



NOAA FISHERIES

Alaska Region Habitat Conservation Division Fiscal Year 2018 Accomplishments



Figure 1. Atka Mackerel from the Aleutian Islands Bottom Trawl Survey in July 2018. Photo: Sam Simpson

Habitat conservation, protection, and restoration are the foundation for sustaining the nation’s fisheries. The Alaska Region Habitat Conservation Division (HCD) carries out the National Marine Fisheries Service’s (NMFS) statutory responsibilities for habitat conservation in Alaska under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the Fish and Wildlife Coordination Act (FWCA), the National Environmental Policy Act (NEPA), the Federal Power Act (FPA), and other laws.

To prioritize our resources and activities, make decisions in an ecosystem context, and strengthen the science behind our decision-making, HCD works closely with the Alaska Fisheries Science Center (AFSC), other NOAA line offices, the North Pacific Fishery Management Council (NPFMC), other federal and state agencies, non-governmental organizations, local governments, and a variety of industry and conservation groups. By leveraging these partnerships, we work together to better execute the Alaska Region’s mission: *the science-based stewardship of living marine resources and their habitat in the waters of the North Pacific and Arctic Oceans off Alaska*. The Alaska Region’s mission responsibilities include supporting sustainable fisheries, recovering and conserving protected species, and promoting healthy ecosystems and resilient coastal communities

This report highlights HCD’s accomplishments for Fiscal Year 2018, from October 1, 2017 through September 30, 2018. We have restructured the format of this Report to reflect our commitment to HCD’s six overarching goals.

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Goal #1: Identify and pursue opportunities to conserve and restore marine and anadromous water habitats.

Mitigation and Restoration Projects

National Mitigation Policy

Linda Shaw and Sam Simpson reviewed the latest draft of the National Mitigation Policy with the Habitat Protection Division at NMFS Headquarters in January and provided examples of preservation as compensatory mitigation in Alaska.

EPA and USACE Compensatory Mitigation

Linda Shaw and Sam Simpson, and Erika Ammann (NOAA Restoration Center) attended several Environmental Protection Agency (EPA)/ U.S. Army Corps of Engineers (USACE) Compensatory Mitigation Stakeholder meetings during the summer of 2018. The purpose of the meetings was to announce a newly signed EPA-USACE Memorandum of Agreement (MOA) on compensatory mitigation for wetlands impacted in Alaska. This 2018 agreement supersedes previous agreements from 1992 and 1994. The new agreement emphasizes that the use of out-of-kind mitigation is now acceptable, recommends broad scaling of watersheds when local watersheds fail to yield mitigation opportunities, and places an emphasis on restoration as compensatory mitigation. The EPA and USACE are now asking stakeholders to help in implementing this new agreement.

Coastal Resilience Program Support

Sean Eagan and Seanbob Kelly reviewed pre-proposals for NOAA's Coastal Resilience Grants Program. This program gives out approximately \$15 million each year to support projects that restore coastal ecosystems or improve human coastal community resilience to rising sea levels and the changing climate. This year's Federal Funding Opportunity continues the comprehensive approach of previous Coastal Resilience grants, seeking new projects that build resilience through habitat restoration.

Habitat Restoration in Cordova

Erika Ammann is working with U.S. Fish and Wildlife Service (USFWS), U.S. Forest Service (USFS), Copper River Watershed Partnership, and Alaska Department of Fish and Game (ADF&G) to restore fish passage through thirteen culverts under the Copper River Highway. The project was funded at over \$8 million and will restore passage to 22 miles of habitat. The project implementation will run through 2023.

Fish Passage in Tyonek

With \$300,000 in funding from the NOAA Restoration Center, the Tyonek Tribal Conservation District will restore fish passage by replacing two undersized culverts. The project will enhance habitat for the salmon population and pray resources for the Cook Inlet Beluga. The project is expected to be completed in 2020.

Oil Spill Response and Planning

Alaska Statewide Planning Committee

Seanbob Kelly represented HCD during the first face-to-face meeting of the Alaska Statewide Planning Committee. Members of the Alaska Regional Response Team, Alaska Planners, and On-scene Coordinators representing the Alaska Department of Environmental Conservation (ADEC), the United States Coast Guard (USCG), EPA, USFS, and Department of the Interior (DOI) attended this meeting. The group has been organized to make resource decisions

regarding the way forward to create Area Contingency Plans and form Area Committees for Alaska that align with Area Contingency Plans for the contiguous US. Resource decision-makers reached consensus on the proposed plan of action and milestones.

Oil Spill Drills

Valdez October 13

Lydia Ames and Sadie Wright and David Gann (Protected Resources Division (PRD) all attended the ConocoPhillips Polar Tankers Spill Drill in Valdez in October 2017. LT(jg) Ames gave a presentation on Essential Fish Habitat (EFH) and natural resource conditions in the Prince William Sound. They worked through two long days of spill aftermath simulations and information flow between groups during the urgency and mild chaos that follows major incidents. Following a spill, HCD and PRD staff would serve within the Incident Command Structure as resource trustees who identify resources at risk. They will recommend response tactics, suggest conservation and protection strategies for sensitive wildlife, fish, and habitat (oiled and non-oiled), consider on-site implementation and remediation tactics, and offer mitigation ideas for response activities.

2018 ExxonMobil Mutual Aid Deployment and USCG Area Exercise

Seanbob Kelly participated in the 2018 ExxonMobil Mutual Aid Deployment and USCG Area Exercise in August 2018. This oil spill drill provided participants with an opportunity to perform and execute current response management concepts and plans for a simulated uncontrolled well event at Point Thomson, Alaska. The exercise focused on command and control coordination of the simulated event and met the criteria of the 2016 National Preparedness for Response Exercise Program Guidelines and ADEC's newly released Oil Spill Response Exercise Guidelines (released April 16, 2018). The approximately 260-person Incident Management Team was comprised of Federal, State, and local partners, Industry Mutual Aid Partners, Alaska Clean Seas staff, ExxonMobil (EM) Business Partners, EM Americas Regional Response Team, and the EM Alaska Team. The Incident Management Team achieved the exercise objectives through excellent teamwork, ingenuity, and a commitment to safety and protecting the environment.

Spill Response Planning: Dispersants

Seanbob Kelly attended the Prince William Sound Regional Citizens' Advisory Council annual meeting on behalf of the Dispersant Use Avoidance Area Technical Committee. Committee members presented the technical committee recommendations to On-Scene Coordinators for dispersant use avoidance areas. Members of industry, the State of Alaska, USCG, NOAA Corps, and various non-governmental organizations attended the meeting.

Powhatan Tug

Erika Ammann is leading Restoration Planning efforts for the Powhatan Tug Oil Spill. On April 19, 2017, an out of service tugboat, the Tug Powhatan, owned by Samson Tug & Barge, sank for unknown reasons from its dock in Starrigavan Bay near Sitka, Alaska. After sinking, the tug slid downslope and came to rest approximately 320 yards offshore in 160-180 feet of water. The Tug Powhatan contained an unknown volume of diesel fuel, gasoline, fuel residues, and lubricating oils and shortly after sinking, visible oil sheens were observed in Starrigavan Bay and other parts of Sitka Sound. The spill occurred during prime herring emergence in the Sound. In addition, shellfish harvesting in the area was closed due to the spill.

Hydropower and Energy Projects

Fish Passage Program External Program Review

Sue Walker completed and submitted information to Headquarters for the national NMFS Office of Habitat Conservation (OHC) "Habitat Enterprise" review of our fish passage activities. This is the second NMFS national external review of this program, which focuses on our Hydropower and Community-based Restoration work as it relates to passage for diadromous fish. Materials have been collected from each region about program priorities, branding and messaging, accomplishments, staffing, monitoring, coordination, regional differences, and partnerships. A three-day workshop in May 2018 in Silver Spring allowed outside experts and stakeholders to review the program and provide constructive feedback. Sue represented the Region's Hydropower and Community Restoration Programs (CRP) at this workshop. Erika Ammann provided Sue with information about the CRP, and Sue presented information about the Hydro Program to an outside expert panel. This review is Sam Rauch's action to bring outside review to NMFS programs. The Fish Passage Program is the second NMFS program to be reviewed; the first was the Office of Protected Resources (OPR)'s Recovery program. The OHC, CRP, and the Hydro programs will review reports produced by the expert panel, and incorporate recommendations to improve our programs and coordination efforts, furthering our fish passage goals.

