


Development of the Marine Fisheries

HABITAT ASSESSMENT IMPROVEMENT PLAN

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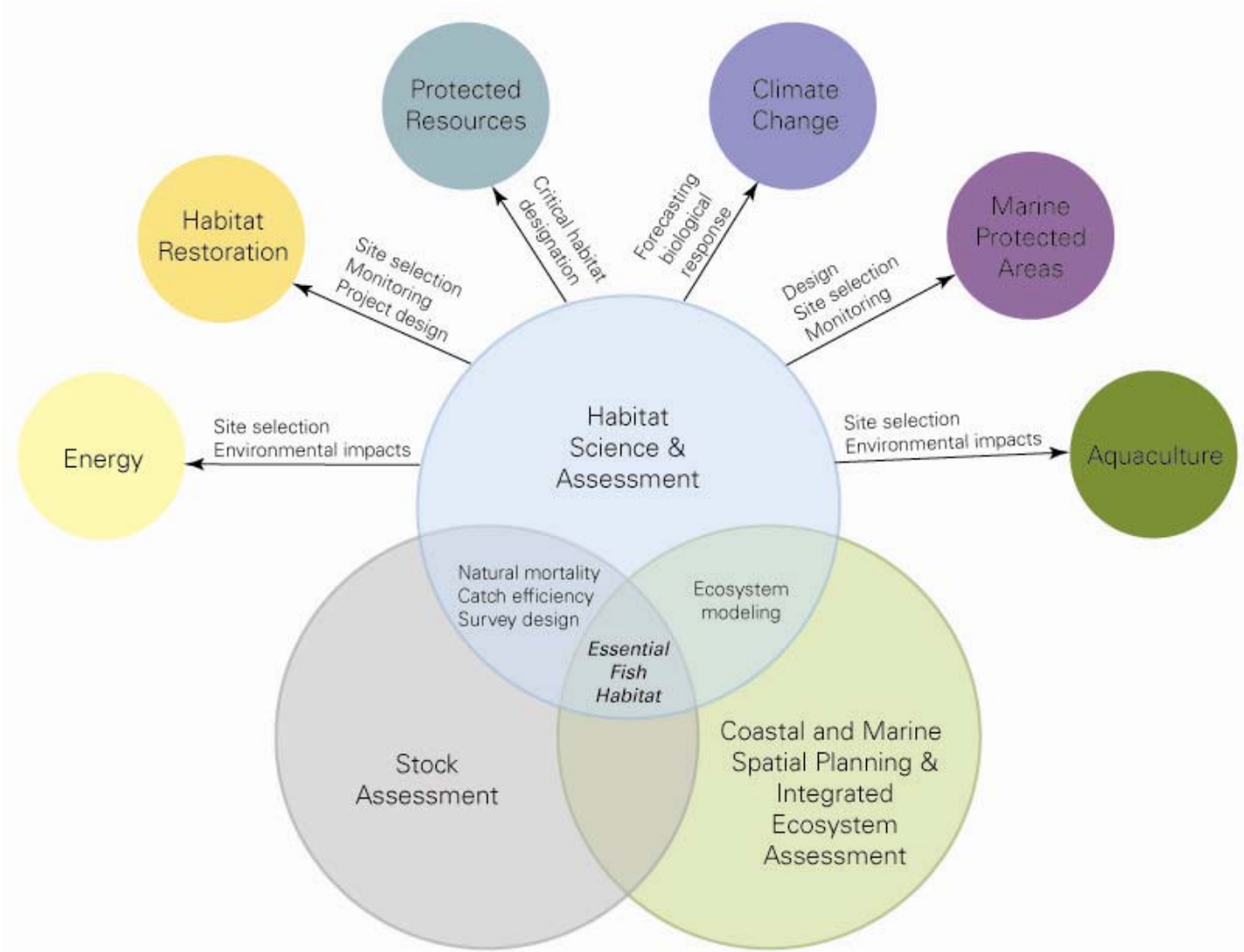
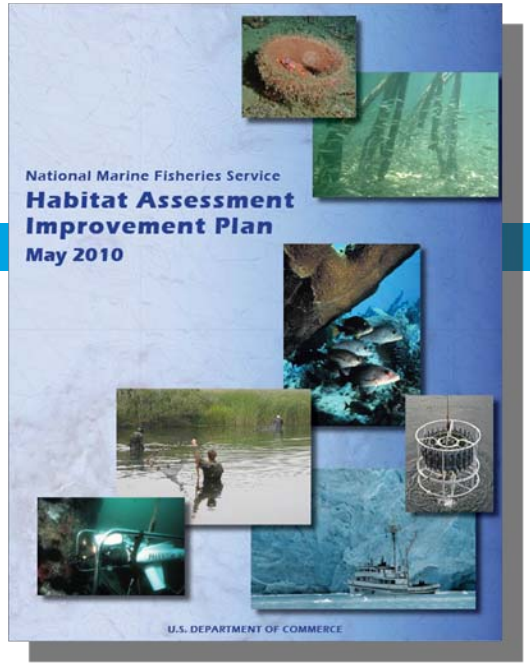
Why Habitat?


