

EVOSTC FY17-FY21 INVITATION FOR PROPOSALS
FY19 (YEAR 8) CONTINUING PROJECT PROPOSAL SUMMARY PAGE

Project Number and Title

Gulf Watch Alaska: Program Management Project

19120114-A—Program Management I – Synthesis and Coordination

19120114-B—Program Management II – Administration, Science Review Panel, PI Meeting Logistics, Outreach and Community Involvement

Primary Investigator(s) and Affiliation(s)

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Date Proposal Submitted

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Project Abstract

The Program Management I (PM I) project provides program coordination and science synthesis of data for the EVOSTC's integrated Long-term Monitoring of Marine Conditions and Injured Resources and Services program, referred to as Gulf Watch Alaska (GWA). The Program Management II (PM II) project is the administrative and outreach component of GWA. The Prince William Sound Science Center (PWSSC) serves as the fiscal agent for non-Trustee Agency recipients of GWA funds. The work plans for these two projects are combined because together they represent management of the GWA program and because the *Exxon Valdez* Oil Spill Trustee Council (EVOSTC) Science Panel requested combining the projects in 2017.

The program management team (PMT, collectively PM I and PM II) oversees more than two dozen principal investigators, collaborators, and science reviewers to produce and integrate a wealth of scientific information on the northern Gulf of Alaska ecosystem and spill-affected area and share that information with others. Program coordination and science synthesis (PM I) improves linkages between monitoring efforts spanning large regional areas (Prince William Sound, Gulf of Alaska shelf, lower Cook Inlet). Program coordination includes facilitating program planning and sharing of information between principal investigators, other Trustee-funded programs, and non-Trustee organizations. High quality products and science synthesis efforts help communicate monitoring results by delivering reports, publishing data, developing scientific papers, supporting outreach, and integrating information across the entire program. Program administration, science review panel (SRP), logistics, and outreach and community involvement (PM II) complements work under the PM I project in many ways. The administrative portion of the PM II project oversees funds for non-trustee agencies, while also providing travel and logistics for GWA in-person meetings, teleconferences, maintaining GWA's website, and managing community outreach and engagement.

So far in FY18, the PMT has maintained all of the program administration and outreach activities noted above and included hosting a community engagement event in Port Graham, producing 14 presentations/outreach products, and continued FY17-21 science synthesis efforts for four cross-component manuscripts and 6 - 10 new time series indicators (15-19 total from GWA) to assess ecosystem status in the Gulf of Alaska. Overall there are no changes to these projects' objectives, we are requesting partial funding to support a postdoc to assist with data integration and synthesis manuscripts.

PM I Funding Request

EVOSTC Funding Requested* (must include 9% GA)

FY17	FY18	FY19	FY20	FY21	TOTAL
\$226,800	\$227,600	\$150,500 *	\$153,800 *	\$160,000 *	\$918,700 *

Non-EVOSTC Funds to be used, please include source and amount per source: (see Section 6C for details)

FY17	FY18	FY19	FY20	FY21	TOTAL
\$69,000	\$69,000	\$69,000	\$69,000	\$69,000	\$345,000

* Changes reflect transfer of funds for GWA program coordinator position from PM I to PM II (NOAA contract to NOAA Grant) for FY19-21. Please note we are requesting a postdoc for this project but the budget for this is presented separately. Please see Section 6B for table with requested funds and separate worksheet (PM I PostDoc) in the program workbook. Funds requested for the postdoc would be for \$57.2K (0.60 FTE; without GA) for FY19-21. Funds would go to USGS to administer this position. Total includes an additional requested \$57,200 per year to partially fund a postdoc position for science synthesis efforts for FY19-21. Please see Sections 2C and 6B for details.

PM II Funding Request

EVOSTC Funding Requested* (must include 9% GA)

FY17	FY18	FY19	FY20	FY21	TOTAL
\$277,100	\$282,400	\$382,500*	\$384,600*	\$402,300*	\$1,728,900*

Non-EVOSTC Funds to be used, please include source and amount per source: (see Section 6C for details)

FY17	FY18	FY19	FY20	FY21	TOTAL
\$0	\$0	\$0	\$0	\$0	\$0

* Changes reflect transfer of funds for GWA program coordinator position from PM I to PM II (NOAA contract to NOAA Grant) for FY19-21. No new additional funds are being requested. Please see Sections 2C and 6B for details.

1. PROJECT EXECUTIVE SUMMARY

BACKGROUND

The EVOSTC initiated funding for the Gulf Watch Alaska (GWA) Long-term Monitoring Program in 2012 and 2017 (McCammon et al. 2011, Lindeberg 2016). The program is a consortium of field projects led by diverse agencies and organizations, ten of which started before 2012 and several with data sets extending prior to the spill. The GWA program has coordinated and synthesized a wide array of information and tools to date, including: published datasets for public access online; annual and final reports for the first 5 years of the program; a synthesis report in 2015; a peer-reviewed special issue with the Herring Research and Monitoring Program [HRM]; principal investigator [PI] authored publications in peer-reviewed journals; and a multitude of outreach activities. The program has fostered partnerships that include professional administrative support (Prince William Sound Science Center [PWSSC]), advanced data housing (Alaska Ocean Observing System), and collaborative relationships among agencies and organizations within and outside Alaska. PIs participating in GWA include those who have studied spill effects since 1989 and those who bring ecological expertise new to oil spill studies. Student participation has provided for deeper investigations into marine bird abundances, forage fish sampling methods, oceanography and nearshore ecosystems. Collectively, this group represents extensive expertise and knowledge of the Gulf of Alaska (GOA) ecosystem and spill-affected region. A monitoring program of this size requires a cohesive management team to provide leadership, administration, coordination, science integration, and communication at all levels. PM I and PM II bring team cohesion to the GWA program field projects.

