

**EVOSTC FY17-FY21 INVITATION FOR PROPOSALS  
FY20 (YEAR 9) CONTINUING PROJECT PROPOSAL SUMMARY PAGE**

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**Project Number and Title**

Gulf Watch Alaska: Program Management Project

**20120114-A**—Program Management I – Synthesis and Coordination

**20120114-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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Katrina Hoffman, Prince William Sound Science Center (PM II)

**Date Proposal Submitted**

August 16, 2019

**Project Abstract**

The Program Management I (PM I) project provides program coordination and science synthesis of data for the *Exxon Valdez* Oil Spill Trustee Council's (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.

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 (from Prince William Sound to lower Cook Inlet and the Alaska Peninsula). Program coordination includes facilitating within 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, logistics, and outreach (including website), and community involvement (PM II) complements work under the PM I project. 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 and teleconferences.

So far in FY19, the PMT has maintained all of the program administration and outreach activities noted above which included participating in a community engagement/local knowledge exchange event between GWA team members and community members in the spill-affected community of Seldovia, producing program presentations/outreach products, and continued science synthesis efforts for four cross-component manuscripts and 18 time series indicators (12 new this past year) to inform ecosystem-based fisheries management in the Gulf of Alaska. The PMT has also been actively planning the 2020 Science Synthesis Workshop with EVOSTC staff. Overall there are no changes to these projects' objectives.

## 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
\$105,400	\$105,400	\$105,400	\$105,400	\$105,400	\$527,000

## PM I Funding Request for Postdoc (USGS)\*

### EVOSTC Funding Requested\* (must include 9% GA)

FY17	FY18	FY19	FY20	FY21	TOTAL
\$0	\$0	\$62,300	\$62,300*	\$62,300*	\$187,000*

### 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

\*While this request is included in the PM I workplan, the funding needs to go to USGS where the postdoc is employed.

## 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	\$1,728,800

### 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

## 1. PROJECT EXECUTIVE SUMMARY

### Background

The *Exxon Valdez* Oil Spill Trustee Council (EVOSTC) initiated funding for the Gulf Watch Alaska (GWA) Long-term Monitoring Program in 2012 and renewed funding for another 5 years in 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 (HRM) program; 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 [AOOS]), 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. The Program Management I (PM I) and Program Management II (PM II) projects 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 and Data Management). 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 with stakeholders 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 the National Oceanographic and Atmospheric Administration (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.*

