

**FY12 INVITATION
PROPOSAL SUMMARY PAGE**

Project Title: Long-term monitoring: Pelagic monitoring component - Continuing the Legacy: Prince William Sound Marine Bird Population Trends.

Project Period: October 1, 2011 – September 30, 2016

Primary Investigator(s) : Dr. David B. Irons and Dr. Kathy Kuletz, Migratory Bird Management, U. S. Fish and Wildlife Service, david_irons@fws.gov, (907) 786-3376

Collaborators: Jim Bodkin, Brenda Ballachey, Tom Dean, John Piatt, Heather Coletti

Study Location: Prince William Sound

Abstract: This project is a component of the integrated Long-term Monitoring of Marine Conditions and Injured Resources and Services submitted by McCammon et. al.

We propose to conduct small boat surveys to monitor abundance of marine birds in Prince William Sound, Alaska, during July 2012, 2014, and 2016. Eleven previous surveys have monitored population trends for marine birds and mammals in Prince William Sound after the *Exxon Valdez* oil spill. We will use data collected to examine trends from summer to determine whether populations in the oiled zone are increasing, decreasing, or stable. We will also examine overall population trends for the Sound. Continued monitoring of marine birds and synthesis of the data are needed to determine whether populations injured by the spill are recovering. Data collected from 1989 to 2010 indicated that pigeon guillemots (*Cepphus columba*) and marbled murrelets (*Brachyramphus marmoratus*) are declining in the oiled areas of Prince William Sound. We have found high inter-annual variation in numbers of some bird species and therefore recommend continuing to conduct surveys every two years. These surveys are the only ongoing means to evaluate the recovery of most of these injured marine bird species. Surveys would also benefit the benthic monitoring and forage fish monitoring aspects of the Long-term Monitoring Project as well as the Herring Project.

Estimated Budget: \$837,335.00

EVOSTC Funding Requested:

(breakdown by fiscal year and DOES NOT include 9% GA)

FY 12,	FY 13,	FY 14,	FY 15,	FY 16	TOTAL
\$189,445.0	\$22,200.0	\$193,645.0	\$22,200.0	\$197,845.0	\$625,335.0

Non EVOS Funds to be used:

(breakdown by fiscal year)

FY 12,	FY 13,	FY 14,	FY 15,	FY 16	TOTAL
\$56,000.00	\$22,000.0	\$56,000.00	\$22,000.0	\$56,000.00	\$212,000.0

Date: 23 MAY 2011

(NOT TO EXCEED ONE PAGE)

PROJECT PLAN

I. NEED FOR THE PROJECT

A. Statement of Problem

Identify the problem the project is designed to address. Describe the background and history of the problem. Include a scientific literature review that covers the most significant previous work history related to the project.

McKnight et al. (2008) examined whether marine bird and mammal species designated as injured by the EVOS Trustee Council had shown signs of recovery by 2007. Data collected from 1989 to 2007 in the oiled area indicated that common loons (*Gavia immer*) and cormorants (*Phalacrocorax spp.*) are increasing. Numbers of all other injured species are either not changing or are declining in the oiled area. Populations of harlequin ducks (*Histrionicus histrionicus*), black oystercatchers (*Haematopus bachmani*), Kittlitz's murrelets (*Brachyramphus brevirostris*), and common murres (*Uria aalga*) are showing no trend in the oiled area; pigeon guillemots (*Cephus columba*), and marbled murrelets (*Brachyramphus marmoratus*), are declining in the oiled areas of Prince William Sound in summer. Pigeon Guillemots are the only bird on the EVOSTC injured species list that is "not recovering". In addition Kittlitz's murrelet is a candidate species under the Endangered Species Act and PWS is one of the few remaining hotspots for it. There are no other surveys done in PWS to get population estimates for marine birds.

Using small boat surveys, this project will collect additional information to monitor the distribution and abundance of marine birds and sea otters in Prince William Sound. These data

will be combined with data collected in 1989-91 (Klosiewski and Laing 1994), 1993 (Agler et al. 1994a), 1994 (Agler et al. 1995a), 1996 (Agler and Kendall 1997), 1998 (Lance et al. 1999, Irons et al. 2000, Lance et al. 2001) and 2000 (Stephensen et al. 2001), 2004 (Sullivan et al. 2005), 2005 (McKnight et al. 2006), and 2007 (McKnight et al. 2008) to examine trends in marine bird distribution and abundance. This project will benefit restoration of Prince William Sound by determining whether populations that declined due to the spill are recovering and by identifying which species are still of concern.

B. Relevance to 1994 Restoration Plan Goals and Scientific Priorities

Please see pages 2-4 of the integrated proposal titled “Long-Term Monitoring of Marine Conditions and Injured Resources and Services,” and submitted by McCammon et. al

II. PROJECT DESIGN

A. Objectives

List the objectives of the proposed research, the hypotheses being tested during the project, and briefly state why the intended research is important.

To determine population abundance, with 95% confidence limits, of marine bird populations in Prince William Sound during March and July 2012, 2014 and 2016 in both oiled and unoled regions, as well as in Prince William Sound as a whole, in order to assess population trends in the years following the EVOS.

B. Procedural and Scientific Methods

For each objective listed in A. above, identify the specific methods that will be used to meet the objective. In describing the methodologies for collection and analysis, identify measurements to be made and the anticipated precision and accuracy of each measurement and describe the sampling equipment in a manner that permits an assessment of the anticipated raw-data quality.

If applicable, discuss alternative methodologies considered, and explain why the proposed methods were chosen. In addition, projects that will involve the lethal collection of birds or mammals must comply with the Trustee Council’s policy on collections, available at www.evostc.state.ak.us/Proposals/policies.htm.

