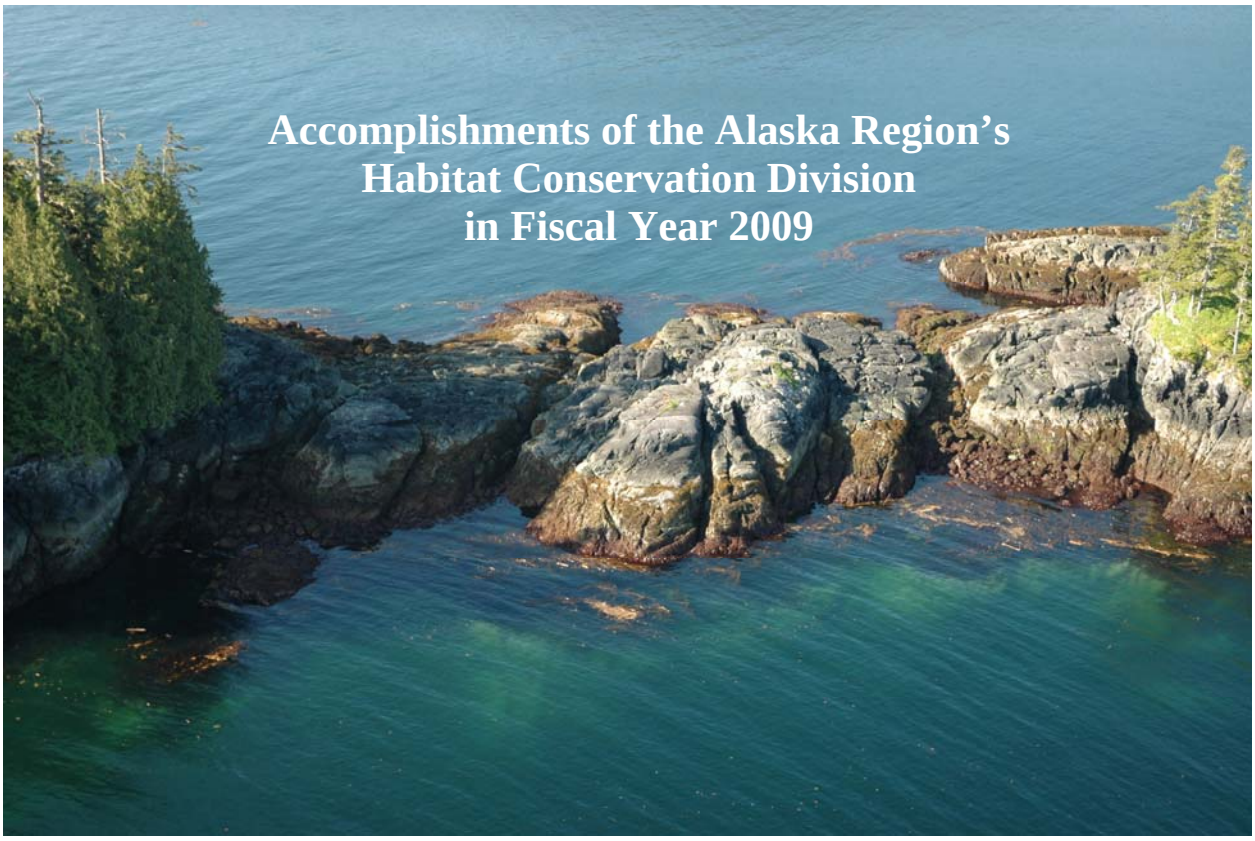
NOAA Fisheries
National Marine Fisheries Service



Ingraham Bay, Prince of Wales Island: photo courtesy of the Shorezone Project

This report summarizes highlights of Habitat Conservation Division activities during the 2009 fiscal year (FY09) from October 1, 2008 through September 30, 2009.