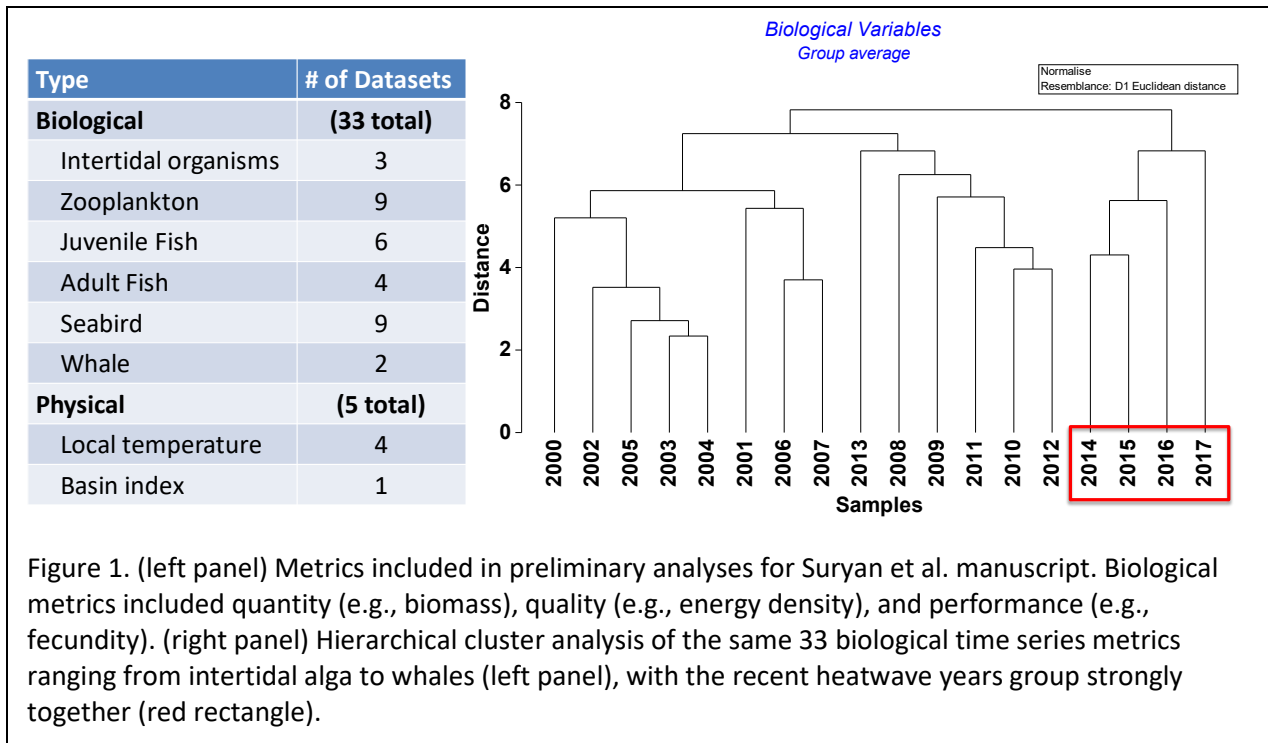
### **FY19 Accomplishments**

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 FY19 period, PM I (program coordination and science synthesis) has accomplished the following:

- Completed and submitted the FY18 program and project annual reports.
- The PMT (Mandy Lindeberg, Katrina Hoffman, Robert Suryan, and Donna Aderhold) held a one-day PMT meeting via video conference in April to coordinate GWA oversight and key activities for FY19 and beyond.
- In collaboration with the data management team, successfully made all project datasets available to the public through the Research Workspace to the Gulf of Alaska Data Portal within required timeframes.
- Held two quarterly teleconferences (spring and summer), 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 Homer, October 8-10, 2019 in conjunction with the HRM program PI meeting.
- Scheduled and began planning the 2020 Science Synthesis Workshop with EVOSTC staff.
- *Exxon Valdez* oil spill (EVOS) 30-year anniversary planning – helped coordinate lingering oil workshop and used agency public relations to brief media at 2019 Alaska Marine Science Symposium (AMSS; could not attend due to government shut down). Also, part of the 2019 Alaska Forum on the Environment EVOS subcommittee planning EVOS Day and presented an overview talk of the GWA program.
- Coordinated contributions by program PIs to the 2019-20 Delta Sound Connections newspaper.
- Organized an outreach presentation to the North Pacific Fisheries Management Council.

- Issued the *Quarterly Currents* newsletter, providing highlights of GWA activities to EVOSTC staff, Science Panel, PAC, outreach steering committee members, and sponsoring agency public relations personnel. All *Quarterly Currents* newsletters are available publicly on the GWA website.
- Participated in planning and conducting an outreach event to Seldovia, a spill-affected community in the Kachemak Bay area.
- Participated in two workshops for NOAA Fisheries where GWA data are contributing to ecosystem-based fisheries management efforts.
- Worked to develop additional time series indicators to describe the current ecosystem status for the Gulf of Alaska. In 2019, we will contribute at least 18 ecosystem indicators from all GWA components to the NOAA Fisheries Gulf of Alaska Ecosystems Status Report to the North Pacific Fisheries Management Council.
- Continued efforts on drafting four cross-component science synthesis manuscripts that include data within and outside of GWA. The manuscripts will be compiled into the synthesis report for EVOSTC.
- The Science Coordinator is leading one of the four science synthesis manuscripts. To date, we have included over 65 time series from all GWA components and HRM in our synthesis of “Ecosystem variability in the Gulf of Alaska during a marine heatwave.” In this manuscript (Suryan et al.), we focus on quantifying how biological metrics responded to this climate event. The few selected physical metrics are primarily to describe climate conditions and not exhaustively assess correlations with biological responses. Preliminary analyses of a subsample of these data for 2000-2017 do find structure among years, particularly during cool periods (2008-2013) and the recent heatwave (2014-2017, red rectangle; Fig. 1). General preliminary findings include the following:
  - Mixed signals of “recovery” through 2018. Some metrics have returned to baseline, while many others have not. Spatial variability also is evident with conditions in the eastern, northern GOA (PWS to Cook Inlet) appearing least favorable.
  - Synchronous and asynchronous responses. Biological trends included negative, neutral, and positive responses with some time lags evident.
  - Lagged responses were not solely due to life history. For example, in 2018, negative anomalies were still observed in organisms ranging from sea stars to capelin and whales.
  - Whether the heatwave “ended” in 2016 depends on measurement location. In 2018, positive temperature anomalies persisted in coastal areas and there is still residual heat at depth – especially in the eastern northern GOA (PWS to Cook Inlet).



