

## Management Tool Development

WE BROADLY DEFINE MANAGEMENT TOOLS AS INFORMATION OR TECHNIQUES THAT ASSIST ECOSYSTEM MANAGERS IN MAKING DECISIONS. SUCH TOOLS CAN BE TARGETED AND SPECIFIC, OR GENERAL AND CROSS-CUTTING IN APPLICATION. IN DEVELOPING SEABIRD MANAGEMENT TOOLS, THE BOARD FUNDED TWO RETROSPECTIVE STUDIES FOR A TOTAL OF \$500,000.

Seabirds are often pointed to as “indicators” of marine conditions, and their role as indicators, both in pure research and applied management contexts, has been a very active and fruitful area of endeavor worldwide. To improve the communication and coordination among researchers and managers interested in seabirds as indicators in the North Pacific, the Board funded an international workshop on this topic that focused on developing specific recommendations for future NPRB-funded research. One of those recommendations was to learn more about what seabirds eat; the Board subsequently funded development of a seabird diet database to compile, centralize, and disseminate a broad range of seabird diet information.

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### International Seabird Workshop

Project 516

IN 2005, THE BOARD CALLED FOR A SYNTHESIS OF the current state of knowledge of seabirds as indicators of marine ecosystems and change in the North Pacific, building on the premise that measurements of abundance, demographic attributes, diets, behavior and physiology of seabirds provide accurate real-time “sensors” of ecosystem variability in the North Pacific. In 2006, project 516 supported an international workshop, “Seabirds as indicators of marine ecosystems: An integrated NPRB science plan for Alaska.”

Researchers convened a special symposium at the 2006 Pacific Seabird Group conference, with dozens of invited experts from around the world. Beginning with a summary of the main issues of concern to science and management organizations in the North Pacific and of the status of seabirds in the region, the investigators and workshop participants reviewed the utility of seabirds as indicators of change in the marine environment and then integrated all of the workshop outputs to make recommendations to the NPRB on a strategy for the study of seabirds in Alaska.

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### Seabird Diet Database

Project 722

THE REPORT PRODUCED BY PROJECT 516 SHAPED further NPRB-funded seabird research by prioritizing the study of seabird diets, among other recommendations. A number of large data sets, yet to be synthesized, contain detailed information on the diets of seabirds in Alaska and elsewhere in the North Pacific. In a collaborative effort between the U.S. Geological Survey (USGS), U.S. Fish and Wildlife Service (USFWS), NOAA Fisheries, and several academic institutions, Project 722 is compiling pertinent seabird diet data sets, developing tools for analyzing and mapping the data, and creating web-based products for dissemination of the data to scientists, resource managers, and the general public. This Seabird Diet Database, to be maintained by the USFWS, links to the North Pacific Seabird Colony Database, the North Pacific Pelagic Seabird Database, the North Pacific Seabird Monitoring Database, and NOAA Fisheries’ Groundfish Diet Database. Investigators are also preparing an “Implementation Plan for Sampling Seabird Diets in Alaska,” which sets priorities for augmentation of existing datasets for future at-sea and colony-based sampling programs.

