

Science, Service, Stewardship



Federal Regulatory Programs for Protecting Tidal Creeks

Pace Wilber, Jaclyn Daly, Melanie Harris,
Howard Schnabolk, Melissa Strickland,
and Lisa Vandiver

NOAA
FISHERIES
SERVICE

Tidal Creek Summit, December 5 and 6, 2011, Charleston, SC

NOAA
FISHERIES
SERVICE



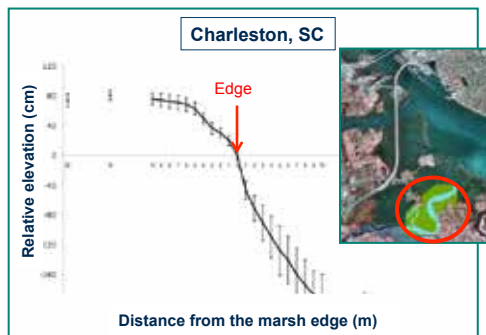
Two Views of Tidal Creeks & Salt Marshes

NOS: Ecosystem Health



(Source: D Sanger, NOAA HML)

NMFS: Fishery Habitat



(Source: T Minello, SEFSC)



Atlantic Coast Trends 1998-2004

TABLE 5. Estimated Changes to Saltwater (Estuarine and Marine) Wetlands in the Coastal Watersheds of the Atlantic and Gulf of Mexico Coasts, 1998 to 2004. Percent Coefficient of Variation was Expressed as (Standard Deviation/Mean) X 100.

Atlantic Coast—Wetland Category	Area in Acres			
	Estimated Area, 1998	Estimated Area, 2004	Change, 1998 to 2004	Change (percent)
Marine Intertidal	105,130 (21.9)	105,160 (21.9)	+30 (71.4)	—
Estuarine Non-vegetated ¹	207,920 (21.4)	207,600 (20.8)	-320 (*)	-0.1
Estuarine Emergent	1,722,900 (6.0)	1,704,460 (6.0)	-18,430 (*)	-1.0
Estuarine Shrub	119,430 (16.6)	118,320 (16.6)	-1,110 (*)	-0.9
Estuarine Vegetated ²	1,842,320 (5.8)	1,822,780 (5.7)	-19,540 (*)	-1.0
All Intertidal Wetlands - Atlantic	2,267,850 (6.1)	2,248,100 (6.0)	-19,750 (*)	-0.9

From Stedman and Dahl (2008)

3



General View of Permitting Process

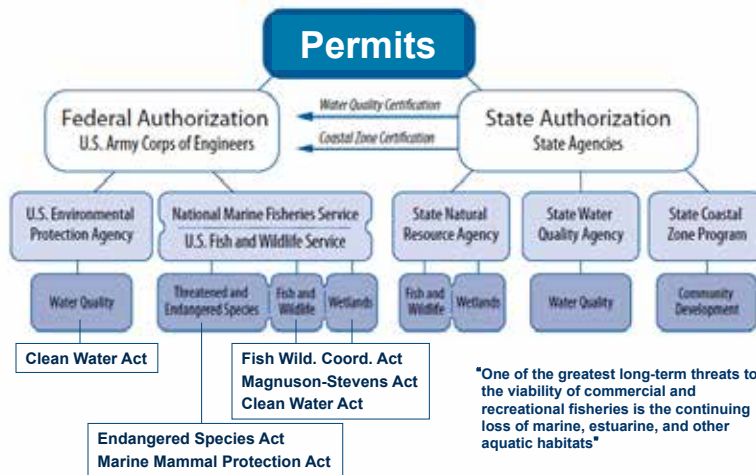


Decision: Water Quality Standards
Public Interest Balancing Test for other issues