National Hydro Program Meeting

Sue Walker and Sean Eagan attended the NMFS National Hydropower Team meeting in late 2017. Sue gave a presentation about the successful MOA between the State of Alaska, NMFS, and USFWS that allowed the Services to benefit from third-party expert consulting services during the Susitna licensing process. She gave a second presentation about six years of effort to convince the Federal Energy Regulatory Commission (FERC) to consider climate change in hydropower planning studies. Contributors to this effort include: climate scientists at the NOAA Office of Atmospheric Research (OAR) Earth Systems Research Laboratory in Boulder (Dr. Andrea Ray), the Center for Integrated Research in Environmental Studies at the University of Colorado (Dr. Joe Barsugli), and the NOAA Regional Integrated Sciences and Assessments program of the NOAA Climate Program through the University of Alaska Fairbanks (Dr. Jessica Cherry). The hydropower team formed a workgroup to develop climate change study requests for new and relicensed hydropower facilities.

A field trip demonstrated amazing fish passage success on the Clackamas River in Oregon. Returning adults are sorted into hatchery and wild fish, and wild fish are moved above four dams to spawn in the Clackamas genetic restoration watershed. A juvenile surface collector corrals over a hundred thousand out migrating juveniles before they swim down a seven-mile chute past the four dams.

Eklutna River Dam

The Lower Eklutna Dam was built in 1929 and replaced in 1955 by the Upper Eklutna Dam, which diverts 100% of the water from the Eklutna River and obstructs salmon migration. The Upper Eklutna Dam is the main water supply for the City of Anchorage and provides six percent of the power to Alaska's rail belt electrical grid. The 1991 Eklutna Fish and Wildlife Agreement directs that the resource impacts from the Upper Eklutna Dam be mitigated to restore anadromous fish habitat. This agreement was signed by three local utilities, Alaska Energy Authority, NMFS, U.S. Fish and Wildlife Service, and the State of Alaska.

By 2018, Eklutna Inc. had successfully removed all of the Lower Eklutna Dam. Now some fish might be able to pass to just above the former site. The small amount of water that flows is extremely turbid; large debris fans impinge on the river in the upper section and deposit primarily fine clay and sand in the channel.

Trout Unlimited hosted the Eklutna River Restoration Workshop June 27-29, 2018. Eklutna Village, NMFS HCD, U.S. Fish and Wildlife Service, ADF&G, and several non-profit conservation groups all participated. Sue Walker, Sean Eagan and Erika Amman represented NMFS. The group acknowledged that the natural flow regime will not be reestablished, which then necessitates identifying an artificial flow regime capable of establishing and maintaining habitat for four or five species of salmon. The final action was to develop a list of studies which will help to determine the needed flows.

Walker, Eagan, and Alisha Falberg (NOAA General Counsel) are working with many parties including the lead utility, Chugach Electric, to determine how to move forward with this restoration project. This cooperative process is expected to be successful in returning anadromous fish to Eklutna River (and possibly to Eklutna Lake), while considering the effects on electric ratepayers, municipal water utilities, recreational users, and adjacent land use.

Sweetheart Lake Dam and Hydropower Project

Sue Walker and Sean Eagan participated in the first annual post-licensing meeting for the Sweetheart Lake dam and hydropower project in February 2018. The project received its 50-year license from the Federal Energy Regulatory Authority in September 2016. The owner, Juneau Hydropower, is required to develop eight different license articles in consultation with NOAA Fisheries, including an aquatic habitat restoration and monitoring plan, a fish exclusion and tailrace design, and a marine mammal monitoring plan. Project planning and financing efforts are continuing. Several factors need to be resolved before project construction can begin: 1) authorization to tie into the submarine transmission lines from Snettisham to Juneau, 2) an engineering feasibility study of Juneau's existing electrical grid, 3) development of a district heating project for the core of downtown Juneau using seawater heat extraction, and 4) completion of an electric transmission line to the Kensington Mine including a submarine cable from Echo Cove to Slate Cove across Berners Bay. FERC needs to approve documentation of project financing for the construction, operation, and maintenance of the project before starting any project construction. The licensee, Juneau Hydropower Inc. (JHI), has now received another, final, license extension from FERC. However, JHI has not entered into a power sales agreement with any power purchasers, a power transmission agreement with Alaska Electric Light and Power, or secured full funding for the project - all of which are required by FERC prior to commencing project construction.

Grant Lake Hydropower Facility

Sue Walker and Sean Eagan wrote Draft License Terms and Conditions for the proposed Grant Lake Hydropower facility on the Kenai Peninsula per NMFS authorities under the FPA, the FWCA, and the MSA. The hydropower project would withdraw water from Grant Lake near Moose Pass, bypass a waterfall and canyon stream reach of Grant Creek, and return the water to the creek. The project would affect about 2% of the current spawning habitat for coho and Chinook salmon, but the project may increase the amount of overwinter rearing habitat, reduce high summer flows, and enhance spawning habitat in the lower, most productive part of the creek. NMFS developed recommendations for minimum instream flows, water temperature limits, sediment transport, and channel maintenance flow. The effects of project operations on

anadromous fish and habitat will be monitored and adaptive management will allow unforeseen adverse effects to be mitigated over the 40-year span of a FERC license. Sue and Sean continued talking with ADF&G, USFWS, and Kenai Hydro L.L.C. about how operational plans for the proposed lake tap hydroelectric facility will affect juvenile rearing habitat.

NMFS received a Draft Environmental Impact Statement (DEIS) from FERC in the fall and provided EFH Conservation Recommendations and measures to protect, mitigate, and enhance anadromous fish and their habitats. FERC rejected the fish and wildlife monitoring and mitigation plan (FWMM Plan) that was developed jointly by the applicant, ADF&G, USFWS and NMFS and is strongly supported by sport fishing NGOs in the Kenai River watershed. In response, all parties have developed a Memorandum of Understanding (MOU) to implement this FWMM Plan. This MOU is in the final stages and is expected to be signed in FY19.

Nuyakuk River Hydropower

Sue Walker prepared a Motion to Intervene for the proposed Nuyakuk River Hydropower project located about four miles downstream of Chikuminuk Lake in Wood-Tikchik State Park near Dillingham. All five species of Pacific salmon inhabit the Nuyakuk River, Chikuminuk Lake, and many of the lake's tributaries. Nushagak Cooperative has applied for a preliminary permit from FERC to study the feasibility of constructing and operating the project. The power would replace or reduce diesel-generated electricity and be used to power fish processing facilities. NMFS will be involved in identifying fisheries and habitat concerns and study needs during the pre-licensing phase.

Hiilangaay Hydroelectric Facility

Sean Eagan and Mark Minnillo (ADF&G) visited this partially constructed facility to evaluate the effectiveness of the tailrace fish exclusion barrier. Although the tailrace barrier location was altered slightly, it meets NMFS' fish exclusion standards. They also investigated excavation work designed to connect Lake Mellon to Rich's pond and create some usable storage for the dam. While the concept makes sense, the current plan requires passing 1,000 acre-feet (approximately 325,853 gallons) down the excavated channel, which will flush sediment into Reynolds Creek. NMFS will request that the excavation work be done at the start of the in-water work window next summer, rather than during or just preceding fall coho salmon spawning.