The Habitat Conservation Division (HCD) carries out NOAA Fisheries' statutory responsibilities for habitat conservation in Alaska under the Magnuson-Stevens Fishery Conservation and Management Act, Fish and Wildlife Coordination Act, National Environmental Policy Act, Federal Power Act, and other directives. HCD has two principal programs: first, the identification, conservation and management of Essential Fish Habitat (EFH), and second, the environmental review of non-fishing activities to minimize impacts to EFH or other habitats for living marine resources. In addition to these two principal responsibilities, HCD also supports habitat restoration projects in conjunction with the National Oceanic and Atmospheric Administration (NOAA) Restoration Center.

With staff located in the Alaska Regional Office in Juneau and in our Anchorage field office, HCD coordinates extensively with other groups to facilitate habitat conservation. Within NOAA, we coordinate with such organizations as the Sustainable Fisheries and Protected Resources Divisions in the NOAA Fisheries Alaska Regional Office, the Alaska Fisheries Science Center, NOAA Fisheries Office of Habitat Conservation, NOAA General Counsel,

NOAA Ocean Service's Office of Response and Restoration, and the NOAA Invasive Species Program. Outside NOAA, HCD also works in close partnership with such agencies and organizations as the North Pacific Fishery Management Council, the Army Corps of Engineers, the Environmental Protection Agency, the Federal Aviation Administration, the U.S. Fish and Wildlife Service, the Minerals Management Service, the U.S. Forest Service, the Bureau of Land Management, the Federal Energy Regulatory Commission, and the State of Alaska's Departments of Fish and Game, Natural Resources, Transportation and Public Facilities, as well as the Alaska Invasive Species Working Group, and a variety of industry and conservation groups.

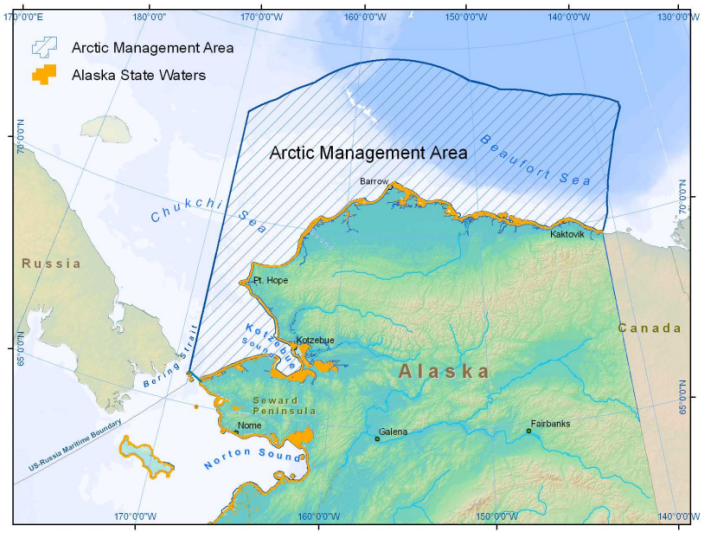
Essential Fish Habitat and Fishery Management

EFH Five-Year Review

HCD staff drafted and developed a strategy with the North Pacific Fishery Management Council to meet the five-year review requirement for EFH components in fishery management plans (FMPs). Federal fisheries in Alaska are managed under six FMPs: Bering Sea and Aleutian Islands Groundfish, Gulf of Alaska Groundfish; Bering Sea and Aleutian Islands King and Tanner Crabs; Salmon; Scallops; and the Arctic. With the exception of the Arctic FMP (recently implemented; August 2009), the remaining FMPs are undergoing review for both fishing and non-fishing activities.

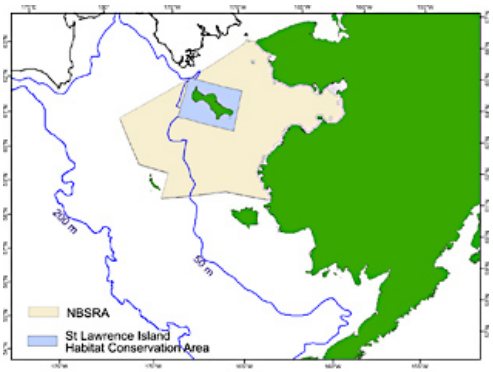
Arctic Fishery Management Plan and Arctic Habitat Conservation

