
Wetland habitat	% of polygon covered by wetlands	10 points if the polygon ranks in the top 25% for coverage
Estuarine-marsh-water edge	Length of estuarine-marsh-water edge in the polygon	10 points if the polygon ranks in the top 25% for length
Proximity to protected habitat	Distance to inlet (an HAPC in the South Atlantic)	10 points if the polygon is within ½ km of an inlet
Proximity to development	Distance from marinas and ports	10 points for the 25% of polygons farthest from marinas and ports
Water quality	Total # of NPDS permit sites in the inlet	10 points for the 25% of polygons with the least number of NPDS sites/inet
Hardened shoreline	Length of hardened shoreline within the polygon	10 points for the 25% of polygons with the least amount of hardened shoreline
Habitat fragmentation	Linear ft. of causeway within a polygon	10 points if the polygon has 0 ft. of causeways

Science and Data

Wetlands

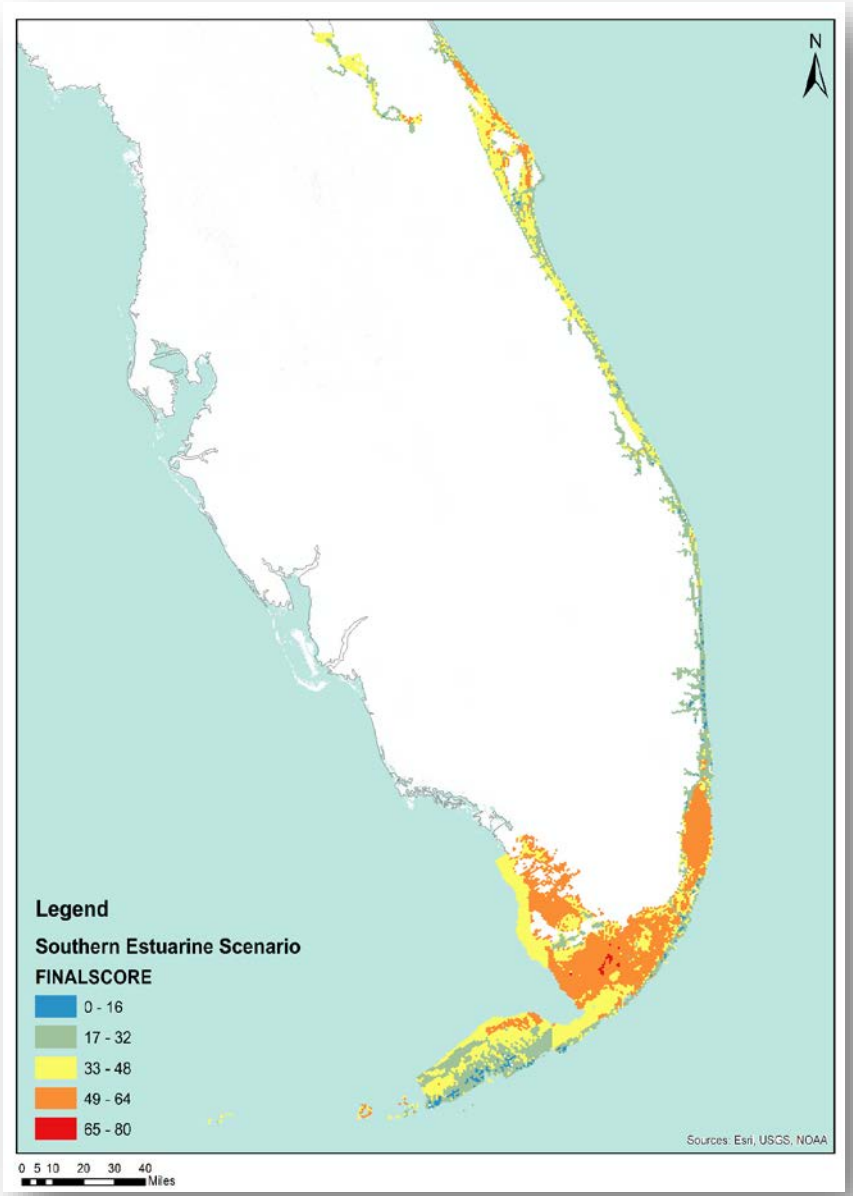
Science and Data

Northern Estuarine Assessment



Science and Data

Southern Estuarine Assessment



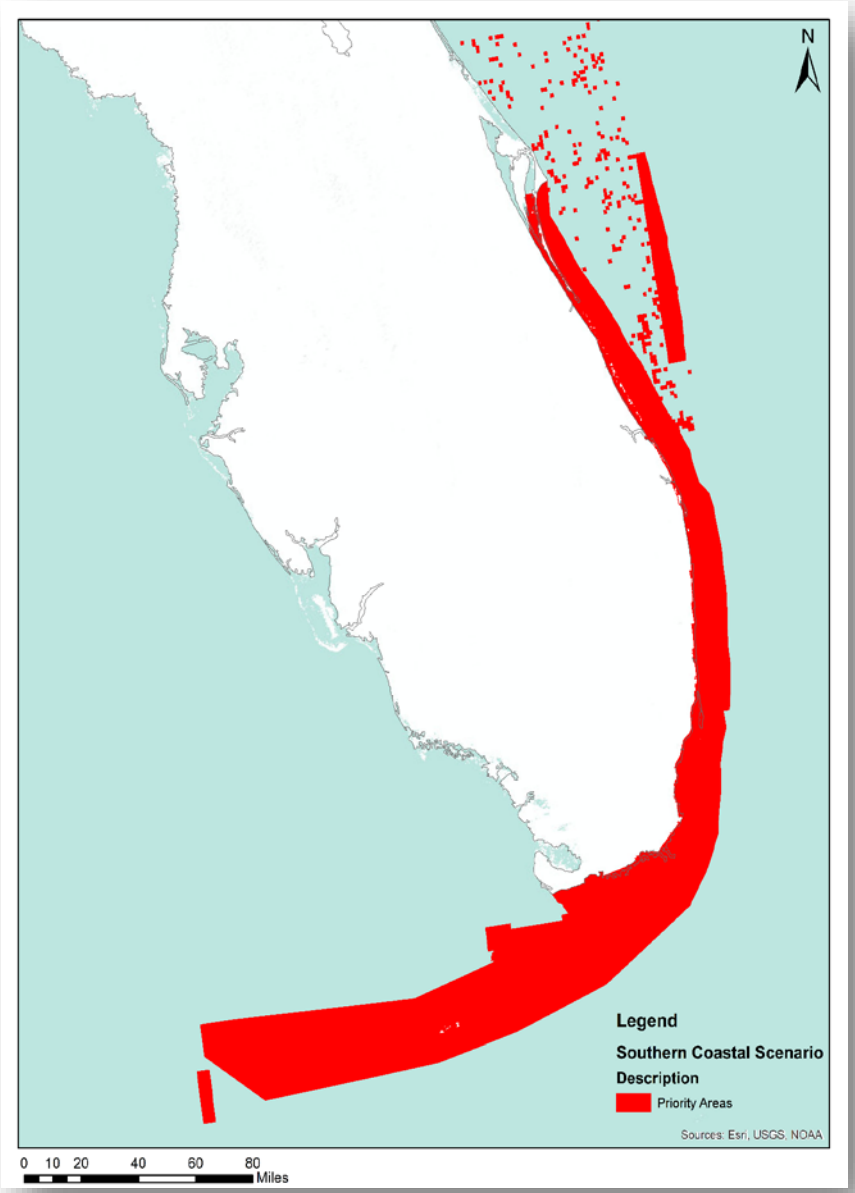
Science and Data

Coastal Assessment

- Decided all coral habitat was in need of conservation, regardless of quality
- Due to slow growth and immediate threats to S. FL reefs (bleaching, pollution, disease, burial)
- FWC Unified Reef Map
- Coral reefs and hard bottom HAPCs