OVERALL GOALS & OBJECTIVES

The overarching goal of the GWA program is to provide sound scientific data and products to inform management agencies and the public of changes in the environment and the impacts of these changes on injured resources and services.

Specifically, the goals of GWA are to:

- A. *Collect and analyze long-term ecological monitoring information from the Gulf of Alaska Exxon Valdez Oil Spill affected region;*
- B. *Make monitoring data publicly available for use by stakeholders, managers, and in integrated analyses;*
and
- C. *Assess monitoring data holistically in order to better understand the range of factors affecting individual species and the ecosystem.*

The program coordination and science synthesis efforts of PM I support these goals by documenting the overall scientific information from the monitoring program, improving information sharing between program PIs and with other EVOSTC programs (HRM, Data Management, and Lingering Oil). There are three primary objectives for continuing the GWA program's coordination and science synthesis project:

1. *Provide communication and data sharing* – This includes internal GWA program communication as well as communication external to GWA.
2. *Provide and document integration of monitoring results* – This includes cross-program standardization of data collection, GWA science synthesis products, and publications.

3. *Provide communication of monitoring information to trustee agencies, other resource managers and the public* – This includes recent findings, reports, publications, and news releases.

Through PM II, PWSSC effectively manages the GWA group of scientists from universities, federal and state agencies, and non-profit organizations in a manner that demonstrates our ability to cross institutional boundaries and help maintain long-term monitoring efforts in Alaska. By administering non-Trustee Agency awards, PWSSC reduces the administrative burden on EVOSTC staff and NOAA. PWSSC is fully integrated into the PMT, has well-established relationships with GWA PIs, Science Review Panel (SRP) members, and lingering oil and data management entities, as well as the HRM program (HRM administrative lead Scott Pegau is on the PWSSC staff).

The overall goals of PM II are to:

1. *Award contracts, distribute, and manage funds to all non-Trustee Agency members of the consortium.*
2. *Demonstrate reliable fiscal management through the completion of an annual audit.*
3. *Convene an SRP to review work by the program PIs.*
4. *Provide guidance to the PMT on the program's design and implementation.*
5. *Oversee the completion of outreach activities and products, especially as they pertain to the natural resource management objectives of agencies that provide services in the spill area and the interests of spill-affected communities, including Alaska Native communities.*

FY18 ACCOMPLISHMENTS

Program management and oversight is ongoing for the GWA program. The PMT coordinate on a weekly basis to ensure the program moves forward as planned.

During the first 6 months of the FY18 period, PM I (program coordination and science synthesis) has accomplished the following:

- Completed and submitted the FY17 program and project annual reports.
- Participated in the international Ocean Sciences conference held in Portland, Oregon along with numerous GWA PIs. GWA PIs were key participants in a daylong Gulf of Alaska (GOA) workshop and attended a technical session and poster session focused on the GOA.
- Held key roles in the triennial Kachemak Bay Science Conference. The program coordinator and several GWA PIs participated on the steering committee for the conference; the program lead gave one of two keynote presentations for the conference; and GWA team members lead workshops, chaired sessions, and presented papers and posters.
- The PMT (Mandy Lindeberg, Katrina Hoffman, Robert Suryan, and Donna Aderhold) held a two-day PMT meeting via video conference in April to coordinate GWA oversight and key activities for FY18 and beyond.
- In collaboration with the data management team, successfully published 45 datasets to the public through the Ocean Workspace to the Gulf of Alaska Data Portal.
- Held two quarterly teleconferences, during which the GWA PMT updated PIs on deadlines and deliverables, while program PIs and the HRM program lead provided updates on field work and findings.
- Planned for the fall GWA program PI meeting which will be held in Anchorage during the week of November 14-16, 2018 in conjunction with the HRM program PI meeting.

- Issued the *Quarterly Currents* newsletter, providing highlights of GWA activities to EVOSTC staff, SRP, PAC, outreach steering committee members, and sponsoring agency public relations personnel. All *Quarterly Currents* newsletters are available publicly on the GWA website.
- Worked closely with the EVOSTC Science Coordinator and GWA PIs to finalize FY12-16 final reports. Final reports are now available publicly on the GWA website.
- Participated in planning and conducting outreach events to spill-affected Alaska Native communities in the Kachemak Bay area, including: conversations with Chugachmiut Heritage Preservation local education coordinators and Chugachmiut region elders (from Tatitlek, Chenega Bay, Valdez, Port Graham, and Nanwalek); an information exchange session in Port Graham (a planned session in Nanwalek was postponed because of unforeseen circumstances); and a bird die-off alert training session in Seldovia.
- Held a teleconference with the leaders of the Coastal Observation and Seabird Survey Team (COASST) based out of the University of Washington to discuss the availability of GWA data for analysis of marine bird monitoring and die-offs in the GOA.
- Received COASST die-off alert (DOA) “train the trainer” training and participated with the Kachemak Bay National Estuarine Reserve in DOA trainings in Port Graham and Seldovia.
- Identified and began efforts on four cross-component synthesis manuscripts that include data within and outside of GWA.
- Reviewed GWA program needs and created a proposal and ranking process for GWA PIs to request additional funds to replace agency funding lost due to budget reductions, unexpected increased costs, or valued-added sampling to enhance GWA monitoring efforts.
- Worked to develop key time series indicators to describe the current ecosystem status for the Gulf of Alaska. We will contribute 6-10 new time series indicators (2X more than last year) from all GWA components to the NOAA GOA Ecosystems Status Report to the North Pacific Fisheries Management Council

During the first 6 months of the FY18 period, PM II, the program administration and outreach project, has accomplished the following:

- Contributed to FY17 annual report for PM I and PM II
- Compiled and submitted a semi-annual report to NOAA in compliance with the grant for non-Trustee agencies
- Participated in AMSS, including coordinating and paying for travel for SRP members
- Provided logistics for and participated in the winter PI meeting at AMSS
- Coordinated outreach activities for the Chugachmiut meeting at the Kachemak Bay Science Conference
- Compiled and submitted the FY12-16 NOAA final report following no-cost extension of the grant contract
- Amended and executed contracts for all subawards for the new program fiscal year
- Received the results of the FY17 audit and had them presented to and approved by the PWSSC board (no findings)
- Responded to fiscal queries from program subawardees
- Paid all subaward invoices in a timely fashion
- Participated in the PMT video conference to plan for FY18 and beyond
- Updated the website with news events and updated project pages

- Coordinated with KBNERR staff for community engagement/local knowledge exchange events in the Alaska Native communities of Port Graham, Seldovia, and Nanwalek (the Nanwalek event had to be postponed due to unforeseen circumstances)
- Hosted and participated in quarterly teleconferences with GWA PIs
- Contributed to the *Quarterly Currents* newsletter

FY19 GOALS

During FY19, in addition to facilitating program administration, reporting and outreach activities, the PMT will focus on science synthesis activities within GWA and HRM in anticipation of submitting a science synthesis report in December 2019 and holding a synthesis workshop with EVOSTC in January 2020. Science synthesis efforts will include four cross-component manuscripts, one originating from each of the three GWA components and an overarching manuscript including datasets and investigators from within and outside of GWA.

Anticipated lead authors and titles of synthesis manuscripts are:

1. Monson/Danielson/Campbell/Holderied/Suryan et al. – *“Coherence in intertidal to oceanic sea surface temperatures in the GOA: The Blob washes ashore”* (Environmental Drivers component)
2. Arimitsu et al. – *“Environmental drivers and prey condition leading to the murre die-off in the GOA”* (Pelagic component)
3. Dean/Monson et al. – *“Synchronous region-wide responses in intertidal community structure to a marine heat wave in the GOA”* (Nearshore component)
4. Suryan et al. *“Variability and connectivity in the Gulf of Alaska following a major ecosystem perturbation”* (Project Management component)

The overarching Suryan et al. manuscript will seek to establish testable *a priori* hypotheses with respect to:

- Evaluating synchronous and asynchronous patterns among organisms prior to the marine heatwave and whether patterns did or did not persist during the heatwave.
- Comparing organisms that showed positive vs. neutral or negative responses to the marine heatwave and why. Also, how these responses compare to past trends/perturbations.
- Did this event result in species distribution shifts or other trends that might persist even after the physical characteristics of the heatwave dissipate?

These science synthesis efforts are a work in progress as we continue to seek input from collaborators and stakeholders to produce the best possible products. Along these lines, the program is requesting additional funds to partially support a post-doctoral (postdoc) position focused on science syntheses products in the above listing. Engaging a postdoc will allow GWA to have an individual dedicated to synthesis efforts across components; current PI time is largely devoted to collection and presentation of data within their projects, and hiring a postdoc who can link data streams from throughout the program would result in high value, broad-scale products. The postdoc will work closely with the GWA program Science Coordinator to synthesize and analyze datasets, as well as author and co-author synthesis and other GWA publications over the three year period.

We will continue developing project-level ecosystem indicators to inform GOA resource management - and will expand indicators beyond the current suite which tend towards a fisheries management focus. For example, we are developing nearshore and priority species indicators that will hopefully be relevant to other stakeholders, such as the National Park Service and U.S. Forest Service. The GWA PMT will continue to develop and expand collaborations with other GOA research and monitoring efforts.

2. PROJECT STATUS OF SCHEDULED ACCOMPLISHMENTS FOR FY18 (Year 6)

A. Project Milestones and Tasks

Table 1. PM I project milestone and task progress by fiscal year and quarter, beginning February 1, 2017. Requested revised and new milestones and tasks are listed in red. C = completed, X = not completed or planned. Fiscal Year Quarters: 1= Feb. 1-April 30; 2= May 1-July 31; 3= Aug. 1-Oct. 31; 4= Nov. 1-Jan 31.

Milestone/Task	FY17				FY18				FY19				FY20				FY21			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Task 1 Planning																				
Coordinator hires	C																			
Web-Outreach review		C				C				X				X				X		
Data Compliance			C				X				X				X				X	
FY22-26 proposal																				X
Task 2 Meetings																				
PI Meetings	C	C	C	C	C	C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Trustee Prog. review			C				X				X				X				X	
Yr. 3 Joint Workshop													X							
Task 3 Reporting																				
Annual Reports					C				X				X				X			
FY Work Plan (DPD)			C				C				X				X					
Yr. 3 Synthesis Rpt												X								
Yr. 17-21 Final Rpt																				X
FY22-26 proposal																				X
<i>New Milestone</i>																				
Task 4 Postdoc																				
Data Integration & Analysis									X	X	X	X	X	X	X	X	X	X		
Yr. 3 Synthesis Report											X	X	X	X						
Synthesis manuscripts									X	X	X	X	X	X	X	X	X	X	X	X

Table 2. PM II project milestone and task progress by fiscal year and quarter, beginning February 1, 2017. C = completed, X = not completed or planned. Fiscal Year Quarters: 1= Feb. 1-April 30; 2= May 1-July 31; 3= Aug. 1-Oct. 31; 4= Nov. 1-Jan 31.

