

**Bering Sea Integrated Ecosystem Research Project: Semiannual Progress Report**  
**Project B92: Top predator hotspot persistence**

**Project #:** B92

**Title:** Top predator hotspot persistence

**Principal Investigator(s) and Recipient Organization(s):**

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**Contract Period and Amount of Funding:** January 1, 2008 – September 30, 2012

**Report Period:** January 1, 2008 – September 30, 2008

**Report Date:** September 25, 2008

**Lead Author of Report:** Mike Sigler

**Proposed timeline and milestones within report period:** None. The first milestone is planned for December 2008.

<i>What</i>	<i>Who</i>	<i>Start (2008)</i>	<i>Other key dates</i>
Receive data from acoustic (B58), whale (B66) and seabird (B64) surveys	<b>Sigler, Kuletz, Friday, Wilson</b>	December	Annually 2008-2010

**Project Summary:**

Core goal: Seabird and cetacean foraging locations from at-sea visual surveys will be analyzed in relation to prey type and abundance data. We will quantify the distributions of pelagic forage fish, i.e., the existence of prey hot spots, whether these hot spots persisted across years and the location of apex predators relative to hot spot persistence based on apex predator frequency of association with persistent hot spots.

Hypotheses addressed: This project addresses BSIERP hypothesis 4. Hypothesis 4 states that: Climate and ocean conditions influencing circulation patterns and domain boundaries will affect the distribution, frequency and persistence of fronts and other prey-concentrating features and thus the foraging success of marine birds and mammals largely through bottom-up processes. Specifically:

- a. Climate-ocean changes will displace predictably located, abundant prey (hot spots) necessary for successful foraging by central place (seabirds and fur seals while nurturing young) and hot spot (baleen whales, walrus) foragers.
- b. Central place foragers will shift their diet, foraging locations or rookery locations to increase foraging opportunities (based on differential foraging success).

**Progress Summary:** No milestones were planned for this reporting period. The first project milestone is planned for December 2008.

**Lessons learned and project adjustments:** No lessons were learned because no milestones were planned for this reporting period.

**Integration activity:** Mike Sigler participated in data management, EMC, PI, Lead PI and SAB meetings.

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**Education and Outreach:**

Mike Sigler traveled to St. George Island with Francis Wiese (NPRB) and Vernon Byrd (USFWS) to learn about seabird biology. While there, they met with community members. Mike and Francis provided photos to Carolyn Rosner.

Mike Sigler presented a seminar on climate and fisheries. The seminar focuses on the role of BEST-BSIERP in improving understanding of the Bering Sea ecosystem. The seminar is posted at [http://bsierp.nprb.org/posted/home/02.08\\_climate\\_and\\_fisheries\\_sigler.pdf](http://bsierp.nprb.org/posted/home/02.08_climate_and_fisheries_sigler.pdf). Mike Sigler presented the seminar several times including:

- NPRB / NSF Principal Investigator Meeting, Seattle, Washington, 17 – 19 August 2007
- Mapping important cultural and ecological areas in coastal and marine environments” workshop, Anchorage, Alaska, January 10, 2008
- Hiram College students, Juneau, Alaska, January 14, 2008
- AFSC Program Managers meeting, Seattle, Washington, January 29, 2008
- University of Alaska Fairbanks, Juneau Center for Fisheries and Ocean Sciences, Juneau, Alaska, February 8, 2008
- NOAA Fisheries, Alaska Regional Office, Juneau, Alaska, February 28, 2008
- NOAA Climate and Living Marine Resources Workshop, Pacific Marine Environmental Laboratory, Seattle, Washington, May 15, 2008 (with Phyllis Stabeno)
- Bering Sea/Aleutian Islands and Gulf of Alaska Plan Teams, Seattle, WA, September 24, 2008
- Fishery Management Council training, Washington DC, October 21, 2008 (planned)
- Yale School of Forestry and Environmental Studies, New Haven, CT, October 28, 2008 (planned)

**Next year’s Work plan:**

**BSIERP B92, Top predator hotspot persistence, Mike Sigler, [Mike.Sigler@noaa.gov](mailto:Mike.Sigler@noaa.gov), 907-789-6037**

**2009-2012 Tasks, Assignments, Timeline**

<i>What</i>	<i>Who</i>	<i>Start ( 2009)</i>	<i>Other key dates</i>
Receive data from acoustic (B58), whale (B66) and seabird (B64) surveys	<b>Sigler, Kuletz, Friday, Wilson</b>	December	Annually 2008-2010
Complete preliminary persistence analysis	<b>Sigler, Kuletz, Friday, Wilson</b>	March 2009	
Complete NPRB progress reports	<b>Sigler</b>	April, October	Semi-annually 2008-2012
Complete persistence analysis	<b>Sigler, Kuletz, Friday, Wilson</b>	March 2011	
Supply data to data manager	<b>Sigler</b>	June 2011	
Complete manuscript	<b>Sigler, Kuletz, Friday, Wilson</b>	September 2011	