Survey methodology and design will remain identical to that of past marine bird surveys conducted by the U. S. Fish and Wildlife Service in 1989, 1990, 1991, (Klosiewski and Laing 1994), 1993 (Agler et al. 1994a), 1994 (Agler et al. 1995a), 1996 (Agler and Kendall 1997), 1998 (Lance et al. 1999), 2000 (Stephensen et al. 2001), 2004 (Sullivan et al. 2005), 2005 (McKnight et al. 2006), and 2007 (McKnight et al. 2008). We will conduct three surveys: one during during July (“summer”) 2012, 2014, and 2016. We will use three 7.7 m fiberglass boats traveling at speeds of 10-20 km/hr to survey transects over a 3-week period.

We will continue to use a stratified random sampling design containing three strata: shoreline, coastal-pelagic, and pelagic (Klosiewski and Laing 1994) (Fig. 1). The shoreline stratum will

consist of waters within 200 m of land. Irons et al. (1988b) divided this stratum, by habitat, into 742 transects with a total area of 820.74 km². We will locate shoreline transects by geographic features, such as points of land, to facilitate orientation in the field and to separate the shoreline by habitat (Irons et al. 1988a,b). Shoreline transects will vary in size, ranging from small islands with <1 km of coastline to sections of the mainland with over 30 km of coastline. Mean transect length will be 5.55 km. During summer, we plan to survey 212 shoreline transects. All transects were randomly chosen, and the same transects are used each survey (Klosiewski and Laing 1994).

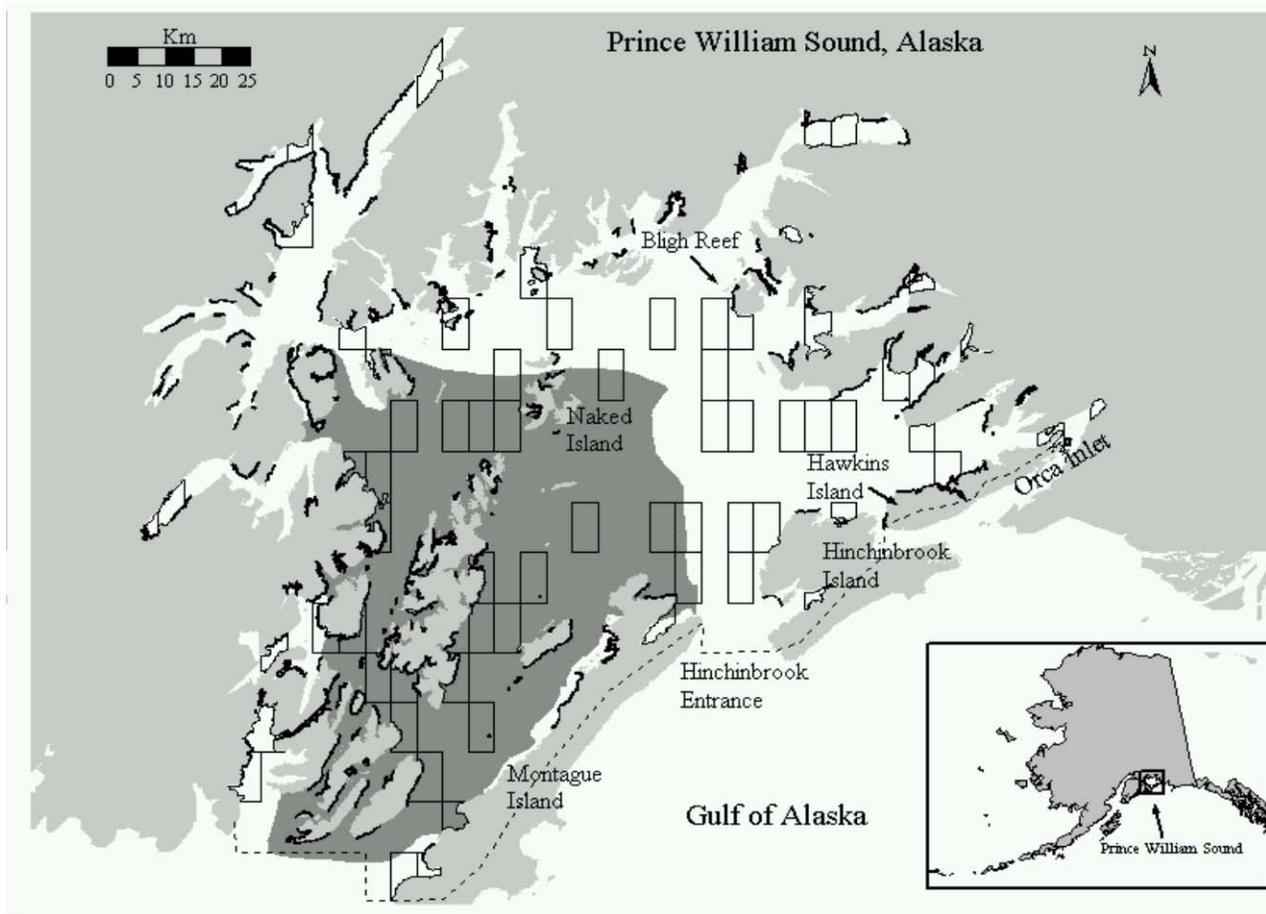


Figure 1. Locations of shoreline transects and pelagic transect blocks in Prince William Sound. Shading denotes the oiled region.

Justification:

Almost 30,000 marine bird (Piatt et al. 1990) and 900 sea otter (DeGange and Lensink 1990) carcasses were recovered following the *Exxon Valdez* oil spill. Based on modeling studies using carcass search effort and population data, an estimated 250,000 marine birds were killed in Prince William Sound and the northern Gulf of Alaska (Piatt and Ford 1996). Garrott et al. (1993) estimated that 2,800 sea otters also were killed. These estimates are probably low, because they only include direct mortality occurring in the first five months after the spill.

