

*The National Fish Habitat Action Plan (NFHAP):
Science supporting conservation from summit to sea*

National Shellfisheries Association

103rd Annual Meeting

Baltimore MD, March 28, 2011

David Moe Nelson

NOAA/NOS Coastal Monitoring & Assessment, Silver Spring MD

With thanks to:

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National Fish Habitat Action Plan - NFHAP

Program: Mission, Origins, Objectives

Science: Through a Fish's Eye: The Status of Fish Habitats in the United States, 2010

Conservation: Projects in progress by Southeastern and Atlantic Coastal Fish Habitat Partnerships

National Fish Habitat Action Plan (NFHAP)

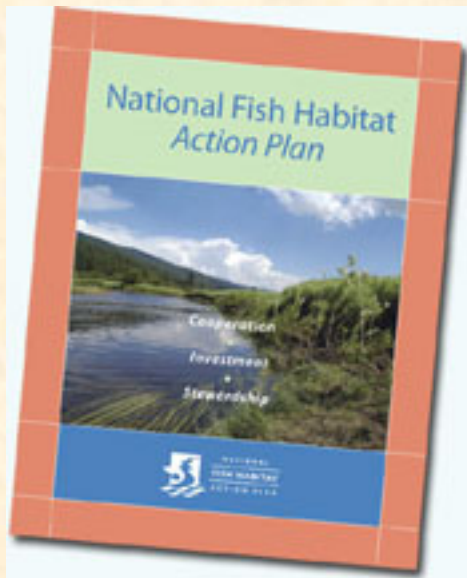
U.S. Dept. Interior (USFWS and USGS), NOAA, Association of Fish and Wildlife Agencies (AFWA), States, Tribes, NGOs

Mission:

“Protect, restore, and enhance the nation’s fish and aquatic communities through partnerships that foster fish habitat conservation and improve the quality of life for the American people.”

Scope:

All U.S. waters, ***“Summit to sea”***





National Fish Habitat Action Plan (NFHAP)

Origins

2002: The Sport Fishing and Boating Partnership Council recommended a “national aquatic habitat plan” modeled after the North American Waterfowl Management Plan

2003: AFWA endorses the concept of a “comprehensive national fisheries habitat plan/strategy” and agrees to oversee its development

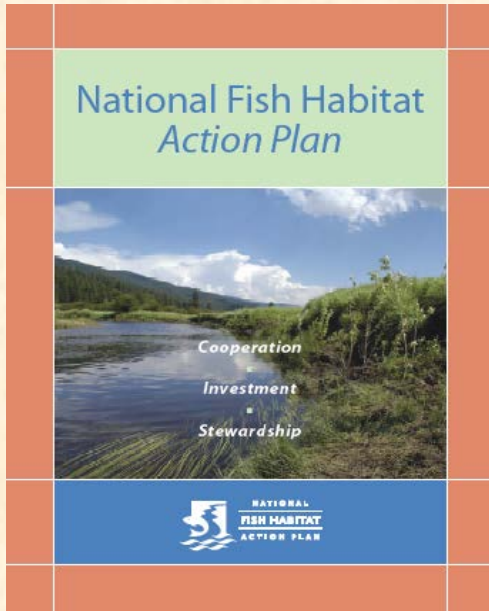
2005 – 2006: Workgroup holds a series of workshops and writes Action Plan

Signed on April 24, 2006 by Secretary of Commerce, Secretary of the Interior, and the Association of Fish and Wildlife Agencies

National Fish Habitat Conservation Act (HR2565, S1214)

Objectives

- Identify priority fish habitats and establish Fish Habitat Partnerships targeting these habitats by 2010.
- Establish 12 or more Fish Habitat Partnerships throughout United States by 2010.
- Conduct condition analysis of all fish habitats within the United States by 2010.
- Prepare a *Status of Fish Habitats in the United States* in 2010, and every five years thereafter.
- Protect all healthy and intact habitats by 2015.
- Improve the condition of 90 percent of priority habitats and species targeted by Fish Habitat Partnerships by 2020.