HCD staff assisted the Council and Sustainable Fisheries Division staff in the development and implementation of a newly created Arctic FMP. Warming ocean temperatures, migrating fish stocks, and shifting sea ice conditions in the Arctic waters of the Chukchi and Beaufort seas may potentially favor the development of commercial fisheries and expand other activities such as shipping and oil and gas production. The plan initially prohibits commercial fishing in Arctic waters, until research is available to support decision making.
http://www.alaskafisheries.noaa.gov/sustainablefisheries/arctic



EFH Conservation in the Northern Bering Sea Research Area (NBSRA)

HCD staff assisted the Alaska Fisheries Science Center (AFSC) with the EFH portion of the development of the NBSRA. This research area is the final precautionary conservation action resulting from the 2005 EFH FEIS and regulatory package. The NBSRA is the first of its kind to set aside fish habitats for research with the intention to allow for sustainable fisheries after those habitats have been assessed. Importantly, a diverse stakeholder workgroup will assist managers and scientists with research and management decisions for the NBSRA.
http://www.afsc.noaa.gov/Quarterly/amj2009/divrptsRACE2.htm#planning



EFH and Habitat Areas of Particular Concern (HAPC)

A HAPC workgroup was appointed by the Council's Scientific and Statistical Committee (SSC) that included HCD staff. HCD and Science Center staff developed new considerations for identifying HAPCs, addressing comments from the NPFMC Plan Teams, other scientific experts, and the public. Importantly, candidate HAPCs must first address the considerations listed in the national EFH regulations and then address any priorities set by the Council. The SSC noted the revised criteria were a substantial improvement over those used previously.

Reducing Fishing Gear Effects- Bottom Trawl Sweep Modification

Gear modification is another way to reduce the effects of fishing on EFH, and HCD staff have worked closely with the Sustainable Fisheries Division and AFSC gear experts to reduce the effects of mobile fishing gear on bottom habitats, seafloor invertebrates, and crab species. Specifically, non-pelagic trawl gear in a Bering Sea management subarea will be required to use elevating devices on their trawl sweeps. Research, discussion, and analysis have been ongoing over the last three years.

Environmental Review to Minimize Habitat Loss

Pebble Mine

The proposed Pebble Mine Project is located about 200 miles southwest of Anchorage in the Bristol Bay region. Bristol Bay is home to the world's largest sockeye salmon fishery, as well as to strong runs of chum, coho and Chinook salmon. The Pebble mineral resource contains vast deposits of copper, gold, and molybdenum, and mine development could involve some

combination of open-pit and underground mining. The project is highly contentious and has received much publicity due to the mine's high economic potential and the equally high risk for environmental degradation. HCD staff are concerned that the current scientific baseline studies for the project will be inadequate for analyzing potential impacts to valuable Bristol Bay fisheries resources and have worked with other agencies to develop recommendations addressing these concerns. HCD has been and remains an important voice for the conservation of fish habitat during the review of this highly contentious project.

Port of Anchorage

Over the past six years, HCD staff worked to minimize impacts to habitat from the Port of Anchorage expansion project. The Army Corps of Engineers (Corps) ultimately issued a permit for the project, allowing approximately 135 acres of intertidal and subtidal fill and 235 acres of dredging. HCD staff worked to offset the impacts of the project through compensatory mitigation. These efforts have resulted in procuring $1.1 million towards purchasing 60 acres of high value estuarine habitat at the mouth of Campbell Creek.

Campbell Creek Estuary – looking south toward the adjacent Anchorage Coastal Wildlife Refuge and the mountains of Chugach State Park.

Energy Development

Alaska's hydropower potential is largely untapped and the state is moving toward developing this potential in order to meet future energy needs. The State of Alaska has a goal of providing 50% of its power from renewable sources by the year 2025. In FY09, HCD staff provided guidance to municipal and non-municipal entities to develop hydropower resources with minimal adverse impacts to trust resources. HCD staff were actively involved in monitoring existing projects; mostly consisting of lake taps or siphons diverting water from a natural lake into a penstock or tunnel. HCD staff also participated in the Federal Energy Regulatory Commission's licensing process for both proposed traditional projects and tidal and in-river kinetic energy projects.

