1. Project Number:

18120114-A & B

2. Project Title:

Program Management I – Program Coordination and Science Synthesis

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

3. Principal Investigator(s) Names:

Mandy Lindeberg, NOAA Auke Bay Laboratories (PM I)

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

4. Time Period Covered by the Report:

February 1, 2018-January 31, 2019

5. Date of Report:

April 1, 2019

6. Project Website (if applicable):

www.gulfwatchalaska.org

7. Summary of Work Performed:

Science Coordination and Synthesis (PM I)

The science coordination and synthesis project provides communication and data sharing, synthesis and integration of monitoring results, and communication of monitoring information for the scientific projects within the Gulf Watch Alaska (GWA) program. This is accomplished through program coordination and science synthesis efforts. Work performed under this project during FY18 includes the following.

Program Coordination

The Program Management Team (PMT), consisting of the Program Lead, Administrative Lead, Science Coordinator, and Program Coordinator, met via teleconference on April 2018 to discuss the status of the GWA program and goals for FY18.

The PMT facilitated submission of final reports for the FY12-16 funding period during spring 2018. Working with the *Exxon Valdez* Oil Spill Trustee Council (EVOSTC) Science Coordinator, the PMT facilitated revisions to final reports and submission of finalized final reports during spring 2019. Final reports are available on the GWA website (https://gulfwatchalaska.org/resources/reports-and-documents/).

The PMT facilitated quarterly GWA program team meetings during FY18 (Table 1). The Program Coordinator scheduled, developed agendas based on input from PMT and Science Coordinating Committee members, and facilitated the meetings. The purpose of the meetings was to provide the GWA program team with updates on programmatic scientific activities and allow for collaboration among team members. All meetings were coordinated in communication with the Herring Research and Monitoring (HRM) program lead, and HRM principal investigators (PIs) engaged with GWA PIs during a portion of the November 2018 meeting to encourage cross-program communication, data sharing, and synthesis.

Table 1. Gulf Watch Alaska program team quarterly meeting dates and venues.

Meeting Dates	Meeting Venue
April 3, 2018	Teleconference
July 9, 2018	Teleconference
November 15-16, 2018	Westmark Hotel, Anchorage, AK
February 21, 2019	Teleconference (planned meeting during the Alaska Marine Science Symposium postponed due to partial federal government shutdown)

The PMT coordinated submission of twelve FY19 work plans including a comprehensive program budget workbook. The Program Coordinator established a schedule, tracked progress, reviewed work plans for consistency, and oversaw the submission of work plans. The Program Lead, Science Coordinator, and Science Coordinating Committee conducted internal scientific reviews. A primary effort for FY19 work plans was establishing a transparent internal proposal, recommendation, and review process for requesting additional EVOSTC funds to support lost agency in-kind or matching funds and new collaborative opportunities for data collection by GWA PIs. This resulted in four additional funding requests for $188,800 annually for FY19-21.

The GWA program tracks multiple recurring and one-time activities throughout each year. The Program Coordinator developed a comprehensive list of dates and activities and updates the list on a regular basis to monitor each of these activities. The list includes regularly occurring activities such as due dates for data and metadata, annual work plans and annual reports, quarterly meetings, one-time activities such as 5-year annual reports. The Program Coordinator shares each new update with the GWA program team.

The PMT compiled and reviewed all FY17 annual reports. They also continue efforts to standardize format and content of reports and work plans to help improve efficiencies in GWA PI reporting efforts and EVOSTC review. We also compiled and edited replies to EVOSTC and science panel review comments on the FY17 annual reports and FY19 work plan.

In addition, the Program Coordinator tracks publications and reports published by PIs and coordinates with the Outreach Coordinator on outreach activities and website updates.

The Alaska Marine Science Symposium (AMSS) accepted 10 poster and 4 oral presentations based on GWA monitoring data for the 2019 conference. The PMT provided templates to PIs to use so that GWA presentations would have a similar look. The Program Coordinator maintained a list of oral and poster presentations.

The PMT distributed the *Quarterly Currents* newsletter to EVOSTC staff, science panel members, public advisory committee members; GWA outreach steering committee members; and sponsoring agency public relations personnel. The newsletter provides highlights of GWA program activities each quarter. All *Quarterly Currents* newsletters are available publicly on the GWA website (https://gulfwatchalaska.org/resources/quarterly-currents-newsletter/).

