

Integrating Habitat Conservation into Sustainable Fisheries Management

Summary of and Recommendations from the NOAA Habitat Blueprint Symposium at the 142nd Meeting of the American Fisheries Society

Habitat Conservation in the Magnuson-Stevens Act

In 1996, Congress added the “essential fish habitat” (EFH) provisions to the Magnuson-Stevens Act (MSA). This provision was added in recognition of the decline of fish habitat that threatened our nations’ sustainable fisheries and that habitat conservation should be used as a tool to achieve sustainable fisheries. Essential fish habitat is defined as “those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity” (50 CFR 600.10). The EFH provisions require that Fishery Management Plans include a description and identification of EFH for each managed species’ life stage, practicable measures to protect EFH from harmful fishing practices, and habitat science and research needs. The EFH provisions also required other Federal agencies to consult with NOAA’s National Marine Fisheries Service (NMFS) on actions that could adversely affect EFH.

Since the implementation of the EFH provisions, NMFS and the regional fishery management councils have identified EFH for more than 1,000 species, designated over 100 habitat areas of particular concern, protected over 700 million acres of EFH from the impacts of fishing, and protected more than 30,000 acres of habitat each year through consultation with other federal agencies.

Despite these accomplishments, effectively demonstrating the value of habitat conservation to the productivity of stocks that NMFS and the fishery management councils are charged with managing remains a significant challenge. Demonstrating these links requires both robust scientific information and clear management objectives that are integrated into a broader management strategy. While significant progress has been made in the last ten years to understand the geographic location of key fish habitats, their functions, and values, the science necessary to demonstrate definitive links between specific habitat improvements and fishery productivity continues to fall short. NMFS fishery management plans have also historically not included clear direction for prioritizing habitat conservation to benefit fisheries.

Setting Objectives for Habitat Conservation through the NOAA Habitat Blueprint

In 2011, NOAA developed a new framework to act strategically across the organization and with partners to address the growing challenge of coastal and marine habitat loss and degradation. With the NOAA Habitat Blueprint, NOAA will increase the effectiveness of its efforts to improve habitat conditions, including better connecting its habitat conservation activities towards achieving sustainable

and abundant fish populations, recovering threatened and endangered species, and protecting coastal and marine areas and habitats at risk.

A specific action called for within the NOAA Habitat Blueprint Action Plan (Action Plan) is to better use NOAA's habitat protection authorities in the MSA to achieve sustainable fisheries. The Action Plan calls on NMFS to explore the development of habitat conservation objectives for fisheries management and to develop policies that better integrate habitat considerations into fisheries management decisions.

While MSA provides clear direction for NMFS and the fishery management councils to control fishing and use scientific information to achieve specific stock objectives, MSA does not establish similar direction or requirements for NMFS and fishery management councils to conserve habitat for the benefit of those fish stocks. The lack of habitat conservation objectives has prevented NMFS from effectively targeting its limited habitat conservation resources, and may also contribute to the poor recovery of some stocks or fisheries that are strongly dependent on habitat.

NMFS should target its habitat conservation resources towards habitat objectives that rebuild and maintain sustainable fish stocks. This may include targeting resources towards stocks that are particularly dependent or vulnerable to habitat degradation or that are not improving through reductions in fishing mortality alone. Establishing strong, clear objectives for habitat conservation will provide many benefits to the fisheries that NMFS and the fishery management councils are charged with managing. Habitat conservation objectives will lead to stronger conservation recommendations during EFH consultations and stronger engagement from the fishery management councils in consultations affecting priority stocks, resulting in better protection of fish habitat from non-fishing impacts. Habitat conservation objectives can provide strong and clear direction for the fishery management councils in establishing Habitat Areas of Particular Concern and for NMFS to focus its habitat research.