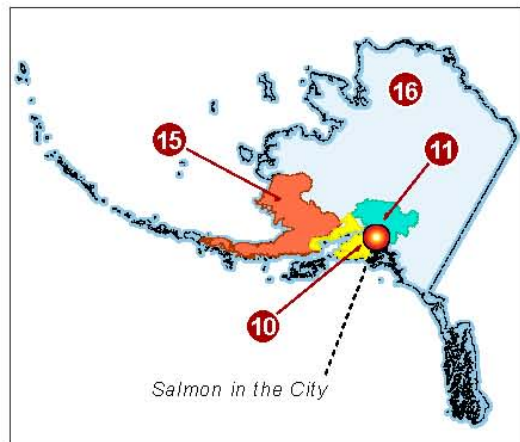




Fish Habitat Partnerships

March 2010

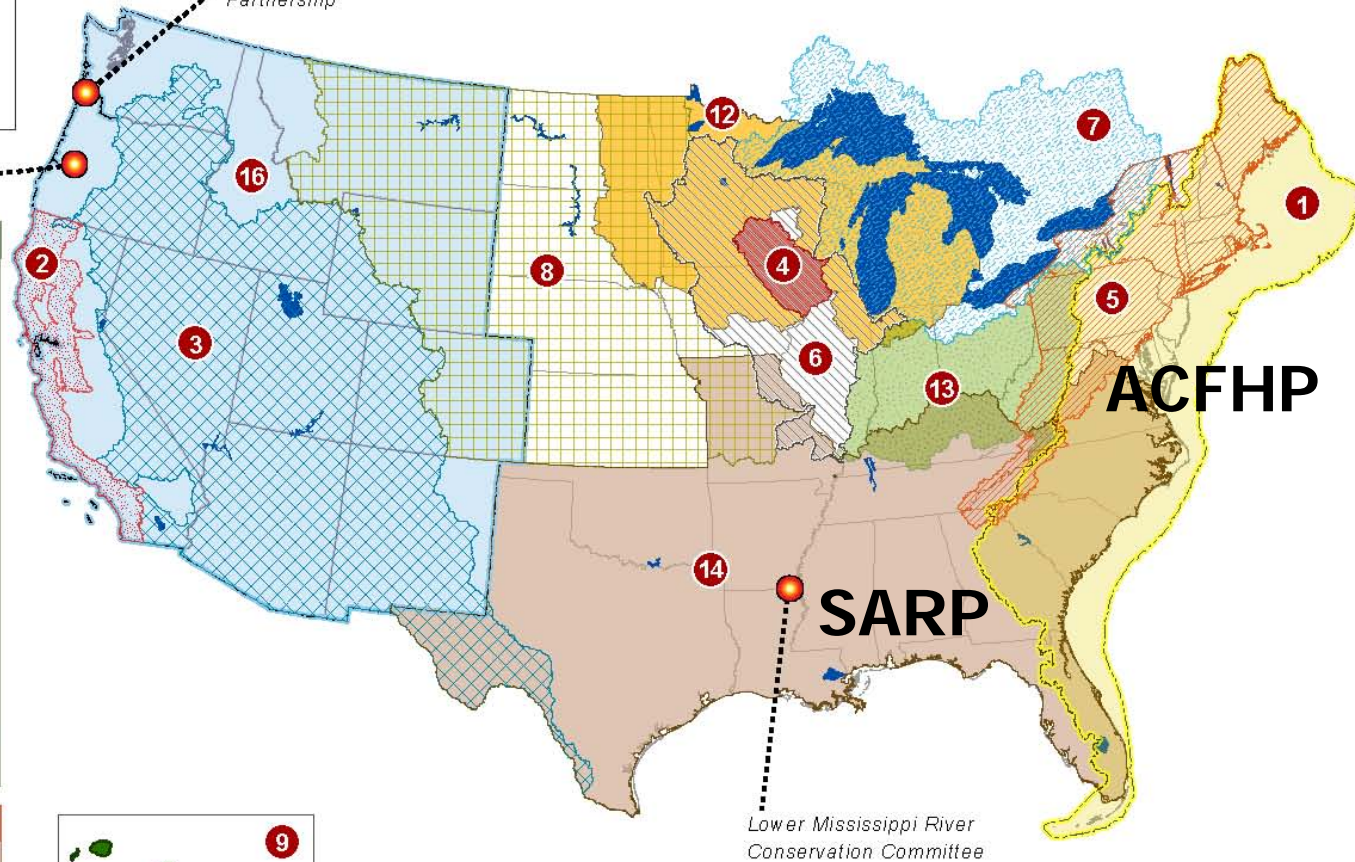
Several with a coastal focus!



Salmon in the City

North American Salmon Stronghold Partnership

PMEP Pacific Marine and Estuarine Partnership



Geographic/Species Based Partnerships

1. Atlantic Coastal FHP
2. California Fish Passage Forum
3. Desert FHP
4. Driftless Area Restoration Effort
5. Eastern Brook Trout Joint Venture
6. Fishers and Farmers Partnership
7. Great Lakes Basin FHP
8. Great Plains FHP
9. Hawaii FHP
10. Kenai Peninsula FHP
11. Mat-Su Basin Salmon Habitat Partnership
12. Midwest Glacial Lakes Partnership
13. Ohio River Basin FHP
14. Southeast Aquatic Resources Partnership
15. Southwest Alaska Salmon Habitat Partnership
16. Western Native Trout Initiative

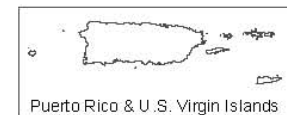
System Based Partnership

- Reservoir FHP

 Denotes "Candidate" Fish Habitat Partnership



HFHP



Puerto Rico & U.S. Virgin Islands

NFHAP 2010 National Assessment – April 2011

Regional perspectives and comparisons, inland watershed conditions, coastal estuarine and watershed conditions, local action.