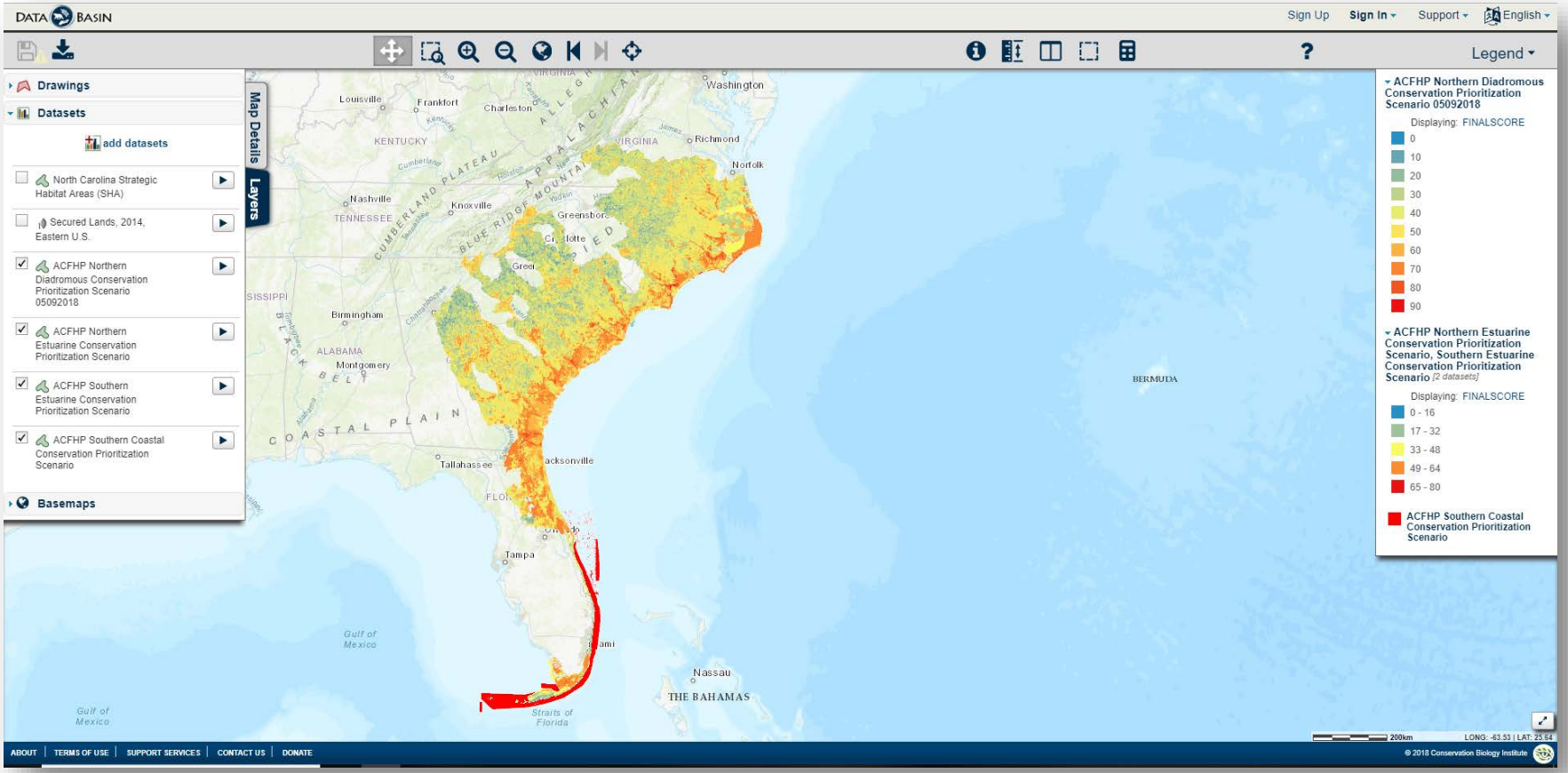
Science and Data

Coastal Assessment



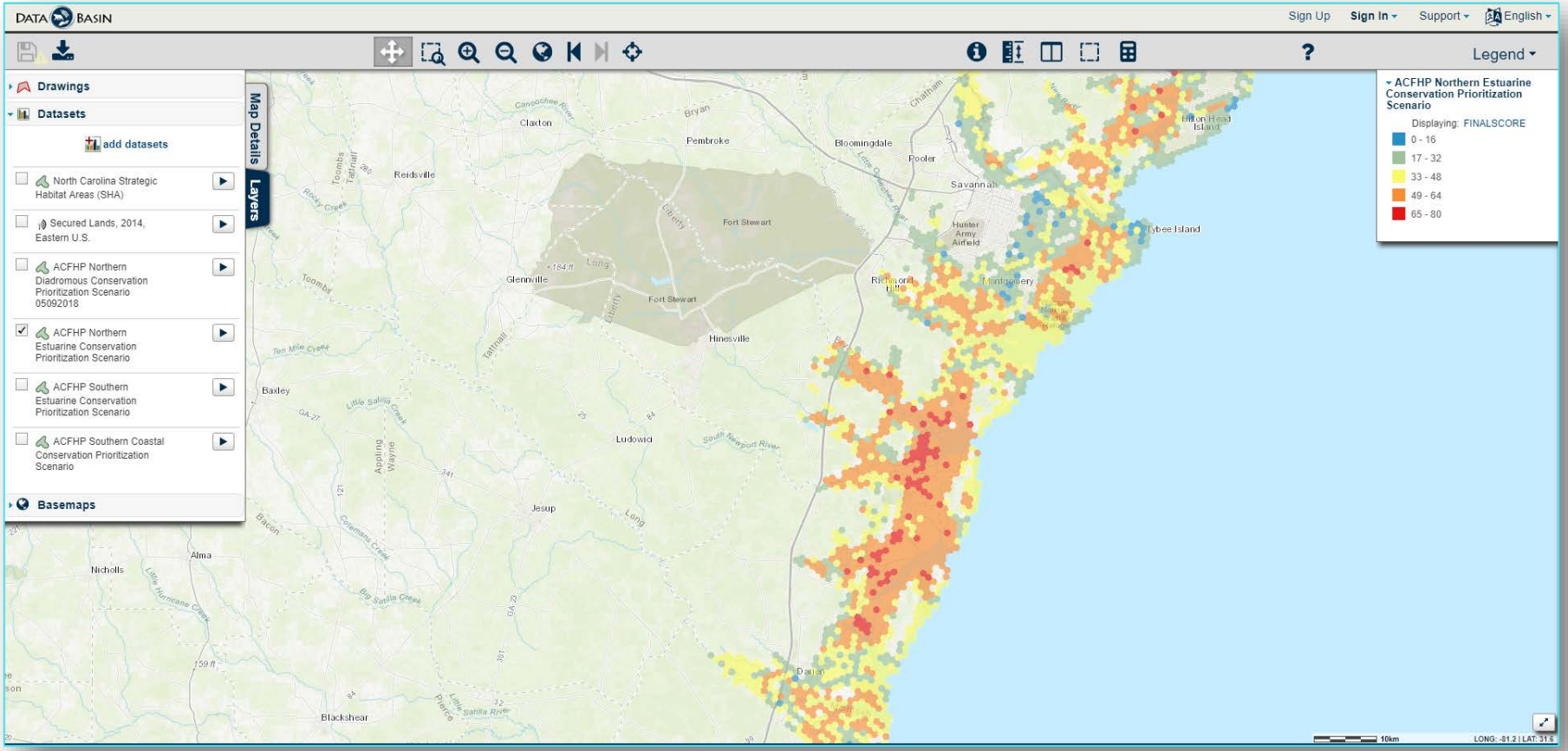
Science and Data

Databasin



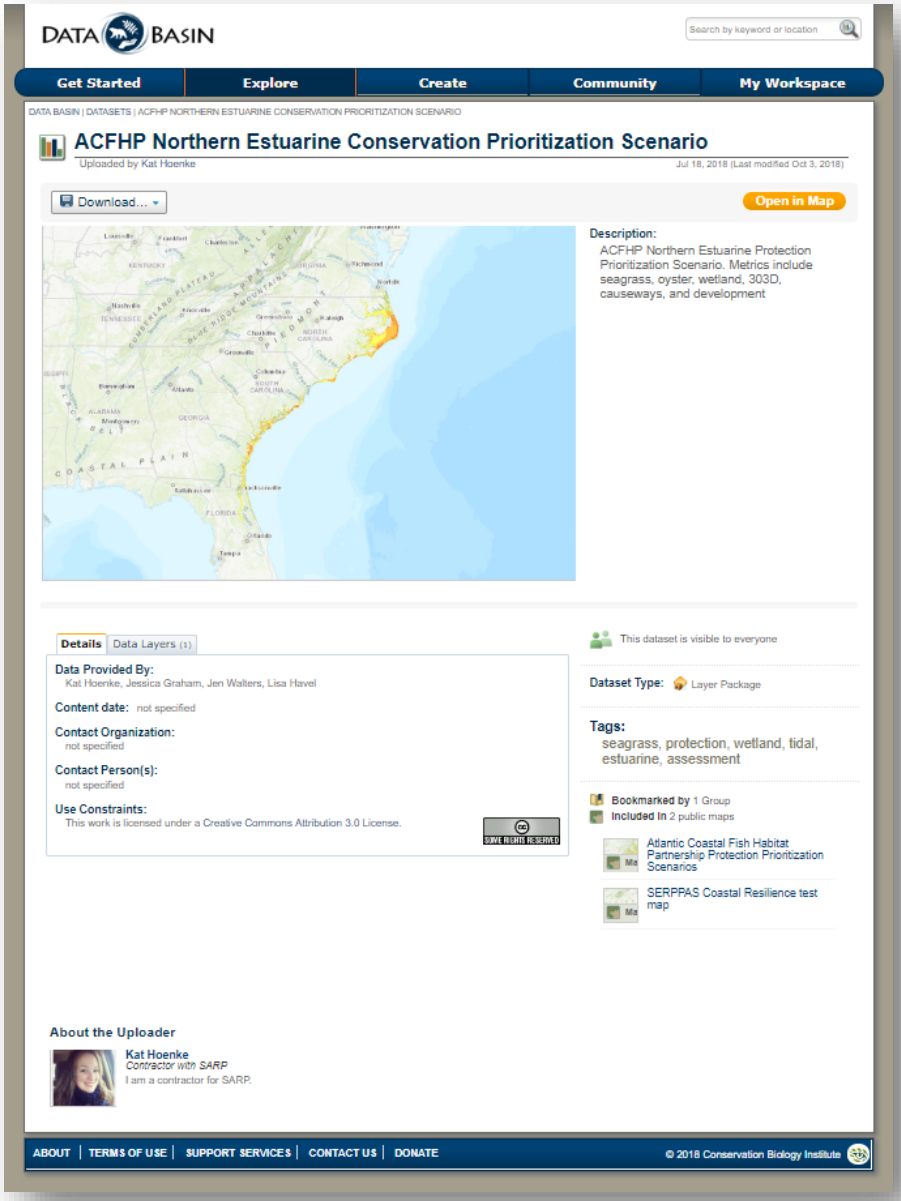
Science and Data

Databasin