More information on the NOAA Habitat Blueprint can be found at www.noaa.gov/habitatblueprint.html

Overview of the NOAA Habitat Blueprint Symposium at the 142nd Meeting of the American Fisheries Society

To explore options for developing habitat conservation objectives, NOAA hosted a symposium on the NOAA Habitat Blueprint at the 142nd Annual Meeting of the American Fisheries Society (AFS) on August 22nd, 2012, in St. Paul, Minnesota. The symposium featured presentations on the key approaches of the Blueprint, starting with an overview presentation by Sam Rauch, Acting Assistant Administrator for Fisheries in NMFS. The symposium also included a session scoping approaches for more effectively applying existing habitat conservation authorities to achieve sustainable fishery outcomes. The goal of the scoping session was to identify options and opportunities for NMFS to work with the regional fishery management councils to develop habitat conservation objectives, to use habitat conservation objectives to more effectively achieve desired outcomes for fisheries, and to target habitat conservation activities towards achieving the habitat conservation objectives.

Presentations during the scoping session focused on the impediments to applying existing habitat conservation authorities to achieve fishery goals, options for developing habitat conservation objectives for fisheries managers, and recommendations for implementing such objectives.

- Karen Abrams (NMFS Office of Sustainable Fisheries) proposed that NMFS and the fishery management councils set habitat objectives for some habitat-dependent fish stocks.
- Dr. John Boreman (North Carolina State University; AFS president, 2012-2013) proposed making the EFH provisions of the MSA mandatory and listing habitat protection as a National Standard.
- Brian Pawlak (NMFS Office of Habitat Conservation) described how NOAA's Restoration Center sets objectives for its habitat restoration projects and measures its success in achieving those objectives.
- Rich Seagraves (Mid-Atlantic Fishery Management Council) provided an overview of the activities and strategies that the Mid-Atlantic Fishery Management Council has implemented using the EFH authorities of the MSA.
- Bill Tweit (North Pacific Fishery Management Council) described how the North Pacific Fishery Management Council established a formal process for engaging in EFH consultations, and how it has used the Habitat Areas of Particular Concern designation process and the development of the Aleutian Islands Fishery Ecosystem Plan as key tools to focus its habitat conservation activities.
- Bob Carline (Eastern Brook Trout Joint Venture) gave an overview of the Eastern Brook Trout Joint Venture's process for establishing habitat objectives and priorities in its action plan for conserving Eastern Brook Trout.
- Bruce Vogt (NMFS Office of Habitat Conservation) described lessons learned from the interagency Chesapeake Bay Program and its efforts to improve conditions in the Chesapeake Bay.
- Korie Schaeffer (NMFS Southwest Regional Office) described lessons learned from working with the San Francisco Bay Sub-tidal Habitat Goals Project to establish conservation objectives and priorities for multiple partners.
- Scott Redman (Puget Sound Partnership) described the lessons learned from the Puget Sound Partnership's efforts to develop an action agenda, addressing species recovery and habitat conservation in Puget Sound.

Key Outcomes from the NOAA Habitat Blueprint Symposium

The presentations and discussions of the panel members revealed key themes that could inform NMFS efforts to better incorporate habitat information into its fishery planning and management processes. Primary findings from the discussions are described below.

Habitat conservation is a critical component of an effective strategy to achieve sustainable fisheries and to increase the total amount of fish available to allocate.

The panelists agreed that rebuilding and maintaining sustainable fisheries requires strong habitat conservation measures in addition to strong fishing effort control measures. For example, in the Chesapeake Bay, state and federal fishery managers are considering ways to expand their traditional fishery management roles from a focus on the allocation and distribution of fisheries resources to using additional tools, like habitat conservation, to increase the amount of fish available to allocate. They are now incorporating habitat conservation and watershed management into their planning and management approaches.

MSA provides NMFS and the Fishery Management Councils with habitat conservation authorities that advance sustainable fisheries goals. However, these authorities could be more fully utilized and strengthened to achieve even greater benefits for fisheries.

Existing habitat authorities, such as the EFH provisions of MSA, have allowed the fishery management councils and NMFS to successfully raise awareness of and protect habitats important to fish. Through the EFH consultation authority NMFS and the fishery management councils can directly influence the decisions of state and federal agencies whose decisions affect marine and estuarine habitats important to managed fish stocks. NMFS and the fishery management councils are also required to minimize the effects of fishing activity on fish habitat to the extent practicable. The existing fishery management process has been used effectively to satisfy legal requirements for habitat protection. In addition, the emerging ecosystem-based management planning approaches that the fishery management councils are increasingly adopting creates a useful framework to develop habitat objectives that address sustainable fishery needs.

