

Successes and Challenges in Advancing Aquatic Resource Conservation

Alaska Fish Habitat Partnership's: Protecting Alaska's Estuaries



Alaska Shoreline/Estuary Protection

- Summary of Alaska Fish Habitat Partnerships
- Conservation Targets
- Identification of Threats
- Priority Actions
- Activities and Accomplishments
- Assessments and Challenges



Alaska Fish Habitat Partnerships, Conservation Action Planning

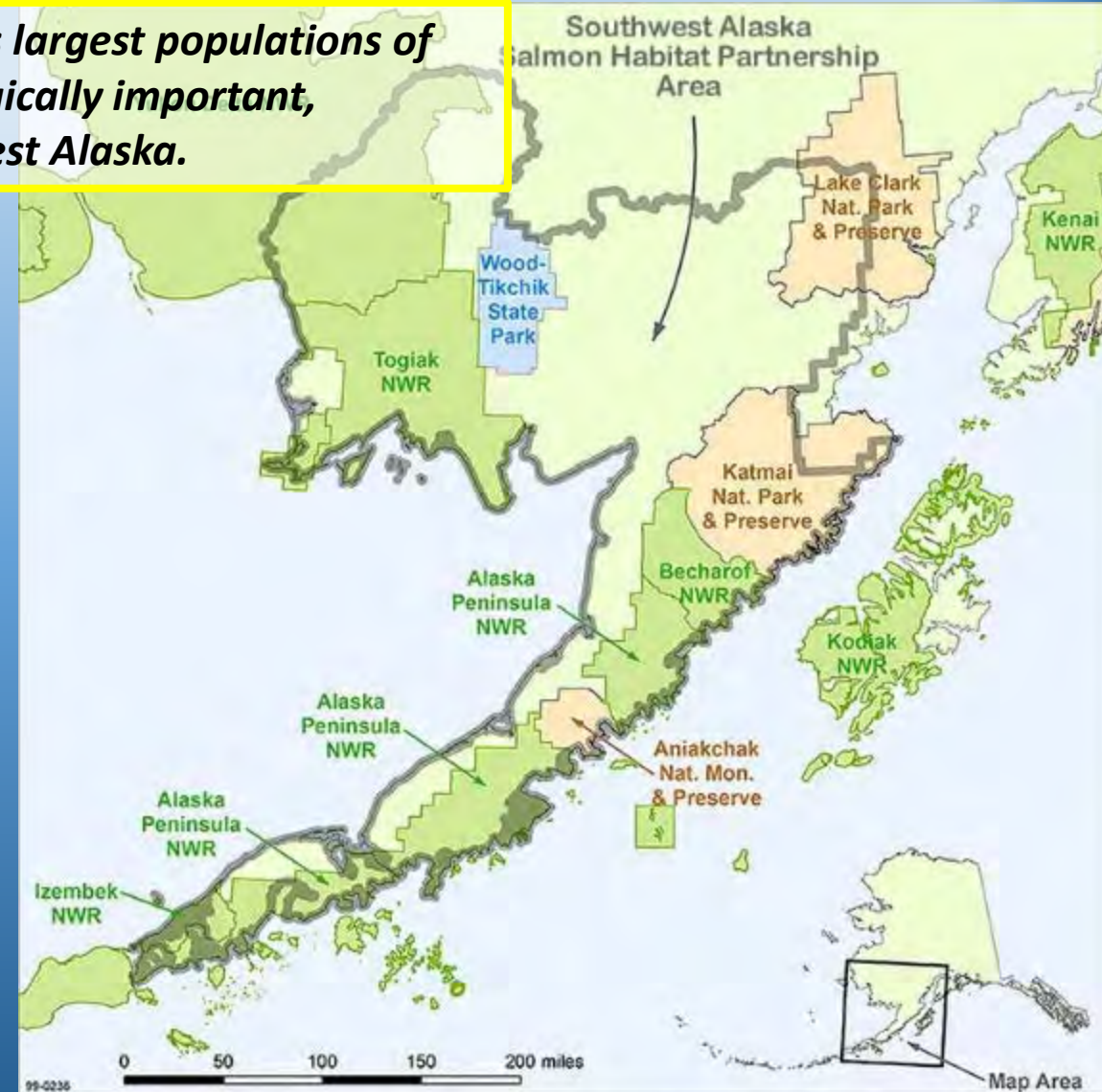
- Southwest Alaska FHP
 - Target Species: Pacific salmon
 - Threats: Mining (WQ, Hydrology)
- Mat-Su Salmon Habitat FHP
 - Pacific salmon, Beluga Whales
 - Threats: Infrastructure, Hydropower
- Kenai Peninsula FHP
 - Pacific salmon, Halibut, Shellfish
 - Infrastructure, Oil and Gas
- Southeast FHP
 - Pacific salmon, Herring, Shellfish
 - Marine Fills, Log Transfer, Oil Spills