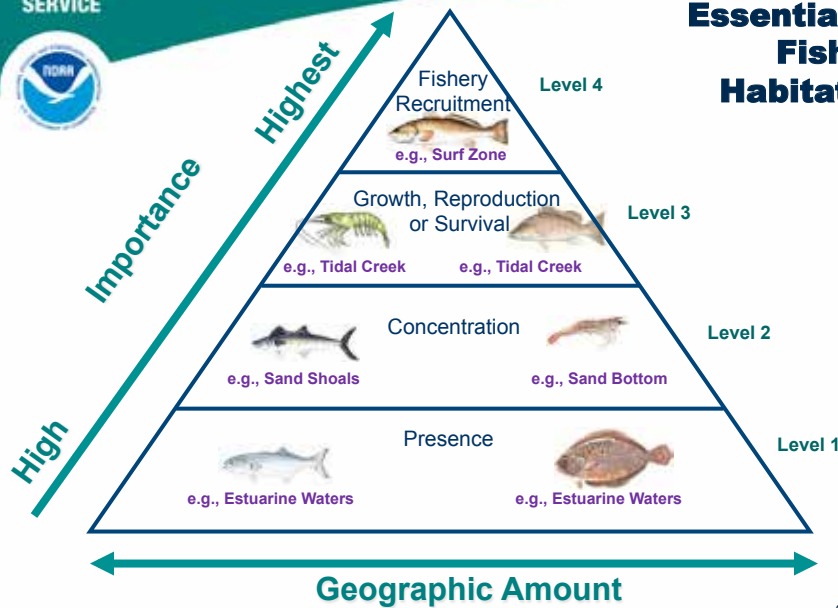
4



Federal Permitting Authorities



Essential Fish Habitat





Effectiveness of Protection of Tidal Creeks

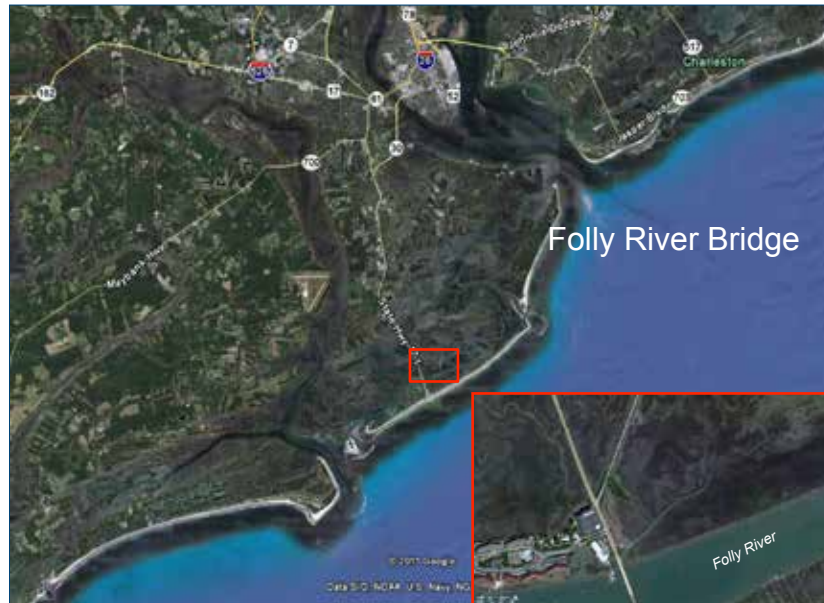
Individual Permits FY2011

<u>State</u>	<u>Coastal</u>	<u>Inland</u>	<u>Pct. Coastal</u>
NC	58	48	55%
SC	114	51	69%
GA	22	45	33%
FL (Atlantic)	354	91	80%