While the MSA includes requirements for the fishery management councils and NMFS to protect fish habitat, the existing fishery management planning process generally does not establish explicit habitat conservation goals to drive habitat science and management decisions. Clearly defined goals and objectives for habitat conservation would help NMFS and the fishery management councils work more collaboratively to protect fish habitat from fishing and non-fishing impacts and to promote proactive conservation.

Participants in the symposium noted that the fishery management councils, as governing bodies which include state representatives, offer unique opportunities to strategically partner with states on priority coastal and offshore habitat protection issues. NMFS and fishery management council panelists agreed that formal and consistent engagement of the fishery management councils in consultations on non-fishing impacts to EFH can improve the conservation of habitat for commercially and recreationally important fish species. Two of the fishery management councils who participated in the symposium are beginning to take some steps to bridge that gap:

- The North Pacific Fishery Management Council has recently adopted a policy that establishes criteria and regular reporting to inform a more systematic and coordinated approach to using their EFH conservation authority to address non-fishing impacts. Similar engagement by all fishery management councils would allow NMFS and the fishery management councils to work together to achieve common habitat conservation objectives.
- The Mid-Atlantic Fishery Management Council is increasingly concerned about the role of ecosystem impacts to its fisheries. It is beginning to explore ways to link habitat conservation with fishery goals and to integrate ecosystem concerns into its planning processes and scientific analysis capabilities.

Clear, actionable habitat objectives for sustainable fisheries would enhance the use and value of existing MSA habitat conservation authorities.

Some existing habitat programs have successfully used habitat objectives or indicators to identify habitat priorities and set management goals through their planning processes. A variety of approaches are used to set these objectives for both fresh and marine fish species. Some symposium participants reported their use of indicator species to begin identifying manageable habitat conservation objectives; others used a combination of defined geographic foci and indicator species. Some programs with more scientifically robust assessments and data have established quantitative objectives and targets. Other programs with more limited data have developed qualitative objectives at broader scales. These qualitative objectives are valuable because they establish, in writing, habitat conservation needs and goals that can be prioritized, can provide direction to guide regulatory and non-regulatory approaches to habitat conservation, and lay the groundwork for more quantification as new information becomes

available. Both quantitative and qualitative objectives serve to measure progress and influence decisions about investing resources to affect a desired outcome for fisheries.

The following are examples of different types of fishery-based habitat conservation objectives that have been established by organizations that participated in the symposium.

- The Eastern Brook Trout Joint Venture recognized the value of brook trout early on as an indicator species and for which substantial statewide assessment already existed. They developed a status assessment for brook trout habitat and threats to those habitats across the entire range of the joint venture at the sub-watershed level. This assessment formed the basis of their conservation strategy which includes range wide priorities, quantifiable targets and regional habitat objectives informed by their assessment. Examples of their quantitative range-wide objectives to be achieved by 2025 include:
 - Increase the number of sub-watersheds classified as intact by 10%.
 - Establish self-sustaining brook trout populations in 10% of known extirpated sub-watersheds.
 - Maintain 70% of reduced subwatersheds in existing or improved condition.
 - Validate classification of all predicted sub-watersheds.
- The Chesapeake Bay Program has identified indicator species within specific tributaries to develop habitat conservation objectives and metrics for sustainable fisheries. For example, the program uses submerged aquatic vegetation, brook trout, and oysters as biological indicators of a restored network of land and water habitats to support a healthy ecosystem and sustainable fisheries. Examples of the Chesapeake Bay Program's quantitative objectives for restoring oyster populations in priority tributaries by 2025 include:
 - 50-100% of restorable bottom in tributary restored.
 - 15 to 50 oysters/m² covering at least 30% of the reef area.
 - At least 2 year classes present.
- San Francisco Bay Sub-tidal Goals Project developed quantitative and qualitative goals focused on ecosystem services such as:
 - Protect eelgrass habitat through no net loss to existing beds (3,700 acres baseline in 2009).
 - Reduce habitat fragmentation and increase connectivity across upland, intertidal, and sub-tidal habitats.
 - Increase native eelgrass within 8,000 acres of suitable intertidal/sub-tidal habitat.
- NOAA's Restoration Center has established qualitative restoration objectives to prioritize the types of restoration projects it will fund. These qualitative objectives include:
 - Benefit the recovery of threatened and endangered species (*Endangered Species Act*).
 - Contribute to sustainable populations of managed fisheries (*Magnuson-Stevens Reauthorization Act*).
 - Improve ecosystem services (community benefits) provided by coastal habitat restoration.
 - Recover lost habitat and recreational resources affected by oil spills and toxic releases (*Oil Pollution Act; CERCLA/Superfund*).
- Puget Sound Partnership:
 - No declining abundance in any wild Chinook populations.