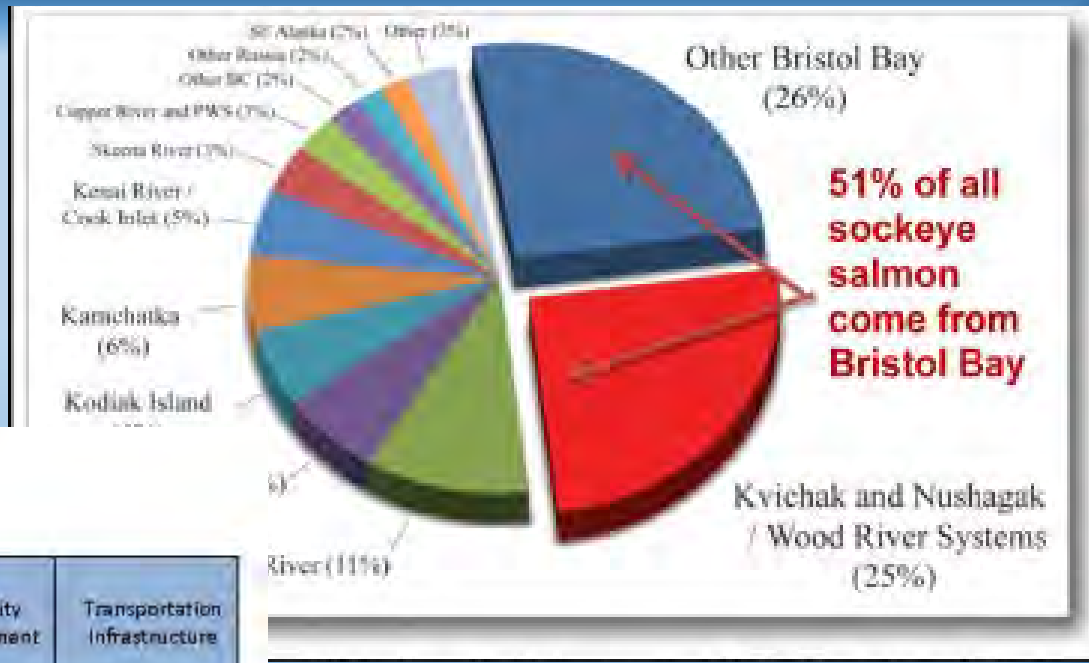
Southwest Fish Habitat Partnership

The Partnership envisions the continuation of the world's largest populations of salmon that perpetually sustain the culturally and ecologically important, economically valuable, and unique landscape of Southwest Alaska.

- Identify and characterize habitat in each watershed used by salmon and areas which support and sustain salmon habitat, through a coordinated research program.
- Identify threats to salmon habitat in areas that support and sustain salmon in each watershed.
- Prioritize actions within each watershed to conserve, protect or restore salmon habitat based on identified threats.