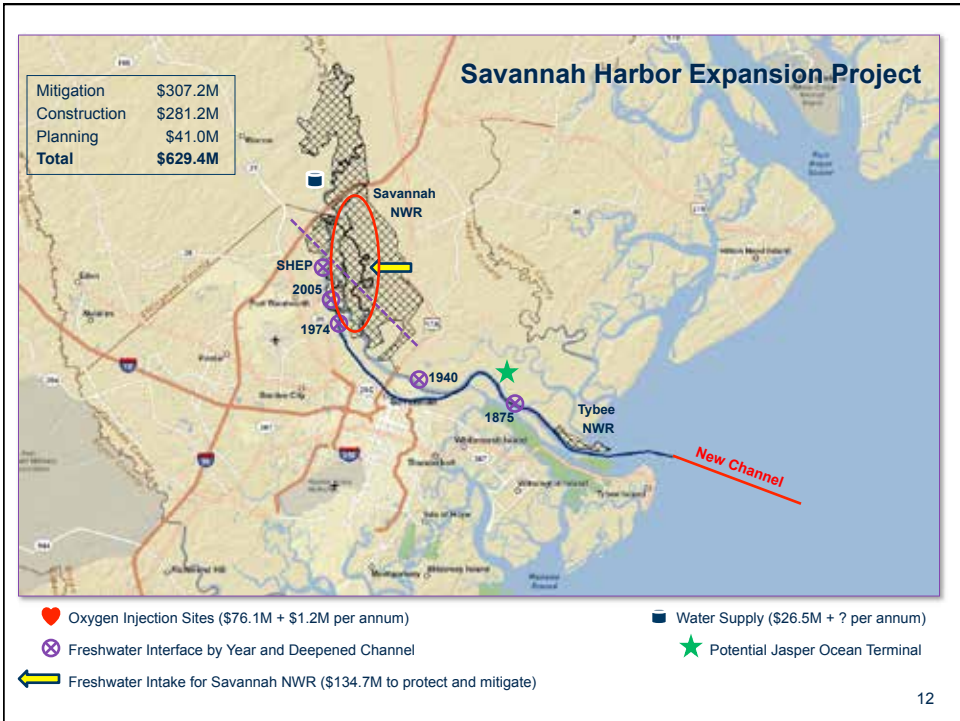
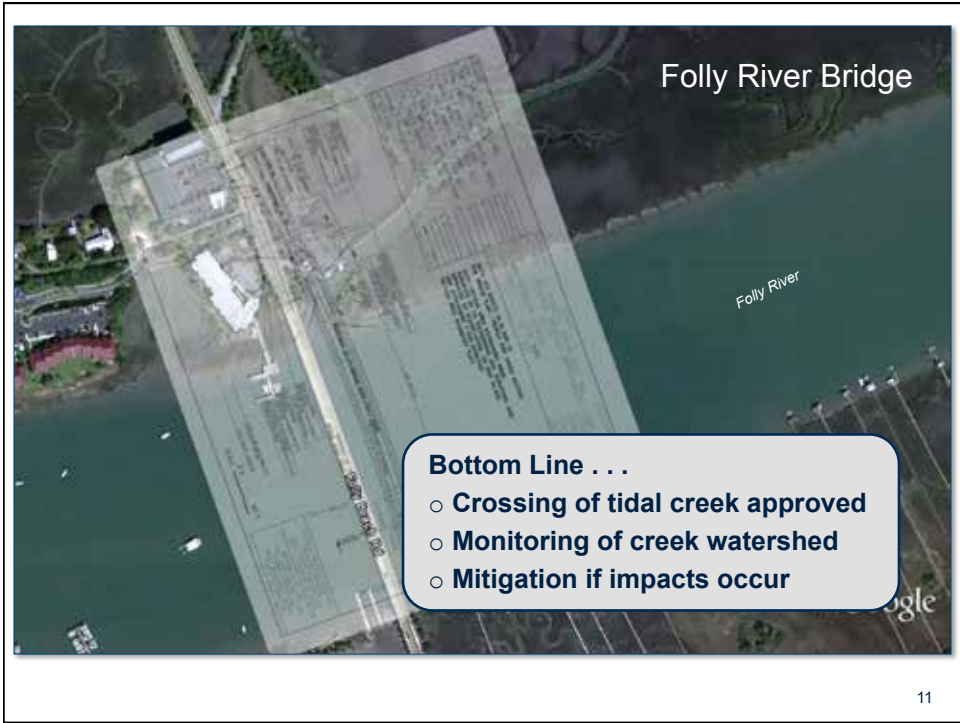
Bottom line . . .