Twenty two years after the EVOS there are populations of Pigeon Guillemots, Kittlitz's Murrelets, and Marbled Murrelets are down by 50% to 90% compared to population numbers in 1989 after the initial mortality. All these species were affected by the spill, but are likely no longer being affected, however populations have never recovered. All three species rely on Pacific Herring during the summer breeding season and may be impacted by the herring crash of 1993.

There are no other studies monitoring population trends of these or any other marine bird species in PWS.

Linkages:

Pigeon Guillemots, Kittlitz's Murrelets, and Marbled Murrelets have continued to decline after the spill. All three species rely on Pacific Herring during the summer breeding season and may be impacted by the herring crash of 1993.

The EVOSTC has funded 11 surveys in 22 years to following population trends of marine birds in Prince William Sound. This is the best at-sea data set for marine bird populations in Alaska. This data set has been used to track recovery or lack of recovery for several injured species. It also provides the only information on the population trend of Kittlitz's murrelet, an ESA candidate species.

This component will provide the data on marine bird and mammal populations for the Benthic Nearshore Project.

Sea otters are counted on these surveys as well as marine birds.

Major Logistics:

A charter vessel 7 days in July that sleeps nine.

During July three 25' Fiberglass boats will be used.

C. Data Analysis and Statistical Methods

As in previous surveys (Klosiewski and Laing 1994, Agler et al. 1994a,b,c, 1995a,b, Agler and Kendall 1997, Lance et al. 1999, Stephensen et al. 2001, Sullivan et al. 2005, McKnight et al. 2006, McKnight et al. 2008), we will use a ratio estimator (Cochran 1977) to estimate population abundance. Shoreline transects will be treated as a simple random sample; whereas the coastal-pelagic and pelagic transects will be analyzed as two-stage cluster samples of unequal size (Cochran 1977). To do this, we will estimate the density of birds counted on the combined transects for a block and multiply by the area of the sampled block to obtain a population estimate for each block; any land or shoreline area (within 200m of land) intersecting a block will be subtracted from the total area of that block. We then will add the estimates from all blocks surveyed and divide by the sum of the areas of all blocks surveyed. We will calculate the population estimate for a stratum by multiplying this estimate by the area of all blocks in the strata. Population estimates for each species and for all birds in Prince William Sound will be calculated by adding the estimates from the three strata, and we will calculate 95% confidence intervals for these estimates from the sum of the variances of each stratum (Klosiewski and Laing 1994).

a) Trends in the oiled region

We will perform a linear regression on log-transformed population estimates over time (1989 – 2016) in the oiled region of Prince William Sound. Prior to calculating the \log_{10} of each population estimate, we will add a constant of 0.167 to each estimate to avoid the undefined \log_{10} of 0. In all analyses we will use a test size $\alpha = 0.10$ to balance Type I and Type II errors. The reasons for this include: 1) variation is often high and sample sizes low ($n = 11$ survey years); and 2) monitoring studies are inherently different from experiments and the number of tests being run with a multi-species survey are many, therefore, controlling for the number of tests by lowering alpha levels (e.g. Bonferroni adjustment) might obscure trends of biological value.

Taxa with significant increasing trends in the oiled region will be considered “recovering,” while taxa with no trends or significant negative trends will be considered “not recovering.”

b) Comparing trends between oiled and unoiled regions

We will use the regression technique detailed in (a) to perform regression analyses on population estimates (1989 – 2016) in the unoiled region. We will use a homogeneity of slopes test (Freud and Littell 1981) to compare population trends between the oiled and unoiled zones of Prince William Sound to examine whether species with population estimates of >500 individuals have changed over time. To do this, we must assume that marine bird and sea otter populations increase at the same rate in the oiled and unoiled zones of Prince William Sound. Significantly different slopes would indicate that population abundance of a species or species group changed at different rates.

Taxa showing no difference in trends between the oiled and unoiled regions will be considered “not recovering.” Taxa showing significantly greater trends in the oiled region compared with the unoiled region will be considered “recovering.” Taxa showing significantly greater trends in

the unoiled region compared to the oiled region will be considered to be suffering “continuing and increasing effects.”

Overall, a species will be considered “recovering” if it meets the requirements for this category in either the regression analysis within the oiled region or the homogeneous slopes analysis.

To determine optimum survey frequency, we conducted a power analysis to estimate the probability of detecting trends in abundance using linear regression from a given number of samples (Taylor and Gerrodette 1993). We examined our power to detect trends when coefficient of variation (CV) of the population was 0.30 (greater than the mean CV from previous surveys for 73% of the injured species; Fig. 2) and when the CV = 0.13 (the mean summer CV for *Brachyramphus* murrelets, an injured species. Models of seabird population growth predict most species increase no more than 12% per year (Nur and Ainley 1992), so we used 10% for our comparisons. With CV=0.30 the probability of detecting an average annual change of 10% would be 92% with the 10 surveys completed to date (Fig. 2).