Please see the **PM II** – ***Outreach*** section below for Program Coordinator, Program Lead, and PI outreach activities.

Science Synthesis

The main focus of science synthesis efforts in FY18 included: 1) maintaining progress on the four synthesis manuscripts that integrate data across all three GWA components and HRM; 2) coordinating internal proposals submission, review, and request for additional funding in FY19 work plans; 3) providing additional

time series indicators to the National Oceanic and Atmospheric Administration's (NOAA's) annual Alaska Ecosystem Status report to support ecosystem-based fisheries management in the Gulf of Alaska.

The GWA PMT received support from the EVOSTC and their scientific panel to pursue the four main synthesis manuscripts that will collectively form our 3-year science synthesis report due during FY19. Progress on these synthesis products has catalyzed other cross-component synthesis efforts within GWA and between GWA and HRM and synthesis efforts provide a framework for maintaining integration throughout the life of the GWA and HRM programs.

Science Synthesis Publications

We are pursuing four synthesis publications, all of which include varying amounts of cross-component data integration.

1) *Suryan et al. "Ecosystem variability in the Gulf of Alaska during a marine heatwave*." This manuscript is led by the GWA Science Coordinator and designed to provide the broadest perspective on ecosystem response for the northern Gulf of Alaska (GOA), from Prince William Sound (PWS) to the Alaska Peninsula. GWA and HRM can provide unique perspectives and analyses of physical conditions and biological responses from the nearshore intertidal to offshore oceanic domains. Both programs will have collected data through the recent heatwave in the GOA, which is proving to be a large-scale ecosystem perturbation that has not fully dissipated and is still showing biological impacts through 2018. Furthermore, this is intended to be a GOA-wide effort and the lead author is reaching out to all groups to collaborate, including non-EVOSTC programs (e.g., the North Pacific Research Board's [NPRB's] GOA Integrated Ecosystem Research Program [GOAIERP], NOAA, Alaska Department of Fish and Game, etc.).

This will be the overarching synthesis to tie together a diverse array of GWA, HRM, and other datasets to address the following proposed objectives:

a. Evaluating synchronous and asynchronous responses among organisms prior to the heatwave and whether patterns persist during the heatwave.

b. Comparing organisms that showed positive vs. neutral or negative responses and why. Also how did this compare to past trends/perturbations. Contrast species responses to the heatwave related to their thermal tolerance using individual latitudinal distributions as proxies with the expectation that species with lower latitude (or broader) range limits may demonstrate less acute thermal effects than species with higher latitude (or narrower) range limits.

c. Did this event result in species distribution shifts or other trends that might persist even after the physical characteristics of the heatwave dissipate?

d. Are potential lagged responses related to thermal tolerance, life history, or otherwise?

To date, we have included over 35 time series (Fig. 1) in our preliminary analyses. Our focus will primarily be 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 for 2000-2017 do find structure among years, particularly during cool periods (2008-2013) and the recent heatwave (2014-2017, red rectangle; Fig. 1).

Type	# of Datasets
Biological	**(33 total)**
Intertidal organisms	3
Zooplankton	9
Juvenile Fish	6
Adult Fish	4
Seabird	9
Whale	2
Physical	**(5 total)**
Local temperature	4
Basin index	1

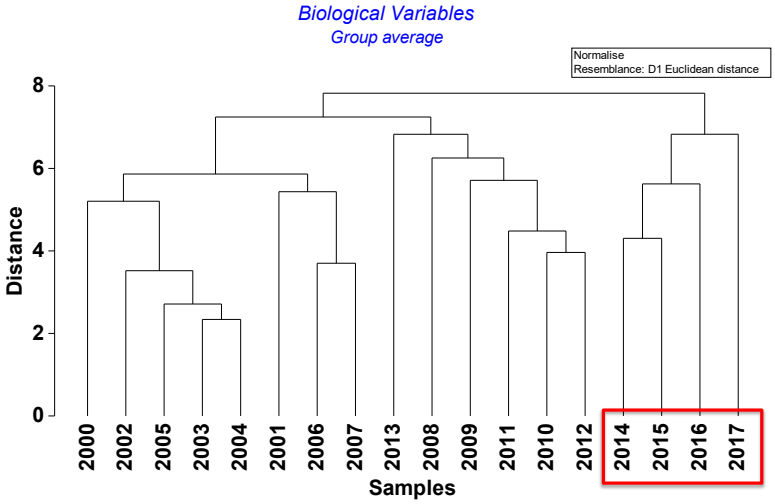

Figure 1. (left panel) Metrics included in preliminary analyses for Suryan et al. manuscript. Biological metrics included quantity (e.g., biomass), quality (e.g., energy density), and performance (e.g., fecundity). (right panel) Hierarchical cluster analysis of the same 33 biological time series metrics ranging from intertidal alga to whales (left panel), with the recent heatwave years group strongly together (red rectangle).