Invasive Species

Alaska Committee for Noxious and Invasive Pest Management (CNIPM)

Linda Shaw was elected as a Federal representative to the CNIPM board. CNIPM is an inter-agency organization focused on combating the spread of invasive species statewide and hosts the annual Alaska Invasive Species Workshop. The CNIPM held their Annual Conference in Homer. A *Surf and Turf* theme this year centered on how invasive species threaten native food security and how edible invasive species may be prepared as food to encourage removal. The conference included culinary events with participation by various local restaurants and featured educational field trips for participants and the public. Linda Shaw is coordinating an interagency streamlining agreement for invasive species rapid response in Alaska with other members of CNIPM. This agreement will include the Department of Commerce through NOAA, DOI through USFS, and the Department of Agriculture. The agencies will work together on a NEPA Categorical Exclusion for invasive species rapid response activities in Alaska. This action is in anticipation of DOI receiving funding in the 2020 budget for invasive species rapid response.

Invasive Species Communications Planning Group

Linda Shaw worked with the USFWS throughout the year in the Invasive Species Communications Planning Group. The purpose of the group is to develop statewide Alaska invasive species communication messaging, highlighting the importance of protecting Alaska and the Alaska way of life from the impacts of invasive species.

Invasive Species Working Groups

Linda Shaw has worked with the Arctic Invasive Alien Species (ARIAS) Alaska Team (USFWS, ADF&G, Alaska Department of Natural Resources (ADNR), NOAA Fisheries) to step down the ARIAS Strategy and Action Plan to Alaska and continue international efforts to implement the plan. The National Invasive Species Council (NISC) Arctic Working Group is encouraging the step-down efforts and Linda is working with the Arctic Council Conservation of Arctic Flora and Fauna (CAFF) working group on how to implement the Strategy and Action Plan. Linda Shaw provided input to Jeanette Davis, NMFS Invasive Species Coordinator, to prioritize actions of the ARIAS Strategy and Action Plan for the Arctic Region. Priorities identified included: 1) Collaborating with industry, 2) Community-based circumpolar monitoring and rapid response programs, 3) Provide Arctic-specific guidelines for ballast water and biofouling, and 4) Arctic Region data sharing.

A Workshop for the Step-Down Strategy is planned for September 2019 in Anchorage. The Nature Conservancy's Open Standards Planning Process may be used at the meeting, which involves identifying threats, shortfalls, gaps, and activities to address them.

Linda Shaw also worked with the US Arctic Invasive Species Working Group throughout the year, developing collaboration opportunities with the Alaska Ocean Observing System (AOOS), USFWS, and ADF&G. The group will be working with AOOS on data portal connections for potential invasive species monitoring and CAFF to coordinate the work on the Arctic-wide international invasive species strategy to determine overlapping interested and collaboration opportunities.

Marine Vessels

In a response to a request from NISC and CAFF and in coordination with USFWS, ADF&G, Animal and Plant Health Inspection Service, and the Alaska Marine Exchange, Linda Shaw developed a proposal for a series of outreach materials to target vessel traffic vectors for invasive species. The material was shared with the Arctic Council for potential international dissemination for Arctic access areas other than the North Pacific. Linda reviewed a proposal from the Smithsonian Environmental Research Center to survey Kodiak, Homer, and Dutch Harbor for marine invasive species and compare results to data collected 15 years ago. This group is working to develop consistent messaging and outreach on the importance of preventing and managing invasive species infestation of Alaska. The group is setting goals, deciding on an overarching message, and planning for more localized species-specific messaging.

Linda Shaw is a member of the Coastal Committee of the Western Regional Panel on Aquatic Nuisance Species (WRP-ANS) task force that formed in 1997 to help limit the introduction, spread, and impacts of aquatic nuisance species into the Western Region of North America through a provision of the National Invasive Species Act of 1996. The WRP-ANS Coastal Committee recently produced a report on biofouling regional best management practices (B-BMP) for commercial vessels. The Committee met this week and is now focusing on B-BMP for fishing and recreational vessels, and marine mobile structures, in addition to considering a

regionally consistent framework for in-water ship cleaning. The Committee will meet next at the Western Regional Panel annual meetings in October 2018 and the Pacific Ballast Water Group meetings in April 2019.

West Coast Green Crab

Linda Shaw represented Alaska on a call of the West Coast Green Crab Group, hosted by the Pacific States Marine Fisheries Commission (PSMFC). Green crab populations are currently high in the West Coast States and British Columbia. The group is working on a region-wide database to capture previous years of green crab monitoring, as well as provide for a place to share current and future monitoring results. Tammy Davis (ADF&G) is coordinating standardizing Alaska protocols in anticipation of the database's development. Finally, of interest to Alaska, the State of Oregon is testing environmental DNA as a proof of concept for green crab detection. Should environmental DNA be shown as a feasible monitoring tool, it could be a game changer for Alaska's vast coastline and limited capacity to conduct broad green crab monitoring.

Crescent Harbor and Exotic Tunicates in Sitka

Sean Eagan and Linda Shaw participated in two meetings about this proposal to replace four docks. Citizens ask to reuse the old polyethylene dock segments at their private docs and municipalities accommodate this, as there is no other inexpensive way to get rid of the old docks. Exotic tunicates often attach to the nooks and crannies of docks, and towing the old docks away may spread the exotic tunicates around Alaska. The resources agencies are discussing ways the city can dry and treat the old polyethylene dock segments to ensure they are exotic tunicate-free before the city gives them away.

Dutch Harbor BioBlitz

Linda teamed up with the Smithsonian Environmental Research Center (Linda McCann and Gail Ashton) and NOAA Sea Grant (Melissa Good) for a marine invasive species BioBlitz event in Dutch Harbor in September 2017. The event coincided with the Smithsonian conducting an extensive two-week marine invertebrate assessment of the area that included settling plates and dive and intertidal surveying that will be compared to similar data collection from 2002. Krista Milani of the Sustainable Fisheries Division (SFD) and Thomas Piecuch of NOAA Enforcement provided enthusiastic and much-appreciated support for the event. At the BioBlitz, about 40 participants helped collect specimens that were taken back to a laboratory for identification.

Goal #2: Provide Essential Fish Habitat (EFH) Conservation Recommendations that maximize mission-critical benefits for Fishery Management Plan (FMP)-managed species and their habitats.

EFH Consultation Report

As part of the NPFMC's EFH consultation policy, Gretchen Harrington presented a report on HCD's EFH consultations that may be of interest to the fishing industry, and/or that may affect habitats of direct concern to the NPFMC. The report included a summary of the EFH consultation process and identified proposed projects that HCD staff are engaged in. Most of these projects are still in the planning phase and HCD staff are involved in pre-consultation coordination with project proponents and action agencies. The report also provided a summary of the consultations HCD completed to date in 2018 and in 2017. Gretchen updated the NPFMC on the EFH-related technical memorandums that NMFS has finalized since the NPFMC took final action on the EFH 5-year Review and that support the NPFMC's EFH amendments to its FMPs. Gretchen also informed the NPFMC of the EFH research projects that NMFS has funded for FY 2018. The projects improve our knowledge of habitat for early life stages of federally managed fish species.

EFH Consultations on Non-Fishing Activities

Oil and Gas Activities

Nanushuk Project DEIS

Oil Search is proposing to construct new oil and gas extraction facilities in leaseholds near the Colville River Delta on the North Slope; the project was previously pursued by Armstrong Energy, LLC, who sold it to Oil Search in late 2017. Samantha Simpson reviewed the USACE's DEIS document for impacts to EFH. There are no anticipated impacts to freshwater EFH, and effects to marine EFH would be limited to a single 'screeding' (substrate clearing) event in a 6-acre area near the existing Oliktok Point Dock at the beginning of the project.

Liberty Project EFH Consultation

Sam Simpson reviewed the EFH Assessment and DEIS provided by the Bureau of Ocean Energy Management (BOEM) on the proposed Liberty Development in the Beaufort Sea. The project would construct an artificial island and subsea pipeline to recover petroleum reserves from federal waters. BOEM determined the project may have adverse effects on EFH fishery resources, and summarized those as potentially resulting from habitat alteration, noise, presence of new structures and vessels, and accidental oil spills. BOEM provided a list of currently proposed mitigation measures. Sam and Linda Shaw provided EFH Conservation Recommendations, including sediment reduction near the project site and development of a prevention and response plan for marine invasive species.

