

East Coast Forum
June 26-29, 2013 • Annapolis, Maryland
Habitat Considerations

Summary and Guide to Additional Resources

The Fisheries Leadership & Sustainability Forum (“Fisheries Forum”), a joint initiative among four of the nation's leading academic and policy institutions, promotes professional development and continuing education by bringing together fishery managers and experts from a range of disciplines. The Fisheries Forum offers fishery managers opportunities to share experiences, build leadership skills, and enhance their understanding of fisheries law, policy, science, and economics. The semi-annual forums are the cornerstone of the Fisheries Forum and provide members of the regional fishery management councils with access to the latest research and an opportunity to discuss challenges and share success stories across regions. Each interactive forum is developed and led by faculty and staff from Duke and Stanford Universities in conjunction with leading experts from a range of disciplines. The forums focus on learning from experience and applying knowledge and problem solving skills to real world challenges.

For more information about the forums and to view material from past forums, please visit the [Fisheries Forum website](#).

Introduction and Forum objectives

The 2013 East Coast Forum (“Forum”) convened managers, scientists, and invited experts to consider the steps regional fishery management councils (“councils”) can take to integrate habitat science and considerations into sustainable fishery management policies. Habitat conservation is increasingly recognized as an essential factor for rebuilding and maintaining productive and sustainable fisheries. While there are challenges to integrating habitat considerations into the management process, there are also opportunities for councils to assume a leadership role in elevating habitat conservation as a tool for achieving sustainability.

The Magnuson-Stevens Act (“Act”) recognizes that healthy habitat is essential to healthy and productive fisheries. Councils are tasked with identifying, describing and reviewing Essential Fish Habitat (EFH) and minimizing adverse impacts from fishing activities. Councils may also comment and make recommendations on federal and state activities that may affect the habitat of managed fishery resources. The Act also requires federal agencies to consult with NOAA Fisheries if federally funded or authorized activities may adversely impact EFH. NOAA Fisheries provides non-binding conservation recommendations to minimize potential impacts from those activities. In recent years NOAA Fisheries has taken steps to advance habitat science and policy, most recently with the implementation of the NOAA Habitat Blueprint.

While the Act provides councils with mechanisms to consider both fishing and non-fishing habitat impacts, the interpretation of the mandate to minimize adverse effects

from fishing, and the lack of authority to influence non-fishing activities, can prove challenging. Non-fishing activities are a particular concern, given the growing range of activities and user groups that impact fish habitat and fishery productivity, but operate outside the authority of the federal fishery management framework. The purpose of the Forum was primarily to examine the tools and pathways available to councils for supporting effective habitat conservation within the existing legal context, while also contemplating the tools, guidance and best practices that could be considered in the forthcoming reauthorization of the Act.

The East Coast Forum followed and built upon discussions at the Managing Our Nation's Fisheries 3: Advancing Sustainability (MONF3) conference, May 7-9 in Washington, DC. The Forum provided an opportunity to continue exploring the ideas discussed in this session, and consider how they intersect with the council decision-making process in the context of regional issues and challenges. Specifically, the Forum provided participants with the opportunity to:

- Enhance their understanding of the existing habitat authorities under the Magnuson-Stevens Act;
- Discuss their experiences with habitat related decision-making, focusing on the processes councils use to consider tradeoffs and evaluate options for designating Essential Fish Habitat (EFH), siting Habitat Areas of Particular Concern (HAPCs), and minimizing adverse impacts;
- Develop their ability to lead through communication by sharing and evoking stories and lessons learned through council experience;
- Identify the steps councils have taken to monitor, prioritize and engage in consultations on non-fishing impacts to EFH;
- Increase their understanding of NOAA Fisheries initiatives to advance habitat science and policy through the Habitat Assessment Improvement Plan and Habitat Blueprint;
- Explore habitat as the structural foundation of ecosystems, and examine the role of habitat in councils' ecosystem-based management initiatives; and
- Consider outcomes from the habitat panel session at the third Managing Our Nation's Fisheries 3 Conference.

Relationship between MONF3 and the East Coast Forum

The timing of this year's East Coast Forum presented a unique opportunity to build on discussions at the third Managing Our Nation's Fisheries conference, held May 7-9, 2013 in Washington, DC. The Fisheries Forum developed and chaired three conference sessions on "Advancing Ecosystem-Based Decision Making," including one session focusing on "Integrating Habitat Considerations: Opportunities and Impediments." The full conference proceedings will be published later in 2013.

The East Coast Forum provided a venue to explore the ideas and recommendations discussed during the MONF3 habitat session. Rather than a direct continuation of this discussion, the Forum was an opportunity to examine these ideas in the context of regional approaches councils have taken to integrate habitat science and considerations into their decision-making. The Forum agenda included a full afternoon session focused

specifically on conference findings, and featured a panel discussion that included MONF3 speakers Buck Sutter, Director of the NOAA Fisheries Office of Habitat Conservation, and Dr. John Boreman, adjunct professor at North Carolina State University. Dr. Jason Link, NOAA Fisheries Senior Scientist for Ecosystem Management, participated as a keynote speaker and panelist.

