Connecting subsistence and science
Integrating traditional knowledge and modern scientific research is a critical step toward understanding changing ecosystems such as the Bering Sea. Subsistence harvests, oral natural history, and local experiences and culture offer valuable tools for the investigation of the current role of contaminants in species declines.

Why Is PCCRC Interested?
A fundamental goal of the Pollock Conservation Cooperative is creating networks and connecting people to improve the collection of important scientific data, leading to enhanced understanding of the ecosystem.

What Scientists Did
Researchers engaged subsistence hunters on St. Paul Island, and developed a sampling protocol that hunters used to collect more than 100 tissue samples from fur seals, sea lions, and seabirds, including muscle, liver, blubber, and kidney tissues. The samples were analyzed to determine concentration of polychlorinated biphenyls (PCBs), a human-made chemical known to have significant adverse effects on organ function and reproduction.

Bottom Line
The project effectively demonstrated the ability of different interest groups and backgrounds to work toward a single goal, resulting in the collection of tissues that would otherwise be unavailable due to logistic and financial constraints to researchers.
WHAT SCIENTISTS LEARNED

Analyses suggest that PCB contamination could cause a decrease in the northern fur seal population. The project proved that scientists and local subsistence users can work together to better understand natural systems, and share information that would otherwise be unavailable to researchers due to logistic and financial constraints.

FURTHER STUDY

The species examined in this study are sentinels of a changing ecosystem, and represent an important traditional food source for rural communities. Climate change and environmental pollution may be responsible for some of the unexplained developments in traditional food consumption. Continued monitoring of subsistence foods for both academic and local knowledge is necessary.