The result – a national* coastal spatial framework:

Six regions

Pacific, Gulf of Mexico, North Atlantic, Mid-Atlantic, South Atlantic, South Florida

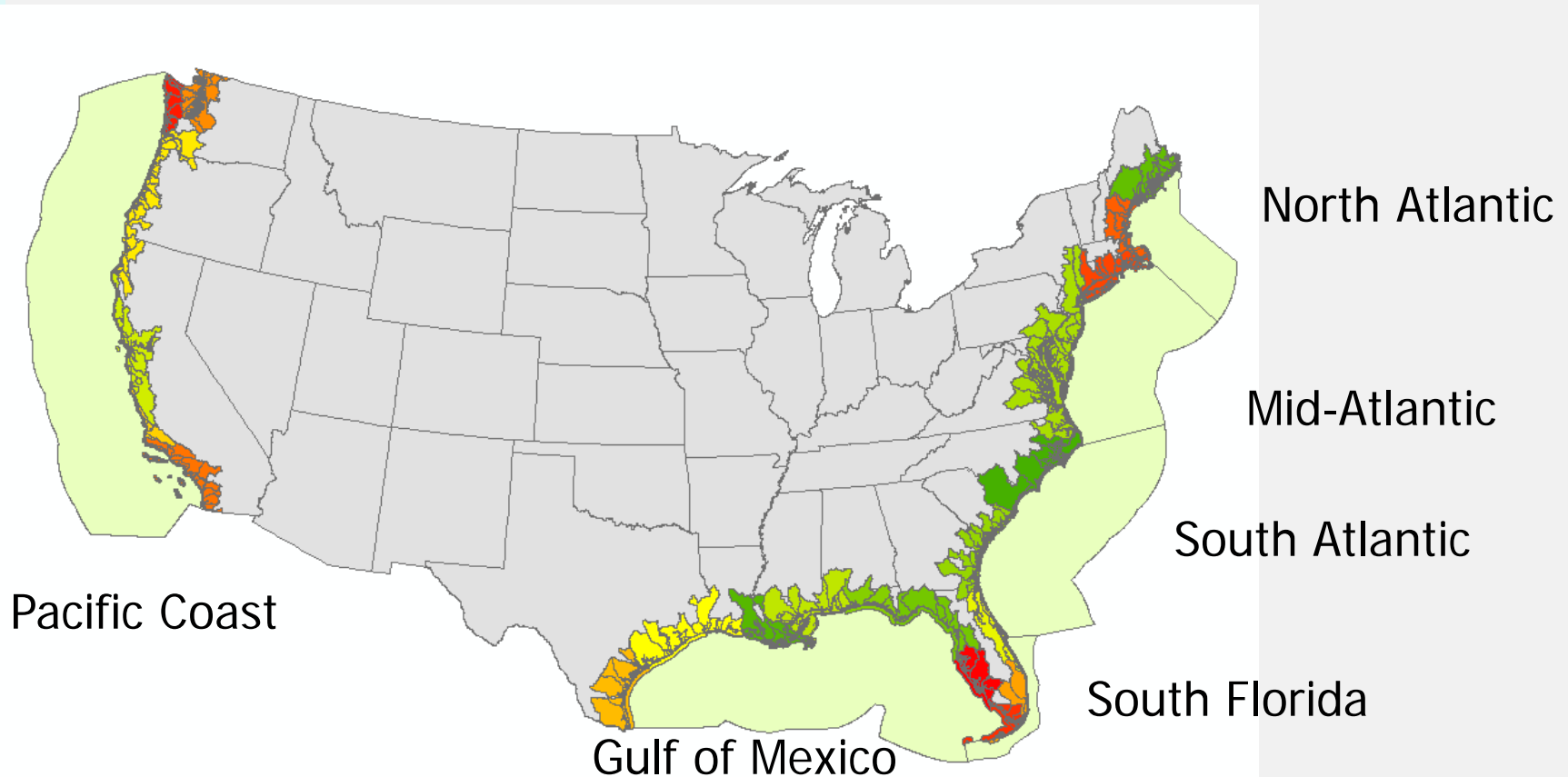
22 States, 22 Sub-regions

Four zones

Watersheds (EDA, CDA), Estuarine, Marine-State, Marine-Federal

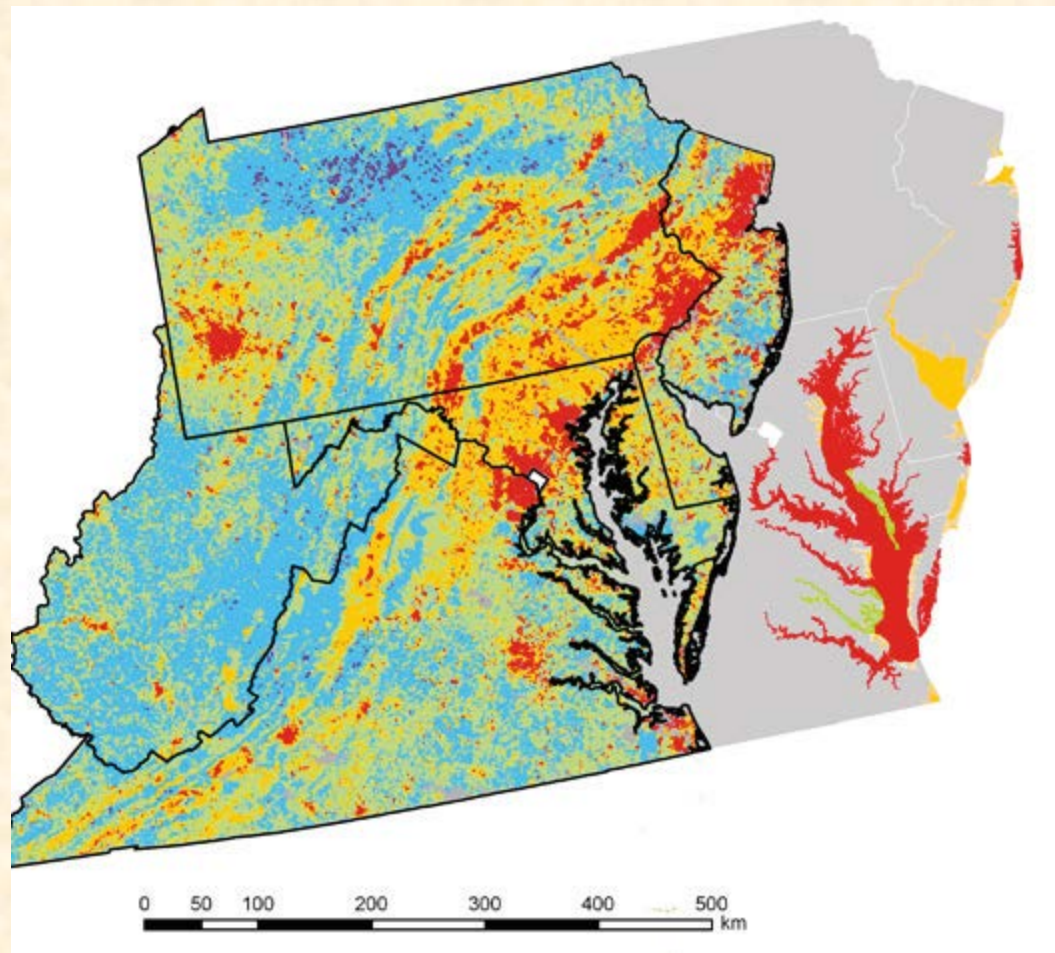
612 Polygons

201 Estuarine, 195 EDAs, 151 CDAs, 40 Marine-State, 6 Marine-Federal, 19 River Mouths



NFHAP 2010 National Assessment

Inland component uses NHD+ as spatial framework, with watershed condition indicators (land uses, densities of point source pollution sites, dams, roads and road crossings, population, and mines) calibrated to stream fish populations using multivariate analyses.



NFHAP 2010 National Assessment

Coastal component uses modified version of NOAA's Coastal Assessment Framework (estuaries, watersheds, inshore marine), with a set of four indicators:

1. Eutrophication

NEEA Overall Eutrophic Condition

2. Pollutants and contaminants

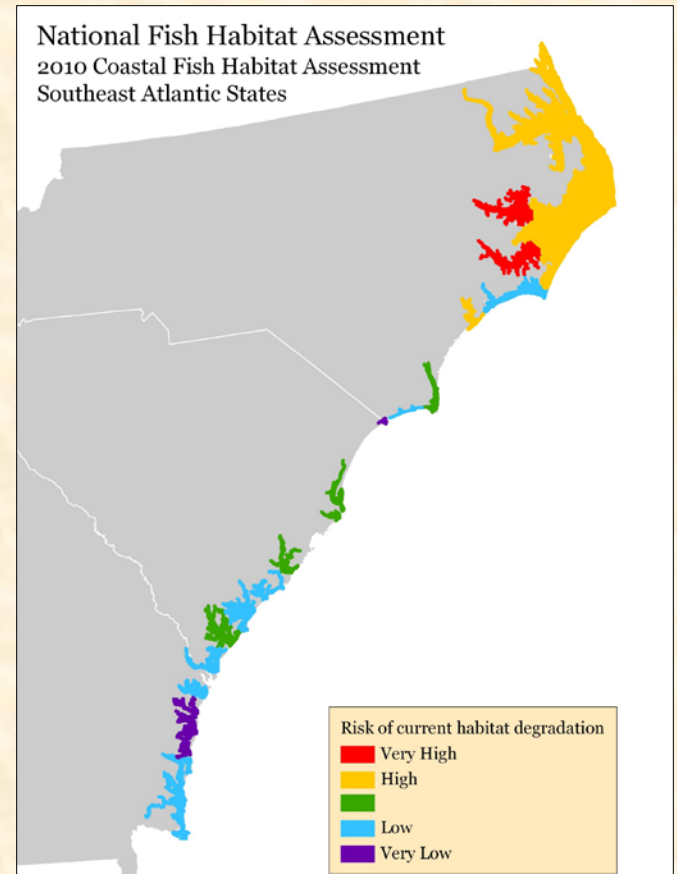
NPDES, TRI in coastal watersheds

3. Coastal watershed land use changes

CCAP & NLCD - 6 aggregated %
land cover metrics

4. Freshwater inflow and hydrologic alteration over time

USGS gage data sets >30 yrs



NFHAP 2010 National Assessment

National Fish Habitat Assessment 2010 Coastal Fish Habitat Assessment

*Composite score for 201 estuaries based on
geometric mean of four scaled indicators:*