To support this panel discussion and the group discussion that followed, Fisheries Forum Executive Director John Henderschedt briefly summarized major themes of discussion from the MONF3 habitat session. (Please note, this overview was for the purpose of discussion; official conference findings can be found on the [Managing Our Nation's Fisheries website](#) and the official conference proceedings will be published later this year.) These themes included:

1. *Fully utilize existing habitat authorities and refine their guidance and implementation.*
2. *Demonstrate and communicate the value of habitat to managed fisheries.* Link habitat conservation and science with fishery outcomes, particularly productivity; support informed tradeoffs and decision-making that reflect the range of National Standard 1 considerations; communicate information beyond the fisheries sector, and strengthen the science behind the EFH designation.
3. *Pursue landscape and ecosystem level habitat conservation.* Emphasize connectivity (e.g. between species, life history stages, etc.); focus on supporting ecosystem resilience and productivity; consider the meaning of “essential” from an ecosystem perspective, and build effective habitat partnerships.
4. *Think comprehensively, and act strategically.* Align research and actions with council mandates and decision-making needs; utilize goals and metrics.

Summary Structure

The East Coast Forum agenda included presentations and panel sessions, Q&A, and full-group facilitated discussions. As with all of the forums, the curriculum was discussion-oriented and designed to facilitate the exchange of ideas and perspectives between council regions. The following summary is not comprehensive and is not intended to demonstrate consensus; rather it is meant to serve as a guide to Forum resources, and to capture the salient themes of discussion and the range of ideas shared at the Forum.

This summary is organized into two sections:

- Part 1: Themes of discussion
- Part 2: Guide to presentations and resources
- Appendix: Additional resources

A full list of Forum resources, including the final agenda, is available online at www.fisheriesforum.org.

Part 1: Themes of Discussion

Overview

The Managing Our Nation’s Fisheries Conference examined habitat conservation from a national perspective, exploring opportunities to leverage existing habitat authorities, as well as the need for additional guidance and potential regulatory or legislative changes. The East Coast Forum helped to illustrate the context for these findings, by exploring regional council perspectives on what it means to integrate habitat considerations.

Having met the requirement to implement annual catch limits (ACLs) and accountability measures (AMs), councils now have the opportunity and incentive to look to other factors, particularly habitat, to ensure the success of management plans and rebuilding programs. Councils are also increasingly concerned about habitat impacts from non-fishing activities, and recognize the need to communicate the interests and concerns of the fisheries sector to other federal agencies and user groups. However, habitat conservation is often viewed as a set of disparate requirements and decision points, rather than as a cohesive set of strategies for supporting sustainable fisheries. Participants at the East Coast Forum shared their councils’ experiences with habitat-related decision-making, focusing on the impediments as well as the opportunities to more effectively utilize habitat conservation as a management tool.

Participants felt that the greatest challenge to leveraging habitat conservation as a management strategy is linking habitat conservation to fishery outcomes. Linking habitat with fishery productivity is essential for making informed tradeoffs about what to protect and why, and communicating habitat priorities and concerns beyond the fisheries realm. The relationship between habitat and ecosystems is also critical to consider from a scientific as well as a policy standpoint, as councils decide how to invest in their transitions toward ecosystem-based management. Utilizing habitat conservation as a management strategy is a long-term process. Councils can lay the groundwork by taking initial steps to identify and communicate their habitat interests, for example by setting habitat conservation objectives, and by exploring the range of policy tools available to them. In particular, while councils do not have authority over non-fishing activities that impact fish habitat, they do have the ability to assert their interests and clearly communicate their priorities through the EFH consultation process. Reflecting on the habitat session at the Managing Our Nation’s Fisheries Conference, and looking ahead to the forthcoming Magnuson-Stevens Act reauthorization, participants felt that the councils are best supported with the flexibility and the tools to explore regional approaches for integrating habitat considerations, as opposed to prescriptive mandates.

Challenges to using habitat conservation as a management tool

Over the two days of the Forum, participants and speakers considered how councils could utilize habitat conservation as a deliberate management tool, and more effectively link habitat considerations with fishery outcomes. The term “habitat considerations”

references the ecological role of fish habitat in supporting fishery productivity, as well as the set of tools available to fishery managers to maintain that productivity, through identifying and reviewing EFH and HAPCs, minimizing adverse impacts from fishing activities, and addressing non-fishing impacts through the EFH consultation process or habitat restoration.

The processes councils develop to consider fishing and non-fishing habitat impacts tend to be compartmentalized, due to the separate authorities and decision points involved. However, all of the habitat authorities and requirements in the Magnuson Act derive from the ecological role of habitat in sustaining fishery productivity. In order to utilize habitat conservation as a management strategy it's important to understand the interpretation and application of each set of authorities, while recognizing that together they comprise a set of tools for supporting fishery productivity through effective habitat conservation. Forum participants identified the following challenges to using habitat conservation as a management tool.

Habitat protections are not perceived as strategic.

Forum participants observed that stakeholders often equate habitat protection with area closures and restricting access to fishing, rather than viewing habitat conservation as a tool for enhancing fishery productivity. One specific challenge is that area closures for purposes such as bycatch reduction or effort management may be viewed as habitat protections, although they may not have been explicitly intended for habitat conservation purposes. This can result in conflicting perspectives on their habitat conservation value, and create a perception that habitat conservation is pursued as a political tactic rather than a management strategy.

Councils have limited authority and bandwidth to address non-fishing impacts.