General preliminary findings include:

a. 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 central northern GOA (PWS to Cook Inlet) appearing least favorable.

b. Synchronous and asynchronous responses. Biological trends included negative, neutral, and positive responses with some time lags evident.

c. 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.

d. 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 central northern GOA (PWS to Cook Inlet).

The three remaining cross-component manuscripts that will form our science synthesis report include:

2) Monson et al. – "Coherence in intertidal to oceanic sea surface temperatures in the GOA: The Blob washes ashore"

3) Arimitsu et al. – "Environmental drivers and prey condition leading to the murre die-off"

4) Dean et al. – "Synchronous region-wide responses in intertidal community structure to a marine heat wave in the GOA"

There are at least five additional related manuscripts in progress by GWA PIs that compliment these overarching, synthesis manuscripts.

GOA Time Series Indicators for the Gulf of Alaska Ecosystem and Stakeholder Interests

Our goal is for each GWA project to have at least one signature time series that best indicates the state of their part of the GOA ecosystem. Collectively, these would provide GWA's best assessment of the state of the GOA each year. This follows similar efforts for large marine ecosystems throughout Alaska and elsewhere. Several GWA time series already contribute to these efforts, but we would like to increase our participation. Furthermore, GWA, along with the National Science Foundation Northern Gulf of Alaska Long-Term Ecological Research site, sample annually, whereas several other major programs in the GOA are no longer sampling (NPRB's GOAIERP) or sample every other year (some NOAA surveys). Therefore, GWA is uniquely positioned to contribute to the annual ecosystem status reports to the North Pacific Fisheries Management Council.

For the 2019 Ecosystem Status Report (Zador and Yasumiishi 2018), seven GWA PIs contributed a total 18 metrics, and 12 of these time series were new contributions in 2018(*). Contributors included: PIs Batten (18120114-D, 3 metrics), Danielson (18120114-I, 1 metric), Hatch/Arimitsu (18120114-C, 2 metrics), Moran/Straley (18120114-O, 2 metrics*), Hopcroft (18120114-L, 2 metrics*), Campbell/McKinstry (18120114-G, 4 metrics*), and Coletti et al. (18120114-H, 4 metrics*). We also facilitated a new contribution by HRM (Pegau et al., 3 metrics*).

Administration, Science Review Panel, PI Meeting Logistics, Outreach, and Community Involvement (PM II)

Administration

The Prince William Sound Science Center (PWSSC) extended contract amendments to all the non-Trustee Agency sub-awardees for the second year of this grant, FY18. The non-Trustee Agency portions of the GWA program that are administered by the PWSSC under this award include projects associated with coordination and oversight, outreach and community involvement, data management, oceanographic monitoring in PWS and the GOA, monitoring of zooplankton and oceanographic conditions in the GOA, monitoring of seabird abundance in PWS, monitoring of orca populations in PWS, and monitoring of intertidal communities in Kachemak Bay. For each of the aforementioned projects, PWSSC invoiced NOAA and subsequently remunerated sub-awardees based on demonstrated expenses; tracked spending for non-Trustee Agency projects; and initiated our annual audit in November 2018. We submitted semi-annual reports to NOAA in both March and August 2018 for the work that was being conducted in the program.

PI Meeting and Science Review Panel Logistics

The program held four quarterly PI meetings; three were held by phone; one was held in person at the annual PI meeting at the Westmark Hotel in Anchorage from November 15-16, 2018. Our planned in-person winter quarterly meeting at the Alaska Marine Science Symposium (AMSS) on January 28, 2018 had to be modified due to the inability of many PIs to obtain travel permission due to the partial federal government shutdown. Instead, it became a manuscript-focused meeting comprised primarily of Environmental Drivers PIs and some Nearshore and Pelagic PIs. We scheduled an alternative telephonic winter PI meeting to make up for the altered AMSS meeting.