Alaska Liquid Natural Gas Pipeline

HCD continues to work with the FERC and their contractor, Environmental Resources Management (ERM), on this project. HCD has been involved in the ongoing review of the Alaska Gasline Development Corporation (AGDC)'s proposed project design and an associated draft EFH Assessment. FERC provided a revised timeline for the completion of the DEIS in early 2018, requesting additional comments regarding the possibility of newly proposed alternative routes now being considered. HCD and PRD have fully responded to all information requests to 1) provide currently available information to inform a thorough analysis by FERC of potential impacts to EFH, associated fisheries, and Endangered Species Act listed species, and

2) identify specific aspects of the proposed project that may introduce the greatest long-term impacts to our trust resources. ERM continues to offer updates on the project, providing additional detail regarding final alignments, construction phases, methods and potential impacts to EFH, water quality and FMP fisheries. HCD also completed a review and prioritization of the FERC comment matrix, which contains various agency comments, concerns and potential mitigation measures. HCD has informally provided additional response to the various contractors with our positions on mitigation of long-term impacts and fisheries-related studies. HCD and PRD have also coordinated efforts with NMFS Headquarters to identify milestones and appropriate timelines needed to meet our responsibilities under MSA, as well as to complete proposed project deadlines under FERC's NEPA and FAST-41 obligations. Doug Limpinsel, Lydia Ames, Matt Eagleton, and Greg Balogh (PRD) have represented NMFS in various aspects of these ongoing discussions.

[Oil and Gas Lease Sale Call for Information](#)

BOEM issued a Call for Information and Nominations in the Federal Register for a proposed 2019 Beaufort Sea Outer Continental Shelf Lease Sale. Sam Simpson produced high-level recommendations for the conservation of EFH resources, including 1) continued support of BOEM's annual Environmental Studies Program, 2) conducting a comprehensive impact assessment that considers future potential of commercial fishing in the Arctic and an increased anthropogenic footprint, and 3) use of an ecosystem-based management approach. PRD will collate both division's comment for one submittal to BOEM.

[Beaufort Sea Seismic Survey](#)

Sam Simpson completed an EFH Consultation with BOEM on a proposed seismic survey in the Beaufort Sea. The purpose of the survey is to acquire geophysical data for potential oil and gas prospects. Potential adverse effects to EFH include effects of airgun emissions, seafloor disturbance, vessel operations, and accidental fuel spills. In addition to best management practices and mitigation measures put forth by BOEM, Sam provided an EFH Conservation Recommendation that requests use of ramp-up procedures during seismic surveys, to allow fish to move away from the area before the sound is at full power.

[Mining Activities](#)

[Donlin Gold Project](#)

Doug Limpinsel and Matt Eagleton provided EFH conservation recommendations to the USACE Alaska District regarding the Donlin Gold Project. If implemented, these recommendations would assist the USACE to better predict impacts to ground and surface water regimes from gold mining activities in the region. Recommendations include maintaining adequate instream flow and water conditions, which affect freshwater habitat and survival of salmon early life stages during winter conditions and support fish passage in areas of the watershed not directly excavated or impacted by the project footprint.

[Red Mountain Gold Mine in British Columbia](#)

Sean Eagan and Cindy Hartmann Moore wrote general recommendations to British Columbia's Environmental Assessment Office (EAO) in response to their release of the combined Environmental Assessment and Mine Application documents. NMFS' response focused on the possibility of mine sediments and heavy metals accumulation in the marine environment at the head of Portland Canal and how those metals might affect marine resources. They encouraged

the EAO to continue water quality and sediment monitoring requirements for a longer period as effects may not fully materialize until after the mine is closed.

[Kensington Mine's 5-Year Plan for Mineral Exploration](#)

Sean Eagan commented on USFS's Environmental Assessment, which would permit Coeur Alaska Inc. to drill numerous 2000-foot deep holes to determine possible locations of future mining efforts. These surface holes may affect anadromous waters if drilling muds or petroleum products spill and contaminate a nearby stream. NOAA Fisheries' primary EFH Conservation Recommendation is to only permit drill holes that are located at least 50 meters away from freshwater.

[Post-Mining Stream Design for White and Slate Creek](#)

Sean Eagan attended a design workshop for two creeks impacted by mining activities. White Creek, between Cantwell and Paxson, has incised 40 feet through mining tailings. The new design establishes a series of cascades, steps, and pools that dissipate energy and stop the incision. Slate Creek in Denali National Park is head cutting through old antimony mine tailings. The new design will slow the export of antimony and arsenic laced sediment, but the Park is unlikely to meet its goal of getting the creek within the State's water quality standards. Contaminated sediments from old mining activity impact salmon habitat as they are transported downstream into larger salmon-bearing streams.

[Transboundary Mines](#)

[Rules of Engagement for Federal Agencies](#)

HCD staff replied to a State Department request to comment on mechanisms to ensure that transboundary mines on the British Columbia/Alaska border do not negatively affect transboundary salmon. Establishing protocols for bilateral federal involvement in permitting these mining activities is our ultimate goal. Alaska and British Columbia recently signed a Memorandum of Understanding. However, it is too soon to determine if that agreement will be effective. Having many parties openly discussing transboundary mining is a step in the right direction.

[Transboundary Mine Partner Dialogue](#)

Gretchen Harrington, Sean Egan, and Cindy Hartmann Moore attended the Transboundary Partner Dialogue meeting, organized by the State of Alaska. State Transboundary Working Group members, Canadian Officials, Southeast Alaska Tribes, Native corporations, fishermen, representatives of environmental organizations, Industry, Federal Government, Congressional Delegation, state Legislators, local governments, and other members of the public concerned attended. The agenda included reports by State Officials, the EPA, British Columbia government officials, and public discussion. HCD staff also met with EPA mining staff, Patty McGrath, to discuss coordination on review of transboundary mining projects of joint interest.

Ports and Harbors

[New Whittier Small Boat Harbor](#)

Matt Eagleton, Seanbob Kelly, and Lydia Ames attended a meeting with staff from the USACE, Alaska Railroad, ADEC, and City of Whittier regarding a USACE project for a new small boat harbor at the head of Passage Canal in Whittier. Many project decisions need to be finalized, including final footprint layout, fate of dredge spoils, and some land ownership issues. This is the historic site of the Department of Defense Fuel Support Point Whittier, and has a history of multiple fuel leaks and spills. In 2013, a geophysical survey was conducted over a previous

footprint, which yielded one soil sample with concentrations of diesel over the ADEC cleanup threshold, rendering it unavailable for dredging. The new proposed footprint does not include this sample site, but ADEC suggests more chemical sampling before a footprint is finalized. The contaminated status of the site also raises questions of the fate of dredge spoils. HCD recommended upland disposal or treatment as opposed to offshore disposal and advocated for less intrusive dredging methods and appropriate timing windows for anadromous species.

Unalaska Dredging

Seanbob Kelly and Lydia Ames met with members of the USACE to discuss a dredging project in Unalaska. The project would involve explosive charges and 27,000 cubic yards of dredged material that will need to be disposed of within a mile of the dredge location. EFH impacts were discussed as well as the potential benefits of the project such as the creation of an 'artificial reef', a reduction in the likelihood of oil spills through a reduction in fuel lightering, and safety at sea. The timeline for the project is ongoing but dredging will likely occur in 2022.