One of the major challenges to utilizing habitat conservation as a management strategy is the contrast between councils' authority to address fishing-related habitat impacts, and much more limited ability to influence non-fishing habitat impacts. While councils have the direct authority to minimize adverse impacts to EFH from fishing activities, the ability to influence non-fishing activities is limited to non-binding conservation recommendations provided by NOAA Fisheries staff through the EFH consultation process.

Councils do have the discretionary authority to provide their own comments to the federal agency funding or permitting an activity that may adversely impact EFH (the "action agency.") These comments are advisory to the action agency and not supplemental to NOAA Fisheries conservation recommendations, and thus can carry significant weight. However, given the volume of consultations that occur every year, and other competing demands for council time, it's difficult for councils to identify issues of interest, and engage in the process effectively and efficiently. Additional challenges to council participation can include familiarity with the consultation process, understanding of the potential habitat impacts of non-fishing activities, particularly for new and developing ocean uses; and the alignment of council meeting cycles with the EFH consultation cycle.

When councils do engage in EFH consultations, their involvement tends to coalesce around discrete projects with impacts in federal waters, such as energy exploration and development. Forum participants also felt that councils are far less able to address indirect and cumulative impacts, particularly for issues like nutrient loading and “dead zones”, that involve multiple agencies and jurisdictions. Finally, even when habitat impacts can be clearly linked to impacts to a stock, it may be more expedient and effective for councils to focus on factors within their immediate control, namely limiting fishing mortality.

Habitat decisions involve unclear tradeoffs.

The Magnuson Act provides councils with a significant amount of flexibility to minimize adverse impacts from fishing “to the extent practicable.” The mandate to minimize adverse impacts invokes a range of considerations, including social and economic as well as biological and ecological. While councils have the discretion to interpret this mandate in a regional context, it can also be challenging to clearly identify the tradeoffs and parameters involved. How much minimization of impacts is “enough” or the “right” amount?

Forum speakers and participants also identified tradeoffs around the specificity of the Essential Fish Habitat designation. The EFH designation communicates councils’ interpretation of what is considered “essential”, and serves as a link between authorities to address fishing and non-fishing impacts. However, while a more targeted interpretation of “essential” is valuable for focusing and prioritizing habitat conservation efforts where they are most needed, a more inclusive definition assures that any impacts from non-fishing activities will trigger an EFH consultation. These tradeoffs may also come into play during the EFH review process.

Finally, Forum participants addressed the challenge of framing habitat decisions from a council process standpoint. In addition to the question of how much habitat conservation is “enough” or the “right” amount, participants questioned the implications of identifying the presence or the function of a particular area or habitat type. Does obtaining information about habitat presence or function imply that this habitat should be protected? Are decisions about habitat protection binary—protect or do not protect—or could there be a wider array of responses?

Conserving aquatic habitat requires a challenging paradigm shift.

Forum speakers described the evolution of thought that has occurred with regard to habitat through the last two iterations of the Magnuson Act. Managers and scientists have acknowledged the vital role of habitat in sustaining fishery productivity, and defined “habitat” to include a range of physical, chemical and biological properties and processes. Over time, habitat conservation has also evolved from a focus on single-species, single-impact interactions to a more ecosystem-level view. However, many participants felt that scientists and managers still struggle with the paradigm shift required to recognize and respond to properties that make the marine environment fundamentally different from terrestrial environment, and connect habitat management with resource management to the same extent.

The relationship between habitat and ecosystems is unclear.

Many participants felt that the long-term trajectory toward ecosystem-based management will inherently elevate habitat considerations to a higher level of prominence. Forum participants and speakers felt that the relationship between habitat and ecosystems is not well defined, and questioned whether this is a difference of semantics or whether they are fundamentally different. How fishery managers and scientists view this issue may inform decisions about how to invest limited time and resources.

On the one hand, ecosystem-based management and increased attention to habitat considerations could be viewed as complementary and mutually beneficial thought processes. Identifying and addressing habitat issues that impact fishery productivity could be considered a step toward ecosystem-based management, and likewise, ecosystem-based management could provide a lens through which to identify and address specific habitat issues. On the other hand, participants noted that additional focus on habitat considerations could further reinforce a single-species management construct, given the species and complex-specific focus of the EFH and HAPC designations.

Opportunities and potential solutions

Discussions at the East Coast Forum emphasized that habitat conservation is not a stand-alone issue, but rather another facet of the ongoing mandate to prevent overfishing and obtain optimum yield from U.S. fisheries. The successful implementation of ACLs and AMs across council regions, along with NOAA Fisheries initiatives to advance habitat science and policy, provide the context for managers to consider how habitat conservation can supplement catch limits to help achieve this mandate. The timing of the East Coast Forum relative to the Managing Our Nation's Fisheries Conference, and the forthcoming authorization of the Magnuson Act, supported a discussion that focused closely on next steps.

While Forum discussions did not focus explicitly on reauthorization, this context did support an exploration of the full range regulatory, legislative, and other strategies for successfully integrating habitat considerations into the management process. Specifically, the prospect of reauthorization encourages a careful examination of the issues that do warrant consideration, versus those that might be accomplished through other pathways. Similar to the habitat session at the Managing Our Nation's Fisheries conference, discussions at the Forum focused primarily on opportunities to leverage existing habitat authorities rather than potential legislative changes. Forum participants identified several steps that councils can take to more effectively utilize habitat conservation as a management strategy, and the ways in which NOAA Fisheries can support them.