States with strong coastal programs have less development at coast

7



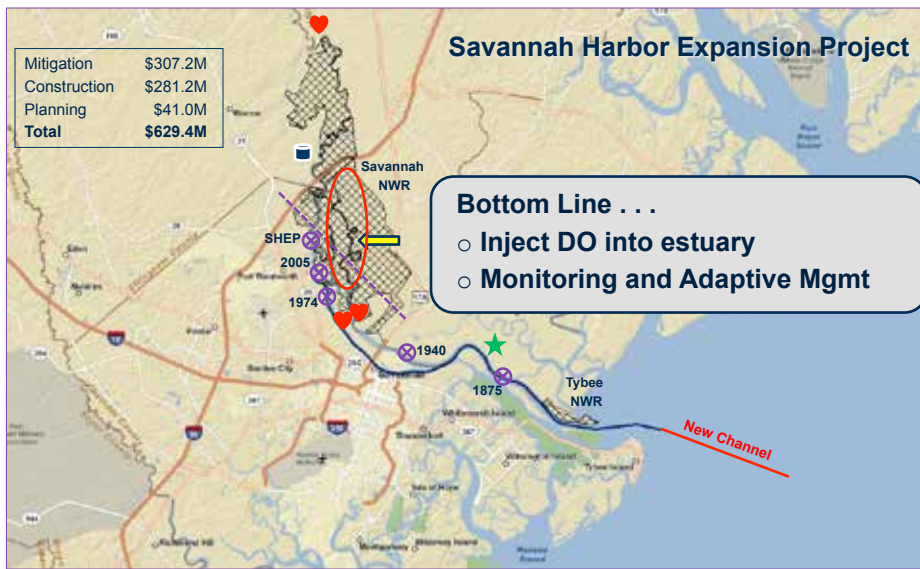




Savannah Harbor Expansion Project

Zones - Existing Conditions										Zones - 47 feet + Flow Rerouting									
Zone No.	Episodic				Chronic				Constant	Zone No.	Episodic				Chronic				Constant
	1%	5%	10%	25%	50%	75%	90%	95%			99%	1%	5%	10%	25%	50%	75%	90%	
FR1	4.13	4.20	4.26	4.37	4.50	4.59	4.72	4.80	4.84	FR1	3.93	3.99	4.05	4.20	4.34	4.48	4.56	4.60	4.65
FR2	3.94	3.99	4.03	4.25	4.37	4.54	4.65	4.69	4.76	FR2	3.66	4.08	4.17	4.32	4.46	4.61	4.76	4.82	4.93
FR3	3.70	3.77	3.83	4.03	4.19	4.38	4.71	4.79	4.99	FR3	3.61	3.66	3.70	3.91	4.04	4.22	4.58	5.09	5.47
FR4	3.66	3.71	3.75	3.99	4.12	4.37	4.93	5.31	5.54	FR4	3.61	3.66	3.70	3.92	4.03	4.20	4.60	5.02	5.53
FR5	3.68	3.76	3.88	4.08	4.27	4.77	5.41	5.65	5.79	FR5	3.73	3.78	3.88	4.05	4.18	4.38	4.83	5.07	5.28
FR6	3.96	4.01	4.11	4.32	4.55	5.20	5.78	5.92	6.04	FR6	3.72	3.83	3.89	4.07	4.19	4.38	4.86	5.15	5.34
FR7	4.44	4.55	4.69	5.09	5.85	6.18	6.41	6.56	6.70	FR7	4.40	4.53	4.65	4.89	5.45	5.93	6.31	6.55	7.12
FR8	4.86	5.05	5.29	5.66	6.15	6.43	6.67	6.80	6.98	FR8	4.38	4.49	4.60	4.86	5.64	6.14	6.44	6.57	6.72
FR9	5.67	5.90	6.02	6.26	6.54	6.81	7.07	7.23	7.34	FR9	4.91	5.32	5.48	5.97	6.38	6.69	7.02	7.20	7.36
FR10	5.71	5.85	6.02	6.30	6.57	6.81	7.16	7.24	7.32	FR10	4.69	5.04	5.23	5.55	5.89	6.32	6.60	6.85	7.16
FR11	4.88	5.10	5.28	5.59	5.88	6.18	6.45	6.55	6.68	FR11	4.18	4.59	4.81	5.11	5.65	6.14	6.40	6.66	6.94
MR1	4.48	4.58	4.70	4.89	5.17	5.54	5.84	5.97	6.04	MR1	4.20	4.34	4.43	4.66	4.94	5.17	5.47	5.66	5.99
MR2	4.20	4.31	4.51	4.79	5.13	5.50	5.80	5.91	6.03	MR2	4.22	4.36	4.49	4.71	4.98	5.24	5.55	5.68	5.78
MR3	3.85	4.04	4.10	4.38	4.74	5.22	5.59	5.72	5.85	MR3	4.19	4.36	4.44	4.64	4.94	5.19	5.41	5.60	5.83
MR4	4.39	4.51	4.61	4.78	5.00	5.24	5.44	5.54	5.70	MR4	4.36	4.45	4.59	4.77	5.06	5.30	5.59	5.69	5.99
MR5	2.31	2.42	2.49	3.46	5.33	6.16	6.53	6.82	7.01	MR5	2.29	2.78	3.12	3.86	5.36	6.19	6.52	6.78	7.03
MR6	2.49	2.58	3.05	3.58	5.69	6.33	6.80	6.94	7.27	MR6	6.15	6.32	6.45	6.64	6.90	7.23	7.41	7.51	7.81
LBR1	4.30	4.50	4.59	4.80	4.99	5.19	5.30	5.45	5.57	LBR1	4.06	4.82	5.12	5.49	5.80	6.10	6.32	6.55	6.76
LBR2	3.70	3.81	3.96	4.13	4.35	4.55	4.71	4.77	4.89	LBR2	4.48	4.57	4.69	4.92	5.14	5.38	5.56	5.68	5.81
LBR3	3.54	3.58	3.65	3.78	3.95	4.11	4.24	4.35	4.46	LBR3	2.54	2.67	2.82	3.04	3.32	3.63	3.82	3.89	4.02
BR1	3.53	3.58	3.64	3.90	4.04	4.21	4.43	4.50	4.60	BR1	1.83	2.18	2.70	3.50	4.11	4.69	4.94	5.02	5.09
BR2	3.30	3.38	3.46	3.62	3.82	3.99	4.14	4.30	4.39	BR2	1.59	1.80	1.98	2.36	2.76	3.06	3.32	3.41	3.53
BR3	3.40	3.51	3.56	3.63	3.74	3.85	3.97	3.99	4.02	BR3	1.72	1.95	2.05	2.22	2.47	2.92	3.40	3.50	3.74
SCH1	3.51	3.56	3.63	3.72	3.83	3.95	4.04	4.10	4.16	SCH1	2.30	2.47	2.68	2.91	3.05	3.28	3.64	3.78	3.91
SCH2	3.94	4.04	4.09	4.25	4.36	4.40	4.61	4.65	4.73	SCH2	3.68	3.80	3.90	4.09	4.28	4.43	4.55	4.61	4.72
SR	4.90	4.95	5.18	5.52	5.84	6.17	6.35	6.41	6.48	SR	4.68	4.73	4.96	5.30	5.61	5.96	6.10	6.15	6.22
StbR	4.74	4.93	5.09	5.44	5.79	6.09	6.30	6.43	6.56	StbR	3.75	4.30	4.59	5.11	5.67	6.05	6.32	6.45	6.66