Port of Nome

Lydia Ames and Seanbob Kelly attended a Planning Charrette in April 2018 for the Port of Nome Modification Feasibility Study. Limited marine infrastructure and available draft in Nome harbor and the region result in operational inefficiencies that threaten the long-term viability of the region. Representatives of the USACE, the City of Nome, USCG, and various stakeholder groups attended the meeting. HCD offered conservation and management recommendations that would minimize impacts to, and enhance, EFH near Nome. After the Planning Charrette, the USACE developed seven alternative designs and narrowed them down to four feasible alternatives. All the alternatives include deepening of the inner and outer harbor, an extension of the west causeway, modification of the eastern breakwater, and an increase in small boat moorage capacity. Discussion from resource specialists primarily focused on the estimated one million cubic yards of dredge material and spoil disposal, especially with respect to red king crab habitat. Attendees helped to identify data gaps to assist USACE in developing future baseline studies to inform their EFH Assessment and possible mitigation measures.

St. George Harbor

A new proposed harbor on the north side of St. George Island could allow for fisheries landings and increase community viability. Seanbob Kelly has participated in the planning of this harbor since an initial planning charrette in March 2016. HCD will continue to offer conservation and management recommendations intended to minimize adverse impacts to EFH for Federally managed species like Pribilof Blue King Crab.

Petersburg Harbor Dredging

Sam Simpson and Seanbob Kelly met with representatives of the USACE to discuss the proposed harbor dredging project in Petersburg, Alaska. The USACE has never conducted dredging activities in this harbor. The dredging activity would increase the depth of the current harbor by removing unspoiled thick clay sediment. Although this sediment has been tested for contaminants and is clean enough to deposit in State waters, the heavy sediment poses concerns for disposal in Thomas Bay. Although the informal EFH consultation is in the planning stages, they discussed several potential mitigation measures.

Kotzebue Harbor Project

Lydia Ames and Seanbob Kelly met with members of the USACE to discuss the Kotzebue Harbor project. The harbor is in the early planning process (the Tentatively Selected Plan

Milestone part of the project). Kotzebue is a hub for goods, services, and fuel for about ten rural communities. Residents of Kotzebue also rely heavily on subsistence resources. The harbor project aims to improve navigation for all vessels, reduce fuel lightering, and increase boat access for subsistence users. The Tentatively Selected Plan incorporates a dredged channel with trestle to a dock. The trestle design will allow for better migration of fish and marine mammals than a rock causeway. Discussions included fate of dredge material, the possible need for an Incidental Harassment Authorization for marine mammals, permafrost considerations, and noise concerns from ice. After the plan is approved, the USACE will move into the Feasibility phase.

Transportation

Haines Highway

Sean Eagan and Cindy Hartmann Moore participated in an inter-agency review of fish passage structures and proposed habitat mitigation measures for mile 12 through mile 25 of the Haines Highway project, which will widen and straighten the highway. Three state agencies, three federal agencies, the design consultant, and the Takshanuk Watershed Council all contributed to the discussions. HCD submitted comments to Alaska Department of Transportation (ADOT) on phase two of this road project. Although these actions will cause wetland impacts, the fish passage culverts are generally well designed. Discussions focused on fine-tuning culvert orientation/location and discussing the merits of constructed channels and engineered log jams to enhance fish habitat on the periphery of the Chilkat River. The most debated topics were the construction of artificial channels for coho salmon rearing habitat and ballasted log clusters to provide Chinook salmon habitat in large channels. Even when all parties want to provide habitat for anadromous fish, and money is not a large obstacle, there is still substantial disagreement about how to best to achieve the objectives.

Gravina Access Project

Sean Eagan drafted an EFH conservation recommendation letter on the Seley Road portion of this project that connects to the Ketchikan Airport. NMFS' recommendations included requesting that the USACE accept ADOT and Public Facilities' offer to pay mitigation fees to the Southeast Alaska Land Trust for placing fill in six acres of wetlands and make those mitigation fees a requirement of the project's USACE permit.

Shotgun Cove Road Extension

The City of Whittier proposes to extend Shotgun Cove Road from its current terminus for approximately 2.5 miles to Trinity Point. The purpose of the project is to increase resource access and improve the regional transportation system. This would involve placement of gravel fill on currently undeveloped land. Sam Simpson began gathering information on the project in early 2018 with regard to EFH in preparation for a pre-NEPA agency meeting in April 2018. The Anchorage Field Office collected site-specific information a few years prior when NOAA Fisheries installed the Whittier Marine-Reef Ball Complex. Erika Ammann and others collected Shotgun Cove fish resource baseline data in the early 2000s with beach seine and dive surveys. Sam worked with this baseline information and any recent data to provide fieldwork suggestions to the applicant, including confirmation of habitat type, fish species, and any presence/absence of submerged aquatic vegetation. At the April meeting, Sam and Erika recommended the project team refer to NOAA's ShoreZone imagery tool to identify areas of submerged aquatic vegetation to enable assessment of sediment transport downstream of the road crossing.

[ADOT Pile Driving](#)

Linda Shaw, Sean Eagan, and Alicia Bishop (PRD) participated in a meeting with ADOT on pile driving conditions to protect marine mammals and EFH. ADOT is asking that varying recommendations to protect marine mammals and fish be resolved to allow efficient operations. The history and nature of the issue was discussed in this first meeting and will require additional discussion in upcoming months to find a resolution.

[Aquatic Organism Passage Workshop](#)

Sean Eagan attended a workshop titled “Designing for Aquatic Organism Passage where Roads Cross Streams,” hosted by the USFS. The goal is to create a stream channel through a culvert or bridge that replicates a reference stream reach located upstream or downstream of the road crossing. Ideally, organisms in the crossing would still experience natural conditions post-construction. Participants from federal and state agencies, non-profits, and environmental engineering firms attended the workshop.

[Tenakee Spring Ferry Terminal Improvement](#)

Sean Eagan provided EFH conservation recommendations for the Tenakee Spring Ferry Terminal Improvement Project. This project will install 121 new piles; the largest diameter piles need to be proofed with an impact hammer for the final few blows. Proofing piles with an impact hammer produces sound levels that are lethal to fish in the near vicinity. NMFS recommended limiting high decibel sound to a limited number of short duration periods, complementing the Biological Opinion produced by PRD.

[Hope Highway Stabilization Project](#)

ADOT is planning to replace eroded embankment armoring at milepost 13 on the Hope Highway, located across Cook Inlet south of Anchorage. The work consists of stabilizing the road embankment by replacing eroded fill material and riprap to its original condition. Sam Simpson reviewed project information and photos, and discussed EFH resources and measures to minimize impacts to EFH with ADOT.

Aquaculture

[Aquaculture and Hatchery Water Quality](#)

Jodi Pirtle, Samantha Simpson, and Gretchen Harrington provided EFH conservation recommendations to the ADEC Division of Water regarding the proposed issuance of an Alaska Pollutant Discharge Elimination System general permit (GP) for aquaculture and hatchery facilities. The proposed GP will set water quality guidelines for the next five years for facilities operating statewide in Alaska. Early involvement by HCD in the draft permit process began in May 2017, when ADEC initiated EFH consultation with NMFS.

[Aquaculture in Southeast Alaska](#)

Coastal Alaska Seafoods, LLC has requested a lease for the culture of Pacific oysters (*Magallana gigas*) on state tidelands totaling approximately 4 acres. The proposed aquatic farm site will be located in Sitka Sound near the Siginaka Islands, approximately three nautical miles northwest of the furthest northern road system in Sitka, Alaska. Jodi Pirtle and Linda Shaw provided EFH consultation to the ADNDR Division of Mining, Land, and Water regarding practices that would minimize impacts of the oyster grow-out facility to EFH and other living marine resources. Conservation Recommendations include considerations to prevent the introduction of invasive species, prohibition of certain chemicals, and removal of structures once the

operation has ceased. ADNR will incorporate these recommendations in the Agency Final Findings and Decision.

Other Projects

[Kivalina Evacuation Causeway/Bridge](#)

Anchorage and Juneau staff drafted EFH conservation recommendations for the 3,200-foot long causeway and 110-foot single span bridge that are the preferred alternative in the Environmental Assessment for evacuating residents from Kivalina during large storms. While the footprint of the causeway is small, NMFS is concerned that the causeway would interrupt circulation patterns and large areas of the lagoon would revert to wetlands and no longer be EFH. The bridge spanning the deepest channel and some large arched culverts will mitigate some of the causeways effects on circulation in the lagoon. HCD was an integral part of this interagency effort to develop the project's design alternatives, which included travelling to the site.