Threats to Salmon Habitat



Overview of likely threats to salmon habitat in watersheds of Bristol Bay over the next 50 years

Watersheds	Percent Land not in Conservation Status	Mineral Development	Climate Change	Fragmentation of Land Ownership	Energy Development	Invasive Species	Community Development	Transportation Infrastructure
Lower Nushagak River	98.0%	Low	High	High		Low	High	Medium
Mulchatna River	85.6%	High	High	High		Low		
Lake Iliamna - Kvichak	80.4%	High	High	High		Low	Low	High
Upper Nushagak River	70.3%	High	High	High		Low		Low
Port Heiden	55.0%		High	Low		Low		
Ugashik Bay	50.4%		High	Low		Low		
Cold Bay	37.6%		High	Low		Low		
Wood River	37.5%		High	Medium	Medium	Low		
Lake Clark	36.9%	Low	High	Medium		Low		
Egegik	27.9%		High	Low		Low		
Kemik River	24.1%		High	High		Low	High	Low
Estuaries			High	Low	Medium	Low	Low	

Southwest Alaska Fish Habitat Partnership

Strategic Action: Land and Water Conservation

Accomplishments

- 100 thousand acres of wetland or anadromous watersheds, in conservation easements or protected land status
- Instream flow reservations in process for Stuyahok River, Mulchatna River, Kaskanak Creek and Chuilitna River, Upper Talarik Creek and Kaktuli Rivers
- The Bristol Bay River Academy merges salmon and river education, with recreation and conservation principles to educate, engage and inspire Bristol Bay young adults to become local leaders in salmon stewardship and prepared for jobs based on healthy salmon in their home rivers



Mat-Su Basin Salmon Habitat Partnership

Overall Estuaries Goal: To ensure that all estuarine and nearshore habitats that provide priority salmon habitat are safeguarded during development in Cook Inlet.

Salmon Ecology of Cook Inlet:

- Map Habitat
- Investigate Salmon Use
- Evaluate Effects of Development

Conserve Estuaries for Salmon

- Assess Conservation Status
- Protect Priority Estuarine Habitats
- Collaborate with other Partnerships
- Minimize disruption of Processes
- Protect Water Quality



Mat-Su Salmon Habitat Partnership: Threats

- **Loss of estuaries and Nearshore Habitats: Docks/Harbors, Bridges**
- **Filling of Wetlands: Urban Development, Roads, Railroads**
- **Water Quality: Stormwater Runoff, Hydroelectric development**

Table 8. Most Significant Impacts from Potential Threats to Salmon Habitat

		Potential Threats to Salmon Habitat							
		Climatic Change Development in Estuaries & Nearshore Habitats	Ground & Surface Water Withdrawals	Household Septic Systems & Wastewater	Aquatic Invasive Species	Large-scale Resource Development	Motorized Off-road Recreation Residential, Commercial, & Industrial Development	Roads and Railroads	Stormwater Runoff
Impacts to Salmon Habitat	Alteration of riparian areas								
	Filling of wetlands								
	Degradation of water quality								
	Impairments to fish passage								
	Loss or alteration of water quantity								
	Loss of estuaries and nearshore habitats								
	Alteration of native plant & animal communities								

¹⁰ Appendix 11 diagrams the most significant stresses that the potential threats may cause to the salmon and ecosystem targets.

Mat-Su Salmon Partnership Accomplishments



- Salmon Habitat Annotated Bibliographies
- USFWS Integrated Salmon Research Plan
- NMFS Shorezone Mapping and Habitat Classification (Statewide)
- Investigations of Salmon Habitat use (Mat-Su and Kenai)
- Estuarine Conservation Easements

Mat-Su Salmon Habitat Partnership: Challenges



Kenai Peninsula Borough FHP



Conservation Targets

- Salt Marsh and Estuarine Intertidal Habitats
 - Forage Fish
 - Salmon-Juvenile Rearing and Emigration
 - Larval and Juvenile Invertebrate Fauna



Kenai Peninsula FHP: Threats and Actions

Threat: Tanker/Non Tanker Vessel Spills

Action: Assess and Update Spill Prevention and Response Plans

Threat: Shoreline Development

Action: Scientific Foundation and Decision Makers Access to Scientific Information