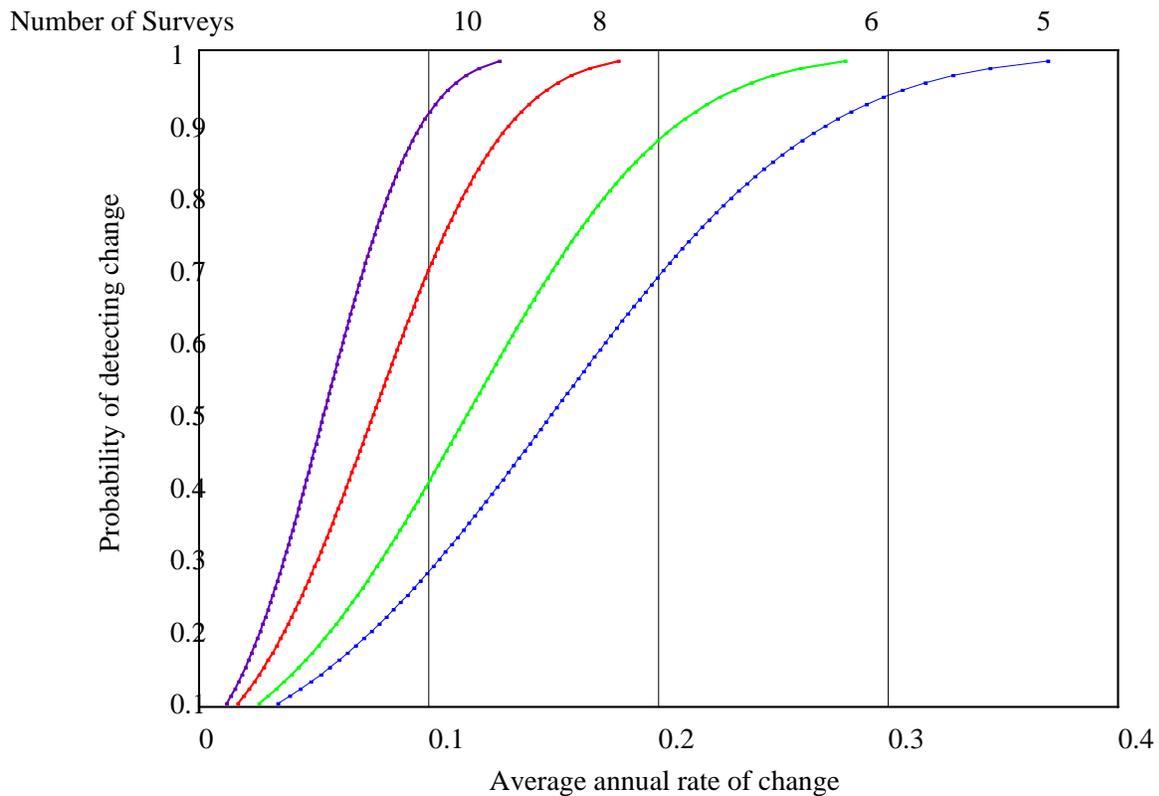


Figure 2. Estimated power based on numbers of surveys (5, 6, 8, and 10) conducted to detect a trend in marine bird populations in Prince William Sound when the CV = 0.30.

D. Description of Study Area

Our study area includes all waters within Prince William Sound and all land within 100 m of shore (Fig. 1). We exclude Orca Inlet, near Cordova, Alaska and the southern sides of Montague, Hinchinbrook, and Hawkins Islands (Klosiewski and Laing 1994).

E. Coordination and Collaboration with Other Efforts

Indicate how your proposed project relates to, complements or includes collaborative efforts with other proposed or existing projects funded by the Trustee Council. Describe any coordination that has taken or will take place (with other Council funded projects, ongoing agency operations, activities funded by other marine research entities, etc.) and what form the coordination will take (shared field sites, research platforms, sample collection, data management, equipment purchases, etc.). If the proposed project requires or includes collaboration with other agencies, organizations or scientists to accomplish the work, such arrangements should be fully explained and the names of agency or organization representatives involved in the project should be provided. If your proposal is in conflict with another project, note this and explain why.

III. SCHEDULE

A. Project Milestones

For each project objective listed above (II.A.), specify when critical project tasks will be completed. Project reviewers will use this information in conjunction with annual project reports to assess whether projects are meeting their objectives and are suitable for continued funding. Please format your information like the following example.

Objective 1. To determine population abundance, with 95% confidence limits, of marine bird populations in Prince William Sound during July 2012, 2014 and 2016 in both oiled and unoiled regions, as well as in Prince William Sound as a whole, in order to assess population trends in the years following the EVOS.

To be met by April 2013, 2015, and 2017

B. Measurable Project Tasks

Specify, by each quarter of each fiscal year, when critical project tasks (for example, sample collection, data analysis, manuscript submittal, etc.) will be completed. This information will be the basis for the quarterly project progress reports that are submitted to the Trustee Council Office. Please format your schedule like the following example.

FFY 12, 1st quarter (October 1, 2011-December 31, 2011)

Project funding approved by Trustee Council

Attend Annual PI Meeting

FFY 12, 2nd quarter (January 1, 2012-March 31, 2012)

Hire project personnel

FFY 12, 3rd quarter (April 1, 2012-June 30, 2012)

Prepare for Field Season

FFY 12, 4th quarter (July 1, 2012-September 30, 2012)

Conduct field work

Submit annual report

FFY 13, 1st quarter (October 1, 2012-December 31, 2012)

Analyze data

Attend Annual PI Meeting

FFY 13, 2nd quarter (January 1, 2013-March 31, 2013)

Attend Alaska Marine Science Symposium

FFY 13, 3rd quarter (April 1, 2013-June 30, 2013)

FFY 13, 4th quarter (July 1, 2013-September 30, 2013)

Submit annual report

FFY 14, 1st quarter (October 1, 2013-December 31, 2013)

Attend Annual PI Meeting

FFY 14, 2nd quarter (January 1, 2014-March 31, 2014)

Attend Alaska Marine Science Symposium

Hire project personnel

FFY 14, 3rd quarter (April 1, 2014-June 30, 2014)

Prepare for Field Season

FFY 14, 4th quarter (July 1, 2014-September 30, 2014)

Conduct field work

Submit annual report

FFY 15, 1st quarter (October 1, 2014-December 31, 2014)

Attend Annual PI Meeting

FFY 15, 2nd quarter (January 1, 2015-March 31, 2015)

Attend Alaska Marine Science Symposium

FFY 15, 3rd quarter (April 1, 2015-June 30, 2015)

FFY 15, 4th quarter (July 1, 2015-September 30, 2015)

Submit annual report

FFY 16, 1st quarter (October 1, 2015-December 31, 2015)

Attend Annual PI Meeting

FFY 16, 2nd quarter (January 1, 2016-March 31, 2016)

Attend Alaska Marine Science Symposium

Hire project personnel

FFY 16, 3rd quarter (April 1, 2016-June 30, 2016)

Prepare for Field Season

FFY 16, 4th quarter (July 1, 2016-September 30, 2016)

Conduct field work

Submit annual report

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Taylor, B. L., and T. Gerrodette. 1993. The use of statistical power in conservation biology: the vaquita and northern spotted owl. *Cons. Biol.* 7(3):489-500.