Developing a council "voice"

Forum participants and speakers emphasized that councils can develop a strong voice to communicate their habitat priorities and concerns, and strengthen the link between

actions to address fishing and non-fishing habitat impacts. Councils offer valuable regional context and a stakeholder-level perspective that add significant weight to their recommendations. Within the federal management process, council input can inform agency decisions to invest in habitat science and research, and help prioritize habitat conservation activities such as coastal restoration projects or EFH consultations of interest. Outside of the fisheries sector, councils can send a powerful message to other agencies and user groups that they are aware of broader marine resource issues, and motivated to communicate and advocate for their interests. Finally, a strong council voice can inform and then reinforce NOAA Fisheries actions, empowering both to engage more constructively with other agencies and user groups.

This aspect of the Forum discussions closely echoed the main finding from the habitat panel session at MONF3, which concluded that additional legislative authority may not be the most effective pathway for councils and NOAA Fisheries to influence the actions of other federal agencies. Instead, Forum participants emphasized that councils can cultivate a more influential voice by building their capacity to use the full array of existing habitat authorities and tools. The group discussed specific science and policy recommendations for leveraging existing habitat authorities, and identified steps councils can take themselves as well as opportunities for the agency to provide support.

Identify clear habitat conservation objectives.

One of the most effective ways for councils to develop their voice on habitat issues is to identify and communicate clear priorities: what habitat is important to protect, and why? One of the ideas discussed at MONF3 and again at the Forum was the utility of setting habitat conservation objectives at the council level. In addition to guiding council decision-making, clear and specific habitat objectives could provide councils the means to formalize and communicate their habitat conservation priorities. Within a fisheries management context, habitat objectives would help councils communicate their priorities to NOAA Fisheries, and inform decisions about how to focus and allocate resources, research and time. Within the EFH consultation process, formal habitat objectives could strengthen the conservation recommendations provided by NOAA Fisheries as well as comments provided by the councils themselves. These objectives could also help guide non-regulatory habitat conservation activities within NOAA Fisheries, such as fish habitat restoration decisions or other proactive, landscape-level conservation efforts.

Forum participants considered the different forms that habitat conservation objectives could take, and opportunities for the agency to provide support. For example, objectives could focus on habitat types, or on maintaining processes and productivity. Objectives could also take the form of specific quantitative or qualitative goals for habitat conservation, or they could be contained in more general FMP objectives that reference habitat considerations.

Develop capacity to engage effectively in EFH consultations.

The discretionary authority of councils to comment on activities impacting habitat provides a critical opportunity for councils to communicate their priorities and concerns to other agencies. Despite the advisory nature of council comments, council comments

can be influential in their own right, and provide context to help strengthen and reinforce agency recommendations. Participants also noted that regardless of the outcome, council involvement sends an important signal to other federal agencies that councils are paying attention. Finally, participants observed that because the EFH consultation process enables councils to interact with other federal agencies using existing authorities and resources, this experience that may provide useful in a coastal and marine spatial planning context. Forum participants identified several strategies that councils can utilize to monitor potential non-fishing impacts to EFH, communicate productively with agency habitat staff, and determine when to engage in the consultation process.

One approach is for councils to provide regional office Habitat Conservation Division staff, who coordinate the agency's role in the EFH consultation process, with a filter for identifying and alerting councils to high-priority issues. For example, the North Pacific Fishery Management Council's EFH Consultation Policy provides the agency with criteria for determining whether an issue is likely to be of interest to the council, and requests regular reports from the agency to the council.¹ A more systematic approach can help support early awareness and involvement, and ensure that councils don't overlook relevant issues. Council guidance can also help staff prioritize consultations of interest to the council, as well as help communicate council research priorities. Participants suggested that in addition to considering a triage approach, it's important to consider cumulative effects and the spatial distribution of non-fishing impacts, for example in relation to priority areas or as part of the EFH review process.

Communication and relationship building are also valuable assets for supporting efficient council engagement in EFH consultations. Nearly every council maintains a council committee, advisory panel, and/or plan development team that supports a bottom-up process for flagging issues of council interest. Communication between councils and their respective regional offices is particularly important. In some regions EFH coordinators have a direct link to the council through advisory panels or council committees, while in other regions communication may occur between agency and council staff. In addition to helping councils track issues, habitat staff can also help councils navigate the consultation process and provide valuable input regarding the habitat impacts from permitted activities.

Link habitat conservation and impacts with fishery outcomes.

Forum participants proposed that better information about the relationship between habitat and productivity would empower managers to make habitat decisions that benefit fishery productivity. This idea, also discussed at MONF3, references the four levels of detail used to describe and identify EFH (described in CFR 615.800). The higher two levels provide information about habitat-related growth, reproduction, and/or survival by life stage (Level 3) and production rate by habitat (Level 4). Better information about habitat productivity would enable managers to identify tradeoffs and make strategic decisions about what to protect, why, and how much; relate fishing and non-fishing impacts, and evaluate a wider range of tools for achieving habitat protection. This information would also enable managers to communicate the rationale for their decisions,

¹ North Pacific Fishery Management Council motion – [EFH consultation policy](#), April 1, 2012

and strengthen the basis for agency conservation recommendations and council comments during the EFH consultation process.