Sawmill Creek Fill Project

HCD staff negotiated conservation of 23.25 acres of rearing habitat for coho and Chinook salmon as mitigation for 18 acres of wetland fill associated with a housing development project on Sawmill Creek in Haines. The project site is one of the last pieces of intact habitat in this heavily urbanized creek. The creek and its tributaries provide rearing habitat for Chinook salmon and rearing and spawning habitat for coho salmon, cutthroat trout, and Dolly Varden char. Due to debris and residue in the stream, Sawmill Creek was listed in 1996 as an Impaired

Water Body by the Environmental Protection Agency. Since then community volunteers, interagency personnel, and the local watershed council removed over 27,000 pounds of scrap metal and nearly 150 bags of garbage from the creek. In 2008, Sawmill Creek met the standard for residue and debris and was removed from the list of impairments. The conservation of over 23 acres of fish and forested wetland habitat in Sawmill Creek's headwaters contributes to the success of current and future restoration efforts.

Residential Development in Wrangell

HCD recommendations led the Corps to require compensatory mitigation on several small intertidal fill projects in Wrangell. HCD comments noted that the nearshore habitat in the project areas is used by juvenile salmon, Pacific cod, walleye pollock, arrowtooth flounder, rockfish, and other species. Applicants were required to consider less damaging alternatives. When other development sites were not available, the applicants reduced the footprint of the fill pad and contributed funds to the Alaska Land Trust. These compensatory mitigation funds will be used to purchase valuable tidelands and protect them from development.

North Forest Acres/Japanese Creek

Over the nine past years, HCD staff has offered recommendations to minimize impacts to salmon habitat from the North Forest Acres/Japanese Creek Levee/Road Project. The Corps ultimately issued a permit for the project, which represented a compromise on route alternatives between the applicant and resource agencies. This allowed approximately three acres of wetland fill, re-alignment of an anadromous stream, and isolation with loss of ecological function to 12 acres of wetlands behind the levy. HCD staff worked at acquiring restrictive covenants on the 12 acres of isolated wetland and $180,000 in compensatory mitigation, which allowed local land conservation groups to purchase 40 acres of valuable salmon habitat as an additional conservation easement.

Japanese Creek, Seward,, Alaska.

Sitka Airport Runway Safety Area Extensions

HCD staff continued to work with the Federal Aviation Administration (FAA) on improvements to the Sitka Airport including runway safety area extensions that would fill marine intertidal habitat, the extension of a parallel taxiway that will increase runoff, and the construction of a float plane ramp in marine waters where eelgrass is present. Water quality and mitigation issues were further addressed with the development of a habitat equivalency analysis for determining appropriate types and levels of mitigation. This process is the first of its kind to

be used for marine habitat mitigation determination in Alaska and may become a model for future marine mitigation projects. HCD staff comments influenced the habitat analysis and resulting in a new stormwater management plan for the Airport.

Eelgrass Conservation in Juneau

HCD staff negotiated for the protection of 32 acres of estuarine habitat, including eelgrass beds, as compensatory mitigation for fill associated with an intertidal loading facility. HCD staff met with contractors on site and identified a number of methods for conserving eelgrass, such as alternative project routes, methods for transplanting eelgrass populations, periodic monitoring of an experimental eelgrass transplant mitigation site, and additional conservation recommendations to avoid further impacts.

Compensation Planning Framework for Southeast Alaska Land Trust (SEAL Trust) In-lieu Fee Program

HCD staff participated in an interagency review team to write the Compensation Planning Framework for the Southeast Alaska Land Trust's In-lieu Fee Program. The framework is required by the Corps for the Trust to receive monies for in-lieu fee mitigation of projects. HCD's efforts will ensure consideration of the marine environment in mitigation actions taken by SEAL Trust.

Habitat Restoration and Protection

Eyak Lake Restoration Project

In partnership with the Copper River Watershed Project, HCD Restoration Center staff are undertaking multiple actions to improve Eyak Lake, which supports ten species of fish including sockeye, coho, and pink salmon, cutthroat trout and Dolly Varden char. Work was initiated for the following: re-design of the Hatchery Creek culvert on Power Creek road to enhance fish passage, breaching the Mavis Island causeway and installing a bridge section over the gap to restore lake circulation, excavating a small spit on Eyak Lake's north shore to restore local lake circulation, relocating the boat ramp to a more suitable location farther away from a sockeye salmon spawning bed, and developing and installing interpretive signs.

