



2050 VENIA MINOR ROAD  
PO Box 86  
ST. PAUL ISLAND, ALASKA 99660



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*Overview of BeringWatch program for Marine Mammal monitoring*

Marine ecosystems in the Alaska Arctic have been the focus of intensive research in recent decades, however the rapid pace of climate change has increased scientific uncertainty regarding future productivity and resilience of Arctic ecosystems. There is an urgent need to increase the seasonal breadth and spatial resolution of monitoring efforts to track changes in arctic-influenced regions. Additionally, in Alaska, there are shared responsibilities between Alaska Native Organizations and the federal government to cooperatively manage the use of marine mammals. This is where community-based monitoring can play a valuable role. The Aleut Community of St. Paul Island (ACSPI), a federally recognized tribe of Alaskan Natives, collaborated with other regional tribes to create a Sentinel monitoring program, called BeringWatch, to develop and implement local-scale subsistence management and scientific research activities, and thereby strengthen research and management collaborations between the representative ANO, NMFS, and other agency and academic entities. On the Pribilof Islands, the program initially focused on northern fur seals, Steller sea lions and harbor seals, however built-in flexibility of the program allows Sentinels to collect information on other species.

**A primary goal of the BeringWatch program is to improve the efficacy of our co-management agreement with the NMFS for the benefit of subsistence resources on St. Paul Island, Alaska.** The BeringWatch program enables local community members to collect reliable environmental and biological data in order to support and inform decisions that affect our regional food security. Through our Ecosystem Conservation Office (ECO), marine mammal subsistence harvest monitoring information is collected throughout the year. Data collected include; recording the number of fur seals entangled in marine debris and the number of seals successfully disentangled during each community subsistence fur seal harvest, observations of flipper-tagged fur seals in the harvest, and a biosampling program for subsistence harvested tissues including blood, bile, liver, muscle, and blubber. Harvest monitoring data are recorded in a standardized format using a handheld device (e.g. iOS enabled iPad or Android tablet) and entered in the BeringWatch database after each harvest. ECO also utilizes proven, standardized methods to collect harvest data from hunters within a 12 to 48-hour period. All harvest monitoring data collected using BeringWatch are shared with NMFS and the community of St. Paul annually through fur seal and sea lion subsistence harvest reports and via oral reports at tribal annual meetings, respectively. Subsistence Harvest Monitoring Programs conducted and managed by local tribes under co-management agreements have been utilized in the Pribilof Islands and by the Aleut Marine Mammal Commission for almost two decades. The real-time subsistence monitoring method established by ECO under its BeringWatch Program has improved the relationships among ECO staff, subsistence harvesters and hunters, and agency co-managers and enabled secure annual funding to local community members to collect subsistence harvest data.