Improving the understanding of how habitat contributes to fishery productivity is an ambitious long-term goal, as very little Level 3 or 4 habitat information currently exists. Acknowledging that this would be a long term process, the group discussed several perspectives on the “burden of proof” of integrating this information into habitat decision-making, including identifying priorities, concerns, and recommendations for habitat conservation. The current lack of information may be perceived as a barrier to taking these initial steps. On the other hand, this may be a reason for councils to begin taking these steps now, so that in the future, better information about productivity can reinforce and validate formally recognized habitat priorities. On a related note, having better information about productivity in some habitat decision-making scenarios could “raise the bar” for decision-making, presenting a challenge to proactive or precautionary habitat protections.

Finally, participants noted that while better information about productivity may support agency habitat conservation recommendations during EFH consultations, this scenario still places the burden of proof with the fisheries sector. Participants questioned whether the scenario could be reversed so that the burden of proof rests with the agency authorizing or funding the activity that results in an impact to EFH.

Provide access to new habitat and ecosystem science and tools

The relationship between habitat and ecosystems, and the tools available for advancing of our understanding of both, continued to be a challenging topic of discussion. While some participants felt that the relationship between habitat and ecosystems is something that each council can explore in the context of their own habitat decisions and ecosystem-based management initiatives, others felt that additional guidance and clarity would support this process.

Participants felt that it’s important for council members and staff to learn about new information, tools and techniques for advancing habitat and ecosystem science, as well as how this information is operationalized and enters the council decision-making process. However, the group felt that while councils are eager for more information, it’s difficult to stay informed about the current state and applications of habitat and ecosystem science. This in turn exacerbates the challenge of integrating habitat and ecosystem considerations into the council decision-making process, and considering how they relate to one another. Participants wanted to know that there is communication between different areas of research—specifically habitat science, ecosystem science, and stock assessments—and that this work is in support of management needs.

Looking ahead

Due to the proximity of the Forum to the Managing Our Nation's Fisheries Conference, Forum discussions turned to the forthcoming reauthorization of the Magnuson Act. Following the focus of the 2007 reauthorization on controlling fishing mortality, this next iteration of the Act is an opportunity to recognize other factors, including habitat, that contribute to fishery productivity. Participants recommended supporting council efforts to integrate habitat considerations and transition toward ecosystem-based management, and emphasized the importance of flexibility. Specifically, participants mentioned avoiding strict definitions, being overly prescriptive, and adopting changes that could increase the risk of litigation. The group also felt that it's important to acknowledge differences between council regions, in terms of ecosystem health, stock status, and other challenges.

In addition to contemplating Magnuson Act reauthorization, Forum participants reflected on next steps toward using habitat conservation as a management strategy. Again, the discussion circled back to the need to relate habitat with fishery productivity. The role of habitat in supporting fishery productivity links all council habitat decision-making, including identifying, designating and reviewing EFH; minimizing adverse impacts, and exercising the discretionary authority to comment on non-fishing impacts. Framing habitat conservation in terms of the common currency of fishery productivity can link these separate decision-making processes. In turn, managers can think more comprehensively, consider relationships between decisions, and account for the dynamic nature of fish and fisheries. Ultimately, framing habitat conservation in terms of fishery productivity offers the opportunity to refocus the perception of habitat conservation as a positive strategy for restoring, maintaining, and enhancing fishery resources.

Obtaining better information about productivity requires is a long term ideal and a significant investment of resources and time. However, participants emphasized that lack of information should not become a barrier to action. Information relating habitat and productivity, and the steps councils take to maintain and enhance that productivity, are mutually reinforcing. It's important for councils to demonstrate their willingness to act on this information for it to hold value, and to support investing time and research. In the short term, councils can build the case that better information about productivity is valuable by taking the steps to identify and communicate their habitat priorities and concerns, and leveraging the tools available to them. In the longer term, as more information does become available, it will help validate and strengthen council positions.

Forum participants felt that institutionalizing habitat conservation as a management strategy requires leadership at the council level as well as within NOAA Fisheries. The group felt that while habitat periodically becomes a topic of discussion, it's challenging to sustain this focus and turn attention into substantive action and funding. As a long-term strategy, habitat conservation can be overshadowed by other issues and short-term challenges. Forum participants and speakers urged one another to "avoid letting the dust settle," and to continue a dialogue about how to elevate, and sustain, habitat conservation as a management priority.

Part 2: Guide to presentations and additional resources

Opening presentations: Healthy habitat, healthy fisheries

Habitat protection in the Magnuson-Stevens Act

Terra Lederhouse

Marine Resource Habitat Specialist, Office of Habitat Conservation, NOAA Fisheries

[PDF](#) [Video](#)

Ms. Lederhouse provided an overview of habitat authorities in the Magnuson-Stevens Act, focusing on the Essential Fish Habitat (EFH) provisions and shared responsibilities of the regional fishery management councils and NOAA Fisheries. The Act defines EFH as “waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity.”² EFH includes the water column as well as the bottom, and can also include prey as a component of feeding habitat. Councils are responsible for describing and identifying EFH by life stage, developing maps to display geographic locations of EFH, designating Habitat Areas of Particular Concern (HAPC), if desired; minimizing adverse effects of fishing on EFH, and reviewing new information and updating EFH descriptions at least every 5 years. In addition, federal agencies must consult with NOAA Fisheries regarding non-fishing activities that may adversely affect EFH. Councils may also comment on activities that may adversely affect habitat for managed stocks, and must comment on activities that are likely to substantially impact habitat for managed anadromous stocks. While the consultation process is non-binding, council engagement can be influential.