Science and Data

Databasin

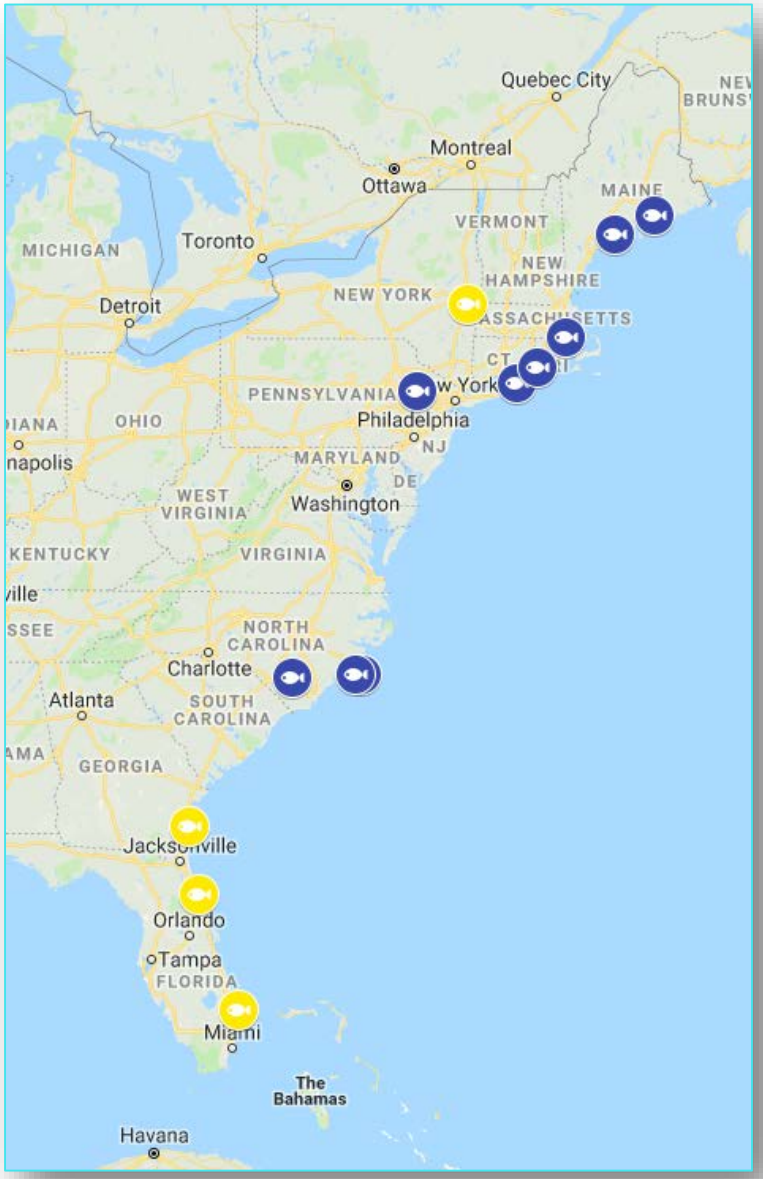


Science and Data

Next steps

- Finalize the report
- Create maps for each metric
- Announce it
- Start work on northeast assessment
- Improve on southeast assessment

