

Alaska Fisheries Science Center

Overview

The **Alaska Fisheries Science Center (AFSC)** is responsible for the development and implementation of NOAA's scientific research on living marine resources in Alaskan waters. Research addresses more than 250 fish and 41 marine mammal stocks distributed across 591,000 square miles of the U.S. continental shelf and adjacent pelagic waters. Based in Seattle, Washington the AFSC has research facilities in Juneau, Kodiak, Anchorage, Dutch Harbor, St. Paul, St. George and Little Port Walter, Alaska; and Newport, Oregon.

Research Vessel

The Fisheries Survey Vessel *Oscar Dyson* is used as a critical survey and research platform in Alaskan waters. This vessel is capable of performing acoustic and trawl surveys, oceanographic sampling and marine mammal observations. The AFSC also uses chartered commercial vessels extensively for surveys.



Tagged ribbon seal and NOAA FSV *Oscar Dyson*

Science Center Organization

The AFSC includes six Divisions, five of which specialize in particular aspects of marine research and contribute to integrated ecosystem level observation and process studies. The Operations, Management and Information Division provides administrative services and infrastructure in support of the science programs. Within the Science Director's Office, the Habitat and Ecological Processes Research program coordinates large scale, multi-Divisional studies.

The **Resource Assessment & Conservation Engineering (RACE) Division** conducts fishery surveys to measure the distribution and abundance of fish and crab stocks in the Aleutian

Key Research Issues:

- Maintenance and expansion of marine mammal, fish, and invertebrate stock assessment for species in Alaska
- Improve quality of fishery-dependent data through a re-structured observer deployment system in the Gulf of Alaska
- Baseline ecosystem data for the northeastern Bering and Chukchi Seas to assess potential effects of oil and gas exploration and extraction in the Arctic
- Comprehensive abundance estimates for four species of ice-associated seals in the Okhotsk and Bering Seas
- Steller sea lion and northern fur seal ecology, population dynamics, and interactions with commercial fisheries
- Investments in advanced technology for improved assessment surveys

Islands, eastern Bering Sea and the Gulf of Alaska. Survey data derived are analyzed by Center scientists and supplied to fishery management agencies and to the commercial fishing industry. The research surveys use a range of sampling techniques, measurement equipment (including acoustic instruments), and fishing gear (e.g. trawls and longlines), much of which is built and maintained on-site. RACE scientists use underwater video systems and submersibles to observe fish and crab behavior during capture and conduct laboratory experiments to measure potential for animal survival after capture. The effects of fishing on marine habitats are likewise studied. Cooperative work with the fishing industry tests modifications of fishing gear to reduce the incidental catch of, or impacts on, nontarget species.

The **Resource Ecology & Fisheries Management (REFM) Division** conducts research and data collection to support management of Northeast Pacific and eastern Bering Sea fish and crab resources. Twenty-nine groundfish and crab stock assessments are developed annually and used by the North Pacific Fisheries Management Council to set catch quotas. Division scientists also apply biological and oceanographic data, coupled with

numerical simulation techniques, to study the interaction among fish populations, fisheries, protected resources, and the environment. They provide economic and sociocultural information on commercial fisheries and other marine resource-related issues to resource managers, commercial and subsistence fishers, and other stakeholders.

The **Fisheries Monitoring & Analysis (FMA) Division** is responsible for implementing the North Pacific Groundfish Observer Program, which requires placement of observers on commercial vessels and at processing plants. Observers collect data on target and incidental catch, take biological samples and make marine mammal observations. Observer data supports in-season fishery management and the information needs of limited access privilege programs. Biological samples are used to construct age-length keys and to estimate critical growth parameters for use in stock assessments. The program fielded over 45,000 observer coverage days in 2011.



Observers collect data on many commercial fishing vessels

The **National Marine Mammal Laboratory (NMML)** conducts research on 41 stocks of marine mammals inhabiting waters off the coasts of Alaska and adjacent marine habitats. This work includes stock assessments and determinations of life history, status, and trends. Information is provided to Federal, tribal, State, and international organizations to assist in developing appropriate management regimes for marine mammal resources under NOAA's jurisdiction. Research programs are carried out cooperatively with other Federal, State, Alaska Native, and private-sector groups.

The **Auke Bay Laboratories (ABL)**, located in Juneau, conduct scientific research on fish stocks, fish habitats, and the chemistry of marine environments. Marine survey data from ABL research on commercial species such as rockfish, sablefish, and salmon, and on non-commercial

and/or protected species such as eel grass, plankton, Steller sea lions, and harbor seals are packaged in information products essential to fishing industries, state and federal regulators, and international treaty bodies. ABL's capabilities in environmental chemistry research contribute to greater understanding of the fate and effects of pollutants in marine ecosystems and the structure and functioning of marine food webs. The headquarters of ABL is the Ted Stevens Marine Research Institute in Juneau, Alaska.

Alignment with NOAA Strategic Goals

The work conducted at the AFSC primarily supports NOAA's Healthy Oceans Goal and NOAA's Arctic Vision. AFSC research supports fisheries and marine stewardship activities throughout the Gulf of Alaska, Aleutian Islands, Bering, Beaufort and Chukchi Seas. Many research projects are conducted with federal, state and non-governmental organizations, including the US Department of the Interior, North Pacific Fishery Management Council, North Pacific Research Board, Alaska Department of Fish & Game, the Universities of Alaska, Washington, and Oregon, Oregon State University, and various fishing industry groups.

Budget and Staff

	<u>FY12 Actual</u>
Operations, Research, and Facilities	\$56.5 M
Reimbursable Funding Expenditures	\$6.7 M
Total FTEs	398

For more information contact:

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