CURRICULUM VITAE OF PROPOSED PRINCIPAL INVESTIGATORS

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RECENT PROFESSIONAL EXPERIENCE

1999-2011 Alaska Seabird Coordinator, Migratory Bird Management, U.S. Fish and Wildlife Service
1993-1998 Marine Bird Monitoring Coordinator, Migratory Bird Management, U.S. Fish and Wildlife Service
1984-1992 Biologist, Migratory Bird Management, U.S. Fish and Wildlife Service

COMMITTEES

Chair, World Seabird Conference, International Steering Committee
Alaska Region Representative, North American Colonial Waterbird Conservation Plan
Chair, Alaska Seabird Working Group
Chair, Circumpolar Seabird Group
Seabird Coordinator, Circumpolar Arctic Flora and Fauna (CAFF), Circumpolar Biodiversity Monitoring Network.
Chair, Pacific Seabird Group – 2003-2005

Related Publications

- Golet, G. H., J. A. Schmutz, D. B. Irons, and J. A. Estes. 2004. Mechanistic determinants of reproductive costs in a long-lived seabird: a multiyear experimental study of the black-legged kittiwake. *Ecological Monographs* 74:353-372.
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- Other Publications
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COLLABORATORS

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Erickson, Wally, West Inc.	Schmutz, Joel USGS
Ford, Glenn, R.G. Ford Consulting	Stephensen, Shawn, USFWS
Golet, Greg, TNC	Suryan, Rob, OSU
Jodice, Pat, Clemson U.	Turco, Kathy, self employed

Dr. Kathy J. Kuletz
U.S. Fish and Wildlife Service
1011 East Tudor Road
Anchorage, Alaska 99503
Phone : 907-786-3453 Email: Kathy_Kuletz@fws.gov

Academic Training

Ph.D. Biology, 2005

M. S. Ecology & Evolutionary Biology, 1983

B. S. Wildlife Ecology, 1974

Univ. of Victoria, British Columbia

University of California, Irvine

California State Polytechnic, San Luis

Obispo, with Honors

Recent Professional Experience

2005-present Pelagic Observer Program Coordinator, Migratory Bird Management, USFWS

1998-2005 Alaska Seabird Specialist, Migratory Bird Management, USFWS

1989-1997 Principal Investigator, *Exxon Valdez* studies on marine birds, USFWS

Related Professional Experience

PI for Seabirds in Bering Sea Integrated Research Program (BSIERP), with NPRB grant

PI for North Pacific Pelagic Seabird Observer Program, with NPRB grant

Co-PI for 'Seabirds as Predators on Juvenile Herring', funded by EVOS in 2006-2009.

PI and Co-PI for EVOS projects on murrelets and pigeon guillemots, 1989 - 1999

PI for project on decadal changes in seabirds in Kachemak Bay (ADFG/SWG grant), 2004-2007.

Committees

Science & Statistical Committee of North Pacific Fisheries Management Council (2007-present)

NOAA/NPFMC Groundfish Fisheries Plan Team (2000 – 2006)

North Pacific Albatross Working Group

EVOS Prince William Sound Herring Working Group

Marbled Murrelet Technical Committee, Kittlitz's Murrelet Technical Committee (PSG)

Professional Societies

Pacific Seabird Group (Secretary, 1998-1999)

American Ornithologists' Union

Society of Conservation Biologists

The Wildlife Society

Honors, Awards, and Fellowships

Exceptional Service Award, *Exxon Valdez* Oil Spill, U.S. Fish and Wildlife Service, 1989

Regents Fellowship, University of California, Irvine, 1980, 1981

King Platt Memorial Award, University of Victoria, 1998 & 1999

Related Publications

- Golet, G. H., K. J. Kuletz, D. D. Roby, and D. B. Irons. 2000. Adult prey choice affects chick growth and reproductive success in pigeon guillemots. *Auk* 117(1):82-91.
- Kuletz, K.J., D. Irons, J.F. Piatt, B. Agler, and D.C. Duffy. 1997. Long-term changes in diets and populations of piscivorous birds and mammals in Prince William Sound, Alaska. Pages 703-706 *In*: B.R. Baxter (ed.), Proceedings of the Symposium on the Role of Forage Fish in the Marine Ecosystem. Alaska Sea Grant College Program AK-SG-97-01.
- Kuletz, K. J., and S. J. Kendall. 1998. A productivity index for marbled murrelets in Alaska based on surveys at sea. *Journal of Wildlife Management* 62(2):446-460.
- Kuletz, K.J., E. A. Labunski, M. Renner, D.B. Irons. The North Pacific Pelagic Seabird Observer Program. North Pacific Research Board Final Report, Project No. 637.
- Kuletz, K. J., S.W. Stephensen, D.B. Irons, E.A. Labunski, & K.M. Brenneeman. 2003. Changes in distribution and abundance of Kittlitz's murrelets *Brachyramphus brevirostris* relative to glacial recession in Prince William Sound, Alaska. *Marine Ornithology* 31:133-140.