Kenai Peninsula FHP Estuarine Accomplishments

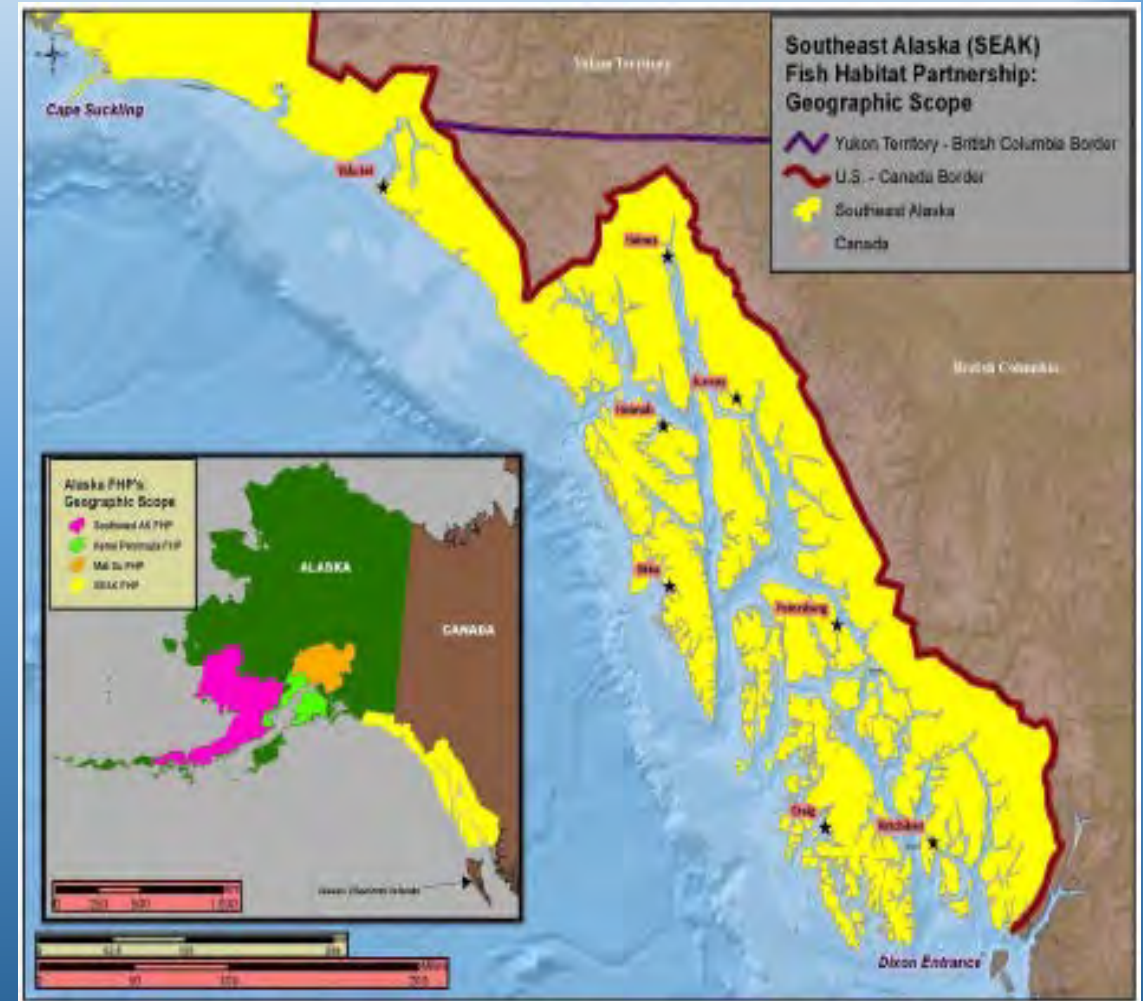
- NMFS Shorezone Mapping
- Estuarine Juvenile Salmon Research in Kachemak Bay



Southeast Alaska FHP Strategy



- **Protect fish habitat in freshwater systems, estuaries and nearshore/marine areas in Southeast Alaska,**
- **Maintain water quality and quantity in those areas, and**
- **Restore and enhance fragmented and degraded fish habitats in impacted areas.**



Southeast Alaska FHP Strategic Actions

- GOAL C1: PROTECT FISH HABITAT IN FRESHWATER SYSTEMS, ESTUARIES AND NEARSHORE/MARINE AREAS IN SOUTHEAST ALASKA.
 - Objective C1-5. Support regional discussions and projects that promote research and monitoring in the marine environment.
- Action C2-1.2. Work with the Alaska Department of Environmental Conservation (DEC) through the Alaska Clean Water Actions program and with other SEAKFHP partners to promote development of a long-term water quality monitoring and tracking program for Southeast Alaska.