Milestone/Task	FY17				FY18				FY19				FY20				FY21			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Task 1 Fiscal Admin																				
Issue subaward contracts	C				C				X				X				X			
Annual audit				C				X				X				X				X
Task 2 Meetings																				
PI meetings	C	C	C	C	C	C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Trustee Council/PAC			C				X				X				X				X	
AMSS				C				X				X				X				X
Yr. 3 Joint Workshop													X							
Input from Trustee & mgt. agencies		C								X										
Community Involvement: Local entities and/or TEK			C				C				X				X				X	
Task 3 Reporting																				
Annual Reports					C				X				X				X			
FY Work Plan (DPD)			C				C				X				X					
Yr. 3 Synthesis Report												X								
Yr. 17-21 Final Report																				X
FY22-26 proposal																				X

B. Explanation for not completing any planned milestones and tasks

We have completed all planned milestones and tasks on schedule.

C. Justification for new milestones/tasks

A new milestone, “Milestone 4: Postdoc” and associated tasks is shown in Table 1 in red font. Please refer to section 5 for a full explanation.

3. PROJECT COORDINATION AND COLLABORATION

A. Within an EVOSTC-funded Program

By providing program leadership and oversight, the PM I and PM II projects support the GWA program’s goals in numerous ways. PM I and PM II projects also facilitate coordination with other EVOSTC-funded programs such as HRM, Data Management, and Lingering Oil.

ADMINISTRATION, COORDINATION, AND COLLABORATION WITHIN GWA

The following outlines how the GWA leadership personnel continue to achieve coordination and collaboration activities within the GWA program:

Program Lead - oversees coordination of individual program components, science synthesis and integration, and ensuring a coordinated monitoring program that meets project milestones and deliverables. These duties include:

- Oversight of project synthesis efforts and coordinate preparation of scientific reports/ papers for the EVOSTC and the public
- Coordinating efforts of the GWA program with the data management program, the HRM program, Lingering Oil program, external programs, and resource agencies.
- Working with Outreach Coordinator and PIs to support outreach efforts

Science Coordinator - provides program technical writing, review, and science coordination, including:

- Author and lead production of program synthesis products and promote integration of GWA projects
- Lead development of ecosystem indicators from GWA datasets
- Review and collation of reports and work plans
- Integrate GWA data and platforms with external programs such as HRM, NOAA's GOA Survey, University of Alaska Fairbanks and National Science Foundation's Northern Gulf of Alaska Long-term Ecological Research site.
- Editorial review, website development/ updates, and assistance with coordination of outreach events for each project
- Attendance and presentation of program information at scientific meetings and public events.

Program Coordinator - facilitates meetings, reporting, outreach, sharing, and publication of information from the various monitoring projects, including:

- Planning and documenting all quarterly teleconferences and meetings
- Tracking and assisting with data and metadata publication in the GWA Data Portal
- Tracking progress towards deadlines and program products
- Assisting with maintenance and updates for program website for purposes of conveying important program goals and information to the group
- Participate on Outreach Steering Committee and assist with outreach events

Administrative Lead - works closely with all other members of the PMT on a regular basis to ensure within-program coordination and collaboration, including

- Providing logistics for teleconferences and in-person meetings
- Acting as the fiscal agent for non-Trustee agencies and organizations
- Coordinating outreach activities and the Outreach Steering Committee; overseeing the Outreach Coordinator
- Facilitating and funding participation by the SRP
- Completes audit to demonstrate compliance with federal grants management standards

- Ensuring collaboration, where appropriate, with HRM and Data Management

COORDINATION AND COLLABORATION BETWEEN PROGRAMS

With Herring Research and Monitoring Program

The following outlines how the GWA leadership personnel will continue to achieve coordination and collaboration activities between the GWA and HRM programs:

- Data from GWA projects are provided to the HRM program for their use and analysis.
- The GWA team regularly engages the HRM program lead, Scott Pegau, by phone, email, and in person. The administrative lead and the HRM program lead are co-located in Cordova, which further supports cross-program information exchange.
- The HRM program lead is included on all GWA PI general correspondence. Likewise, the GWA PMT is included in all HRM general correspondence.
- The HRM program lead is invited to all PI teleconferences and meetings and given an opportunity to hear GWA PI updates and provide HRM updates to PIs.
- The GWA and HRM programs will collaborate on the 3-year synthesis products.

With Data Management Program

The GWA and Data Management programs are fully integrated and dependent on each other. The Program Lead and Science and Program Coordinators will work closely with AOOS and Axiom data management staff to maintain data access tools, providing data and feedback in the Gulf of Alaska Data Portal, and metadata generation tools. The Science and Program Coordinators will continue to work with all project PIs within the program to ensure new data are loaded to the Gulf of Alaska Data Portal, have undergone QA/QC measures, and have appropriate metadata available for public access. In addition, PWSSC acts as the fiscal agent between AOOS and NOAA for the Data Management grant.

With Lingering Oil

Based on our leadership role with the GWA program, we maintain a strong connection to Lingering Oil issues. We anticipate collaborations in the future.

B. With Other EVOSTC-funded Projects

The GWA program does not have specific goals or objectives to support EVOSTC-funded projects that are not part of a program. However, data, reports, and publications from GWA projects are available and the Science and Program Coordinators are available to work with EVOSTC-funded projects where appropriate and applicable.

Recent efforts included GWA program managers coordinating with field crews from the Pigeon Guillemot restoration study in the Naked Island complex to collect additional forage fish samples to maintain pelagic component time series and share seabird diet data.

C. With Trustee or Management Agencies

The GWA program integrates ecosystem monitoring activities with NOAA, US Fish and Wildlife Service (USFWS), US Geological Survey (USGS), Bureau of Ocean Energy Management (BOEM), and NPS. We also

coordinate with Alaska Department of Fish and Game researchers and managers through coordination on synthesis activities with the HRM program.