On the Ground Projects

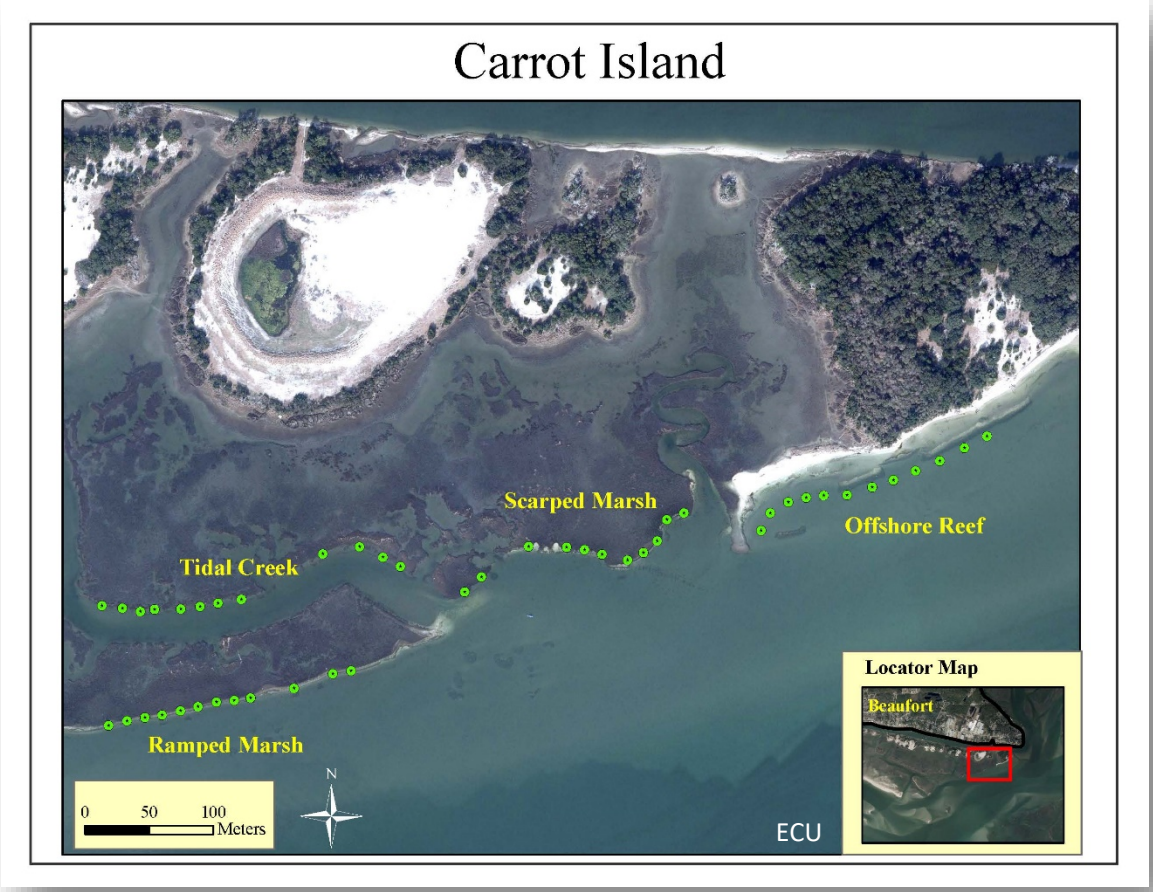


FY 2015 - present

- 9 funded projects
  - 2 shellfish beds
  - 2 tidal vegetation
  - 6 riverine
  - 1 SAV
- 5 endorsements
  - 2 shellfish beds
  - 2 tidal vegetation
  - 2 riverine
  - 1 SAV