PWSSC ensures all telephonic and Internet-based meeting needs are met for the PI meetings. We coordinated all logistics pertaining to the November 2018 PI meeting, including reserving and renting the meeting location and providing ground transportation for all relevant PIs and Science Review Panel (SRP) members, and coordinated the meeting venue for the modified winter PI meeting in Anchorage in January 2019. We submitted all financial (SF425) reports to NOAA as required and on deadline. PWSSC booked and paid for

travel, lodging, and per diem for participating SRP members (Klinger, Holland-Bartels, Brenner, Rice, and Batchelder). SRP member Holland-Bartels resigned from the panel in January 2019, and the program is seeking a replacement.

Outreach

We continue to make updates to the website www.gulfwatchalaska.org. The changes include:

- Addition of the FY12-16 final reports
- Updated links to educational resources
- Blog posts added with relevant program announcements
- Inclusion of FY18 Quarterly Currents newsletters
- Incorporation of nearshore resource briefs
- Hyperlinks added to all publication citations where possible at: http://www.gulfwatchalaska.org/resources/publications-2/
- Hyperlinks added to all DSRII special issue citations, once available, at: http://www.gulfwatchalaska.org/resources/publications-2/special-issue/
- Posting of an updated team photo and updated PI photos where appropriate, as well as updated PI and SRP biographies where appropriate
- Revised text on most landing pages, including current text on the "home" page as well as inclusion of "latest news" links to make the home page content more dynamic
- Access to the most current data portal link
- Attachment of PI-written haikus to project pages
- Making links to the relevant published data available on each project page (see "Download Project Data" button, such as the one viewed here: http://www.gulfwatchalaska.org/monitoring/environmental-drivers/continuous-plankton-recorder/
- Adding and updating a "Completed Projects" page from projects that are not continuous in the program (e.g., conceptual modeling, historical data compilation, and lingering oil)

Outreach contacts for Trustee Agencies are recipients of Quarterly Currents so they can remain apprised of program progress.

The Program Coordinator and several GWA PIs participated on the steering committee for the triennial Kachemak Bay Science Conference that was held in Homer March 7-10, 2018. The Program Lead gave one of two keynote presentations for the conference. GWA team members led workshops, chaired sessions, and presented papers and posters. The conference intends to share scientific work occurring in the Kachemak Bay region among scientists and community members. Chugachmiut Heritage Preservation local education coordinators held meetings with PWS and Kachemak Bay village elders and other community members in conjunction with the conference, and Chugachmiut local education coordinators and elders attended the conference.

The Program Coordinator 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; and a bird die-off alert training session in Seldovia. A planned information exchange session in Nanwalek was not conducted due to unforeseen circumstances.

The Program Coordinator participated in several activities associated with the Coastal Observation and Seabird Survey Team (COASST) based out of the University of Washington. COASST recently developed die-off alert training as a systematic way for communities or people in remote areas to document a bird die-

off. The Program Coordinator attended a die-off alert "train the trainer" training and participated with the Kachemak Bay National Estuarine Research Reserve in die-off alert trainings in Port Graham and Seldovia. The Program Coordinator also provided die-off alert training to GWA team members at the November meeting in Anchorage for times when GWA project teams are working in the field and need to document a bird die-off that is not part of regularly scheduled work. Finally, the PMT held a teleconference with Julia Parrish and other COASST leaders to discuss the availability of GWA data for analysis of marine bird monitoring and die-offs in the Gulf of Alaska.

Each year the GWA program includes two pages of articles in PWSSC's annual outreach publication Delta Sound Connections. Delta Sound Connections is widely distributed throughout the PWS region, Anchorage, and beyond.

8. Coordination/Collaboration:

A. Projects Within a Trustee Council-funded program

1. Within the Program

PM I and PM II are responsible, overall, for coordinating the GWA program. Program-level coordination is pursued for all activities. The four-member PMT (Lindeberg, Hoffman, Suryan, Aderhold) communicates between and among themselves by email, phone, and/or in person on a weekly basis to ensure effective program management.

