NOAA FISHERIES

Mukilteo Research Station

Location of NWFSC headquarters and research stations.

Background

The Northwest Fisheries Science Center's (NWFSC) Mukilteo Research Station has been at the forefront of ecosystem recovery and marine pollution research in the Puget Sound for nearly four decades. NOAA's Mukilteo scientists were among the first to conduct studies on the effects of contaminants on fish health in Puget Sound, and are currently exploring the ecological impacts of human activity, including shoreline development and stormwater runoff – all critical priorities for NOAA and Washington State's efforts under the Puget Sound Partnership to recover the Sound by 2020. Research at the Mukilteo station is also helping the agency address critical data gaps in the challenging areas of ecosystem-based management and conservation and recovery of endangered and threatened Pacific salmon. Threats such as emerging pollutants and ocean acidification pose increasing concerns over the health of coastal areas of the California Current and the Puget Sound ecosystem. The cutting-edge fisheries research at Mukilteo supports NOAA's efforts to understand and minimize the impacts of human activities, including climate change, on the Nation's trust resources.

Features of the Facility

Important features of the research facility include:

- Access to large volumes of high quality seawater supporting a wide range of sensitive studies on marine fish species, shellfish, and their habitats.
- A waterfront facility with a deep water pier, enabling live specimens to be immediately transferred from research vessels to laboratories.
- A central Puget Sound location with convenient small boat access to multiple salmon estuaries and other field research locations.
- Proximity to the University of Washington and the NWFSC headquarters in Seattle, creating opportunities for collaboration with NWFSC and UW scientists and students.
- Specialized laboratories for investigating how marine species are responding to increasing ecosystem-scale pressures, from ocean acidification to toxic stormwater runoff.
- A collaborative work environment for scientists, educators, and students.
- A site that is highly visible within the community, and therefore uniquely suited for science communication and public engagement.

Research Activities

Research activities conducted at the Mukilteo Research Station focus on aquatic toxicology; life history, culture and restoration of aquatic species; ecosystem function and restoration monitoring; and effects of changing environmental conditions (i.e., ocean acidification) on living marine resources.

Highlights include:

- Studies on the effect of chemical contaminants (e.g., crude oil, pesticides, and metals in stormwater run-off) and naturally occurring toxins (e.g., algal blooms, viral and bacterial pathogens) on the health of fish and other marine organisms.
- Studies on cultured marine species (e.g., rockfish, Pinto Abalone) to investigate the impacts of overfishing, habitat loss, and other factors.
- Investigations on the effectiveness of restoration strategies in Puget Sound ecosystems to recover juvenile salmon and other species.
- Studies on impact of ocean acidification on marine ecosystems, including the marine food webs and species of economic importance, such as oysters and crabs.
- Studies on the basic characteristics of the Puget Sound ecosystem and how they might be affected by human influences.

Community Outreach Activities

- NOAA Teacher in the Lab program to train high school teachers in conservation genetics of marine life.
- Professional preparation and training of future scientists through undergraduate and graduate student internships.
- Interaction with youth groups, schools, and local clubs to improve public understanding of marine issues and promote environmental stewardship.

The Future of the Mukilteo Research Station

Following the transfer of land ownership to NOAA in 2013, NOAA's development plans include:

- Upgraded, state-of-art laboratories for aquatic toxicology, restoration of marine species and ecosystems, and ocean acidification.
- Increased seawater flow capacity, improving existing laboratory studies and allowing for more research.
- Improved infrastructure to support a fleet of small boats, field gear and supplies.
- Development of an outreach and education center along the planned waterfront promenade which will expand public outreach about NOAA and its work.

Partners

- Battelle Northwest
- Beach Watchers
- County Marine Resource Committees
- Seattle Metro Water Quality Laboratory
- Seattle Aquarium
- Skagit River System Cooperative
- Tacoma Zoo and Aquarium
- Tulalip Tribes
- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- University of Washington
- Washington State Department of Fish and Wildlife
- Washington State University

Learn more:

Sharing our work with other scientists, with policymakers, and with the public is important to us. To learn more about what we do, please visit our:
Website: www.nwfsc.noaa.gov
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