On the Ground Projects

Oyster Reef Restoration in Back Sound



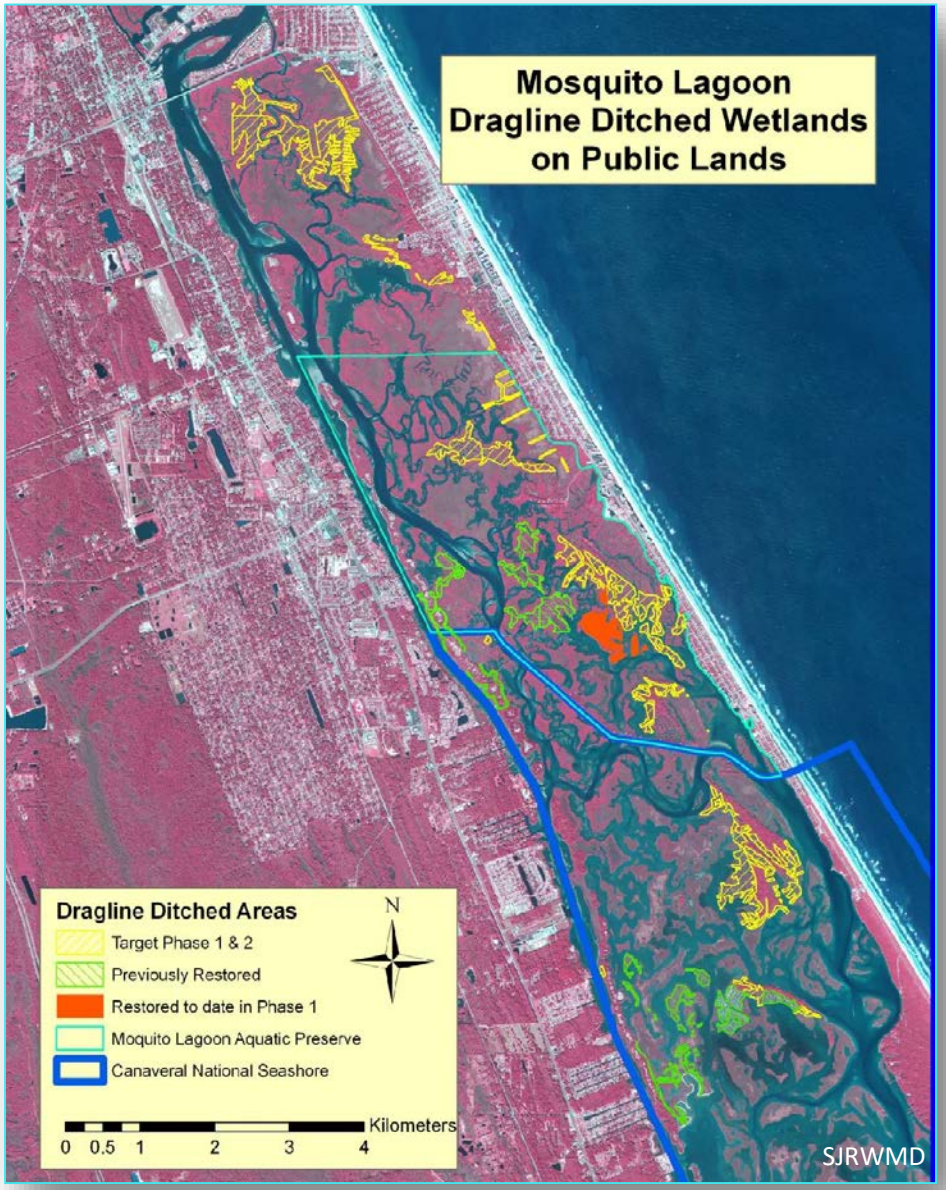
- Rachel Carson Reserve, NC
- ECU, NOAA, NCCF, USFWS
- Carrot Island eroding 1-2 m/yr
- 0.11 acres of oyster reef
- Protect 3 acres salt marsh