Protected Resources
Climate Change
Habitat Restoration
Marine Protected Areas
Critical habitat designation
Forecasting biological response
Site selection
Monitoring
Project design
Design
Site selection
Monitoring
Energy
Site selection
Environmental impacts
Habitat Science & Assessment
Site selection
Environmental impacts
Aquaculture
Natural mortality
Catch efficiency
Survey design
Ecosystem modeling
Essential Fish Habitat
Stock Assessment
Coastal and Marine Spatial Planning & Integrated Ecosystem Assessment

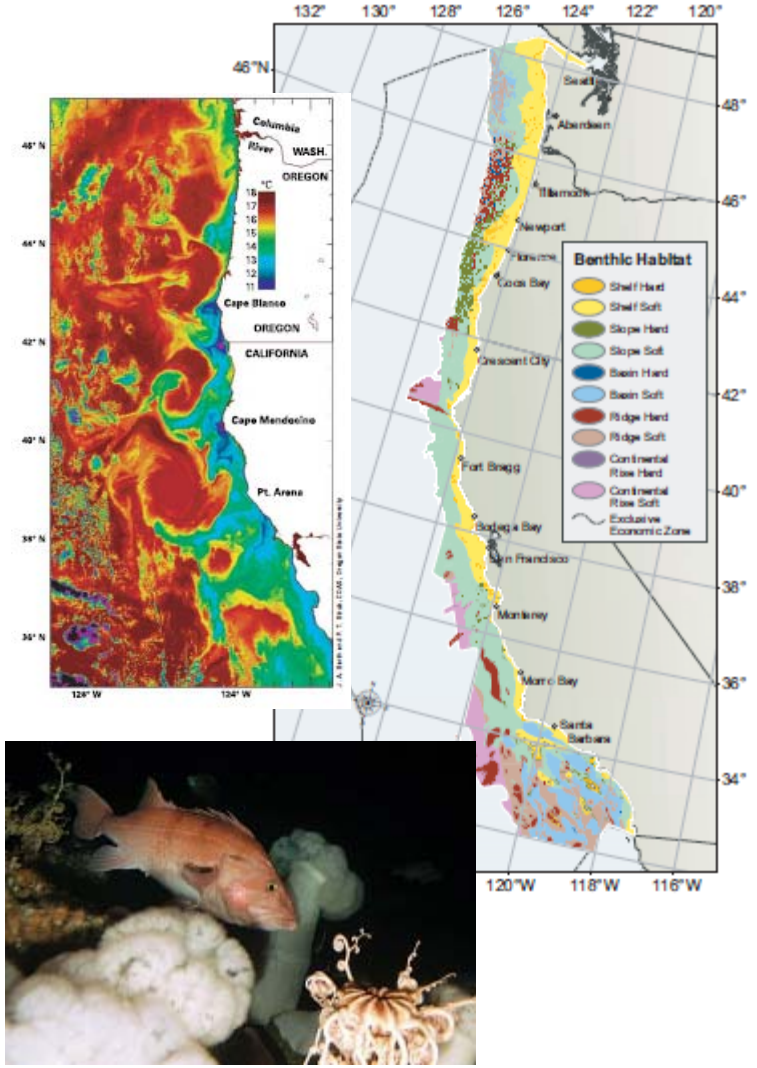
Goals of the HAIP



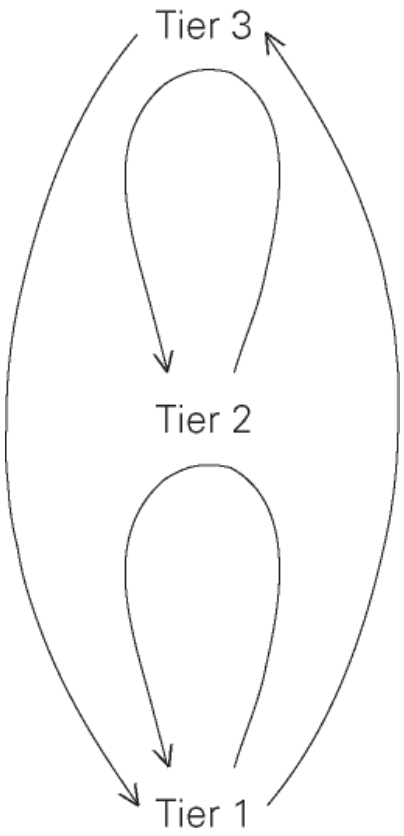
- Meet Magnuson-Stevens Act mandates
- Improve identification and impact assessments of EFH
- Reduce habitat-related uncertainty in stock assessments and facilitate a greater number of advanced stock assessments
- Contribute to assessments of ecosystem services
- Help NOAA Fisheries to address climate change
- Support EBM, IEAs, CMSP

What is a Habitat Assessment?

- Process and products associated with consolidating, analyzing, and reporting the best available information on habitat characteristics relative to the population dynamics of fishery species and other living marine resources.

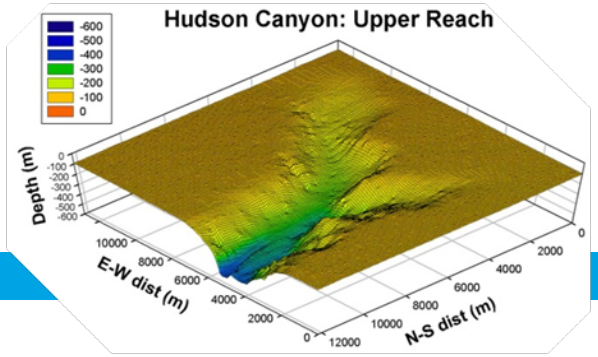


Three Tiers of Habitat Assessments



- Tier 1: Assess habitat associations using existing information
- Tier 2: Upgrade habitat assessments to minimally acceptable level for all life stages (e.g., habitat-specific biomass or abundance estimates); requires new or expanded data collection and research
- Tier 3: Provide quantitative estimates of fish productivity by habitat; incorporate habitat baselines into IEA's and habitat and ecosystem considerations into stock assessments

Scope of the Plan



- Habitat science for managed fisheries stocks (230 FSSI stocks)
- Includes all aspects of marine habitats
- Considers temporal and spatial scales
- Considers ecological linkages
- Takes into account current data availability and state of NOAA Fisheries habitat assessments

HAIP Questionnaires

- HAIP Team sent questionnaires out to assess the current state of habitat assessments within NOAA Fisheries