Bottom line . . .
Project expected to degrade WQ in tidal creeks unless mitigated



Mitigation	\$307.2M
Construction	\$281.2M
Planning	\$41.0M
Total	\$629.4M

Bottom Line . . .

- Inject DO into estuary
- Monitoring and Adaptive Mgmt

- ♥ Oxygen Injection Sites (\$76.1M + \$1.2M per annum)
- ☒ Water Supply (\$26.5M + ? per annum)
- ⊗ Freshwater Interface by Year and Deepened Channel
- ★ Potential Jasper Ocean Terminal
- ↔ Freshwater Intake for Savannah NWR (\$134.7M to protect and mitigate)



Summary Observations on Protection of Tidal Creeks

- Effectiveness of federal authorities varies and inversely correlates with population growth and development
- Effectiveness of federal efforts also strongly and directly correlates with the strength of parallel programs administered by state agencies
- Proposals to directly impact tidal creeks (e.g., point source discharges, dredging and filling) are relatively easy to identify and address within existing regulatory frameworks, indirect impacts (e.g., non-point-source runoff, reduced tidal prism, and impacts that cascade into a creek from outside areas) are more difficult to forecast and address

15



Summary Observations on Protection of Tidal Creeks

Level/B	Players	Role	Tidal Creek Focus
Federal	COE EPA, FWS, NMFS	Clean Water Act Permit Assistance to COE	Natural Res. Hydrology
State	WQ agency Coastal agency Habitat agency	Water Quality Certification Coastal Consistency Cert. Assistance to all	Water Quality, Stormwater, Buffers
Local	Zoning boards Develop. Agency	Zoning Variances Building permits	Land use Stormwater, Buffers

16

Science, Service, Stewardship



Federal Regulatory Programs for Protecting Tidal Creeks

Pace Wilber, Jaclyn Daly, Melanie Harris,
Howard Schnabolk, Melissa Strickland,
and Lisa Vandiver