On the Ground Projects

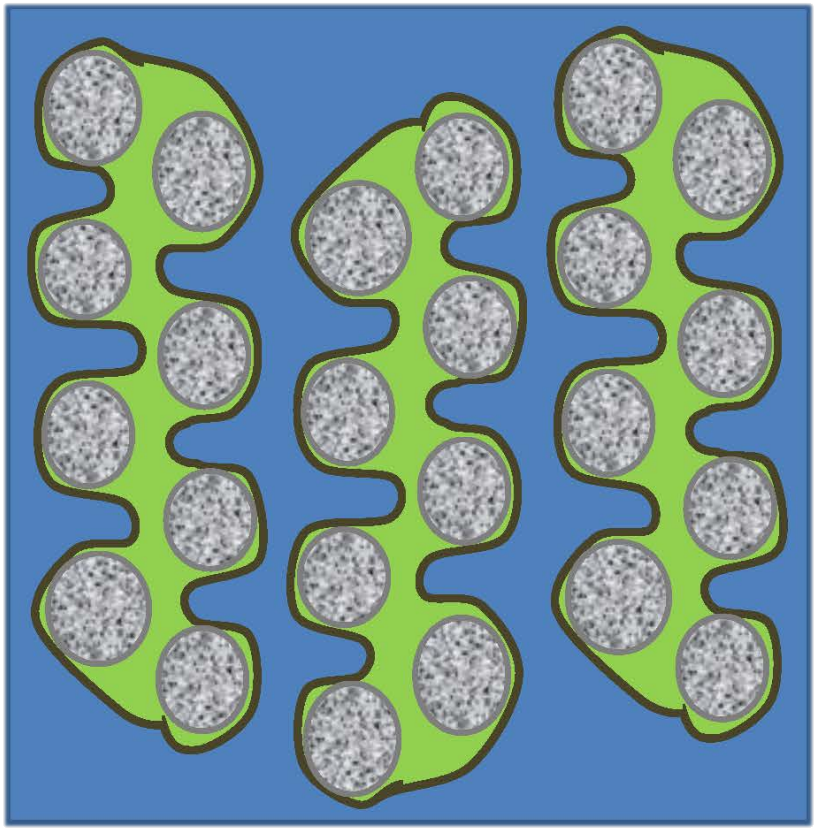
On the Ground Projects

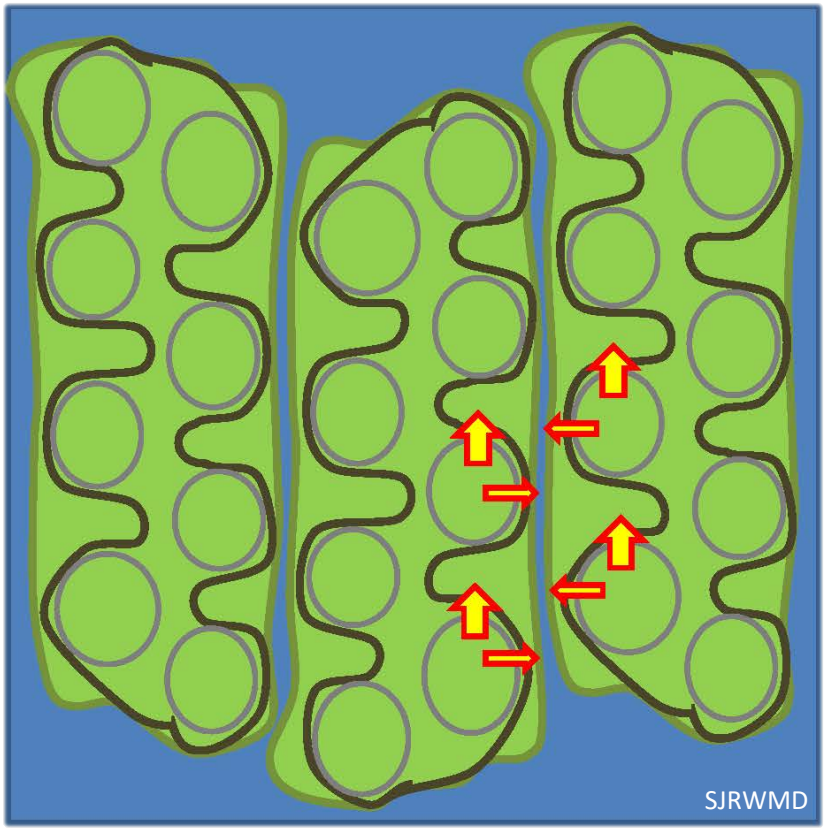
Dragline Ditch Restoration

- Northeast Florida
- FWC, SJRWMD, USFWS
- ~625 acres addressed
- 250 new acres
- 50 lbs of fish/acre/yr
- 31,250 lbs fish/yr



On the Ground Projects

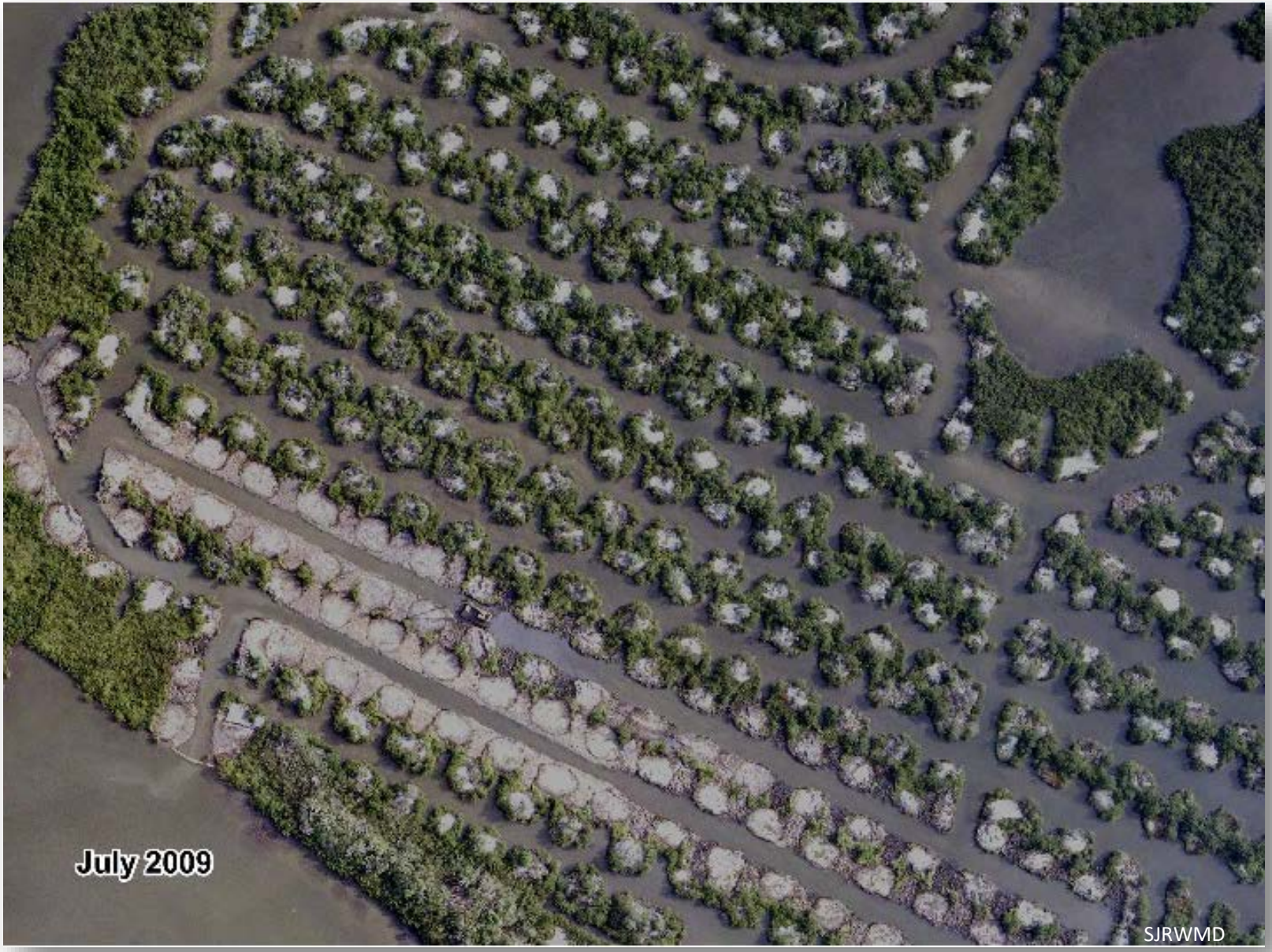




On the Ground Projects

On the Ground Projects

On the Ground Projects



On the Ground Projects

On the Ground Projects

Sheepscot River Restoration

- Whitefield & Alna, ME
- Atlantic Salmon Federation
- Coopers Mill Dam
- Head Tide Dam
- Built early 1800's
- Atlantic salmon Critical Habitat
- Dams greatest threat to continued existence

Photos in this section courtesy of ASF

On the Ground Projects

Sheepscot River Restoration

- Removed Coopers Mill Dam
- Partially removing Head Tide Dam
- Reconnect 71 river miles