Marine Debris Cleanups

HCD Restoration Center staff, in partnership with the Marine Conservation Alliance Foundation, conducted marine debris cleanups in FY09 on: Biorka, Chichagof, Kodiak, Tugidak and Prince of Wales Islands, Port Heiden and Yakutat. In addition, staff initiated planning in FY09 for the removal of a derelict vessel, the "Ocean Clipper," from fur seal pupping grounds on St. Paul Island in the Pribilof Islands. The abandoned vessel is currently located in the middle of the second largest fur seal breeding area on St. Paul. The wreck has become a death trap for fur seal pups that get inside through holes in the hull and then cannot get out. The Marine Conservation Alliance Foundation has received NOAA stimulus funding to remove the threat this vessel posses to prime fur seal pupping habitat and is currently exploring the options available.

Ocean Clipper aground on St. Paul

Marine Debris cleanup on St. George

Kenai Peninsula Restoration Project

In partnership with the Kenai Watershed Project, HCD Restoration Center staff is assisting in initiating a multifaceted approach to improve salmon habitat on the Kenai Peninsula. This approach includes replacing three culverts currently blocking fish passage; replacing the Tern Lake outlet culvert with a bridge; upgrading existing recreational facilities and trails in the area; reducing the stream gradient near the outlet of Tern Lake; reducing road gravel and trash entering the stream banks and channel; optimizing aquatic organism passage and habitat conditions; and rehabilitating the damaged stream by creating a more natural stream channel with woody debris, pools and spawning gravel.

Klawock Causeway Fish Passage Restoration Project

In FY09, American Reinvestment and Recovery Act funds were obtained to place a concrete fish passage structure beneath a causeway along the Craig to Klawock highway on Prince of Wales Island. The causeway is blocking normal tidal flow and salmon migration. The concrete structure will restore fish passage between the Klawock River and its estuary, thus allowing out-

migrating juvenile fish to access 460 acres of eelgrass habitat and migrating adult salmon to access more than 65 miles of stream and lake habitat. HCD Restoration Center staff are working closely with the Alaska Department of Transportation and Public Facilities and the Nature Conservancy to implement the project.

Marine Protected Areas

HCD staff worked with the North Pacific Fishery Management Council to assess the implications of adding Alaskan marine protected areas to a national system of protected areas under a federal executive order. Numerous marine protected areas exist in Alaska, spanning a wide range of conservation strategies. HCD staff worked to ensure that expansion of any marine protection area program takes into account ongoing efforts to conserve marine habitats.