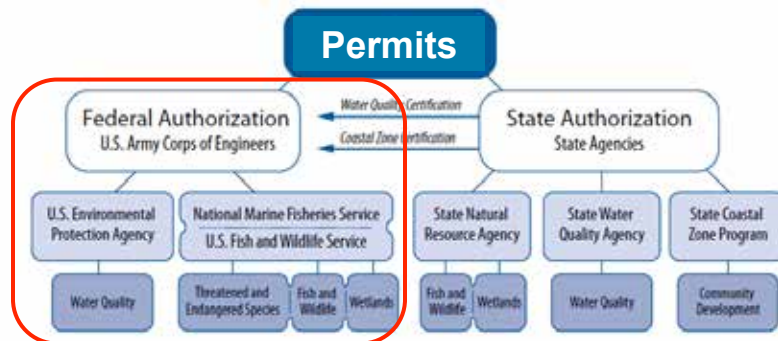
NOAA
FISHERIES
SERVICE

Tidal Creek Summit, December 5 and 6, 2011, Charleston SC

NOAA
FISHERIES
SERVICE



General View of Permitting Process



18



EFH Review Procedure

Main Points

- When practicable, add EFH consultation to existing interagency coordination mechanisms
- “Findings” have details for each USACE District
- EFH process fills a gap in the CWA process (*IMHO)

Before EFH Added
To Magnuson-Stevens Act

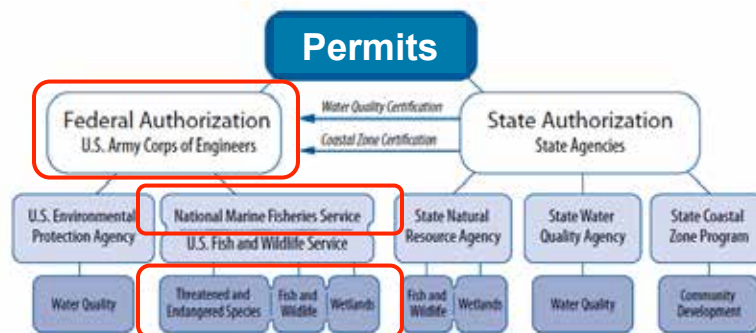
CWA 404(q) Elevation (Yields ROD or SOF/Draft Permit)

Federal agencies must provide a detailed response within 30 days of receiving an EFH conservation recommendation
And at least 10 days before final approval (Findings allow for interim responses)

Comment with No Response



General View of Permitting Process





EFH Review Procedure

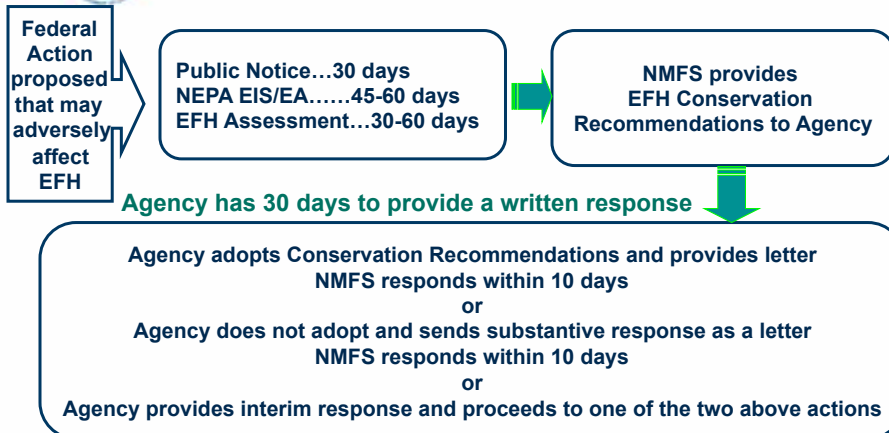
What is EFH?