The Magnuson Act includes additional authorities related to habitat conservation, including National Standard 9, which specifies that conservation and management measures shall, to the extent practicable minimize bycatch (§301(a)(9)); rebuilding requirements (§303(a)(10)) which require Councils to implement conservation and management measures to rebuild overfished stocks, and the discretionary authorities to protect deep sea corals from fishing gear impacts (§303(b)(2)(B)). Ms. Lederhouse emphasized that the habitat provisions of the Act link habitat conservation with fishery sustainability, and encouraged Forum participants to remember that habitat conservation is a tool for rebuilding and maintaining sustainable fisheries.

Re-envisioning habitat: From “what’s on the bottom” to the structural foundation of ecosystems

Dr. John Boreman

Adjunct Professor, North Carolina State University

[Video](#)

Dr. John Boreman provided a long-term perspective on the steps fishery managers have taken to recognize and respond to habitat conservation concerns over the course of his career. From the inception of the Magnuson Act to the first reauthorization in

² 16 U.S.C. §1802 (10)

1996, managers increasingly acknowledged the importance of habitat to sustaining fishery resources, and evolved from a single-species, single-impact approach to a more comprehensive consideration of habitat impacts. While our understanding of habitat impacts evolved, the challenge of responding to these impacts and aligning research with management needs remained.

The 1996 reauthorization of the Magnuson Act formally recognized the importance of habitat conservation for sustaining fisheries. Dr. Boreman reflected on his experience with the reauthorization process and implementing regulations, and successes and challenges associated with the interpretation of these habitat authorities over time. Successes include identifying habitat conservation as a fishery management tool and developing the concept of EFH, focusing habitat research, directing habitat science toward the stock assessment process through the Habitat Assessment Improvement Plan (HAIP), and developing the NOAA Habitat Blueprint. Opportunities for improvement include updating and revising the EFH implementing regulations to reflect lessons learned, and relating impacts at the habitat level with broader with ecosystem-level impacts.

Panel presentation and discussion: Regional processes for EFH decision-making

The New England Council and the Swept Area Seabed Impact Model: An economic perspective on minimizing adverse impacts

Chad Demarest

Economist, Northeast Fisheries Science Center, NOAA Fisheries

[PDF](#) [Video](#)

Chad Demarest provided an economic perspective on the New England Council's approach to minimizing adverse habitat impacts from fishing as part of the Council's Omnibus Habitat Amendment, through the development of a Swept Area Seabed Impact (SASI) Model. While the Magnuson Act instructs councils to minimize adverse impacts from fishing "to the extent practicable," the term "practicable" allows room for interpretation. In New England, managers focused on tradeoffs by comparing the costs and benefits associated with different management options for abating adverse effects. The SASI model incorporates information about substrate vulnerability, the impacts of different gear types, and the distribution and revenue generated by fishing effort; and supports a spatial representation of the fishery value and the adversity of effects from fishing associated with different areas. This information enables managers to consider the cost efficiency of adjusting fishing effort, as well as consider the tradeoffs associated with using different approaches to minimize adverse effects, including closed areas, effort reductions, and gear modifications. Mr. Demarest explained that the use of the SASI model helped promote transparency, make information and data gaps explicit, and facilitate discussion between stakeholder groups with different priorities for habitat conservation

The Gulf Council and artificial substrate as Essential Fish Habitat

Dr. Greg Stunz

Professor of Marine Biology, Texas A&M University-Corpus Christi

[PDF](#)

[Video](#)

Dr. Greg Stunz described the Gulf Council's consideration of whether artificial substrates, including petroleum platforms, should be designated Essential Fish Habitat. While there is scientific debate over whether artificial substrates serve an aggregating function or enhance productivity, they serve as habitat for valuable snapper and grouper species, and support economically important fishing and diving activity in the western Gulf of Mexico. Under the Department of the Interior's "idle iron" policy, inactive platforms must be decommissioned and either removed or repurposed as artificial reefs. The Council is concerned about the accelerating rate of removals and loss of habitat, as well as fish kills associated with the use of explosives during the removal process. To help explore whether the EFH designation was the ideal pathway for addressing these concerns, the Gulf Council convened an ad hoc Artificial Substrate Advisory Panel that included representatives from the petroleum industry. Ultimately the panel recommended that the Council focus on facilitating artificial reef programs rather than pursuing the policy question of artificial substrates as EFH. Dr. Stunz encouraged Forum participants to consider the role of artificial substrates in their own regions as energy exploration and development become more prevalent.

The Pacific Council's approach to Essential Fish Habitat reviews: One size does not fit all

Kerry Griffin

Staff Officer, Pacific Fishery Management Council

[Video](#)

Kerry Griffin described the Pacific Fishery Management Council's approach to conducting EFH reviews, focusing on how this process can be tailored to accommodate different objectives and reflect the availability of information for the region's four fishery management plans (coastal pelagics [CPS], salmon, groundfish, and highly migratory species). The EFH review process includes three phases: conducting a literature review and identifying new information, identifying potential changes to existing EFH descriptions, and then implementing changes if needed. The CPS EFH review was the most streamlined; little new information was available and the existing EFH description was retained. The salmon EFH review process was more challenging and did result in changes to EFH, which will be implemented through an FMP amendment. The ongoing groundfish EFH review process is the most complex, and includes an EFH Review Committee with stakeholder participation to evaluate proposed changes to EFH.