- Questionnaire objectives:
  - Identify most important factors hampering ability to provide accurate, precise, valid, and defensible habitat assessments
  - Determine needed resources to meet Three Tiers of Habitat Assessments
  - Determine how needs vary by region
- Broad Results
  - Most habitat data occur at low resolution and are based on insufficient information
  - Best information on physical characterization of habitat

Questionnaire Results -Current State of Habitat Assessments

- Data collection and data management programs are inadequate
- Current levels of staff, infrastructure, and advanced technologies need to be increased
- Disconnect between habitat scientists and resource managers on priorities, needs, and timing




Results - Staffing Issues

- Additional staff will be necessary to achieve improvements to habitat assessments – ***557 new habitat scientists for full implementation***
- Only ~5% of NOAA Fisheries staff are currently working on habitat science activities
- Many habitat-related staff are contractors or students supported with transient, non-NOAA funds
- Habitat staff time is fully committed (in many cases overcommitted)

Benefits of Implementing the HAIP

Full support of the HAIP will:

- Improve NOAA's ability to identify and conserve essential and critical habitats
- Improve abundance surveys and stock assessments
- Deliver high-quality habitat science in support of resource management
- Help NOAA to better understand and predict the effects of climate change and other anthropogenic impacts
- Allow NOAA to better address conflicting demands on limited marine resources
- Improve operational efficiency and communication

Management Implications of the HAIP

- The HAIP lays out a plan to incorporate habitat science into every-day decision-making for fisheries management.
- The HAIP provides the framework to incrementally generate more robust habitat science that will lead to more effective habitat conservation.
- Habitat conservation (including EFH and deep water corals) is a central part of NMFS' goal to attain sustainable fisheries.