National Fish Habitat Action Plan

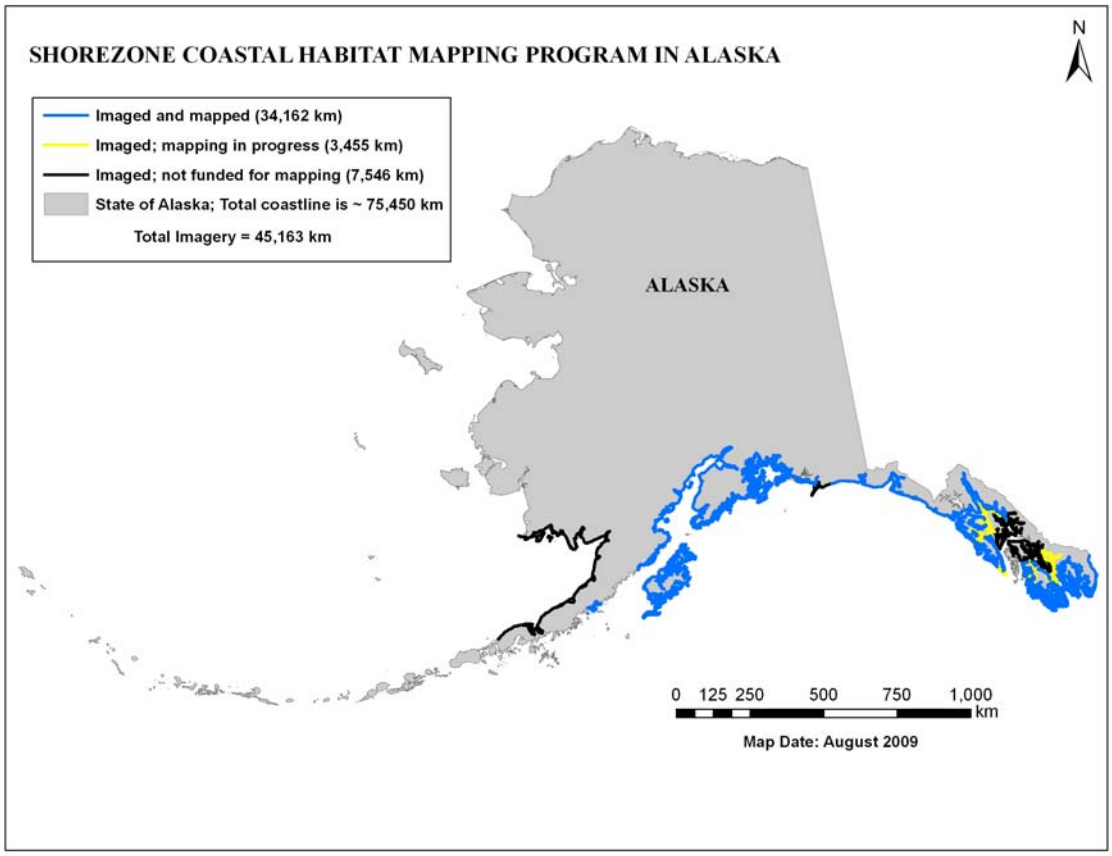
Alaska has two recognized Fish Habitat Partnerships under the National Fish Habitat Action Plan: the Matanuska-Susitna Basin Salmon Conservation Partnership (Mat-Su) and the Southwest Alaska Salmon Habitat Partnership. Alaska also has three candidate Fish Habitat Partnerships: Anchorage's Salmon in the City, the Kenai Peninsula Conservation Partnership and the Pacific Marine and Estuarine Fish Habitat Partnership. HCD and Restoration Center staff worked closely with these partnerships in FY09. HCD helped the Mat-Su Partnership set priorities and identify funding opportunities outside the normal funding process for the National Fish Habitat Action Plan. HCD staff also assisted the Southwest Alaska Partnership on implementing their strategic plan. In addition, HCD staff worked closely with the Kenai Partnership to prepare and submit their application and strategic plan for recognition as a full partner by the National Board.

Additionally, HCD staff began to explore opportunities to help develop a coastal habitat assessment for Alaska. Originally, Alaska was not going to be included in a west coast assessment to be developed by 2010, but after discussions with staff of the National Fish Habitat Action Plan, it was agreed to develop a coastal assessment for Alaska using existing data. HCD staff are working with NOAA research scientists to compile spatial fish habitat data in Alaska for inclusion in the national coastal spatial framework and database of existing habitat quality indicators. Coastal data from the ShoreZone database is a critical component of this assessment.

Other Noteworthy Activities

ShoreZone Imaging and Mapping

ShoreZone is a coastal habitat mapping and classification system in which spatially referenced aerial imagery is collected specifically for the interpretation and integration of geologic and biological features of the intertidal zone and nearshore environment. To date in Alaska 45,163 km of shoreline has been imaged or approximately 60% of the state's shoreline. In FY09 HCD staff continued to work with other agencies and organizations to image and map habitat features along sections of the Alaska coastline. Imagery and mapping data are accessible via an interactive website (www.alaskafisheries.noaa.gov/maps/szintro.htm) to provide coastal habitat information to decision makers and the public.



Ecological Effects of Tidal Energy Development Workshop

HCD staff teamed with the NMFS Northwest Region, the Northwest National Renewable Energy Center at Oregon State University, University of Washington, Washington SeaGrant, and the Pacific Northwest National Laboratory, to plan a workshop on the ecological effects of tidal energy development in March 2010. Alaskan scientists from a diverse field of specialties have been invited to participate. HCD staff are coordinating the workshop with the Alaska Energy Authority's Renewable Energy team and other state and federal agencies involved in developing marine kinetic energy projects in Alaska.