During the first 6 months of the FY19 period, PM II (program administration and outreach) has accomplished the following:

- Contributed to FY18 annual report for PM I and PM II.
- Compiled and submitted a narrative semi-annual report to NOAA in compliance with the grant for non-Trustee agencies.
- Compiled and submitted the required SF425 financial report to NOAA.
- Amended and executed contracts for all subawards for the new program fiscal year.
- Coordinated meeting space for the GWA PIs who were able to collaborate at AMSS, which occurred during the federal government shutdown, precluding participation by federal PIs.
- Completed and received the results of the FY18 audit and had them presented to and approved by the PWSSC board (no findings).
- Responded to fiscal queries from program subawardees.
- Reminded subawardees of contractual responsibilities and invoicing deadlines.
- Paid all subaward invoices in a timely fashion.
- Participated in the PMT video conference to plan for FY19 and beyond.
- Updated the website with news events and updated project pages.
- Coordinated with KBNERR staff for a community engagement/local knowledge exchange event between GWA team members and community members in the spill-affected community of Seldovia.
- Hosted and participated in quarterly teleconferences with GWA PIs.
- Coordinated logistics for the fall PI meeting, to take place in Homer, Alaska in October 2019.
- Reserved and reimbursed SRP members for necessary program travel.
- Provided teleconferencing capabilities to the PMT and all program participants as needed.
- Contributed to the *Quarterly Currents* newsletter.

- Recruited a new SRP member, Dr. Ron Heintz, following the retirement from the program of past SRP member Dr. Leslie Holland-Bartels.

## **FY20 Goals**

During FY20, the PMT will continue science synthesis efforts within GWA and HRM, submit the final draft of the science synthesis report and manuscripts, present at the February 2020 science synthesis workshop, respond to EVOSTC Science Panel review and submit final version of the science synthesis report. We will continue strategic planning to identify priority modifications or additions to propose in the next 5-year (FY22-26) funding cycle. Science synthesis efforts are ongoing for 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 (noted above). Authors and draft titles of synthesis manuscripts are:

1. Monson 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. “Ecosystem variability in the Gulf of Alaska during a marine heatwave” (Project Management component)

Science synthesis efforts are a work in progress as we continue the above manuscripts and look for additional avenues for future synthesis. Across component and program data synthesis will be a primary focus for the GWA science coordinator and postdoc in collaboration with HRM lead and postdocs. Additionally, our science leadership efforts will include identifying priorities for the GWA FY22-26 work plan.

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 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.

In addition, FY20 is the year in which we propose to conduct a local and traditional ecological knowledge roundtable-type symposium in one or more villages on Prince William Sound (PWS; either Chenega Bay, Tatitlek, or both, depending on community receptivity). This is an opportunity for program scientists to learn from community members and elders about changes they have observed in the marine environment and an opportunity for community members to ask program scientists questions about ecosystem function and recovery.

On an administrative level, the program will continue to engage and be responsive to the PAC and Trustees. PWSSC will facilitate all logistics for relevant program meetings, including participation by SRP members. The PMT will involve the SRP in constructive oversight of program synthesis and program advancement. PWSSC will make teleconference and remote meeting participation opportunities available as needed. Further, PWSSC will amend all non-Trustee agency subaward contracts, monitor their performance, submit timely SF-425 reports and semi-annual program reports to NOAA, complete an annual federal single audit, and monitor spending.