2. Across Programs

a. Herring Research and Monitoring

The GWA PMT coordinated regularly with the HRM program. The HRM Lead was invited to all GWA meetings and teleconferences. The fall 2018 HRM program PI meeting was held in Anchorage one day prior to, and at the same location as, the two-day GWA PI meeting to facilitate cross-program learning and synthesis, as well as economize on data management training opportunities with Axiom staff. The GWA PMT attended the fall 2018 HRM program meeting, as did several GWA PIs and data management team members.

All non-Trustee Agency administrative functions are combined at PWSSC to serve both the GWA and HRM programs. The GWA Science Coordinator made a concerted effort to enhance collaboration between HRM and GWA, especially when it came to cueing up synthesis efforts that will be completed in the upcoming program year.

HRM team members were invited to participate in GWA outreach activities in Homer and Port Graham.

b. Data Management

GWA coordinates closely with the Data Management program. Data Management staff are invited to all GWA meetings and teleconferences. Data Management one-on-one consultations were incorporated into the fall meeting in Anchorage. A Data Management team member (Buckelew) is active on the Outreach Steering Committee. Data Management is also a part of the NOAA grant through which PWSSC manages all project funds for non-Trustee Agencies. As such, PM II coordinates with the Data Management team on all reporting requirements to NOAA.

c. Lingering Oil

While GWA projects do not collaborate with the EVOSTC Lingering Oil program, some (e.g., Nearshore 18120114-H, PWS summer bird surveys 18120114-M, PWS winter bird surveys 18120114-E, and long-term killer whale monitoring 18120114-N) contribute to population trends and long-term assessment of previously injured resources in nearshore ecosystems.

In preparation for the EVOS 30th Anniversary, the GWA Program Lead participated in the 2019 Alaska Forum for the Environment EVOS Day subcommittee plan team and were interviewed for the EVOSTC short documentary. The GWA Program Lead also helped coordinate EVOS anniversary workshop on lingering oil at the 2019 AMSS.

B. Projects not Within a Trustee Council-funded program

GWA summer and winter marine bird surveys in PWS (18120114-H, 18120114-M, 18120114-E) provide information on population trends of species studied by EVOSTC funded pigeon guillemot restoration project (18100853). In addition, the GWA Program Coordinator provides support to the pigeon guillemot restoration project as needed.

C. With Trustee or Management Agencies

GWA contributed a total 18 time series metrics, 12 of which were new contributions in 2018 to the NOAA Ecosystem Status Report to the North Pacific Fisheries Management Council (Zador and Yasumiishi 2018). This report is used to facilitate ecosystem-based fisheries management in the Gulf of Alaska.

GWA investigators and field crews also worked with the NOAA NMFS Marine Mammal Stranding Network to report and sample large whale carcasses as needed (e.g., PWS minke whale, Moran and Straley).

9. Information and Data Transfer:

A. Publications Produced During the Reporting Period

Lindeberg, M., and K. Hoffman. 2018. Program management I—Program coordination and science synthesis and program management II—Administration, science review panel, PI meeting logistics, outreach, and community involvement. FY17 annual report to the *Exxon Valdez* Oil Spill Trustee Council, projects 17120114-A and B.

B. Dates and Locations of any Conference or Workshop Presentations where EVOSTC-funded Work was Presented

Presentations

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

Lindeberg, M. 2018. GWA program overview. Speed talk. RPA Annual Meeting. March, Juneau, Alaska.

Lindeberg, M. 2018. GWA program overview. Speed talk. Ocean Sciences Conference. February, Portland, Oregon.

Lindeberg, M. 2018. GWA Nearshore Ecosystems. Speed talk. Ocean Sciences Conference. February, Portland, Oregon.

Lindeberg, M. 2018. GWA program overview. Presentation. EVOSTC Trustees. November, Anchorage, Alaska.

Lindeberg, M. 2018. Science Without Borders – is it possible? Plenary presentation. Kachemak Bay Science Conference. March, Homer, Alaska.

Lindeberg, M., R.A. Heintz, and J. Maselko. 2018. Decadal Persistence of *Exxon Valdez* Oil in Prince William Sound – that was not anticipated. Poster. Ocean Sciences Conference, February, Portland, Oregon.