Other Publications

- Golet, G. H., P. E. Seiser, A. D. McGuire, D. D. Roby, J. B. Fischer, K. J. Kuletz, D. B. Irons, T. A. Dean, S. C. Jewett, and S. H. Newman. 2002. Long-term direct and indirect effects of the 'Exxon Valdez' oil spill on pigeon guillemots in Prince William Sound, Alaska. *Marine Ecology Progress Series*. Vol 241: 287-304.
- Kuletz, K. J. 1996. Marbled murrelet abundance and breeding activity at Naked Island, Prince William Sound, and Kachemak Bay, Alaska, before and after the *Exxon Valdez* oil spill. Pages 770-784 *in* S. D. Rice, R. B. Spies, D. A. Wolfe, and B. A. Wright, editors. Proceedings of the *Exxon Valdez* oil spill symposium. American Fisheries Society Symposium 18.
- Kuletz, K.J. 2005. Foraging behaviour and productivity of a non-colonial seabird, the Marbled Murrelet (*Brachyramphus marmoratus*) relative to prey and habitat. Ph.D. Dissertation. University of Victoria, Victoria, British Columbia.
- Kuletz, K.J. E.A. Labunski, S.G. Speckman. 2008. Abundance, distribution, and decadal trends of Kittlitz's and marbled murrelets and other marine species in Kachemak Bay, Alaska. Final Report (Project No. 14) by U.S. Fish and Wildlife Service for Alaska Dept. Of Fish and Game, State Nongame Wildlife Grant, Anchorage, Alaska.
- Piatt, J.F., Kuletz, K.J., Burger, A.E., Hatch, S.A., Friesen, V.L., Birt, T.P., Arimitsu, M.L., Drew, G.S., Harding, A.M.A., Bixler, K.S. 2007. Status review of the marbled murrelet (*Brachyramphus marmoratus*) in Alaska and British Columbia. Open-file report, 2006-1387. Alaska Science Center, U.S.G.S., Anchorage, Alaska. 258p.

Recent Collaborators

Mary Anne Bishop (Prince William Sound Science Center); Vernon Byrd (U.S. Fish and Wildlife Service); George L. Hunt, Jr. (University of Washington); David Irons (U.S. Fish and Wildlife Service); Alexander Kataysky (Univ. of Alaska, Fairbanks); John Piatt (U.S. Geological Survey, Alaska Science Center); Dan Roby (Oregon State University); Mike Sigler (Alaska Fisheries Science Center, NOAA); Andrew Trites (University of British Columbia).

Budget Justification

FY 2012 – \$189,445.00

FY 2013 -- \$22,200.00

FY 2014 – \$193,645.00

FY 2015 – \$22,200.00

FY 2016 -- \$197,845.00

TOTAL: \$625,335.00

Project Title: Long-term monitoring: Pelagic monitoring component - Continuing the Legacy: Prince William Sound Marine Bird Population Trends.

Personnel: A project leader (GS 11) is needed to run the project and must possess supervisory skills to govern the activities of eight subordinate workers. A minimum of three persons per boat (3 boats) for a total of nine persons are needed to conduct the survey. We will need a supervisory biological technicians for five months to assist in field preparation and equipment maintenance, we will need three other biological technicians and four volunteers (due to lack of funding) -- approximately 20 days of survey time plus 25 days for field gear preparation/maintenance and training. The project leader will allocate 8 months to the project during years with a survey and 3 months during the off years. The project leader will be responsible for conducting QA/QC on the data, entering data into the North Pacific Pelagic Seabird Database, conducting analysis, writing reports and meeting attendance.

Request: (FY 2012: \$99.9K; FY 2013: \$22.2K, FY 2014: \$99.9K; FY 2015: \$22.2K; FY 2016: \$99.9 TOTAL: \$344.3K)

Travel: Nine people will be traveling throughout Prince William Sound and will need approximately 15 nights of lodging the Sound (and additional 7 will be aboard the charter vessel). Per diem will be given to each person during each survey. A tunnel fee is assessed to every vehicle traveling through the tunnel near Portage and the truck/boat will make 8 round trips during each survey.

Request: (FY 2012: \$11.8K; FY 2013: \$0.0K, FY 2014: \$11.8K; FY 2015: \$0.0K; FY 2016: \$11.8 TOTAL: \$35.5K)

Contractual: Prince William Sound is large and requires extensive travel by boat. To make the survey cost effective, a support vessel will be contracted to provide lodging and food for 7 survey days. The boats will operate for hundreds of hours and will need repairs and replacement parts. There are also fees associated with launching and parking the boat in the harbors.

Request: (FY 2012: \$37.1K; FY 2013: \$0.0K, FY 2014: \$37.1K; FY 2015: \$0.0K; FY 2016: \$37.1K TOTAL: \$111.3K)

Commodities: Includes gas and oil to support boat transport and operation during the surveys; food for 9 people while on survey; and personal safety devices.

Request: (FY 2012: \$34.6K; FY 2013: \$0.0K, FY 2014: \$38.8K; FY 2015: \$0.0K: FY 2016: \$43.0 TOTAL: \$116.3K)

Equipment: We are using USFWS equipment for this survey as an in-kind contribution but the survey work takes a toll on boats; on average, each boat will run a total of 20 full days per survey. As a result, we are including funds for emergency replacement of motor parts that fail during the survey should that need arise.

Request: (FY 2012: \$6.0K; FY 2013: \$0.0K, FY 2014: \$6/0K; FY 2015: \$0.0K: FY 2016: \$6.0 TOTAL: \$18.0K)

Indirect: We are using the standard G&A rate of 9%.

Request: Will not be included in the budget amount requested here.

**EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
DETAILED BUDGET FORM FY 12-FY16**

Budget Category:	Proposed FY 12	Proposed FY 13	Proposed FY 14	Proposed FY 15	Proposed FY 16	TOTAL PROPOSED
Personnel	\$100.0	\$22.2	\$100.0	\$22.2	\$100.0	\$344.3
Travel	\$11.6	\$0.0	\$11.8	\$0.0	\$11.8	\$35.3
Contractual	\$37.1	\$0.0	\$37.1	\$0.0	\$37.1	\$111.3
Commodities	\$34.6	\$0.0	\$38.8	\$0.0	\$43.0	\$116.3
Equipment	\$6.0	\$0.0	\$6.0	\$0.0	\$6.0	\$18.0
Indirect Costs (<i>will vary by proposer</i>)						
SUBTOTAL	\$189.3	\$22.2	\$193.6	\$22.2	\$197.8	\$625.2
General Administration (9% of subtotal)	\$17.0	\$2.0	\$17.4	\$2.0	\$17.8	\$56.3
PROJECT TOTAL	\$206.3	\$24.2	\$211.1	\$24.2	\$215.7	\$681.4
Other Resources (Cost Share Funds)	\$56.0	\$22.0	\$56.0	\$22.0	\$56.0	\$212.0

COMMENTS: Cost share funds from USFWS TOTAL \$212,000.00

Kathy Kuletz salary (GS12 for 1 month/year x 5 yrs) = \$55K David Irons salary (GS13 for 1 month/year x 5 yrs) = \$55K

Boat user fee (180 days @ \$300/day) = \$54K

Equipment user fee @\$12K/yr (computers, survival suits, electronics, etc.) = \$36K

GSA vehicle user fee @ \$4K/yr = \$12K

FY12-16

**Program Title: Long-term monitoring: Pelagic
monitoring component - Continuing the Legacy:
Prince William Sound Marine Bird Population**

SUMMARY

**EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
DETAILED BUDGET FORM FY 12-FY16**

Budget Category:	Proposed FY 12	Proposed FY 13	Proposed FY 14	Proposed FY 15	Proposed FY 16	TOTAL PROPOSED
Personnel	\$100.0	\$22.2	\$100.0	\$22.2	\$100.0	\$344.3
Travel	\$11.6	\$0.0	\$11.8	\$0.0	\$11.8	\$35.3
Contractual	\$37.1	\$0.0	\$37.1	\$0.0	\$37.1	\$111.3
Commodities	\$34.6	\$0.0	\$38.8	\$0.0	\$43.0	\$116.3
Equipment	\$6.0	\$0.0	\$6.0	\$0.0	\$6.0	\$18.0
SUBTOTAL	\$189.3	\$22.2	\$193.6	\$22.2	\$197.8	\$625.2
General Administration (9% of subtotal)	\$17.0	\$2.0	\$17.4	\$2.0	\$17.8	\$56.3
PROJECT TOTAL	\$206.3	\$24.2	\$211.1	\$24.2	\$215.7	\$681.4
Other Resources (Cost Share Funds)	\$56.0	\$22.0	\$56.0	\$22.0	\$56.0	\$212.0

COMMENTS: Cost share funds from USFWS TOTAL \$212,000.00
 Kathy Kuletz salary (GS12 for 1 month/year x 5 yrs) = \$55K David Irons salary (GS13 for 1 month/year x 5 yrs) = \$55K
 Boat user fee (180 days @ \$300/day) = \$54K
 Equipment user fee @\$12K/yr (computers, survival suits, electronics, etc.) = \$36K
 GSA vehicle user fee @ \$4K/yr = \$12K

FY12-16

**Program Title: Long-term monitoring: Pelagic
 monitoring component - Continuing the Legacy:
 Prince William Sound Marine Bird Population**

**FORM 4A
 TRUSTEE AGENCY
 SUMMARY**

**EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
DETAILED BUDGET FORM FY 12-FY16**

Personnel Costs:		Months Budgeted	Monthly Costs	Overtime	Personnel Sum
Name	Project Title				
Unknown - Project Leader	PWS Marine Bird Population Trends	8.0	7.4		59.2
Unknown - Supervisory Biological Science	PWS Marine Bird Population Trends	5.0	5.0		25.0
Unknown - Biological Science Technician	PWS Marine Bird Population Trends	1.5	3.5		5.3
Unknown - Biological Science Technician	PWS Marine Bird Population Trends	1.5	3.5		5.3
Unknown - Biological Science Technician	PWS Marine Bird Population Trends	1.5	3.5		5.3
Volunteer	PWS Marine Bird Population Trends				0.0
Volunteer	PWS Marine Bird Population Trends				0.0
Volunteer	PWS Marine Bird Population Trends				0.0
Volunteer	PWS Marine Bird Population Trends				0.0
					0.0
					0.0
					0.0
Subtotal			22.9	0.0	
Personnel Total					\$100.0

Travel Costs:	Ticket Price	Round Trips	Total Days	Daily Per Diem	Travel Sum
Description					
Truck and boat tunnel fee (Portage - Whittier)	0.01	8			0.08
Per diem (\$5/day), 9 people, 25 days summer			225	0.005	1.13
Per diem (travel rate), 9 people, 9 people, 2 days summer; 6 people for 3 d			36	0.17	6.12
Lodging, 6 nights, 3 rooms @ \$120/night/room (Cordova)			18	0.12	2.16
Volunteer Tavel to Anchorage 2 people	1.0	2	2	0.08	2.16
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
Travel Total					\$11.6

FY12

Program Title: Long-term monitoring: Pelagic monitoring component - Continuing the Legacy: Prince William Sound Marine Bird Population Trends

**FORM 4B
PERSONNEL & TRAVEL
DETAIL**

**EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
DETAILED BUDGET FORM FY 12-FY16**

New Equipment Purchases: Description	Number of Units	Unit Price	Equipment Sum
Emergency replacement of equipment	1.0	6.0	6.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
New Equipment Total			\$6.0

Existing Equipment Usage: Description	Number of Units	Inventory Agency
Survival Suits	9	FWS
Exposure Suits	9	FWS
Float Coats	9	FWS
Camping Supplies	9	FWS
dinghies	3	FWS
all other misc. equipment	UNK	FWS

FY12

**Program Title: Long-term monitoring: Pelagic
monitoring component - Continuing the Legacy:
Prince William Sound Marine Bird Population
Trends**