[Marine Fiber Optic Cable Feasibility Study](#)

Sam Simpson has been working with a marine geophysical contractor on EFH considerations to include in their feasibility study for a proposed marine cable in the Gulf of Alaska. Sam's recommendations have included avoidance of EFH Habitat Areas of Particular Concern, and notification to the fishing industry through the NPFMC. This project is early on in the process and additional communication is expected.

[Navy Arctic Research](#)

The Office of Naval Research (ONR) is proposing research activities in the Beaufort Sea during 2018-2021 to conduct experiments to assess the effects of the changing Arctic environment on acoustic propagation and oceanography. They will also test the feasibility of using a field of active acoustic sources as navigation aids to unmanned vehicles collecting oceanographic and ice data under ice-covered conditions. Jodi Pirtle and Matt Eagleton reviewed ONR's EFH Assessment and provided EFH recommendations for Arctic cod in the proposed operating areas. Further progress to refine EFH for Arctic FMP species by life history stage, including sea ice associations, will improve future EFH recommendations for proposed activities occurring at the water column-ice interface.

[Trillium Mitigation Bank Instrument Review](#)

As a member of the USACE Interagency Review Team for the proposed Trillium Mitigation Bank on Prince of Wales Island, Linda Shaw reviewed the recently issued draft instrument. A number of issues were identified ranging from identification of non-existent ecologically significant units of salmon in El Capitan Creek to possible spread of invasive reed canary grass. Linda will continue to work with the USACE to promote an instrument that reflects generation of valuable aquatic resource mitigation credits.

[Battle Creek Monitoring](#)

Alaska Energy Authority is proceeding with its project to divert 75% of the water from Battle Creek to Bradley Lake near Homer. NMFS and our contractor Jeff Davis are establishing baseline monitoring on the lowest river reach, which contains a meandering stream and an estuary. Mr. Davis and Sean Eagan surveyed four river cross sections, installed six groundwater wells, and used minnow traps and seine nets to sample juvenile fish. They captured sculpin, Dolly Varden, and two species of salmon in the minnow traps. They will start vegetation sampling and continue fish sampling during the next monitoring trip in July.

Offshore Seafood Processors State and Federal Permits to Discharge

ADEC proposed to reissue an Alaska Pollutant Discharge Elimination System statewide general permit for offshore seafood processors, which authorizes processing waste discharges to navigable waters of the U.S. located in the State of Alaska's jurisdiction. In addition, the EPA proposed to reissue a National Pollutant Discharge Elimination System GP for offshore seafood processors, which authorizes seafood processing waste discharges to waters of the US Exclusive Economic Zone. Jodi Pirtle and Gretchen Harrington provided EFH conservation recommendations on both of these permits, including guidance to improve the access and efficiency of seafloor surveys in discharge locations and support for requirements regarding water quality, best practices, and excluded areas. These two re-authorized permits will have a lifetime of 5 years.

USFS BMP Monitoring and EFH General Concurrence

Cindy Hartmann Moore participated in a USFS Best Management Practices (BMP) monitoring trip for Lava Falls Fish Pass. The BMP monitoring evaluated the operation and maintenance of diversions and conveyances. USFS randomly selected this fish pass to monitor for their national BMP Targets. The fish pass is at tidewater and is an enhancement project for coho salmon. Cindy participated with four USFS staff to complete both implementation and effectiveness monitoring. The structure is operating as intended. In addition, Cindy worked with USFS staffer Sheila Jacobson to write the EFH Assessment needed to request a general concurrence for three types of actions: aquatic organism passage, instream restoration, and fish passes.



Figure 2. Pictured left to right: Dean Anderson, hydrologist, Tongass National Forest (TNF); Cindy Hartmann Moore, Fish Biologist, NMFS AKR; Sheila Jacobson, forest fish biologist, TNF; Joe Serio, fish biologist, Sitka Ranger District; and Robert Miller, fish biologist, TNF. Photo: Cindy Hartmann Moore

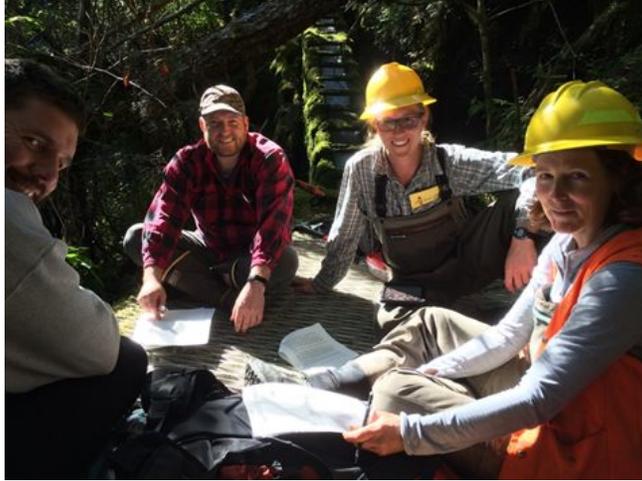


Figure 3. BMP review crew on September 10th with review forms at the Falls Creek Fish Pass on the Tongass National Forest near Sitka, Alaska. Photo: Cindy Hartmann Moore

Goal #3: Continually identify data gaps and information needs, and use the best available science to conduct EFH reviews and consultations that support sustainable fisheries management, healthy marine ecosystems, and community resilience.

Participate in National EFH Coordination

Fishery Management Council Coordination Committee Habitat Workgroup

Matt Eagleton, John Olson, and Sam Simpson met with the Council Coordination Committee Habitat Workgroup at the beginning of 2018. The workgroup identified Diana Evans, Deputy Director of the NPFMC, as the workgroup chair for 2018. Areas of possible workgroup focus this year include integrating EFH into stock assessments and designing designations that are effective for use in non-fishing impacts analysis.

National Habitat Leadership Meeting

Gretchen Harrington attended the meetings of the National Habitat Leadership Team (NHLT) and HCD Assistant Regional Administrators meeting in Portland, Oregon at the beginning of 2018. The NHLT had a robust discussion on preservation and language to clarify NMFS' mitigation policy. The NHLT reviewed each Region's performance relative to the Habitat Enterprise Strategic Plan, identifying progress and opportunities for improvement. The NHLT recognizes that some important work is missing from the strategic plan and is receptive to continued discussions. The NHLT investigated how HCD spends its money using Priority-Based Resourcing for greater awareness of our budget priorities. The NHLT is interested in improving how we convey the value of habitat – understanding how to connect habitat to public priorities. The Habitat ARAs used this meeting to discuss issues, challenges, and opportunities that all Divisions face, including EFH coordination and consultations.

EFH Coordinator Monthly Meeting

Matt Eagleton and Sam Simpson continue to attend regular EFH Coordinator meetings. The topics discussed include FMP amendments, statuses of EFH consultations, developing a climate change guidance document, and internal project tracking systems, development of an EFH intranet/Google site, the new FWCA Memorandum and its implementation, and completion of a Programmatic EFH Consultation for relocating inactive Navy ships.

Advance EFH Science

Habitat and Ecological Processes Research (HEPR) EFH Research Plan Proposals

Matt Eagleton, Gretchen Harrington, John Olson, Jodi Pirtle, Sam Simpson, and Dan Ito (AFSC HEPR Acting Team Lead); and Mike Sigler (HEPR Team Lead, Retired) completed a NOAA Fisheries management review of the proposals submitted to the Alaska EFH Research Plan request for proposals to receive funding in FY18. Each year, NMFS allocates approximately \$350,000 to fund EFH research. In FY18, we funded seven top-ranked EFH research proposals for a total of \$355,560, and the Office of Habitat Conservation funded an additional proposal for \$88,318. Thus, a total of \$443,878 was directed to EFH research in Alaska. As of FY 2018, this process has funded 103 projects, with cumulative funding exceeding \$5.8 million. Funds have historically been available to project investigators in June.