## 2. PROJECT STATUS OF SCHEDULED ACCOMPLISHMENTS

### A. Project Milestones and Tasks

Table 1. This table breaks down PM I deliverables and their status into milestones and tasks by fiscal year and quarter, beginning February 1, 2017. Yellow highlight indicates proposed fiscal year workplan. 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
<b>Task 1 Planning</b>																				
Coordinator hires	C																			
Web-Outreach review		C				C				C				X				X		
Data Compliance			C				C				X				X				X	
FY22-26 proposal																				X
<b>Task 2 Meetings</b>																				
PI Meetings	C	C	C	C	C	C	C	C	C	C	X	X	X	X	X	X	X	X	X	X
Trustee Prog. review			C				C				X				X				X	
Yr. 3 Joint Workshop													X							
<b>Task 3 Reporting</b>																				
Annual Reports					C				C				X				X			
FY Work Plan (DPD)			C				C				C				X					
Yr. 3 Synthesis Rpt												X								
Yr. 17-21 Final Rpt																				X
<b>Task 4 Postdoc</b>																				
Data Integration & Analysis									C	C	X	X	X	X	X	X	X	X		
Yr. 3 Synthesis Report											X	X	X	X						
Synthesis manuscripts									C	C	X	X	X	X	X	X	X	X	X	X

Table 2. This table breaks down PM II deliverables and their status into milestones and tasks by fiscal year and quarter, beginning February 1, 2017. Yellow highlight indicates proposed fiscal year workplan.



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
<b>Task 1 Fiscal Admin</b>																				
Issue subaward contracts	C				C				C				X				X			
Annual audit				C				C				X				X				X
<b>Task 2 Meetings</b>																				
PI meetings	C	C	C	C	C	C	C	C	C	C	X	X	X	X	X	X	X	X	X	X
Trustee Council/PAC			C				C				X				X				X	
AMSS				C				C				X				X				X
Yr. 3 Joint Workshop													X							
Trustee Prog. review			C				C				X				X				X	
Community Involvement: Local entities and/or TEK						C									X					
<b>Task 3 Reporting</b>																				
Annual Reports					C				C				X				X			
FY Work Plan (DPD)			C				C				C				X					
Yr. 3 Synthesis Report												X								
Yr. 17-21 Final Report																				X
FY22-26 proposal																				X

In addition to the primary project deliverables in Tables 1 and 2, during the past year we contributed to at least 18 ecosystem indicators from all GWA components to the NOAA Fisheries Gulf of Alaska Ecosystems Status Report to the North Pacific Fisheries Management Council and participated in two agency workshops promoting the use of GWA datasets. Outreach efforts included two articles in Delta Sound Connections, two editions of GWA Quarterly Currents, three presentations, one community event, and planning for two EVOS 30th anniversary events (see Section 7). We anticipate completing FY19 and FY20 milestones and tasks as planned.

**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**

No new milestones or tasks are proposed.

**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 and Data Management.

### *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 Gulf of Alaska survey and the University of Alaska Fairbanks and National Science Foundation's (NSF's) Northern Gulf of Alaska Long-term Ecological Research site
- Editorial review, website development and 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 Gulf of Alaska 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 as well as fiscal administration of all non-Trustee Agency funded projects, including:

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

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

#### *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 collaborate on the 3-year synthesis products.

#### *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 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.

#### **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. For example, we are collaborating with EVOSTC project 20100853 (Pigeon Guillemot Restoration and Black-legged Kittiwake population monitoring) to include additional seabird population trend data in our science synthesis efforts.

#### **C. With Trustee or Management Agencies**

The GWA program integrates ecosystem monitoring activities with NOAA, US Fish and Wildlife Service, US Geological Survey, Bureau of Ocean Energy Management, and National Park Service (NPS). We also coordinate with Alaska Department of Fish and Game researchers and managers through coordination and synthesis activities involving the HRM program.

