

## Status of the Bering-Aleutian Salmon International Survey (BASIS)

**John H. Helle<sup>1</sup>, Toru Nagasawa<sup>2</sup>, and Olga S. Temnykh<sup>3</sup>**

<sup>1</sup>U.S. Department of Commerce, NOAA, NMFS,  
Alaska Fisheries Science Center, Auke Bay Laboratory,  
11305 Glacier Hwy., Juneau, AK 99801-8626, USA

<sup>2</sup>Hokkaido National Fisheries Research Institute, Fisheries Research Agency,  
116 Katsurakoi, Kushiro, Hokkaido 085-0802, Japan

<sup>3</sup>Pacific Research Fisheries Centre (TINRO-Centre),  
4, Shevchenko Alley, Vladivostok 690950 Russia



Keywords: Salmon, Bering Sea, climate change, trawls, forage fish

North American and Asian salmon that utilize the Bering Sea have declined in recent years. Changes in ocean conditions have occurred and these changes may be responsible for the declines in salmon. In order to understand how these changes influence abundance of salmon, a new research program was initiated in 2002 and coordinated through the North Pacific Anadromous Fish Commission (NPAFC). The Bering-Aleutian Salmon International Survey (BASIS) was developed to learn how salmon respond to variations in ocean conditions caused by climate change. For the first time, scientists from the NPAFC – Canada, Japan, Russia, and the United States – developed a scientific plan and followed through with coordinated surveys of salmon distribution across the entire Bering Sea in 2002 and 2003. Oceanographic observations were made simultaneously with fishing operations. Large trawls, towed near the surface, were used to sample salmon and associated marine forage and prey species. The RV *Kaiyo maru* from Japan, the RV *TINRO* from Russia, and the FV *Northwest Explorer* and FV *Sea Storm* from the United States participated in the surveys. Ships from the three countries rendezvoused north of Attu Island in 2002 near the Russian boundary and made side-by-side tows to compare catches. Genetic methods are used to identify country and location of origin of salmon captured at sea so that stock-specific migrations can be determined. Samples from catches at sea are saved for studies on age, growth, food habits, lipid content, and bioenergetics as well for genetic samples. Data on salmon, forage and prey species, and oceanographic data are shared between the countries in common databases.