- Exists only for species that have a federal fishery management plan
- Designated through amendments to federal fishery management plans (individually or via a comprehensive amendment)
- Technical basis of each designation within report or comprehensive habitat/ecosystem plan
- Habitat Area of Particular Concern (HAPC) is a subset of EFH

21



EFH Review Procedure



22



Review Authorities for Projects within Tidal Creeks

Habitat, Water Quality, Land Use

- Fish and Wildlife Coordination Act
- Clean Water Act
- Coastal Zone Management Act
- Magnuson-Stevens Act

Protected Species

- Endangered Species Act
- Marine Mammal Protection Act

23



Magnuson-Stevens Act and Essential Fish Habitat (EFH)

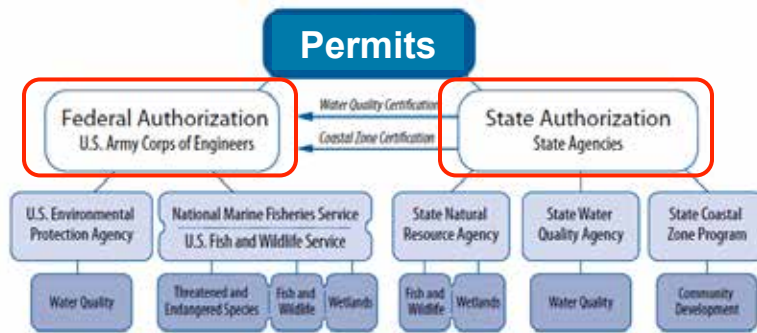
- “One of the greatest long-term threats to the viability of commercial and recreational fisheries is the continuing loss of marine, estuarine, and other aquatic habitats”
- EFH are “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity”
- Consultation requirements for federal agencies when an adverse impact to EFH is proposed

50 CFR Part 600

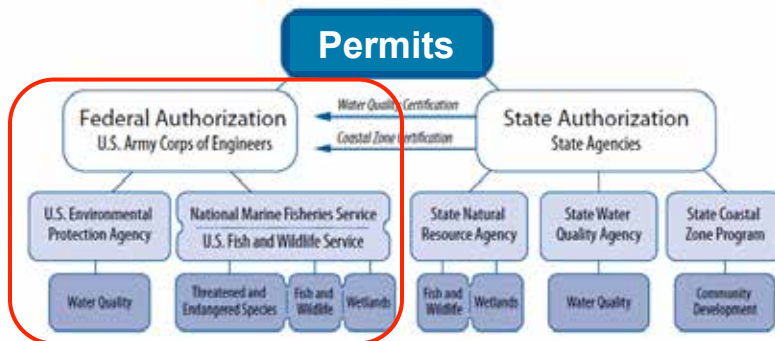
24



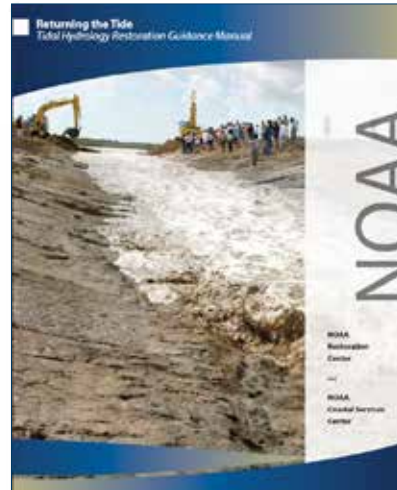
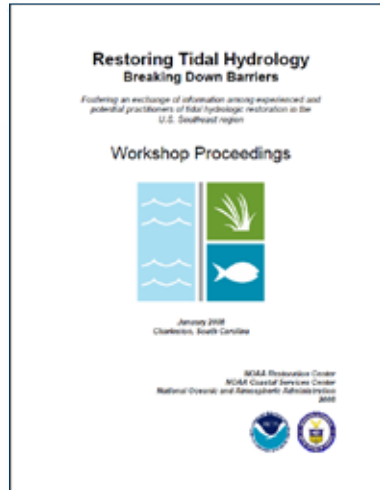
General View of Permitting Process