Eutrophication

Pollutants and contaminants

Coastal watershed land use changes

Freshwater inflow and hydrologic alteration

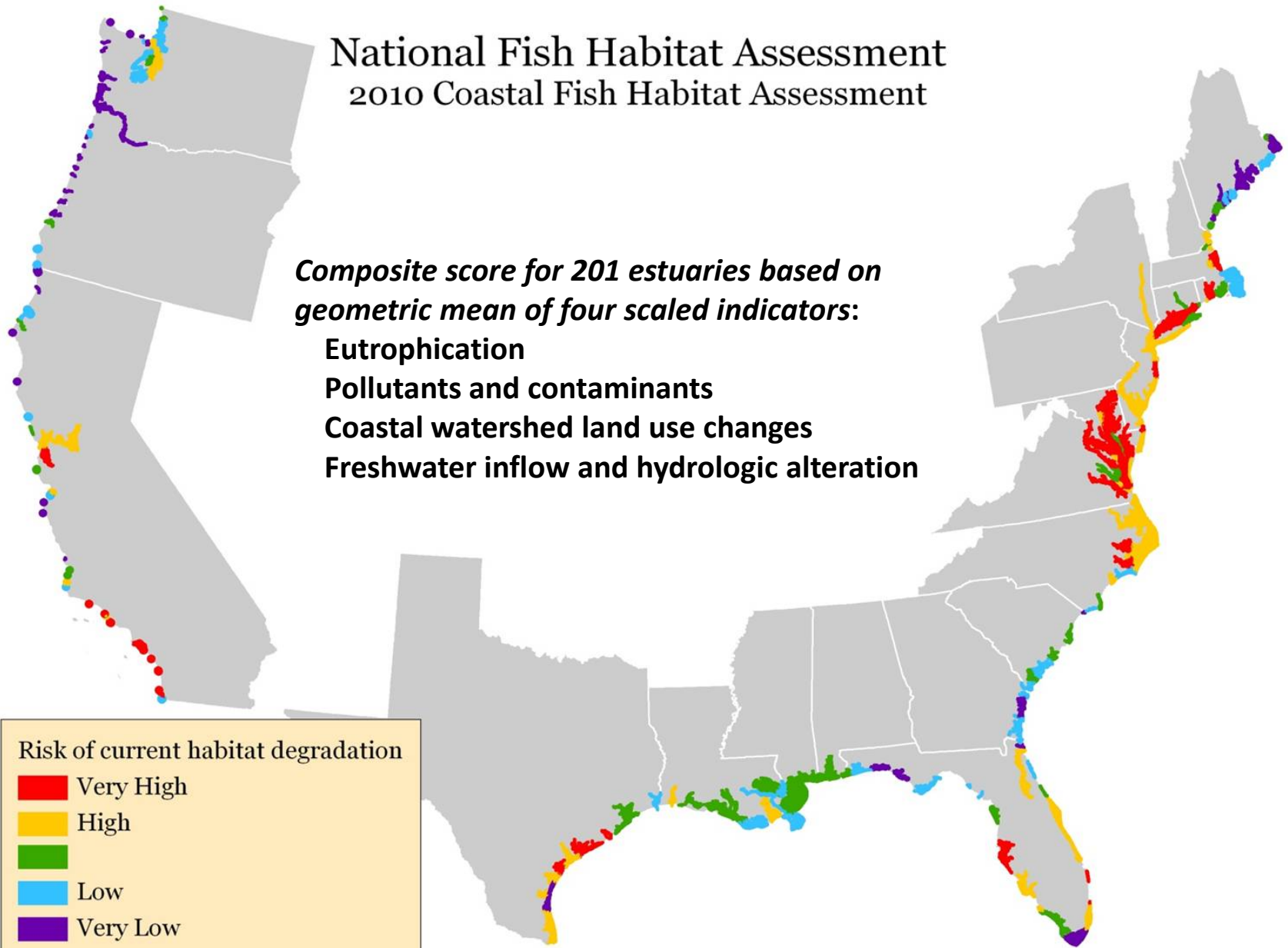
Risk of current habitat degradation

Very High

High

Low

Very Low





NFHAP 2010 National Assessment

A few caveats of the approach

- Using “consistent nationwide data” is both a strength and a limitation: results comparable, but much good info left out.
- Inland and coastal components use different approaches – watershed vs. estuarine spatial framework and indicators.
- Deriving a “single score” for a spatial unit enables us to visualize results – but it may conceal as much information as it reveals.
- How do fish populations respond to the conditions being measured?
- Results may not be applicable at all scales – national to local.
- Caution using National and regional scale assessment to make local conservation decisions.

NFHAP 2010 National Assessment: to be released April 2011

Report will be available as pdf

USGS developing web-based data delivery portal

National Fish Habitat Action Plan

View Risk of Current Habitat Degradation for Stream and Coastal Fish Habitats in the United States

Map controls

- Risk of Current Habitat Degradation for stream and coastal fish habitats
- Scale: HUC 8
- Very Low
- Low
- Moderate
- High
- Very High
- Not Scored
- Opacity: 0 to 100

Fish Habitat Partnership Boundaries

National Fish Habitat Partnerships target geographic and species habitat needs. (read more.)