**FORM 4B
EQUIPMENT DETAIL**

**EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
DETAILED BUDGET FORM FY 12-FY16**

Personnel Costs:		Months Budgeted	Monthly Costs	Overtime	Personnel Sum
Name	Project Title				
Unknown - Project Leader	PWS Marine Bird Population Trends	3.0	7.4		22.2
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
Subtotal			7.4	0.0	
Personnel Total					\$22.2

Travel Costs:	Ticket Price	Round Trips	Total Days	Daily Per Diem	Travel Sum
Description					
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
Travel Total					\$0.0

FY13

Program Title: Long-term monitoring: Pelagic monitoring component - Continuing the Legacy: Prince William Sound Marine Bird Population Trends

**FORM 4B
PERSONNEL & TRAVEL
DETAIL**

**EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
DETAILED BUDGET FORM FY 12-FY16**

Contractual Costs: Description	Contract Sum
If a component of the project will be performed under contract, the 4A and 4B forms are required.	Contractual Total \$0.0

Commodities Costs: Description	Commodities Sum
	Commodities Total \$0.0

FY13

**Program Title: Long-term monitoring: Pelagic
monitoring component - Continuing the Legacy:
Prince William Sound Marine Bird Population
Trends**

**FORM 4B
CONTRACTUAL &
COMMODITIES DETAIL**

**EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
DETAILED BUDGET FORM FY 12-FY16**

Personnel Costs:		Months Budgeted	Monthly Costs	Overtime	Personnel Sum
Name	Project Title				
Unknown - Project Leader	PWS Marine Bird Population Trends	8.0	7.4		59.2
Unknown - Supervisory Biological Science	PWS Marine Bird Population Trends	5.0	5.0		25.0
Unknown - Biological Science Technician	PWS Marine Bird Population Trends	1.5	3.5		5.3
Unknown - Biological Science Technician	PWS Marine Bird Population Trends	1.5	3.5		5.3
Unknown - Biological Science Technician	PWS Marine Bird Population Trends	1.5	3.5		5.3
Volunteer	PWS Marine Bird Population Trends				0.0
Volunteer	PWS Marine Bird Population Trends				0.0
Volunteer	PWS Marine Bird Population Trends				0.0
Volunteer	PWS Marine Bird Population Trends				0.0
					0.0
					0.0
					0.0
Subtotal			22.9	0.0	
Personnel Total					\$100.0

Travel Costs:	Ticket Price	Round Trips	Total Days	Daily Per Diem	Travel Sum
Description					
Truck and boat tunnel fee (Portage - Whittier)	0.010	8			0.08
Per diem (\$5/day), 9 people, 25 days summer			225	0.005	1.13
Per diem (travel rate), 9 people, 9 people, 2 days summer; 6 people for 3 d			36	0.175	6.30
Lodging, 6 nights, 3 rooms @ \$120/night/room (Cordova)			18	0.120	2.16
Volunteer Tavel to Anchorage 2 people	1.000	2	2	0.075	2.15
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
Travel Total					\$11.8

FY14

**Program Title: Long-term monitoring: Pelagic
monitoring component - Continuing the Legacy:
Prince William Sound Marine Bird Population
Trends**

**FORM 4B
PERSONNEL & TRAVEL
DETAIL**

**EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
DETAILED BUDGET FORM FY 12-FY16**

Personnel Costs:		Months Budgeted	Monthly Costs	Overtime	Personnel Sum
Name	Project Title				
Unknown - Project Leader	PWS Marine Bird Population Trends	3.0	7.4		22.2
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
		Subtotal	7.4	0.0	
					Personnel Total
					\$22.2

Travel Costs:	Ticket Price	Round Trips	Total Days	Daily Per Diem	Travel Sum
Description					
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					Travel Total
					\$0.0

FY15

Program Title: Long-term monitoring: Pelagic monitoring component - Continuing the Legacy: Prince William Sound Marine Bird Population Trends

**FORM 4B
PERSONNEL & TRAVEL
DETAIL**

**EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
DETAILED BUDGET FORM FY 12-FY16**

Personnel Costs:		Months Budgeted	Monthly Costs	Overtime	Personnel Sum
Name	Project Title				
Unknown - Project Leader	PWS Marine Bird Population Trends	8.0	7.4		59.2
Unknown - Supervisory Biological Science	PWS Marine Bird Population Trends	5.0	5.0		25.0
Unknown - Biological Science Technician	PWS Marine Bird Population Trends	1.5	3.5		5.3
Unknown - Biological Science Technician	PWS Marine Bird Population Trends	1.5	3.5		5.3
Unknown - Biological Science Technician	PWS Marine Bird Population Trends	1.5	3.5		5.3
Volunteer	PWS Marine Bird Population Trends				0.0
Volunteer	PWS Marine Bird Population Trends				0.0
Volunteer	PWS Marine Bird Population Trends				0.0
Volunteer	PWS Marine Bird Population Trends				0.0
					0.0
					0.0
					0.0
Subtotal			22.9	0.0	
Personnel Total					\$100.0

Travel Costs:	Ticket Price	Round Trips	Total Days	Daily Per Diem	Travel Sum
Description					
Truck and boat tunnel fee (Portage - Whittier)	0.010	8			0.08
Per diem (\$5/day), 9 people, 25 days summer			225	0.005	1.13
Per diem (travel rate), 9 people, 9 people, 2 days summer; 6 people for 3 d			36	0.175	6.30
Lodging, 6 nights, 3 rooms @ \$120/night/room (Cordova)			18	0.120	2.16
Volunteer Tavel to Anchorage 2 people	1.000	2	2	0.075	2.15
					0.00
					0.0
					0.0
					0.0
					0.0
					0.0
Travel Total					\$11.8

FY16

**Program Title: Long-term monitoring: Pelagic
monitoring component - Continuing the Legacy:
Prince William Sound Marine Bird Population
Trends**

**FORM 4B
PERSONNEL & TRAVEL
DETAIL**