Mr. Griffin described some of the tradeoffs between thoroughness and efficiency associated with this spectrum of approaches to EFH reviews. The groundfish review

is very thorough and inclusive of stakeholder perspectives, but entails more time, meetings, and expenses as well as conflicting stakeholder priorities. Mr. Griffin explained that support and trust by the council, and the technical expertise provided by the EFH coordinators and science centers in the Northwest and Southwest NMFS regions, provide valuable support for each approach.

Presentations and discussion: Advances in habitat science

Coordinating habitat science at NOAA Fisheries

Kirsten Larsen

Habitat Science Coordinator, Office of Science and Technology, NOAA Fisheries

[PDF](#) [Video](#)

Ms. Larsen provided an overview of the agency's recent efforts to coordinate and support habitat science in support of decision-making. The 2010 Marine Fisheries Habitat Assessment Plan is an effort to improve habitat science and identify information gaps in support of management needs, focusing on MSA mandates and new directions including ecosystem-based management. The more recent NOAA Habitat Blueprint includes a habitat science initiative focused on integrating habitat science with decision making and identifying habitat science priorities. An important component of the Blueprint involves developing a transparent habitat assessment prioritization process to identify stocks for which habitat information can improve biomass estimates and reduce uncertainty in stock assessments. Over the past year, NOAA Fisheries convened a Habitat Assessment Prioritization Working Group to connect habitat science with stock assessment science, and link both to management needs, by developing a national habitat prioritization approach that can be regionally adapted.

OpenOcean2013 – Integrating habitat dynamics into population and ecosystem assessment: Cooperative research within an operational ocean observatory

Dr. John Manderson

Research Fishery Biologist, Northeast Fisheries Science Center, NOAA Fisheries

[PDF](#) [Video](#)

Dr. Manderson proposed that rather than using a terrestrial paradigm to understand habitat in the ocean, we construct a new habitat paradigm tailored to properties of the fluid environment. Seascapes are fundamentally different from landscapes. The properties of water, such as density and conductivity, are different from the properties of air, and influence the properties of marine organisms (such as physiology) and features of marine ecosystems (such as where primary productivity occurs). Habitat in the ocean can be envisioned as the collection of environmental variables in space and time that influence the vital rates of an animal, including physical, chemical, and biological properties. Integrating this concept of habitat dynamics can improve our understanding and assessment of populations and ecosystems.

Just as geographic information systems are used to collect information about the terrestrial environment, hydrodynamic information systems can provide information about the properties and dynamics of the ocean. In the Mid-Atlantic region the U.S. Integrated Ocean Observing System (IOOS), by way of the Mid-Atlantic Regional Association Coastal Ocean Observing System (MARACOOS), integrates multiple sources of information about the marine environment into models of the fluid environment. Dr. Manderson described his research relating population distribution and abundance to oceanographic features measured through IOOS, through cooperative research with the squid fishing industry.

Keynote presentation: Managing fisheries in the face of changing ecosystem productivity

Dr. Jason Link

Senior Scientist for Ecosystem Management, NOAA Fisheries

[PDF](#)

In his keynote address, Dr. Jason Link affirmed the need to recognize and account for changing ecosystem productivity. Marine ecosystems are changing, with implications for the resources they support. These changes invoke habitat considerations in ways we may not have considered. For example, climate change may cause certain habitat types to shift and shrink, so that the most suitable habitat for a particular species is less available. Dr. Link introduced the concept of system production limits, explaining that while the flow of energy between trophic levels in an ecosystem may change, there are constraints on how much harvestable biomass an ecosystem can produce. Estimating yield from a system, while accounting for factors that include habitat availability, may produce a different outcome than estimating yield from fisheries in isolation.

Dr. Link emphasized that recognizing and managing changes to marine ecosystems, and accounting for the factors that influence productivity, is critical to making informed management decisions and maintaining the benefits derived from marine fisheries. The tools and the information to begin integrating ecosystem considerations into the management process on a more consistent basis already exist, and can be more routinely integrated into decision-making. Specifically, information about factors that influence fishery productivity can be incorporated into assessment models, provide context for interpreting assessment outputs, and inform councils' ABC control rules. In closing, Dr. Link reiterated the need begin operationalizing EBFM tools, in order to meet the challenge of managing living marine resources in a changing environment.

Panel session: Habitat and the third Managing Our Nation's Fisheries Conference

NOAA's Habitat Blueprint

Buck Sutter

Director, Office of Habitat Conservation, NOAA Fisheries

[PDF](#)

[Video](#)

Mr. Sutter provided an overview of the NOAA Habitat Blueprint, and described the agency's renewed focus on habitat conservation as a key strategy for supporting sustainable fisheries. The Habitat Blueprint emerged from a need to improve the efficiency and effectiveness of habitat conservation, coordinate habitat conservation across NOAA offices and programs, and ensure that this work is integrated with the agency's mandates. The Blueprint incorporates four guiding principles: prioritizing resources and activities across NOAA offices, making decisions in an ecosystem context, fostering and leveraging partnerships, and improving the delivery of habitat science in support of decision-making. Mr. Sutter emphasized that the Habitat Blueprint is more than an initiative; it provides the framework for an organizational shift toward a more strategic and cohesive approach to habitat conservation. In closing, he encouraged council members to communicate and engage in conversation with the agency to maintain the momentum of habitat conservation as a high priority issue.