On the Ground Projects

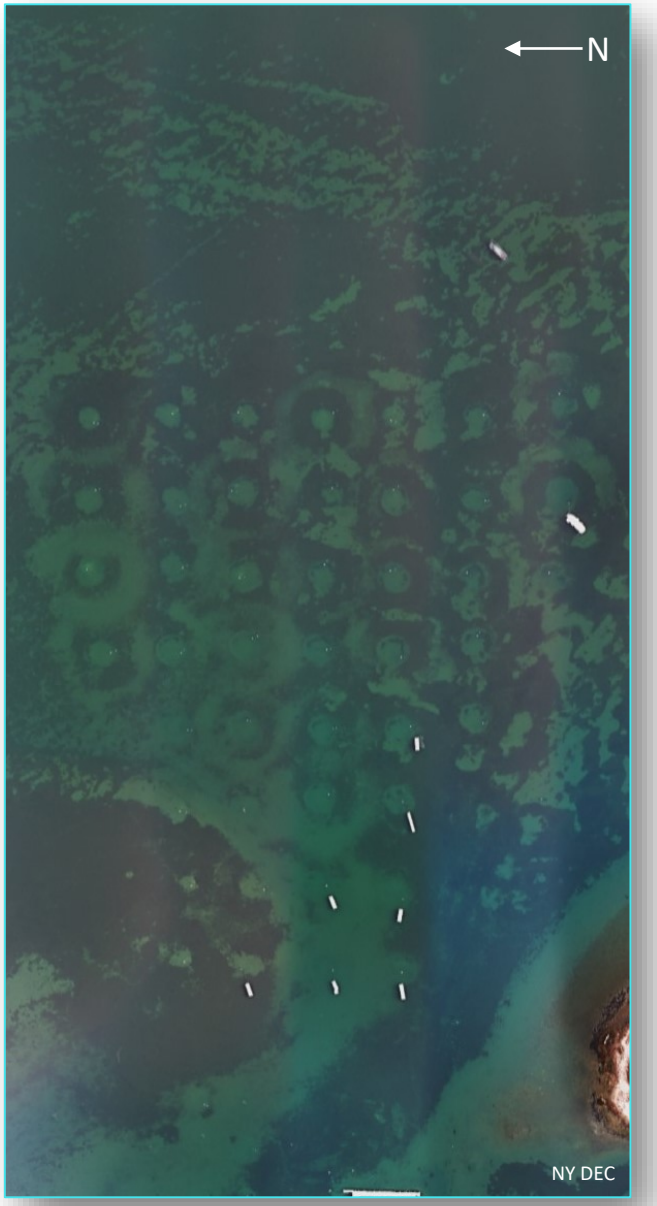
Sheepscot River Restoration

- Hydrants installed for fire protection
- Preserve certain historical and recreational features

On the Ground Projects

Conservation Moorings

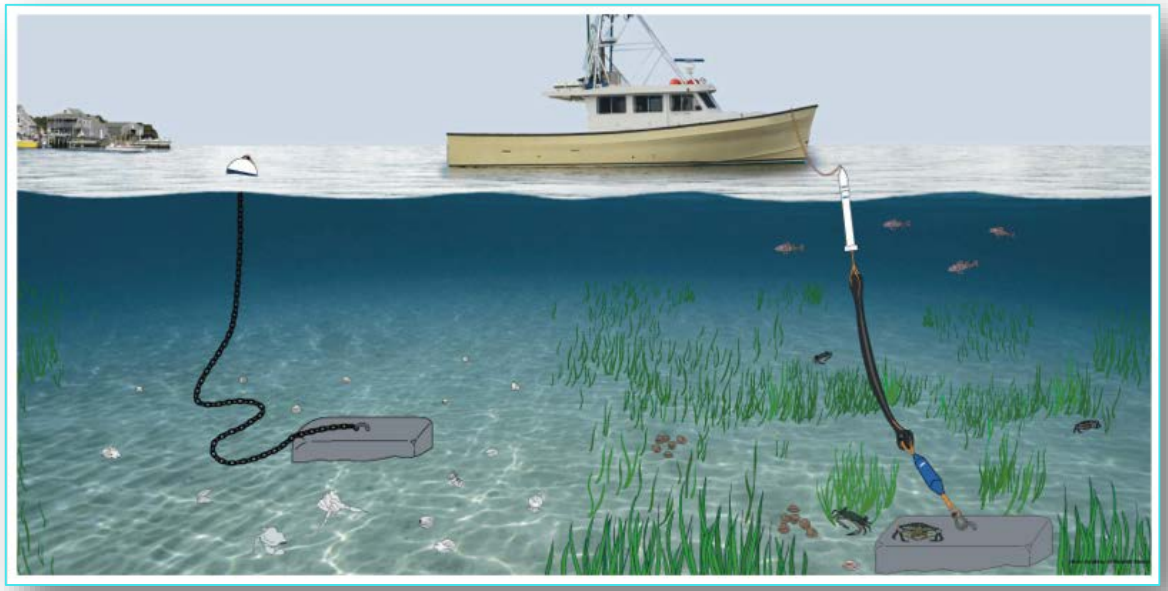
- Coecles Harbor, NY
- NY DEC
- Eelgrass in decline across NY state
- Most extensive eelgrass in NY state
- Traditional moorings cause ‘haloing’



On the Ground Projects

Coecles Harbor

- Replacing traditional moorings with conservation moorings
- Restores and reconnects SAV, then protects for future



Questions?

Lisa Havel

Atlantic Coastal Fish Habitat Partnership Coordinator

lhavel@asmfc.org

(703) 842-0740