At the February 2018 Ocean Sciences conference in Portland, Oregon, GWA PMT members co-convened and PIs participated in a GOA workshop hosted by the North Pacific Research Board (NPRB) and NOAA leads for the GOA Integrated Ecosystem Research Program. The workshop was titled “To unpathed waters, undreamed shores: Current and future marine research in the Gulf of Alaska”. The workshop report will be shared with resource managers and will help drive future studies. GWA is also continuing to work with NOAA to develop and include GWA time series as indicators in ecosystem assessments and reports to the North Pacific Fisheries Management Council.

PMT members attended two NOAA workshops at the Alaska Fisheries Science Center: 1) Integrated Ecosystem Assessment and 2) Recruitment Processes Alliance to inform attendees of GWA sampling efforts, datasets and invite collaborations. GWA’s annual sampling greatly complements NOAA’s biennial sampling effort in contributing to ecosystem-based fisheries management efforts in the GOA.

GWA PIs coordinate reporting and sampling of marine mammal carcasses for NOAA Alaska Region Protected Resources Division (Kate Savage and Sadie Wright). GWA PMT members held a teleconference with the Coastal Observation and Seabird Survey Team (COASST), led by Julia Parrish of the University of Washington, to discuss ways that GWA data could support studies of marine bird mortality events. The GWA PMT will present COASST’s recently developed die-off alert training to GWA PIs at the fall meeting.

4. PROJECT DESIGN

A. Overall Project Objectives

PM I

Objective 1: Provide communication and data sharing

Program Lead, Science, and Program Coordinators will:

- a. Coordinate with the Administrative and Outreach Lead and program PIs on overall GWA planning, meetings, reporting, and evaluation.
- b. Collaborate on ways to provide schedules, deadlines, and field work to interested parties (e.g., Google calendar, Google sites, public website, shared workspaces, etc.).
- c. Facilitate quarterly PI meetings (teleconferences and gathering locations).
- d. Ensure quality control and timeliness of transferring data to the data management program.
- e. Work to coordinate with the HRM program Lead on program implementation and joint information needs.
- f. Communicate with other EVOSTC funded programs (e.g., Lingering Oil, Cross-Program Publication Groups).
- g. Collaborate with groups outside the GWA program (e.g., NPRB GOAIERP, NPS, Geographic Information Network of Alaska, USFWS Landscape Conservation Cooperatives) on joint synthesis of information.

Objective 2: Provide and document synthesis and integration of monitoring results across programs

Program Lead, Science and Program Coordinators will:

- a. Prepare and compile required NOAA semi-annual reports with Administrative Lead as part of cooperative agreement.

- b. Compile annual and final reports on overall science monitoring effort, working with the Administration Lead, PIs, data management provider, and outreach team.
- c. Prepare and compile Annual Work Plans with PIs and respond to EVOSTC review.
- d. Assist PIs with data synthesis, small working groups and publications within the program.
- e. Prepare a monitoring data synthesis report for Year 3 (8 years of monitoring) and/or special issue consideration with PIs for joint workshop between GWA and HRM programs.
- f. Collaborate with Administrative Lead and HRM Lead to plan Year 3 joint workshop between GWA and HRM programs with EVOSTC staff.
- g. Coordinate with PIs to improve integration of multi-disciplinary monitoring activities within geographic regions (PWS, outer Kenai Peninsula coast, lower Cook Inlet) and of monitoring within single disciplines between different regions.
- h. Collaborate with other Trustee programs (HRM, Lingering Oil, and Cross-Program Publication Groups) and non-Trustee organizations to share resources, data and foster partnerships to enhance monitoring efforts and cross-pollinate scientific knowledge.

Objective 3: Provide communication of monitoring information to Trustee agencies, other resource managers, and the public

Program Lead, Science and Program Coordinators will:

- a. Communicate directly with EVOSTC staff and their Science Review Panel upon request on program activities and progress.
- b. Work with PMT, outreach team, and PIs to communicate program progress to EVOSTC and the public by continuing to develop current content online, new presentations and create outreach opportunities.
- c. Work with data management team, outreach team and PIs to develop data exploration tools to better communicate technical and scientific information to stakeholders and the public.
- d. Network with other monitoring programs and regional stakeholders to identify information needs that may be met by adopting new ways to communicate information.

PM II

Objective 1: Fiscal management and reporting

PWSSC has extended funding to all non-Trustee Agency entities involved in the program with the exception of two co-PIs who work under contract to Trustee agency projects. Work includes management of all contracts and subawards for non-Trustee Agency organizations involved in this program, timely submission of financial reports such as the SF-425 to NOAA, timely submission of all narrative reports to both EVOSTC and NOAA, completion of an annual federal single audit and statement of financial position of PWSSC, and monitoring of project spending by non-Trustee Agency PIs.

Objective 2: Generate SRP input and oversight

All five members from the GWA Year 5 Science Review Panel are willing participants in Years 6-10. The program management budget maintains funds to support logistics and administration of this panel, such as travel and meeting expenses. The Science Review Panel is comprised of retired federal scientists/agency managers, a current state agency manager, and members of academe.

Staff from both PM I and PM II engage with the Science Review Panel. PM II's responsibilities are oriented around logistics while PM I's responsibilities are oriented towards science content. As the logistics lead, PWSSC ensures the Science Review Panel members have the opportunity to attend in-person meetings of

PIs as well as participate in teleconferences and webinars as needed to improve connections between programs, provide scientific oversight, and ensure program priorities are met. PMII will support travel expenses and provide logistical support to make this possible.