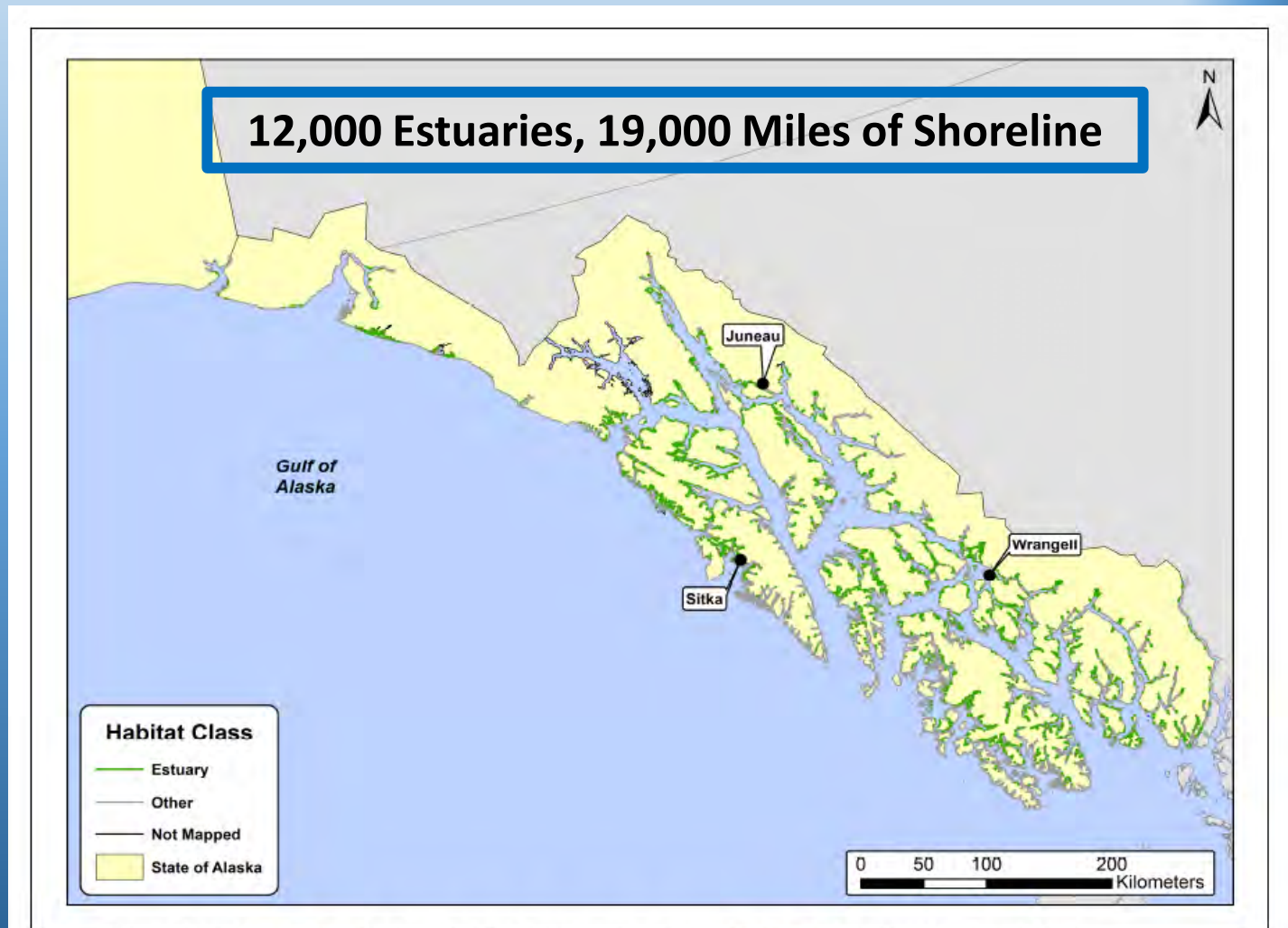