Aleutian Islands Bottom-trawl Survey

The Groundfish Assessment Program of the AFSC conducts comprehensive, biennial bottom trawl surveys in the Aleutian Islands that are designed to principally monitor trends in

abundance and distribution of groundfish populations. Sam Simpson joined a leg of the survey during July and August, where she assisted in field activities and learned about this program, which also provides important habitat information to designate EFH for species managed under the FMP for Groundfish of the Bering Sea and Aleutian Islands Management Area.



Figure 4. Invertebrates collected in the trawl's benthic bag on the Aleutian Island Bottom Trawl Survey. Photo: Sam Simpson



Figure 5. Sam Simpson of HCD and staff of the International Pacific Halibut Commission (IPHC) and AFSC processing catch on the Aleutian Islands Bottom Trawl Survey. Photo: Sam Simpson

EFH Research Plan - Juvenile EFH Initiative

Objectives of the current Alaska EFH Research Plan are to develop EFH information on habitat-related distribution (Level 1), density or abundance (Level 2), and reproduction, survival, or growth (Level 3) for species life history stages where this information has not been fully developed, in particular juvenile life stages of FMP species. A multi-year project funded in FY18 will develop EFH Levels 1, 2, and 3 for pelagic early life stages of sablefish and Pacific cod in the Gulf of Alaska using individual-based biophysical models and species distribution models (SDM). Lead Project Investigators include Kalei Shotwell, Buck Stockhausen, Alison Deary, and Chris Rooper (AFSC); Jodi Pirtle; and Georgina Gibson (University of Alaska Fairbanks, UAF). The habitat-based distribution, abundance, survival, and growth of pelagic early history stages is challenging to characterize across our broad fishery management areas by field surveys and

laboratory studies alone. This new model-based approach has the potential to refine EFH for these critical early life stages of many FMP species.

Another multi-year project funded in FY 18 will update and expand the AFSC Nearshore Fish Atlas Database [Mandy Lindeberg (AFSC); Jodi Pirtle; Darcie Neff (contractor)]. Newly available catch data from nearshore sampling locations throughout coastal Alaska will be added to the database, including locations in the Gulf of Alaska, Bering Sea, Aleutian Islands, and Chukchi and Beaufort Seas. The database, which historically included catch from beach seines, will be expanded to include catch from small-mesh bottom trawls that can sample nearshore fishes offshore. The updated database will be provided to modelers to incorporate into SDM to support EFH information development for juvenile life stages.



Figure 6. A pod of juvenile red king crabs gather in nearshore subtidal habitat near Portland Island. Based on laboratory rearing studies at UAF, these crabs may be about age-3 with carapace widths the size of a US half-dollar coin. Photo: Jodi Pirtle

Advanced Studies Program - Fishing Effects

John Olson is enrolled in the Advanced Studies Program at Alaska Pacific University. He is working on developing a risk assessment methodology to quantify the interaction of commercial fishing gears and long-lived structure-forming invertebrate species in the Aleutian Islands, with eventual application to the Gulf of Alaska and Bering Sea. He has continued to work on refining the fishing effects model to evaluate impacts of fishing on habitat, and this has led to the article "A seascape scale habitat model to support management of fishing impacts on benthic ecosystems", which will be published in the Canadian Journal of Fisheries and Aquatic Sciences (CJFAS). He has presented information related to the impacts of fishing on structure-forming invertebrates (corals and sponges) to: Groundfish Forum, an industry group in Seattle; AFSC seminar series in Seattle; the FISH workshop, an AFSC/Industry cooperative forum hosted by Noelle Yochum in Seattle; and a coral modeling workshop in Seattle.

Goal #4: Provide habitat expertise based on the best available science to improve habitat conservation and facilitate Ecosystem-Based Fishery Management (EBFM)

Implement EBFM

NOAA Fisheries EBFM Alaska Region Implementation Plan

Jodi Pirtle and Gretchen Harrington participated with staff from the SFD Ecosystem Branch, PRD, and AFSC to draft the NOAA Fisheries EBFM Alaska Implementation Plan (Alaska Plan). Anne Marie Eich (formerly Brandee Gerke) (SFD) and Kerim Aydin (AFSC) are leading the effort that details processes, milestones, and an engagement strategy to meet the Guiding Principles of the NOAA Fisheries EBFM Policy (2016), through the NOAA Fisheries EBFM Road Map (2016). Coordinated implementation of EBFM across mandates will lead to greater efficiency and will enable NOAA Fisheries to explicitly consider trade-offs between fisheries, fishery species, and other ecosystem components and processes that affect, or are affected by fisheries. Several habitat-related milestones were included in the Alaska Plan and will be tracked in future EBFM implementation review for Alaska.

National EBFM Workgroup

In November 2016, NOAA Fisheries became part of the National EBFM Workgroup (EBFM WG) composed of staff from Regional Offices, Science Centers, and Headquarters Offices. The EBFM WG, formed May 1, 2017, shares information and coordinates internal expertise to ensure strong linkages between science and management priorities to guide the implementation of the NOAA Fisheries EBFM Policy and Road Map. Jodi Pirtle participates on the EBFM WG at the invitation of OHC, along with other Alaska members Anne Marie Eich and Bridget Mansfield (SFD); and Kerim Aydin and Stephani Zador (AFSC). EBFM WG member Kara Meckley (OHC) and Gretchen Harrington hosted a presentation by Jodi Pirtle to the NHLT on Alaska Region Integration of Habitat and EBFM in September, 2018.

Ecosystem-Socioeconomic Profiles

Jodi Pirtle has been coordinating with AFSC lead Kalei Shotwell to develop a new report structure called the Ecosystem-Socioeconomic Profile (ESP). The ESP will provide a synthesis of stock-specific considerations and stock-level indicators for lead assessment authors to track and apply in Stock Assessment and Fishery Evaluation (SAFE) reports. The ESPs are meant to be an easily updated framework useful to stock assessment authors, fishery managers, and stakeholders. The first ESP is for sablefish; it includes habitat model results and maps for three life history stages in the Gulf of Alaska. Follow-on meetings are scheduled for FY19, FY20, and FY21. The ESPs are a pathway to integrate habitat information in the stock assessment process.

START HERE Habitat Mapping and Modeling

Jodi Pirtle participated in species distribution, habitat, and marine ecosystem modelling and provided her expertise as a member of the International Council for the Exploration of the Sea (ICES) Working Group on Marine Habitat Mapping (WGMHM). Jodi developed a US National Report and published articles on groundfish species distribution models, life history, and habitat maps (Pirtle et al. 2017, Doyle et al. 2018).

Importantly, Jodi also was the Chief Scientist aboard the NOAA Ship R/V Bell M. Shimada in October and led the multibeam acoustic seafloor mapping operations on the NMFS Untrawlable

Habitat Strategic Initiative 2018 cruise in the Southern California Bight. NOAA Fisheries OS&T supports this multi-regional collaboration (SW, SE, NW, and AFSC) with the objective to develop and standardize population assessment methods for fish species living in untrawlable deep habitats, which are difficult or impossible to survey with conventional bottom-trawl methods. The 14-day mission mapped 368 nautical miles of seafloor near the Channel Islands. She presented at the NOAA Fisheries Office of Science and Technology's Workshop on Application of ME70 Multibeam Ecosounders to Seafloor Mapping from NOAA's Fishery Survey Vessels

Goal #5: Participate in partnerships within and outside of NOAA that influence habitat conservation for FMP-managed species

Southeast Alaska Fish Habitat Partnership (SEAKFHP)

Regular Meetings

Sean Eagan, Cindy Hartmann Moore, and Erika Ammann participated in meetings of SEAKFHP throughout the year; highlights include the following developments. The Southeast Alaska In Lieu Fee Program is now functioning and divides the Southeast into three service areas. Partnership members are close to completing SEAKFHP's Strategic Plan's business plan and its freshwater component, which will cover the next 5 years. The partnership is striving to focus more energy on estuarine and other coastal habitats. Cindy and Erika also participated in NOAA National Fish Habitat Partnership meetings, discussing funding opportunities for SEAKFHP, which receives no base funds for coordination or other activities.