GWA continues 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, both with the intent to use ecosystem indicator time series to inform fisheries management: 1) Preview of Ecosystem and Economic Conditions, NOAA Integrated Ecosystem Assessment, Alaska Fisheries Science Center, Seattle, Washington and 2) Ecosystem and Socioeconomic Profile Data Workshop, Alaska Fisheries Science Center,

Seattle, Washington. GWA's annual sampling greatly complements NOAA's biennial sampling effort in contributing to ecosystem-based fisheries management efforts in the GOA.

GWA PIs continue to contribute to reporting and sampling of marine mammal carcasses for NOAA Alaska Region Protected Resources Division (Kate Savage and Sadie Wright). GWA PIs have also been trained and are prepared to administer Coastal Observation and Seabird Survey Team die-off alert protocols if a marine bird mortality event is encountered when GWA PIs are in the field.

#### **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.
- g. Collaborate with groups outside the GWA program (e.g., NPS, NSF, Geographic Information Network of Alaska, and others) 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 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 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*

The PM II budget maintains funds to support logistics and administration of the SRP panel, such as coordinating and supporting travel and meeting expenses. The SRP 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 SRP. 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 SRP 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. PM II supports 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 are held in a spill-affected community or Anchorage. In addition to the annual PI meeting, we 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 round out the quarterly meeting schedule. Component meetings, Science Coordinating Committee meetings, meetings with the SRP, and PMT meetings are primarily held by teleconference, but on occasion, in-person meetings are necessary.

We coordinate all meeting logistics including securing location, food, and hotel arrangements, as well as webinar and teleconference capabilities for remotely hosted meetings and presentations. Such support

ensures that PI meetings are inclusive of both GWA, DM, and HRM PIs to ensure transfer of information between programs. We coordinate with the HRM and DM administrative leads to ensure collaboration between the programs.

*Objective 4: Conduct GWA outreach and community involvement activities*

We 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 generate products to meet those needs and improve understanding of ecosystem processes affecting variation in spill-affected resources. We work with the HRM lead to coordinate community involvement opportunities within the spill area. Listening to the input of community members and managers is a key feature of these activities, as defined in the original invitation for proposals. as well as providing information and products that are easily accessible on the program web site. Outreach Coordinator Stacey Buckelew organizes these efforts in a manner responsive to direction from PM II Administrative Lead Katrina Hoffman as well as the PMT and Outreach Steering Committee members.

The Administrative Lead is responsive to the EVOSTC and Public Advisory Committee each autumn, and engages 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 AMSS in Anchorage.

We are implementing the following opportunities for GWA to receive input from key individuals and agencies:

- Holding PI meetings in different spill-affected communities as well as Anchorage across the five years and having open time for input each day on the agenda.
- Having local and traditional ecological roundtable-type symposia 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. So far, such exchanges have occurred in Nanwalek and Seldovia. Additional events are being planned for native communities in Prince William Sound and the Kachemak Bay area.
- 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.

**5. PROJECT PERSONNEL – CHANGES AND UPDATES**

Postdoctoral tasks are to integrate datasets (EVOSTC and external if appropriate), conduct analyses for synthesis products, and assist with the science synthesis report. Additional goals include authoring a publication at the end of this 5-year increment and co-authoring other GWA manuscripts as opportunities arise.

Our GWA postdoc, Ben Weitzman, recently took a new job at the NOAA Kasitsna Bay Laboratory working with Kris Holderied's group (project 19120114-J). Ben's transition to a group that is still a part of GWA will be a net benefit for GWA synthesis efforts. Being part of GWA, Kris is in full support of Ben maintaining his current key contributions to GWA synthesis efforts: 1) the Dean et al. manuscript that will be part of the synthesis report -

Ben is conducting all the analyses and preparing figures, and 2) working with the Science Coordinator to continue integrating Kachemak Bay and lower Cook Inlet data into GWA synthesis efforts. With Ben's move, there will be no interruption in these contributions. We are in the process of writing a position description to fill the postdoc position and have already been contacted by several prospective applicants even before sending out the vacancy notice. Ultimately this should benefit GWA, as Ben will remain a GWA contributor and we will have another postdoc onboard in the coming months.