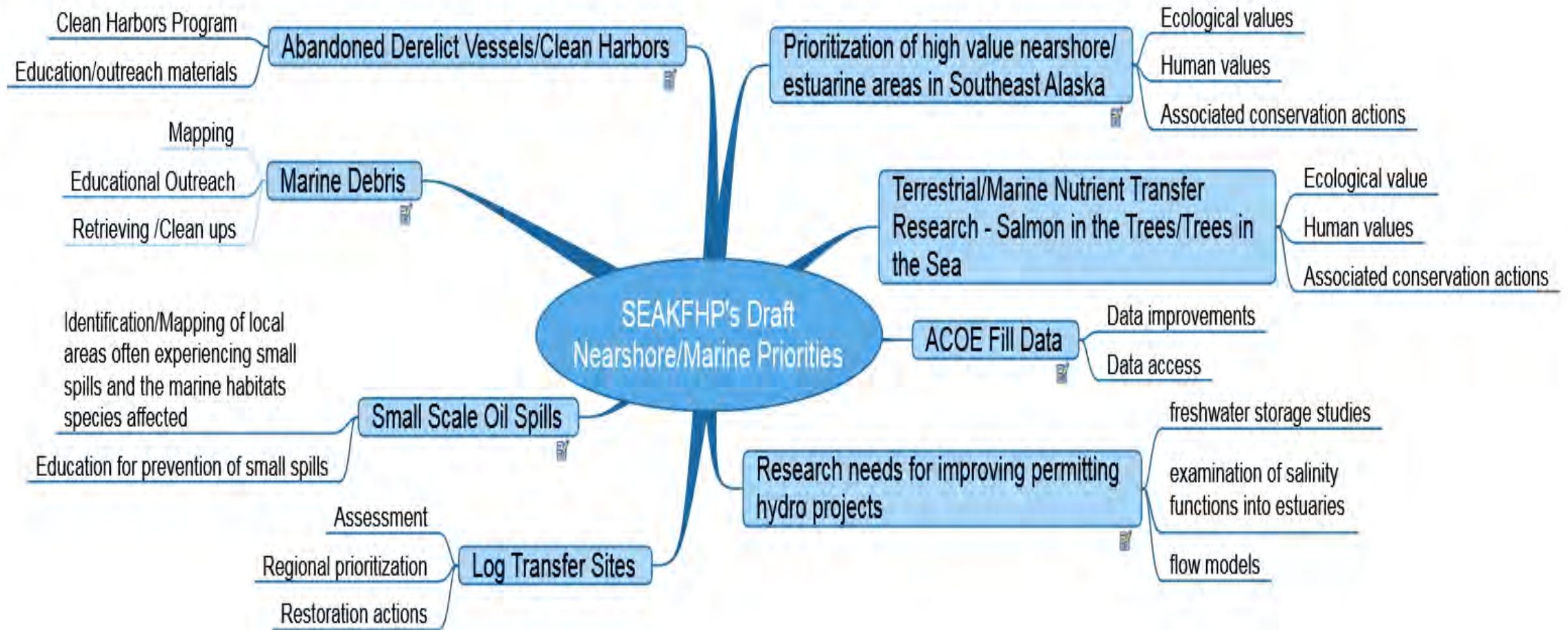


