



Applied science for informed decision making

August 7, 2013

Welcome to the August 2013 edition of *BOEM Science Notes*.

We hope to keep our community of stakeholders informed on our ongoing research as it is taking place in the field. Each *Science Note* will feature a BOEM study or other item of interest. As always, thank you for your continued interest in our programs.

Sincerely,

Robert LaBelle
Science Advisor to the BOEM Director and Acting Chief Environmental Officer

Science team to study biological hot spots in U.S. Arctic waters

Hanna Shoal in the Chukchi Sea known as biological hotspot

Often called a biological oasis, the Hanna Shoal ecosystem in the Chukchi Sea northwest of Alaska contains abundant marine life, in part because of the warm Bering Sea water that flows north during the summer. The richness of that ecosystem is the subject of a BOEM-sponsored science expedition taking place this August aboard the U.S. Coast Guard Cutter Healy.

Departing Dutch Harbor, Alaska, on July 29, a team of more than 40 scientists from federal and state agencies, universities, oceanographic research institutions, and two public school districts began the second field season for this study. Researchers are gathering specimens and data about the Hanna Shoal ecosystem over a two week period. Dr. Kenneth Dunton of the University of Texas at Austin is the Principal Investigator for the study; Drs. Lee Cooper and Jackie Grebmeier of the University of Maryland are serving as mission co-chief scientists.



Walrus on summer ice during the August 2012 Hanna Shoal mission in the Chukchi Sea. Photo: Kathy Kuletz, US Fish and Wildlife Service



Map of the Hanna Shoal Core Study Area in the Chukchi Sea

BOEM oceanographer Dr. Heather Crowley, who participated in last year's excursion, is on the mission again this year. "By returning to the same area, we will be looking for continuity from the sampling.

We also plan to investigate other areas which were out of reach last year due to heavy icy conditions," Crowley said.

Texas public school teacher Andrea Skloss, whose travel is funded by the U.S. Arctic Research Consortium and the National Science Foundation's PolarTREC program, joined the mission and is posting a daily [blog](#) to the PolarTREC website.

Scientists will be sampling marine life, from the microscopic zooplankton swimming in the water column to larger species such as brittle stars, crabs and soft corals. Using GPS devices, they will document observed locations of seabirds and marine mammals. Water will be analyzed for contaminants, chlorophyll, oxygen levels and other traits.



Benthic organisms retrieved during last summer's Hanna Shoal mission. Photo: Heather Crowley, BOEM

The excursion is the latest in the [five year BOEM study](#), one of more than 60 ongoing environmental studies associated with anticipating, avoiding or limiting potential impacts from oil and gas exploration and development in the Alaska Outer Continental Shelf.

The Hanna Shoal research will contribute valuable environmental data for leasing and management decisions in the Arctic, and is part of BOEM's science-based approach to managing offshore oil and gas activities. Following extensive analysis of the data, BOEM expects to publish the final report for the Hanna Shoal study in 2016.

BOEM's five year oil and gas program for 2012-2017 proposes lease sales for the Chukchi Sea and the Beaufort Sea in 2016 and 2017, respectively, as well as for the Cook Inlet in Southcentral Alaska in 2016.

Visit www.boem.gov/studies to learn more about BOEM's Environmental Studies Program, **celebrating 40 years of applied science - 1973-2013**.



Sampling equipment used to gather sediment and biological specimens during the August 2012 mission. Left to right, multi-Haps core, box core, double Van Veen grab, with missile-shaped gravity cores at each end. Photo: Kathy Kuletz, US Fish and Wildlife Service

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The Bureau of Ocean Energy Management (BOEM) promotes energy independence, environmental protection and economic development through responsible, science-based management of offshore conventional and renewable energy.