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. (presentation)

Suryan, R., S. Zador, **M. Lindeberg**, **D. Aderhold**, M. Arimitsu, J. Piatt, J. Moran, J. Straley, H. Colletti, D. Monson, S. Hatch, T. Dean, R. Hopcroft, S. Batten, S. Danielson, B. Konar, K. Iken, B. Laurel, R. Campbell, S. Pegau. 2018. Ecosystem variability and connectivity in the Gulf of Alaska following another major ecosystem perturbation. North Pacific Marine Science Organization (PICES) annual meeting, Yokohama, Japan. (presentation)

Suryan, R.M. 2018. Gulf of Alaska ecosystem variability. Juneau Marine Naturalists Symposium. Juneau, Alaska. (presentation)

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

Suryan, R., **M. Lindeberg**, **D. Aderhold**, **K. Hoffman**, M. Arimitsu, H. Colletti, R. Hopcroft. 2018. Gulf Watch Alaska: Taking the pulse of the northern Gulf of Alaska. Kachemak Bay Science Conference, Homer, Alaska. (poster presented by coauthors)

Suryan, R., **M. Lindeberg**, **D. Aderhold**, **K. Hoffman**, M. Arimitsu, H. Colletti, R. Hopcroft. 2018. Gulf Watch Alaska: Taking the pulse of the northern Gulf of Alaska. Ocean Sciences Meeting, Portland, Oregon. (poster)

Additional presentations are listed in the individual project annual reports and the program annual report.

Outreach

Lindeberg, M. **2018**. AFSC Feature web story. Lingering Oil from *Exxon Valdez* Spill - Long-term study of lingering oil from *Exxon Valdez* spill offers new insights for resource managers. February 26, 2018. https://www.fisheries.noaa.gov/feature-story/lingering-oil-exxon-valdez-spill

Lindeberg, M. **2018**. AFSC Feature web story. A Wealth of Scientific Information, Decades in the Making - a recent special issue journal highlights the status of an Alaska marine ecosystem more than a quarter century after the Exxon Valdez oil spill. February 26, 2018. https://www.fisheries.noaa.gov/feature-story/wealth-scientific-information-decades-making

Lindeberg, M. and J. Moran. 2018. AFSC Feature web story. Dall's Porpoise Expands Territory in a Changing Prince William Sound. Territory increases as killer whale population dwindles. February 26, 2018. https://www.fisheries.noaa.gov/feature-story/dalls-porpoise-expands-territory-changing-prince-william-sound

Suryan, R.M. 2018. Gulf Watch Alaska looks beyond "the Blob". Delta Sound Connections 2018-2019. Prince William Sound Science Center.

C. Data and/or Information Products Developed During the Reporting Period, if Applicable

Data

DataONE published datasets. Gulf Watch Alaska Research Workspace. Doi: 10.24431/rw1k113.

Additional datasets are listed in the individual project annual reports and the program annual report.

Information Products

Lindeberg, M., K. Hoffman, R. Suryan, and D. Aderhold. 2018. GWA Quarterly Currents. Newsletter. Volume 2.1: spring quarter. Link on gulfwatchalaska.org.

Lindeberg, M., K. Hoffman, R. Suryan, and D. Aderhold. 2018. GWA Quarterly Currents. Newsletter. Volume 2.2: summer quarter. Link on gulfwatchalaska.org.

Lindeberg, M., K. Hoffman, R. Suryan, and D. Aderhold. 2018. GWA Quarterly Currents. Newsletter. Volume 2.3: fall quarter. Link on gulfwatchalaska.org.

Lindeberg, M., K. Hoffman, R. Suryan, and D. Aderhold. 2018. GWA Quarterly Currents. Newsletter. Volume 2.4: winter quarter. Link on gulfwatchalaska.org.

Online Resources

Gulf Watch Alaska – http://www.gulfwatchalaska.org/

AOOS Gulf Watch Alaska Data Portal – http://portal.aoos.org/gulf-of-alaska.php

Additional online resources are listed in the individual project annual reports and the program annual report.

D. Data Sets and Associated Metadata that have been Uploaded to the Program's Data Portal

PM I and PM II projects do not currently collect or generate original data or post data to the data portal. All other published data sets are reported on in the relevant project annual report.

10. Response to EVOSTC Review, Recommendations and Comments:

The EVOSTC Science Panel commented on the 18120114-A (PM I) and 18120114-B (PM II) work plans regarding combining the projects. The comments were as follows:

18120114-A Program Management I – Program Coordination and Science Synthesis

The Panel appreciates the different management aspects of this proposal and proposal 18120114-B and suggests consolidating these two proposals into one Program management proposal. This would help to clarify how the two program management components relate to one another and to demonstrate lack of duplication.