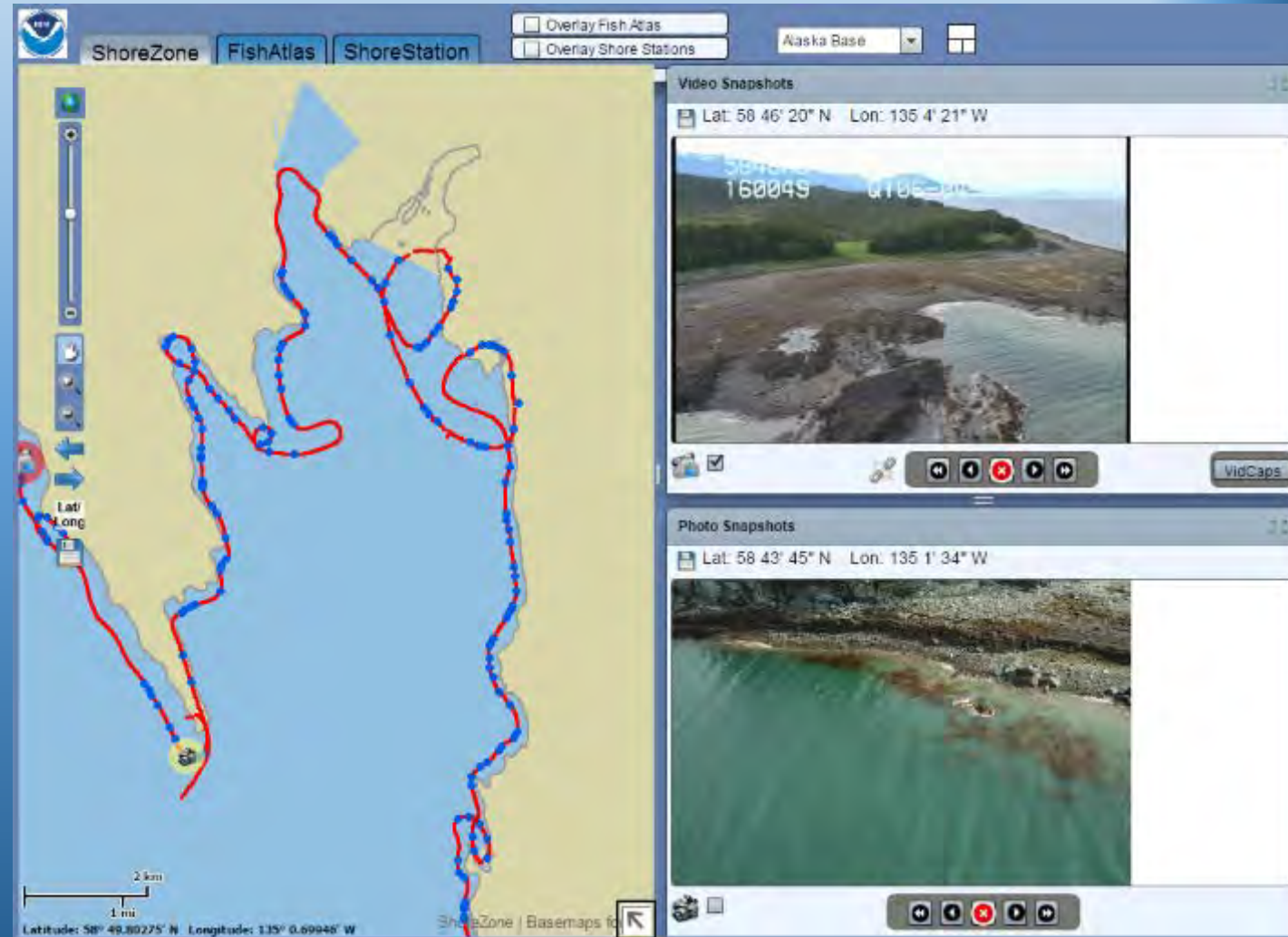
Figure 1.25. Distribution of Estuary habitat class category mapped in the study area of Southeast Alaska.

Southeast Alaska Marine Priorities and Actions



NMFS ShoreZone Mapping and Fish Atlas

- Through the ShoreZone Partnership the majority of Southeast Alaska is now mapped and biological data is available for the nearshore environment. You can find more information on the ShoreZone website at: <https://alaskafisheries.noaa.gov/shorezone>.



Southeast Alaska FHP Accomplishments

- Southeast Alaska Land Trust Conservation Easements
- ShoreZone Mapping
- Conservation Planning
- Estuary Assessments
- Water Quality/Stormwater Assessments
- Estuarine Classification