Mining and Fisheries Workshop

HCD staff organized a one-day session on mining and fisheries for the Alaska Chapter of the American Fisheries Society annual meeting. Speakers included government researchers and managers, mining industry representatives, consultants, and representatives from non-governmental organizations. Of particular note was the coordination which brought in expertise from the Northwest Fisheries Science Center for a presentation on the impacts of copper on the sensory biology and behavior of salmon.

Essential Fish Habitat – Nearshore Sampling

HCD staff assisted Alaska Fisheries Science Center's field sampling efforts in Upper Cook Inlet, Resurrection Bay, and Passage Canal (Prince William Sound) to establish baselines near communities where information on habitat use by marine species does not currently exist. Funding was secured through the yearly, competitive EFH Proposal Process. In Resurrection

Bay, the effort was coordinated with the Sea Life Center. In Upper Cook Inlet, the effort focused on an area near a proposed submerged hydroelectric generator. In Passage Canal, the effort was coordinated with the Corps of Engineers to provide site-specific information prior to a new harbor development.

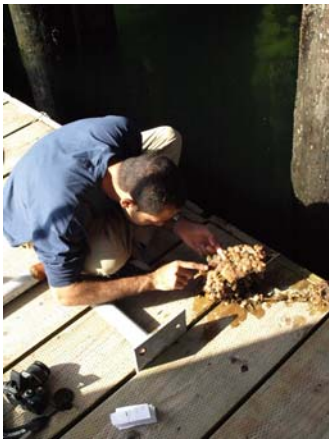
Photo Courtesy of John Thedinga, ABL

Climate Study

HCD contracted with three expert climatologists from the University of Alaska-Fairbanks to collaborate with municipal hydropower project operators throughout southeast Alaska to determine the influences of climate variability (primarily El Nino/La Nina and Pacific decadal oscillation shifts) and long-term climate change on hydropower operations. The project was initiated at the request of the project operators who were experiencing seasonal and annual changes in reservoir inflow due to changes in precipitation, snowpack and temperatures and requested NOAA's assistance in determining if these changes were due to natural variation of were the result of long-term climate change. This project is a test of how NOAA can identify and deliver climate products to the public. The initial study was focused on a project located in Sitka, Alaska. Additional funding allowed the project to expand in scope to cover all of southeast Alaska. Preliminary results have been presented to interested parties at several meetings. Additional presentations are planned for this winter, and will be webcasted with final reports and presentations to the requesting utilities and HCD in early summer of 2010.

Invasive Species Coordination

HCD staff continued to lead the Marine Subcommittee of the Alaska Invasive Species Working Group to great success. As a follow-up and as fulfillment of the goal of training held in 2007, monitoring of green crab and tunicates has continued for two years in Gustavus, Ketchikan and Sitka, with green crab monitoring expanded to Seward and tunicate monitoring expanded to Sitka. HCD staff used NOAA Invasive Species Program monies to fund an Alaska *Spartina* response plan that builds on the experience of the Pacific Northwest states to prepare Alaska for action should an invasion of this species complex occur - as predicted. A final plan was completed in December, 2009. HCD staff also worked closely with the Alaska Department of Fish and Game to develop a similar response plan for Alaska for the European green crab and provided outreach to Customs and Border Patrol on marine invasive species in Alaska. Noteworthy this year were several newspaper articles and radio reports that resulted from collaboration between green crab monitors, HCD staff, and AKR Public Relations staff to get the word out to the media on green crab monitoring efforts in the State of Alaska for the first time. Through these and other efforts of coordination and cooperation this past year, NMFS is regarded as a leader in marine invasive species efforts in Alaska.



Tunicate plate sampling by Leonard Pace, NOAA Invasive Species Program in Ketchikan.

Green crab sampling by Gary Freitag in Security Cove

Please visit our website:
www.alaskafisheries.noaa.gov/habitat