- Show partnership overlap areas (read more.)
- Atlantic Coastal FHP
- California FHP
- Desert Fish Habitat Partnership
- Driftless Area Restoration
- Select: All partnerships | None
- Landscape Conservation Cooperatives (read more.)

About this map viewer

Data and public map services

NFHAP Coastal/Estuarine Assessment Patapsco/Gunpowder Rivers

Scores Analysis Variables

Relative Risk of fish habitat degradation for Patapsco/Gunpowder Rivers:	Very High
Relative Disturbance Index:	0.05

The Relative Disturbance Index is a cumulative measure of the degree of current risk of habitat degradation of each estuary relative to all other estuaries nationwide.

Additional Indices

Eutrophication Index:	Very High 0.06
River Flow Index:	Very High 0.153
Land Cover Index:	Very High 0.132
Pollutants Index:	Very High 0.078

Methodology: Note that different variables and methods were used to calculate indices of disturbance for coastal/estuarine areas and inland streams/ivers of the conterminous US, Hawaii, and Alaska.

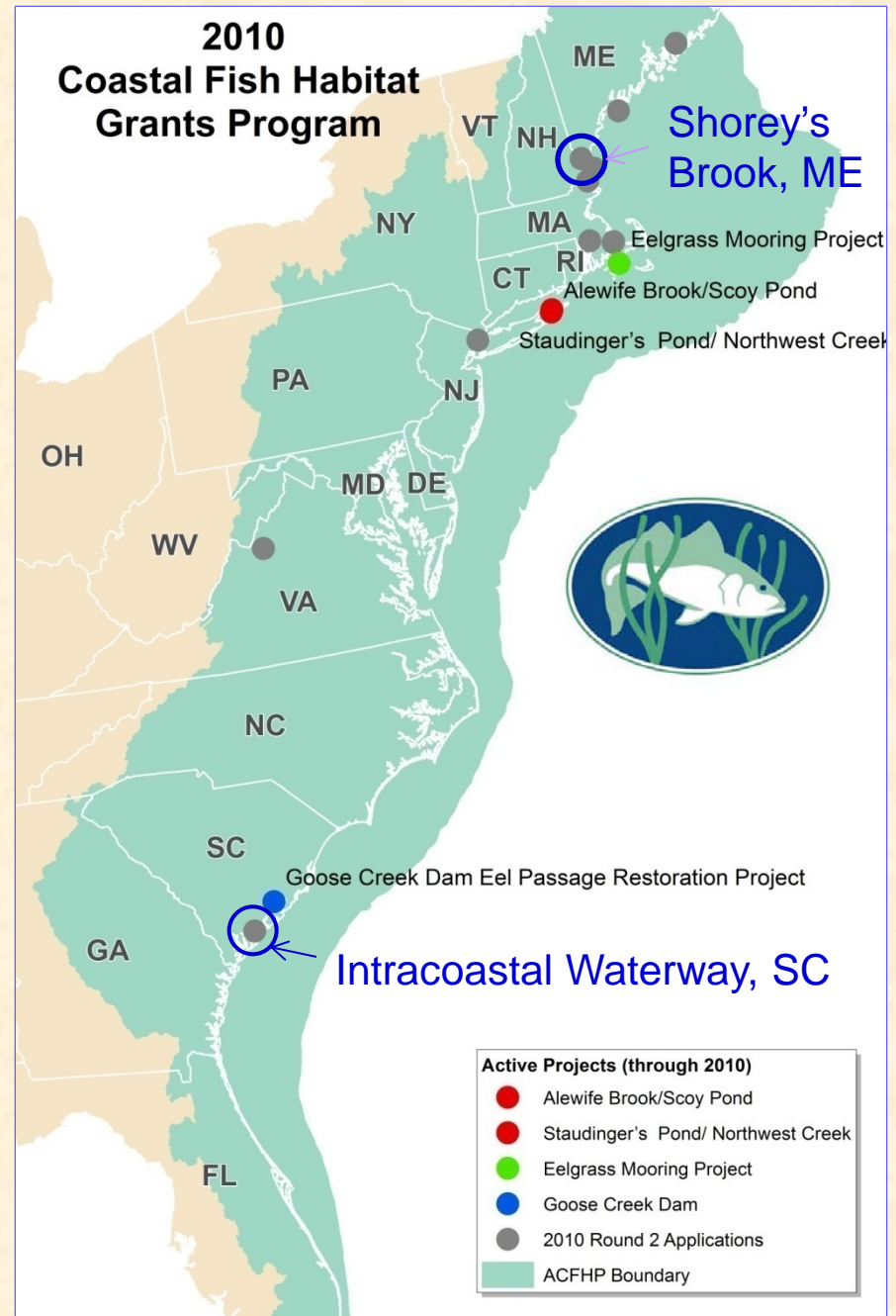
The National Fish Habitat Action Plan Data Viewer is hosted by the United States Geological Survey, National Biological Information Infrastructure. References to non-U.S. Department of the Interior (DOI) products do not constitute an endorsement by the DOI. By viewing the Google Maps API on this web site the user agrees to these Terms of Service set forth by Google.