Objective 3: Host GWA PI meetings

The administrative budget supports an annual meeting of GWA PIs. Meetings will be held in a spill-affected community or Anchorage. In addition to the annual PI meeting, we will also provide for engagement and collaboration between and among GWA, Herring Research and Monitoring, Outreach, and Data Management personnel at the Alaska Marine Science Symposium, a second opportunity to advance program goals in person. PI teleconferences will round out the quarterly meeting schedule. Component meetings, Science Coordinating Committee meetings, meetings with the Science Review Panel, and PMT meetings will primarily be held by teleconference, but on occasion, in-person meetings may be necessary.

We will coordinate all meeting logistics including securing location, food, and hotel arrangements, as well as webinar and teleconference capabilities for remotely hosted meetings and presentations. Our intention is that the annual PI meeting will be inclusive of both GWA and Herring Research and Monitoring PIs to ensure transfer of information between programs. We coordinate with the HRM administrative lead to ensure collaboration between the two programs.

Objective 4: Conduct GWA outreach and community involvement activities

We will engage Trustee Agency managers and community members with interests in the spill area, including those who can provide a perspective on traditional ecological knowledge, to learn how data and information products can best serve them. We will generate products to meet those needs and improve understanding of ecosystem processes affecting variation in spill-affected resources. We will work with the Herring Research and Monitoring lead to coordinate community involvement opportunities within the spill area. Listening to the input of community members and managers will be a key feature of these activities, as well as providing information and products that are easily accessible on the program web site. Outreach Coordinator Stacey Buckelew will organize these efforts in a manner responsive to direction from PM II lead Katrina Hoffman as well as the Outreach Steering Committee.

The administrative lead will be responsive to the EVOSTC and PAC each autumn and engage with them to report on program activities and answer program questions, coordinate and participate in the annual PI meeting, update written and web-based materials describing overall program and individual components, and hold a PI meeting concurrent with the Alaska Marine Science Symposium in Anchorage.

We plan to implement the following opportunities for GWA to receive input from key individuals and agencies by:

- Holding PI meetings in different spill-affected communities across the five years (e.g., from among Cordova, Seward, Homer, Valdez, Kodiak) as well as Anchorage, and having open time for input each day on the agenda.
- Having a local and traditional ecological roundtable-type symposium in spill-affected native communities in FY18 & FY20 where both scientists and native community members exchange information about different ways of knowing, as well as changes they have observed in the systems. Ideally, across the five-year program, the program will engage with communities in both PWS and the Kachemak Bay/Kenai Peninsula area; for example, Chenega Bay or Tatitlek in one year

and Nanwalek or Port Graham in the alternate year, should those communities be open to such an experience.

- Taking advantage of opportunities to attend board meetings of organizations that are interested in program information and data, especially environmental drivers data (such as Cordova District Fishermen United, Prince William Sound Aquaculture Corporation, Valdez Fisheries Development Association, Cook Inlet Aquaculture Association, and Kodiak Regional Aquaculture Association).

B. Changes to Project Design and Objectives

There are no changes in the objectives for the PMT from the previous fiscal year.

Regarding Objective 4, “Conduct GWA Outreach and Community Involvement activities”, we originally envisioned the Outreach Steering Committee being comprised largely of the same members as in Years 1-5, when it was populated by outreach and engagement specialists from professionals at non-profit and academic organizations in the spill-affected region. However, after reflecting more deeply on the charge in the Invitation to Proposals to directly serve the Trustee Agencies and their target audiences, we have decided to revise the membership of the Outreach Steering Committee to include some representatives of Trustee Agencies. This allows us to be better informed of their needs and directly target our outreach to their needs and their target audiences. This steering committee is being activated in FY18.

5. PROJECT PERSONNEL – CHANGES AND UPDATES

The PMT would like to add a postdoc to GWA who will work with the Science Coordinator and project PIs to help produce GWA synthesis products (see manuscripts outlined in section 1 FY19 Goals). A doctoral student, Ben Weitzman, is currently working and partially funded (0.40 FTE) by GWA. In addition to working on his dissertation, Ben has begun contributing to GWA synthesis efforts (Dean/Monson et al. manuscript) and time series indicators. He also currently serves as a liaison among different nearshore component activities, and with some of the environmental drivers PIs, and thus has demonstrated his potential as a leader and team player. Ben has the history, interest, and analytical skills to enhance GWA science synthesis efforts over the next few years and provides us the opportunity to foster development of GWA investigators. Postdoctoral tasks will be to integrate datasets (EVOSTC and external if appropriate) and conduct analyses for synthesis products identified in section 1. Additional tasks include assisting with the science synthesis report and authoring synthesis and other GWA manuscripts. We are requesting an additional 0.60 FTE (\$57,200) per year to fully support Ben as a postdoc in FY19-21. This timing is ideal for our synthesis needs and coincides with anticipated completion of Ben’s dissertation in 2019. Ben’s CV is provided at the end of this Work Plan.

You will also notice a no-increase budget shift from the PM I to the PM II budget that is associated with a change in employer of our Program Coordinator, Donna Aderhold. The contracting firm through which her NOAA contract was secured changed, and with the change, costs increased significantly. In lieu of approaching the Trustee Council for additional support and to keep costs in line with what was originally proposed, the Prince William Sound Science Center will become the employer of the Program Coordinator. Concomitantly, we propose an annual reduction of \$231,000 in the PM I budget and an annual increase of \$231,000 in the PM II budget to account for the employment of the Program Coordinator. We propose a seamless transition and will apply this no-net increase shift in the remaining fiscal years 2019, 2020, and 2021.

6. PROJECT BUDGET FOR FY19

A. Budget Forms (See GWA FY19 Budget Workbook)

Please see project budget forms compiled for the program.