## 6. PROJECT BUDGET

### A. Budget Forms (See GWA FY20 Budget Workbook)

Please see project budget forms compiled for the program.

### B. Changes from Original Project Proposal

Our FY19 workplan for PM I requested funding from EVOSTC for a postdoc to support science synthesis during FY19-21. We thank EVOSTC for the additional funding (\$57.2K for FY19, 20, and 21 for a total of \$171.6K). Note, although the postdoc is a program level task under the PM I project, the actual funds are being administered by USGS (DOI), Dan Esler with the Nearshore component of GWA. This is to facilitate full time employment for the postdoc and restrictions on moving funds between sponsoring federal agencies. This has been approved by the EVOSTC staff.

Our FY19 workplan for PM II included reallocating funds from the PM I budget to PM II to allow the Program Coordinator to become an employee of PWSSC, avoiding a significant cost increase in the NOAA contract.

In FY20, PMII requests permission to transfer \$21K from travel and split it between Contractual (\$15K) and Commodities (\$6K). Since not all SRP members have traveled to every meeting, and some SRP members live in the location where some meetings have been held, the anticipated travel demands have not met the original budget estimate. However, PWSSC has incurred increased costs in other areas such as insurance and maintenance, and also has additional costs due to the transition of Program Coordinator Donna Aderhold from NOAA contract employment to PWSSC employment. PWSSC has incurred hardware, software, and other expenses in taking on this originally unanticipated PMT member as staff. That said, the transition has gone very smoothly and we are very pleased to have Donna Aderhold on our team.

### C. Sources of Additional Project Funding

NOAA Alaska Fisheries Science Center is providing 0.5 FTE (\$72.7K) for Mandy Lindeberg to serve as Program Lead and 0.3 FTE (\$32.7K) for Rob Suryan as Science Coordinator. This NOAA in-kind for salaries totals \$105.4K each fiscal year.

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

## 7. FY17-19 PROJECT PUBLICATIONS AND PRODUCTS

### *Publications*

Aderhold, D.G.R, Lindeberg, M.R., Holderied, K., Pegau, S.W., 2018. Introduction: Spatial and temporal ecological variability in the northern Gulf of Alaska: What have we learned since the *Exxon Valdez* oil spill? Deep-Sea Research Part II. [DOI:10.1016/j.dsr2.2017.11.015](https://doi.org/10.1016/j.dsr2.2017.11.015)