ACFHP Projects

- ● FY10 FWS-NFHAP Funded projects
- ACFHP Endorsed Project
- FY11 FWS-NFHAP project applications

Potential new projects in FY'11:

- Shoreline and *Spartina* Marsh stabilization along the Atlantic Intracoastal Waterway, SC
- Restoring Diadromous Fish Passage and Habitat to Shoreys Brook, ME



Southeastern Aquatic Resources Partnership (SARP)

NFHAP – SARP Projects

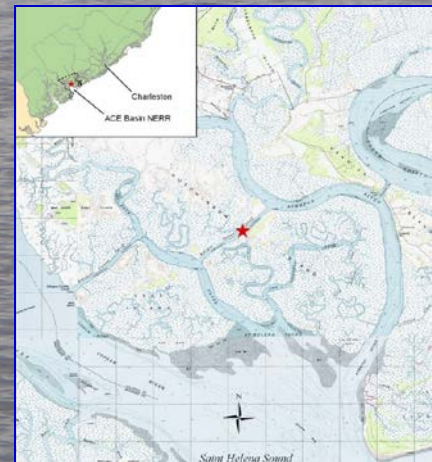
- Galveston Bay TX: oyster reef restoration
- Roanoake Sound, NC: shoreline protection with oyster reef restoration at Jockeys Ridge State park
- Bennett Bayou MS: tidal marsh restoration
- Tampa Bay FL: shoreline stabilization with oyster restoration

Projects with NOAA's Community-based Restoration Program

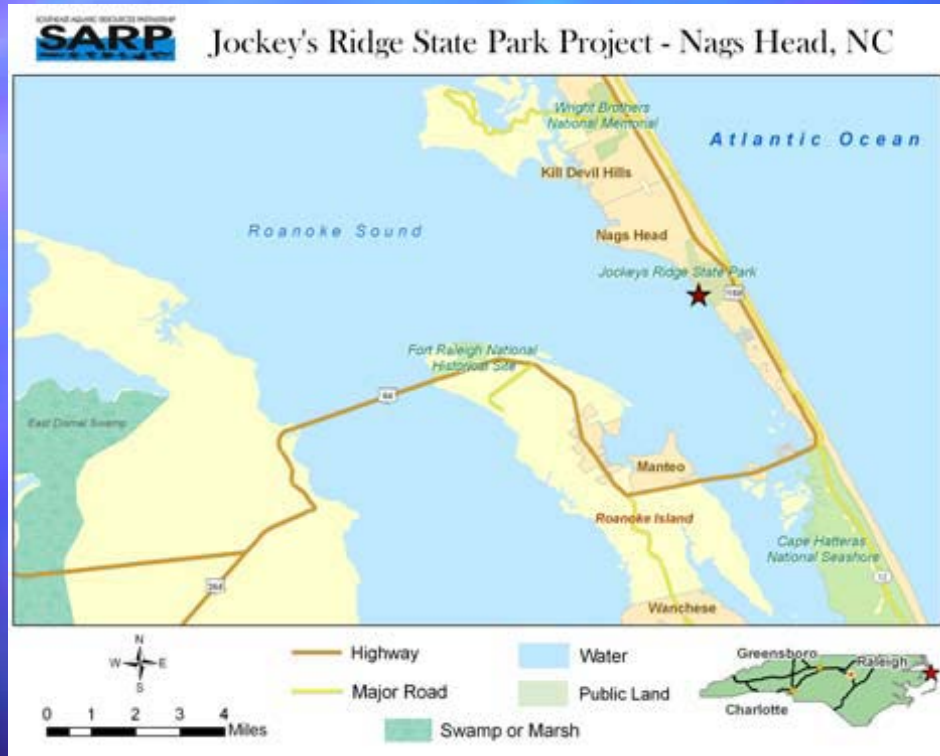
- Sapelo Island GA: oyster reef / shoreline stabilization
- Skidaway Island GA: oyster reef / shoreline stabilization
- Belleville GA: oyster reef creation / non-shell cultch
- Altamaha River GA: "FAD" oyster spat recruitment
- Manatee County FL: tidal wetland restoration