Relevance to EFH designation

- The Magnuson Act defines EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity."
- Fishery Management Plans must contain EFH designations for each managed species and their lifestages.
- NMFS and the Councils have designated EFH for about 1,000 federally managed species.
- The HAIP will generate better science to distinguish EFH from all habitat used by fish – refine EFH.

Relevance to EFH conservation

- Fishery Management Plans must contain measures that minimize adverse effects of fishing to the maximum extent practicable.
- Since 2006, NMFS and the Councils have protected 700 million acres of habitat from fishing.
- The EFH provisions of FMPs are to be reviewed every 5 years. Through these reviews, more effective EFH conservation is possible.
- Implementing the HAIP will generate better habitat science to feed into these reviews.

Relevance to EFH conservation contd.

- The Magnuson Act requires that Federal agencies consult with NMFS on actions that may adversely affect EFH.
- NMFS must provide conservation recommendations which the action agency must respond to.
- NMFS conducts approximately 3,000 EFH consultations annually.
- Implementing the HAIP will help us better characterize the consequence to managed fish of losing that habitat and convince federal action agencies to adopt our EFH recommendations.

Recommendations of the HAIP

- **Develop new budget and staffing initiatives** to fund habitat science that is directly linked to NOAA Fisheries mandates
- **Develop criteria to prioritize stocks** and geographic locations that would benefit from habitat assessments
- **Identify and prioritize data inadequacies** for stocks and their respective habitats
- **Initiate demonstration projects** that incorporate habitat data into stock assessments
- **Increase collection of habitat data** during fishery-independent surveys and develop a plan for better utilizing advanced sampling technologies

Recommendations of the HAIP *cont.*

- **Engage partners** within and outside of NOAA to coordinate habitat data collection efforts and improve data management.
- **Convene regional and national workshops** to improve communication with and services for habitat managers
- **Establish a habitat assessment fellowship** program
- Unite with other NOAA line offices to **develop a NOAA-wide strategic plan** for habitat science and assessments in support of the nation's ocean policy priorities

Implementation of HAIP

- National Habitat Assessment Workshop (NHAW), May 18-20, 2010, St. Petersburg, FL
  - Increasing direct collaboration between habitat scientists and habitat managers across agency
  - Incorporating habitat information in stock assessments
- Regional Office/Science Center Collaborations
  - Habitat-Ecosystem Workshop, December 13-14, 2010 with Mid-Atlantic Fishery Management Council, NERO and NEFSC
  - Habitat Science and Management Coordination Meeting, September 28-29, 2010 with AKR and AFSC
- Three joint habitat/stock assessment pilot projects

Funded Pilot Projects – Incorporating Habitat Info Into Stock Assessments

- Habitat modeling of Atlantic blue marlin with SEAPODYM and satellite tags
  - Michael J. Schirripa and Eric Prince, SEFSC; Patrick Lehodey, CNRS (France); Jiangang Luo, RSMAS
- Incorporating Sediment and Hydrography Data in Assessments for Tilefish and Lobster
  - John A. Quinlan and John F. Walter, SEFSC; Yong Chen, Univ of Maine
- Relating Population Abundance of Groundfish Species to Habitats using Predictive Models and Broad-scale Seafloor Maps
  - Mary Yoklavich, SWFSC

Future Directions

- Leverage available resources and data
- Prioritize stocks, geographic areas, and data inadequacies
- Seek support and additional funding
  - Joint habitat/stock assessment and EFH or management-related pilot projects in FY11
  - Pursue habitat data management and integration initiatives
- Build partnerships within and outside of NOAA
- Align with Ocean Policy Task Force implementation of CMSP and Healthy Ocean and Coastal Habitats

Questions?

Download a copy of the HAIP:

http://www.st.nmfs.noaa.gov/st4/HabitatScience.html

Request a hard copy:

Call the NMFS Office of Science and Technology at (301) 713-2363

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- Tom Noji, NEFSC
- Kristan Blackhart, OST
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THANK YOU!