These meetings are opportunities for updates on activities in Southeast Alaska by various state and private agencies, such as ADF&G's online habitat permit data pilot, ADEC's baseline monitoring of large rivers in Southeast Alaska, and Terrain Works' project of improving hydrography and salmon habitat maps. HCD added to Salmon Beyond Borders' transboundary river discussion by presenting information by the EPA on the state of Alaska's transboundary partner dialogue.

Juneau Area Fish Habitat Partner Meet & Greet and Field Visit

Erika Amman, Gretchen Harrington, and Cindy Hartmann Moore, along with USFWS, USFS, SEAKFHP, Southeast Alaska Land Trust, Trout Unlimited, and Southeast Alaska Watershed Coalition led a site visit to highlight restoration and preservation projects for Carrie Selberg, Deputy Director, OHC. Following the discussion, the group visited two restoration sites: a fish passage improvement and habitat restoration project at Picnic Creek and a land conservation easement at Auk Nu Cove. During the meeting and site visits, presentations identified the uniqueness of working in Alaska, importance of salmon to commerce, recreation and subsistence in the state, and cost effectiveness of implementing restoration and preservation in an area that still supports viable salmon populations to utilize the habitat.



Figure 7. Partners from HCD, USFWS, USFS, SEAKFHP, Southeast Alaska Land Trust, Trout Unlimited, and Southeast Alaska Watershed Coalition on a site visit to a fish passage improvement and habitat restoration project at Picnic Creek, Lena Beach. Photo: Erika Ammann

Pacific Marine Estuarine Partnership (PMEP)

The PMEP provides science, data, and funding to conserve and restore West Coast nearshore and estuarine fish habitat. NOAA Fisheries engages with PMEP through representation on its Steering Committee and Sub-Committees. At a Coastal Data Presentation in August, John Stadler (NMFS, West Coast Region), Wan Hare, and Brett Holycross (PSMFC) provided background information on PMEP and its spatial data framework and demonstrated new web-based tools that are available through the PMEP website. PMEP's spatial data framework integrates standardized data across four ecoregions. Data themes in the framework include current and historical estuary extents, estuarine and biotic habitat, presence data for eelgrass and fifteen focal fish species, and an indirect assessment of tidal wetland losses. PMEP's web-based tools allow users to explore and filter data, on a regional scale, for conservation, restoration planning, management. They have also proven useful to EFH coordination efforts along the west coast. Future discussions are proposed with the goal of implementing a similar effort for estuaries and nearshore areas in SE Alaska.

ShoreZone

New Uses for ShoreZone

Cindy Hartmann Moore and other HCD staff continue to work with the ShoreZone Steering Committee and attend meetings throughout the year. At the annual ShoreZone Partner Meeting at the end of 2017, some new uses of ShoreZone were presented, including: a NASA drone project that used the imagery, adding Coastal Marine Ecological Classification System (CMECS) attributes to the ShoreZone database, and using ShoreZone to map cultural features.

Imaging of Glacier Bay National Park

One of the biggest ShoreZone developments this year was imaging approximately 1,200 km of shoreline in Glacier Bay. Cindy worked with PRD staff on a final informal consultation under section 7(a)(2) of the Endangered Species Act for the Glacier Bay imaging, developing the mitigation in place during the survey. HCD staff coordinated with Glacier Bay National Park staff

as well as NMFS Marine Mammal Laboratory staff to get the best available information for the consultation. HCD appreciates the support of PRD staff on this consultation.

This completes the largest imaging gap in Southeast Alaska. The only other area remaining for ShoreZone imagery collection in Southeast Alaska is the Forester Islands, off the southwest coast of Prince of Wales Island. The ShoreZone contractors also did informational presentations in Glacier Bay National Park in conjunction with the survey. There is now ShoreZone imagery available for approximately 95% of Alaska's coastline.

KINY Action Line Interview

Cindy and Julie Speegle (AKR Public Affairs Officer) were interviewed by Pete Carran on KINY's Action Line about ShoreZone in March. The interview covered an introduction to ShoreZone, how to access, and future plans for this resource. [Find the full interview here:](#)

<http://www.kinyradio.com/podcasts/action-line/episode/action-line-3-26-18/>

ShoreZone IDIQ

Cindy and Gilbert Mendoza (Operations and Management Division - OMD) worked with the Western Acquisition Division on the Region's ShoreZone Indefinite Delivery Indefinite Quantity (IDIQ) contract. The period of performance for the current ShoreZone IDIQ will be extended through February 2019. The new ShoreZone IDIQ contract will be awarded in FY19.

Goal #6: Improve HCD Organizational Excellence and Cohesion by integrating the Alaska Region Shared Values with our workplace interactions and products: Integrity, Respect, Collaboration, Accountability, and Open Communication.

Staff Education

Here at HCD, people are our biggest asset. We therefore invest as much as we can into their education and professional development. This year, HCD staff participated in the following trainings:

- International Trawl Survey Course
- Leadership Development Challenge
- Media Workshop
- NOAA Ship Augmentation
- Project Management Training

Outreach, Conferences, and Presentations

Habitat conservation is the foundation for sustainable fisheries. HCD shares information about our efforts through a variety of venues. These include professional meetings, conferences, and presentations to the public. In addition to any already mentioned in this document, HCD also participated in the following outreach and education events during FY18:

- Alaska Forum on the Environment
- Alaska Marine Science Symposium
- Anchorage Park Foundation's Youth Employment in Parks Program
- Bering Sea Days on the Pribilof Islands
- Guest Lecture at University of Alaska Fairbanks College of Fisheries and Ocean Sciences FISH 640 Management of Marine Renewable Resources
- Landscape Conservation Cooperative
- NOAA Coast Watch Joint Polar Satellite System Workshop
- NPFMC Meetings
- Pacific Ballast Water Group Meetings
- Seminar at the Alaska Pacific University Fisheries, Aquatic Science, and Technology Lab
- Southeast Alaska Watershed Restoration Workshop
- Tleix Yaakw - One Canoe Event
- University of Alaska Fairbanks Education Workforce Initiative
- Western Dredging Association Summit and Expo
- Western Groundfish Conference
- Western Regional Panel Coastal Committee Meeting

Final Word

NMFS's long-term goal of Healthy Oceans - marine fisheries, habitats and biodiversity sustained within healthy and productive ecosystems - begins with healthy habitats. The work that the HCD engages in; to conserve, protect and restore living marine resources, through consultations and other activities, is critical in providing for resilient coastal communities and ecosystems. Healthy habitat is necessary for sustainable fisheries, protected resources, and in almost every other NOAA and NMFS program. Simply put, the HCD work provides the foundation for the "house that NOAA built." In 1996, Congress strengthened that foundation by amending the MSA to include EFH provisions. Congress stated in the MSA, "One of the greatest long-term threats to the viability of commercial and recreational fisheries is the continuing loss of marine, estuarine, and other aquatic habitats."

All living marine resources are vulnerable to habitat degradation, which can threaten the biodiversity on which they depend. These habitats are at risk from human activities which degrade or destroy habitat quality and quantity. HCD's efforts to conserve habitat are as diverse as the resources NMFS manages. These efforts are both reactive and proactive in nature. Staff involvement in these activities includes: identification and conservation of EFH through the use of the best and most-recent science available; providing guidance to stakeholders; through fishery management activities; environmental reviews of fishing and non-fishing activities to avoid, minimize, or offset the adverse effects of human activities on EFH, including climate change and ecosystem-based considerations; conservation of living marine resources in Alaska; and active participation in partnerships and the NOAA Habitat Blueprint.

[Come visit us at <https://alaskafisheries.noaa.gov/habitat>](https://alaskafisheries.noaa.gov/habitat)