General View of Permitting Process

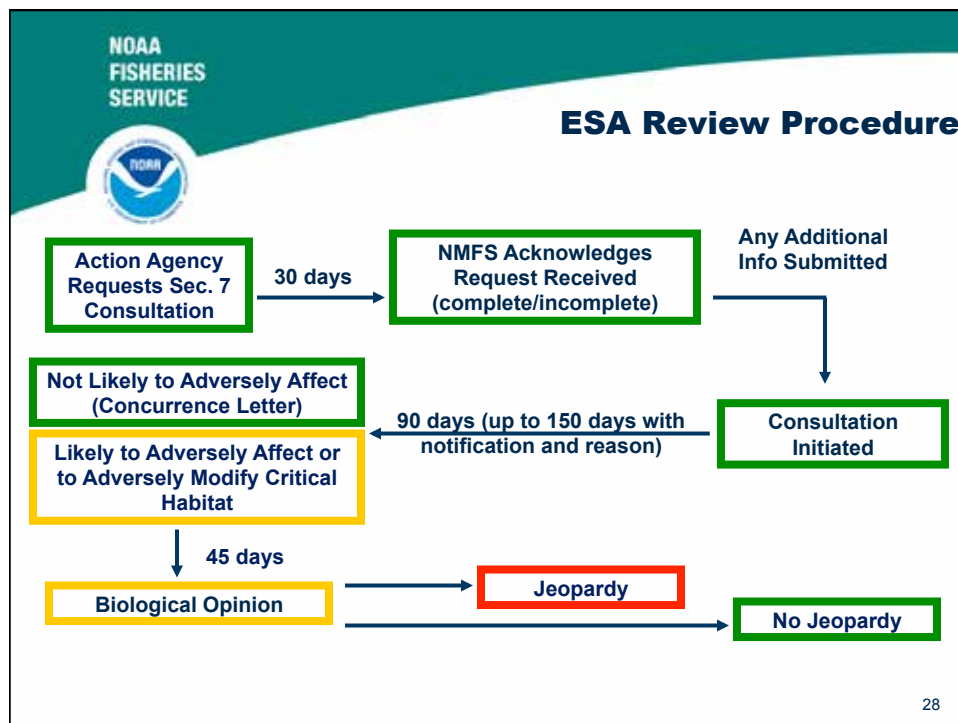


Relevant Reports from NOAA



www.habitat.noaa.gov/restoration/approaches/hydrologicrestoration.html

27



28



Endangered Species Act

Summary

- Conservation, management and recovery
- Federal agencies shall ensure their actions are not likely to jeopardize the continued existence of listed species or result in destruction or adverse modification of critical habitat
- Federal agencies shall utilize their authorities to further the Act, e.g., development of appropriate terms and conditions for permits or licenses

29



Marine Mammals

Legislation

- Marine Mammal Protection Act (MMPA) 1972
- Title IV of MMPA 1992 established Marine Health and Stranding Response Program (MMHSRP)
- Endangered Species Act

Species Jurisdiction Under MMPA

- NOAA Fisheries: Cetaceans, Pinnipeds (Except Walrus)
- USFWS: Manatees, Sea Otters, Polar Bears, Walrus

30



What is EFH to SAFMC ?

EFH*

- Seagrass
- Mangroves
- Tidal Inlets
- Coral, hardbottom, worm reefs
- Palustrine & estuarine wetlands
- Oyster reefs
- Mud flats
- Sargassum
- Aquatic beds & macroalgae
- Artificial reefs

* See SAFMC (1998) for full list

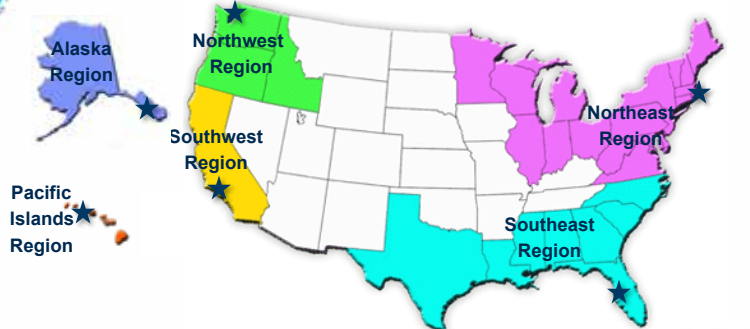
Habitats Areas of Particular Concern (HAPCs)*

- Seagrass
- Mangroves
- Tidal Inlets
- Coral, hardbottom, worm reef
- Biscayne & Florida Bays
- Grays Reef NMS
- Florida Keys NMS
- Bogue Sound
- Charleston Bump
- Oculina Bank
- Ten Fathom Ledge

31



NMFS Regional Structure



National Headquarters

- NMFS Office of Habitat Conservation
- NMFS Office of Protected Resources

Regional Office

- Habitat Conservation Division
- Protected Resources Division

32