- Hoffman, K.C., and M.E. McCammon. 2018. Long term monitoring: program coordination and logistics & outreach. *Exxon Valdez Oil Spill Trustee Council Restoration Project Final Report (Restoration Project 16120014-B)*. Exxon Valdez Oil Spill Trustee Council, Anchorage, Alaska.
- Holderied, K., and D. Aderhold. 2018. Science coordination and synthesis for the long-term monitoring program. *Exxon Valdez Oil Spill Restoration Project Final Report (Restoration Project 16120114-H)*. Exxon Valdez Oil Spill Trustee Council, Anchorage, Alaska.
- Lindeberg, M.R., Maselko, J., Heintz, R.A., Fugate, C.J., Holland, L., 2017. Conditions of persistent oil on beaches in Prince William Sound 26 years after the *Exxon Valdez* spill. Deep-Sea Research Part II. [DOI:10.1016/j.dsr2.2017.07.011](https://doi.org/10.1016/j.dsr2.2017.07.011).
- McCammon, M., K. Hoffman, K. Holderied, D. R. Aderhold, and T. H. Neher. 2018. Long-term monitoring of marine conditions and injured resources and services. *Exxon Valdez Oil Spill Restoration Project Final Report (Restoration Project 16120114)*, Exxon Valdez Oil Spill Trustee Council, Anchorage, Alaska.
- Presentations*
- Lindeberg, M. 2017. The Long-Term Monitoring Program of the *Exxon Valdez* Trustee Council. Briefing to the EVOSTC Trustees, Nov. 14.
- Lindeberg, M. 2017. We are Watching – the long-term monitoring program of the *Exxon Valdez* Oil Spill Trustee Council. PWS RCAC Science Night. December.
- Lindeberg, M. 2018. The Long-term Monitoring Program of the *Exxon Valdez* Trustee Council. Briefing to the EVOSTC Trustees, Nov. 14.
- 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.
- Lindeberg, M. R. 2019. Long-term Programs of the *Exxon Valdez* Oil Spill Trustee Council. Presentation. 2019 Alaska Forum on the Environment, Feb. 11-15, Anchorage, Alaska.
- Lindeberg, M., K. Holderied, D. Aderhold, K. Hoffman, M. Arimitsu, H. Coletti, and R. Hopcroft. 2017. Gulf Watch Alaska: Results from five years of ecosystem monitoring in the northern Gulf of Alaska. Presentation. 2017 Alaska Marine Science Symposium, Anchorage.
- Lindeberg, M., K. Holderied, D. Aderhold, K. Hoffman, M. Arimitsu, H. Coletti, and R. Hopcroft. 2017. Gulf Watch Alaska: Results from five years of ecosystem monitoring in the northern Gulf of Alaska. Presentation. 2017 NMFS Alaska Fisheries Science Center mini symposium.
- Lindeberg, M., Suryan, R., Aderhold, D., Hoffman, K., Hopcroft, R., Coletti, H., and Arimitsu, M. 2018. Gulf Watch Alaska Report: Residual effects of the marine heatwave persist in the Gulf of Alaska. Alaska Marine Science Symposium, Anchorage, AK, January.
- Suryan, R.M. 2019. Gulf of Alaska ecosystem status for 2018 and early indicators for 2019. Alaska Groundfish and Halibut Seabird Working Group, NOAA Alaska regional office, Juneau.



Suryan, R.M. 2019. Mixed Signals of “Recovery” From the Gulf of Alaska Marine Heatwave: Perspectives from Gulf Watch Alaska. University of Alaska Southeast, Juneau, Alaska.

### Outreach

Aderhold, D. 2017. Gulf Watch Alaska monitors ecosystem health. Delta Sound Connections 2017-18. 16 pp.

<http://pwssc.org/wp-content/uploads/2017/06/DSC-2017-web2.pdf>

Aderhold, D. 2018. An overview of GWA. Presentation to Cook Inlet Regional Citizens’ Advisory Council Board of Directors.

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.

Buckelew, S. 2019. Gulf Watch Alaska website updates.

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Lindeberg, M., and R. Heintz. 2019. 30 years since the *Exxon Valdez* oil spill: An era of scientific research and monitoring that has changed our understanding of oil spill impacts. Delta Sound Connections 2019-20.

16 pp. [http://pwssc.org/wp-content/uploads/2019/05/DSC-2019\\_WEB.pdf](http://pwssc.org/wp-content/uploads/2019/05/DSC-2019_WEB.pdf)

Lindeberg, M., K. Hoffman, R. Suryan, and D. Aderhold. 2017. GWA Quarterly Currents. Newsletter to EVOSTC staff, Science Review Panel members, and others as approved by the EVOSTC Executive Director.

Volume 1.1: spring quarter. Link on [gulfwatchalaska.org](http://gulfwatchalaska.org).

Lindeberg, M., K. Hoffman, R. Suryan, and D. Aderhold. 2017. GWA Quarterly Currents. Newsletter to EVOSTC staff, Science Review Panel members, and others as approved by the EVOSTC Executive Director.

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Lindeberg, M., K. Hoffman, R. Suryan, and D. Aderhold. 2017. GWA Quarterly Currents. Newsletter. Volume 1.3: fall quarter. Link on [gulfwatchalaska.org](http://gulfwatchalaska.org).

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Suryan, R., S. Batten, R. Campbell, and S. Danielson. 2019. What does the future hold for the Gulf of Alaska? Delta Sound Connections 2019-20. 16 pp. [http://pwssc.org/wp-content/uploads/2019/05/DSC-](http://pwssc.org/wp-content/uploads/2019/05/DSC-2019_WEB.pdf)

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