B. Changes from Original Project Proposal

Funding requests for PM I

- Subtract \$231K (FY19-21) from the NOAA contract for GWA Program Coordinator and shift those funds to PM II, which will pick up responsibility for employment of the Program Coordinator.
- Science synthesis postdoc – we are seeking additional funds for FY19-21 to partially support a postdoctoral position (0.6 FTE) for the GWA program. The cost of the position prior to the 9% GA is \$57.2K per year (FY19-21). Total cost over 3 years with 9% GA is \$187K (Table 3). No fees are being requested for travel, supplies, or equipment. Although the postdoc work will be done for the GWA program and this project, PM I – Synthesis and Coordination, funds to pay the postdoc position will be through the sponsoring agency Dept. of Interior, USGS. For more details please see Excel sheets entitled “PM I PostDoc” and “Summary by Project (see additional line item under Coordination, Data Management, Outreach and Administration) in the GWA Budget workbook.

Table 3. Request for additional funding (in thousands of dollars) by budget category including GA. Funds will support a postdoc to work with the Science Coordinator through FY21.

Budget Category	New Request FY19	New Request FY20	New Request FY21	Total New Request
Personnel	\$57.2	\$57.2	\$57.2	\$171.6
Travel	\$0.0	\$0.0	\$0.0	\$0.0
Contractual	\$0.0	\$0.0	\$0.0	\$0.0
Commodities	\$0.0	\$0.0	\$0.0	\$0.0
Equipment	\$0.0	\$0.0	\$0.0	\$0.0
Annual Subtotal	\$57.2	\$57.2	\$57.2	\$171.6
9% GA	\$5.1	\$5.15	\$5.15	\$15.4
Total with GA	\$62.3	\$62.3	\$62.3	\$187.0

Funding reallocations for PM II

- Add \$231K (FY19-21) from the PM I budget to the PM II budget to allow the Program Coordinator to become an employee of PWSSC, avoiding a significant cost increase in the NOAA contract structure.
- We are reallocating funds within the PM II budget to account for variations in travel spending experienced in FY17. PM II is underspent on travel, primarily due to SRP travel expenses. As busy professionals, not all of our SRP members are able to attend all meetings as originally anticipated. Additionally, some of our SRP members live in the city where we host meetings (such as Anchorage) and do not incur travel expenses. Others have been supported by their agency to attend GWA meetings, not incurring travel expenses to the PM II budget as expected. We have reduced the expected expenses for several travel line items in FY19, FY20, and FY21. We shifted

that funding from travel to the Information Technology line in Contractual for a no-net-impact change to the budget. Information Technology costs were underestimated in the original budget, and shifting funds from the Travel category to the Contractual category will help bridge the gap.

C. Sources of Additional Project Funding

NOAA Alaska Fisheries Science Center is providing 0.5 FTE for Mandy Lindeberg to serve as Program Lead and ~0.3 FTE for Robert Suryan as the Science Coordinator.

There are no other sources of funding being used for the administration of this program.

7. FY18 PROJECT PUBLICATIONS AND PRODUCTS

Presentations

Lindeberg, M. 2018. Science without borders – is it possible? Keynote presentation. 2018 Kachemak Bay Science Conference, Homer, AK, March 7-10.

Lindeberg, M. 2018. Gulf Watch Alaska Long-term Monitoring Program. Speed talk. 2018 Ocean Sciences Conference, Portland, OR, February 11-16.

Lindeberg, M. 2018. Nearshore Ecosystem Component of the Gulf Watch Alaska Long-term Monitoring Program. Speed talk. 2018 Ocean Sciences Conference, Portland, OR, February 11-16.

Suryan, R., M. Lindeberg, D. Aderhold, K. Hoffman, M. Arimitsu, H. Coletti, and R. Hopcroft. 2018. Gulf Watch Alaska: Taking the pulse of the northern Gulf of Alaska. Poster presentation. 2018 Alaska Marine Science Symposium, Anchorage, AK, January 22-26.

Suryan, R., M. Lindeberg, D. Aderhold, K. Hoffman, M. Arimitsu, H. Coletti, and R. Hopcroft. 2018. Gulf Watch Alaska: Taking the pulse of the northern Gulf of Alaska. Poster presentation. 2018 Kachemak Bay Science Conference, Homer, AK, March 7-10.

Suryan, R., M. Lindeberg, D. Aderhold, K. Hoffman, M. Arimitsu, H. Coletti, and R. Hopcroft. 2018. Gulf Watch Alaska: Taking the pulse of the northern Gulf of Alaska. Poster presentation. 2018 Ocean Sciences Conference, Portland, OR, February 11-16.

Suryan, R. 2018. Gulf of Alaska ecosystem variability. Juneau Marine Naturalists Symposium. Juneau, Alaska.

Suryan, R. 2018. Gulf Watch Alaska: Why we study ecosystems. Juneau Yacht Club, Juneau, Alaska.

Outreach

Aderhold, D., S. Buckelew, M. Groner, K. Holderied, K. Iken, B. Konar, H. Coletti, and B. Weitzman. 2018. GWA and HRM information exchange event in Port Graham, AK, May 15.

Buckelew, S. 2018. Gulf Watch Alaska website updates.

Lindeberg, M., K. Hoffman, R. Suryan, and D. Aderhold. 2018. GWA Quarterly Currents. Newsletter to EVOSTC staff, Science Panel members, and others as approved by the EVOSTC Executive Director. Volume 2.1: spring quarter.

Lindeberg, M., K. Hoffman, R. Suryan, and D. Aderhold. 2018. GWA Quarterly Currents. Newsletter to EVOSTC staff, Science Panel members, and others as approved by the EVOSTC Executive Director. Volume 2.2: summer quarter.

Robinson, R., A. Rademacher, R. Kaler, and D. Aderhold 2018. COASST die off alert training in Seldovia, AK, May 18.