Shoreline and Spartina Marsh stabilization along the Atlantic Intracoastal Waterway, SC

- Rehabilitate tidal marsh areas by constructing oyster reefs
- **Problems:**
 - shorelines subject to severe erosion due to heavy boat traffic
 - artificial channelization disrupts natural shoreline processes
- **Objectives:**
 - construct oyster habitat
 - protect the shoreline and create tidal marsh
 - create self-sustaining reefs to promote sediment accretion
- **Partners:**
 - South Carolina Dept. Environmental Conservation
 - Coastal Conservation Associations
 - Atlantic Coastal Fish Habitat Partnership

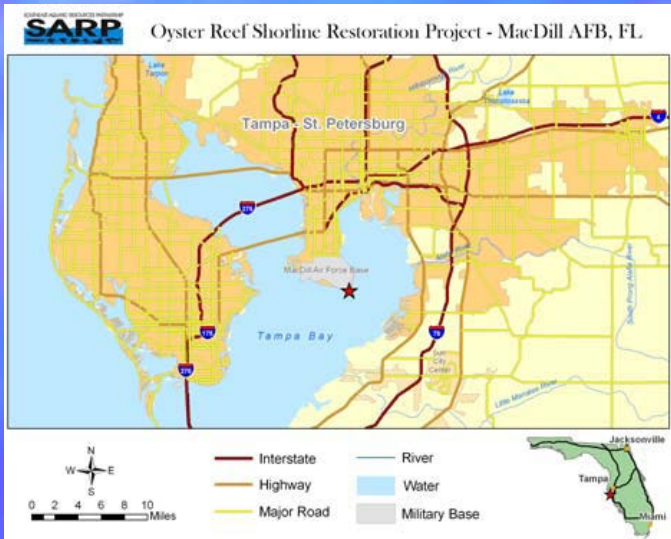


NFHAP and SARP Project



Roanoke Sound NC, Jockeys Ridge State Park
Shoreline protection, *Spartina* marsh creation, oyster restoration
NC Coastal Federation, TNC, NCDMF, USFWS

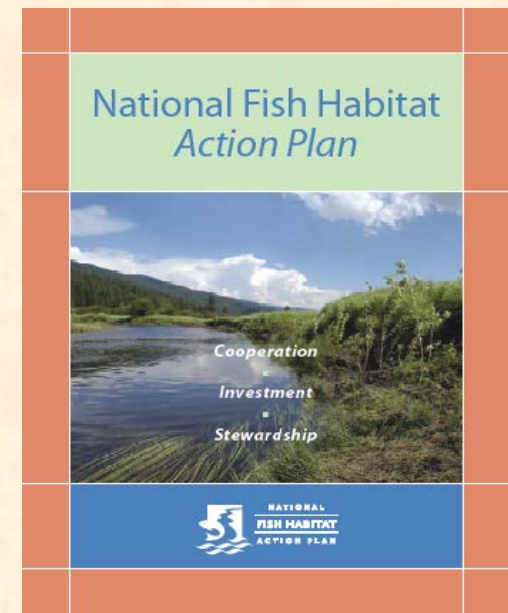
NFHAP and SARP Project



MacDill AFB, Tampa Bay FL
One half mile shoreline stabilization
2,400 concrete oyster domes
36 tons oyster shells, 1,700 bags
Tampa BayWatch "Grasses in Classes"
U.S. Air Force, USFWS

Take-home messages

- NFHAP – a relatively new National-scale fish habitat conservation program, based on regional partnerships.
- Scope includes all U.S. waters, summit to sea.
- Regional and national scale assessment results.
- Targeted conservation projects implemented by individual Fish Habitat Partnerships
- Shellfish beds identified as priority fish habitat.
- Oyster reef restoration projects in progress by both Southeastern Aquatic Resources Partnership (SARP) and Atlantic Coastal Fish Habitat Partnership (ACFHP)



Thanks!

Mahalo Nui Loa!

Céad Mile Fáilte

Tusen Takk!

www.fishhabitat.org