18120114-B Program Management II – Administration, Science Review Panel, PI Meeting Logistics, Outreach, and Community Involvement

The Panel appreciates the PI's coordination activities. The Panel suggests combining this proposal with 18120114-A into one Program management proposal.

PI Response:

Based on this comment, the PMT combined annual reports and proposals (work plans) for these projects (FY17 annual report, FY19 work plan, and this FY18 annual report). We appreciate the recommendation and believe it is beneficial to report all PMT activities together.

The projects themselves remain separate and the budgets are reported separately.

11. Budget:

The PM I budget is a bit underspent in FY18 for several reasons:

- In general, all expenditures are keeping to our planned budget.
- A few line items deviated ± 10% from the originally proposed amount in cases where reporting accounts lagged behind actual expenses, or due to inconsistencies between federal and EVOSTC fiscal year start dates.
- Due to the government shut down some costs had not been charged to the account at the time of this report, however, these costs will even out over time, and we expect to spend the total proposed budget amount by the end of the project.

The PM II budget is slightly underspent in for several reasons:

- Travel: SRP members have had less travel availability than originally anticipated and budgeted for. Additionally, PMT members have rotated responsibility for who will attend certain meetings (for example, one PMT member has attended things like a Public Advisory Committee meeting, as opposed to multiple PMT members). One SRP member has retired from the panel and we are seeking a replacement.
- Contractual: There have been minor invoicing delays by some subawardees, and we have reminded them of their invoicing frequency obligations.
- Commodities: Some computer hardware and software that we expected to purchase in FY18 has not yet been purchased, but that will be resolved in FY19.

PM I

Budget Category:	Proposed FY 17	Proposed FY 18	Proposed FY 19	Proposed FY 20	Proposed FY 21	TOTAL PROPOSED	ACTUAL CUMULATIVE
Personnel	$117.0	$120.0	$123.0	$126.0	$130.0	$616.0	$237.0
Travel	$13.1	$13.1	$13.1	$13.1	$15.3	$67.7	$20.4
Contractual	$67.0	$70.0	$0.0	$0.0	$0.0	$137.0	$137.0
Commodities	$3.0	$5.7	$2.0	$2.0	$1.5	$14.2	$12.0
Equipment	$8.0	$0.0	$0.0	$0.0	$0.0	$8.0	$2.0
SUBTOTAL	$208.1	$208.8	$138.1	$141.1	$146.8	$842.9	$408.4
General Administration (9% of	$18.7	$18.8	$12.4	$12.7	$13.2	$75.9	N/A
PROJECT TOTAL	$226.8	$227.6	$150.5	$153.8	$160.0	$918.7	
Other Resources (Cost Share Funds)	$69.0	$69.0	$69.0	$69.0	$69.0	$345.0	

PM II

Budget Category:	Proposed FY 17	Proposed FY 18	Proposed FY 19	Proposed FY 20	Proposed FY 21	TOTAL PROPOSED	ACTUAL CUMULATIVE
Personnel	$128.4	$134.4	$207.7	$213.8	$220.4	$904.8	$265.9
Travel	$32.3	$31.8	$18.0	$21.0	$19.8	$122.8	$11.9
Contractual	$87.1	$87.1	$118.2	$116.5	$118.9	$527.8	$154.2
Commodities	$6.4	$5.9	$7.0	$1.5	$10.0	$30.8	$11.1
Equipment	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Indirect Costs (*waived*)							
SUBTOTAL	$254.2	$259.1	$350.9	$352.8	$369.1	$1,586.1	$443.1
General Administration (9% of	$22.9	$23.3	$31.6	$31.8	$33.2	$142.7	N/A
PROJECT TOTAL	$277.1	$282.4	$382.5	$384.6	$402.3	$1,728.9	
Other Resources (Cost Share Funds)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	

Literature Cited

Zador, S. G., and E. M. Yasumiishi. 2018. Ecosystem Status Report 2018: Gulf of Alaska. Report, North Pacific Fishery Management Council, 605 W 4th Ave, Suite 306, Anchorage, AK 99301. https://www.fisheries.noaa.gov/resource/data/2018-status-gulf-alaska-ecosystem