Suryan, R. 2018. Gulf Watch Alaska looks beyond “The Blob.” 2018. Delta Sound Connections 2018-19. 16 pp. http://pwssc.org/wp-content/uploads/2018/05/DSC-2018-FINAL_WEB.pdf.

LITERATURE CITED

McCammon, M., K. Holderied, and N. Bird. 2011. Long-term monitoring of Marine Conditions and Injured Resources and Services. Five year proposal to *Exxon Valdez* Oil Spill Trustee Council. 879 p.

Lindeberg, M. 2016. Gulf Watch Alaska Program: Long-term Monitoring of Marine Conditions and Injured Resources. Five year proposal to the *Exxon Valdez* Oil Spill Trustee Council. 57 p.

Post-doctoral Candidate

BENJAMIN PHILLIP WEITZMAN

Wildlife Biologist

U.S. Geological Survey

Phone : 907-406-3181

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Alaska Science Center Western Ecological Research Center
Anchorage, AK 99508
Nearshore Marine Ecosystem Research Santa Cruz Field Station
4210 University Dr. 100 Shaffer Rd.
Santa Cruz, CA 95060

Objective

To lead a highly-skilled, inter-disciplinary team in performing scientific investigations of coastal ecosystem patterns, processes, and mechanisms to inform resource managers, coastal users, the public, and academic research; with a primary mission of building products to understand biophysical linkages and feedbacks in the face of a rapidly changing environment.

Education

University of Alaska Fairbanks
September 2015 - Present
Ph.D. Candidate, Marine Biology
Advisors: Dr. Brenda Konar & Dr. Daniel Esler

University of California, Santa Cruz
September 2010 - March 2013
M.A. Ecology & Evolutionary Biology
Advisors: Dr. M. Tim Tinker & Dr. James A. Estes

University of California, Santa Cruz
September 2004 - June 2008
B.S. Marine Biology
Advisor: Dr. Terrie M. Williams

Employment

Wildlife Biologist – Pathways Student Trainee (GS-09/11)

US Geological Survey (Alaska Science Center), February 2013 - Present

- Manage and conduct scientific investigations of nearshore ecosystems as part of the Gulf Watch Alaska monitoring program and on-going collaborations with other federal and academic institutions.

Graduate Student Researcher/Biologist (GS-07, GS-09)

US Geological Survey (Western Ecological Resource Center & Alaska Science Center), April 2010- February 2013

- Duties included conducting sea otter captures using highly specialized CCR (Closed Circuit Rebreather) and SCUBA diving techniques, tracking of tagged sea otters using telemetry, census of the CA sea otter population, maintenance of watercraft and sensitive dive equipment, surveys of intertidal monitoring sites, marine bird and mammal surveys, sea otter aerial surveys using ISU methodology, sea otter

observations using established techniques, habitat and invertebrate resource sampling using SCUBA, data management and analysis.

Scientific Aide

California Dept. Fish & Wildlife, March 2008 – April 2010

- Primary duty was a field biologist conducting sea otter captures using highly specialized rebreather diving techniques, tracking of tagged sea otters using telemetry, census of the CA sea otter population, and recovery of dead sea otter carcasses. Fulfilled duties as a necropsy technician to assess pathology of wildlife, focused on sea otters, but also including other marine and terrestrial mammals. Received training in sterile technique and processing of water samples as part of a pollutant and pathogen transmission project.

Boat Yard/Facilities Assistant

UCSC, January 2007 - July 2008

- Providing support to UCSC's scientific diving program boat yard and facilities.
- Experience in construction, welding, fiberglass, boating and diving equipment maintenance, innovating techniques to achieve scientific goals, and heavy machinery operation.

Teaching Experience

- UC Santa Cruz TA-ship: Ecology, lead by Prof. James Estes

Mentoring Experience

- Students through the Alaska Native Science and Engineering Program (ANSEP) partnership with USGS: Yosty Storms
- Undergraduate Mentorship: Alaska Pacific University student thesis project, Kaitlyn Lawton on sea urchin energetics.
- Guided and worked with multiple volunteers from USGS

Peer-Reviewed Publications

- Ebert, T. A., Barr, L. M., Bodkin, J. L., Burcham, D., Bureau, D., Carson, H. S., ...Weitzman, B., ... & Davis, K. (2018) Size, growth, and density data for shallow-water sea urchins from Mexico to the Aleutian Islands, Alaska, 1956–2016. *Ecology*, 99(3), 761-761.
- Konar, B., Edwards, M. S., Bland, A., Metzger, J., Ravelo, A., Traiger, S., & Weitzman, B. (2017). A swath across the great divide: kelp forests across the Samalga Pass biogeographic break. *Continental Shelf Research*.
- Konar, B., Iken, K., Coletti, H., Monson, D., & Weitzman, B. (2016). Influence of Static Habitat Attributes on Local and Regional Rocky Intertidal Community Structure. *Estuaries and Coasts*, pp 1-11.
- Weitzman, B., Esslinger, G., Bodkin, J., (2013) Using a Diver-operated Suction Dredge to Evaluate the Effects of a Top-predator on Subtidal Soft-sediment Infaunal Bivalve Communities, in Stellar, D., Lobel, L., eds., Proceedings of the American Academy of Underwater Sciences 31st Symposium, September 24-29, 2012. Monterey, CA: Diving for Science 2012. pp 103-109

Relevant Experience & Training (selected)

- GIS: Spatial data analysis, visualization, and collection in ESRI ArcDesktop10
- R: Data analysis, modeling, and visualization.
- PRIMER-e: Multivariate data analysis and visualization for biophysical synthesis.

Professional Meetings: 22 presentations since 2010

Seminars, Workshops, Public Speaking, & Outreach Events: 15 presentations since 2011