

## AFSC/ABL: Southeast Coastal Monitoring Project - CTD database

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The Southeast Alaska Coastal Monitoring (SECM) project in Alaska was initiated in 1997 by the Auke Bay Laboratory, National Marine Fisheries Service, to study the habitat use and early marine ecology of juvenile (age-0) Pacific salmon (*Oncorhynchus* spp.) and associated epipelagic ichthyofauna. This research has been conducted to meet several needs identified in the National Oceanic and Atmospheric Administration (NOAA) Fisheries 2006-2011 Strategic Plan, the North Pacific Anadromous Fisheries Commission (NPAFC) 2006–2010 Science Plan, and the Gulf of Alaska Global Ocean Ecosystem Dynamics (GLOBEC) Program.

A primary goal of the 2006-2011 NOAA Fisheries Strategic Plan is to “Protect, Restore, and Manage the Use of Coastal and Ocean Resources Through an Ecosystem Approach to Management”. SECM research addresses the five fundamental activities identified under this goal, which include: Monitor and observe the land, sea, atmosphere.... Understand and describe how natural systems work together..., Assess and predict the changes in natural systems..., Engage, advise, and inform individuals, partners, communities, and industries..., and, Manage coastal and ocean resources... SECM research emphasizes long-term monitoring of coastal marine habitats used by juvenile salmon and associated epipelagic fishes, to understand how environmental variation affects the sustainability of these marine resources in an ecological context.

The study of juvenile anadromous stocks of salmon in ocean ecosystems is an important component of the NPAFC 2006-2010 Science Plan. This component recommends studies directed at understanding: seasonal distribution and migration route/timing of juvenile salmon; hydrological characteristics, primary production, and prey resources in the habitats; trophic linkages, growth rates and predation rates of juvenile salmon; and population size, survival rate and survival mechanism of juvenile salmon. SECM research focuses on each of these elements of this component. In particular, SECM examines the relationships among habitat use, marine growth, hatchery and wild stock interactions, year-class strength, and ocean carrying capacity of key juvenile salmon stocks in the Eastern Pacific rim.

Research under the GLOBEC program incorporates basin-scale studies to determine how plankton productivity and the carrying capacity for high-trophic level, pelagic carnivores in the North Pacific Ocean change in response to climate variations, and incorporates regional-scale ecosystem studies to compare how variations in ocean climate affect species dominance and fish populations in the coastal margins of the Pacific Rim. SECM research addresses the regional-scale component of the GLOBEC program by 1) collecting biological data on juvenile Pacific salmon and ecologically related fish species from surface rope trawl samples, 2) monitoring physical and biological oceanographic indices at sampling stations in marine habitats, and 3) conducting process studies focusing on bioenergetics, prey fields, and trophic relationships of juvenile salmon and associated fishes.