- Improvements in wild Chinook abundance in one population in each (five) biogeographic regions.
 - 10% of the bluff-backed beaches with high sediment supply or priority nearshore habitat facing development pressure are protected by 2020.
 - All (16) Chinook natal river deltas meet 10-year salmon recovery goals or 10% of restoration need by 2020.
 - 15% of degraded floodplain areas are restored ... and there is no additional loss of floodplain function in any Puget Sound watershed by 2020.

The lack of high quality science should not stop us from developing fishery habitat conservation objectives.

Despite difficulties in measuring the success of habitat conservation actions through traditional fish population outcomes, each panelist agreed that NMFS and other organizations have the ability to establish objectives and targets using the data and finances available. This will take a strong willingness of managers to make decisions based on the information available to them and move forward with aligning habitat conservation work more directly to fishery outcomes. In some cases, this may require that goals and objectives be qualitatively associated rather than quantitatively determined. For example, the Puget Sound Partnership has established objectives for Chinook salmon habitat with the promise that these objectives can be adapted and refined as better information becomes available to quantitatively relate habitat improvements to Chinook population viability. This approach still establishes a direction for stakeholders and partners to make management decisions and creates a framework for building and improving specific, quantitative targets as scientific information becomes more robust.

Setting management objectives requires a public policy dialogue about what is important.

Several participants noted the importance of using public processes to gain buy-in from the stakeholders whose decision-making will be influenced by these objectives. These stakeholders are often outside the traditional fishery management groups.

- The Puget Sound Partnership has adopted in 2009 the [Open Standards for the Practice of Conservation](#)¹ (Open Standards) to set priorities, develop ecosystems indicators, and establish targets and strategies in a transparent process with its partners.
- The San Francisco Bay Sub-tidal Goals Project used a public process to identify shared values and to develop a conceptual model for focusing conservation goals. They also used a public process to establish key guiding principles, for example, that it is important to move forward despite gaps in scientific information.
- In the Chesapeake Bay, fishery managers are realizing that to use habitat conservation to increase the amount of fish available to allocate, they need to include land-use managers in addition to fishermen.
- The North Pacific and Mid-Atlantic Fishery Management Councils have already used their fishery management public process for some discrete habitat conservation activities. For example, the North Pacific Fishery Management Council used the public fishery management planning process to determine priorities for establishing Habitat Areas of Particular Concern and developed and led an extensive multi-agency and stakeholder process for development of the Fishery Ecosystem Plan for the Aleutian Islands.

¹ CMP. 2007. Open Standards for the Practice of Conservation, Version 2.0, available at www.conservationmeasure.org.

Conclusions from Panelists on Strengthening the Role of Habitat in Achieving Sustainable Fisheries

1. NMFS should work with the regional fishery management councils to develop strong, actionable objectives for some habitat-dependent fish stocks. This may work best when
 - focus is on specific fishery problems rather than broad ecosystem services ,
 - habitat status and threats assessments are available, and
 - key habitat partners are bought into the approach used to develop objectives.
2. NMFS can work immediately with councils on ecosystem based fishery management plans.
3. Stronger procedures for fishery management council engagement in key EFH consultations will help NMFS achieve its objectives for sustainable fisheries.
4. A potential reauthorization of the Magnuson-Stevens Act could offer opportunities for NMFS and the fishery management councils to improve their habitat authorities and adapt to the growing number of challenges faced by our nation's fisheries. Panelists provided some specific recommendations, including
 - adding a national standard to fishery management plans that addresses habitat conservation, and
 - developing a more robust habitat science program to connect habitat health with stock productivity.