A historical perspective on habitat authorities

Dr. John Boreman

Adjunct Professor, North Carolina State University

[Video](#)

Dr. John Boreman reviewed his presentation from the Managing Our Nation's Fisheries conference, focusing on his suggestion to consider a new National Standard for habitat conservation. Drawing on examples from his early career, Dr. Boreman described how support for habitat research in support of fishery management grew and declined over time, prompting him to suggest a NS for habitat conservation as a way to elevate the role of habitat conservation during the 1996 reauthorization of the Magnuson Act. While the idea did not gain traction at the time, he felt that this discussion is worth revisiting in 2013. Councils are increasingly recognizing the value of habitat conservation to sustainable fisheries, as well as the need and the opportunity to engage with other ocean users involved in activities that may impact habitat. A national standard for habitat conservation could provide the agency with stronger tools for interacting with other sectors, as well as focus habitat research and strengthen the scientific foundation for ecosystem-based management. Dr. Boreman concluded that while there is a range of perspectives on whether a National Standard is the best pathway for advancing habitat conservation, it's worth revisiting the possibility leading into the next reauthorization of the Act.

Appendix: Additional Resources provided by Forum speakers

Document and Author/Agency	Year
Legal Provisions and Essential Fish Habitat	
Essential Fish Habitat Consultation Guidance (NMFS Office of Habitat Conservation)	2004
Guidance to Refine the Description and Identification of Essential Fish Habitat (NMFS)	2006
Essential Fish Habitat Regulations	2010
<ul style="list-style-type: none"> • 50 CFR §600.815– Contents of Fishery Management Plans • 50 CFR §600.920 – Federal agency consultation with the Secretary 	2011
Regional Habitat Decision-Making	
<i>New England Fishery Management Councilⁱ</i>	
Summary of Swept Area Seabed Impact (SASI) Model (NEFMC)	2011
Swept Area Seabed Impact (SASI) Document (NEFMC)	2011
<i>Gulf of Mexico Fishery Management Councilⁱⁱ</i>	
Fixed Petroleum Platforms and Artificial Reefs as Essential Fish Habitat (Summary) (GMFMC)	2013
Fixed Petroleum Platforms and Artificial Reefs as Essential Fish Habitat (Options Paper) (GMFMC)	2013
Draft Letter to Secretary of the Interior Jewell [Re: use of explosives to remove petroleum platforms](GMFMC)	2013
<i>Pacific Fishery Management Councilⁱⁱⁱ</i>	
Council Operating Procedure 22 – Process for Groundfish Essential Habitat Review and Modification (PFMC)	2011
Pacific Coast Groundfish 5-Year Review of Essential Fish Habitat – Report to the Pacific Fishery Management Council, Phase 1: New Information (PFMC)	2012
Groundfish Essential Fish Habitat Synthesis: A Report to the Pacific Fishery Management Council (NMFS)	2013
Request for Proposals to Modify Pacific Coast Groundfish Essential Fish Habitat (PFMC)	2013
Habitat Science and the Habitat Blueprint	
Habitat Assessment Improvement Plan (NOAA Technical Memorandum NMFS-F/SPO-108)	2010
Habitat Assessment Prioritization – A Report by the Habitat Assessment Prioritization Working Group (NMFS Office of Science and Technology)	2011
NOAA Habitat Blueprint Fact Sheet	2012
Regional Habitat Assessment Prioritization for California Stocks – Report of the Southwest Regional Habitat Assessment Prioritization Working Group (NMFS Office of Science and Technology)	2012
Integrating Habitat Conservation into Sustainable Fisheries Management – Summary of and recommendations from the NOAA Habitat Blueprint Symposium at the 142 nd Meeting of the American Fisheries Society (NMFS)	2013
Managing Our Nation’s Fisheries 3: Advancing Sustainability	
Findings from Session 2, Topic 3 : Integrating Habitat Considerations: Opportunities and Impediments (5/9/13)	2013
Session 2 Overview : Advancing Ecosystem-Based Decision Making	2013
Speaker Papers from Session 2 , including: <ul style="list-style-type: none"> • Should Habitat Conservation Become a New National Standard for Fishery Management Plans? (Dr. John Boreman) • Integrating Habitat: A Necessary Part of the Equation (C.M. “Rip” Cunningham, Jr.) • Integrating Habitat in Ecosystem-Based Fishery Management (Buck Sutter, Thomas Hourigan and Terra Lederhouse) 	2013

ⁱNEFMC Resources: More information on the New England Fishery Management Council's Habitat Committee, Habitat Advisory Panel, and Omnibus Essential Fish Habitat Amendment 2 is available on the Council's [habitat page](#).

ⁱⁱGMFMC Resources: All documents are included in the electronic briefing book for the Gulf of Mexico Fishery Management Council's meeting June 17-21 in Pensacola, Florida, available online via the Council's FTP site.

ⁱⁱⁱPFMC Resources: General information on Essential Fish Habitat is available on the Pacific Fishery Management Council's [habitat page](#). Information on the Pacific Council's Groundfish EFH 5-Year Review and RFP process is available [here](#).