



Exxon Valdez Oil Spill Trustee Council
Proposal Amendment Form

Project Number: 24200114-P

Project Title: Long-term Monitoring of Lingering Oil in Prince William Sound

Principal Investigator(s): Dan Esler, U.S. Geological Survey, and Mandy Lindeberg, National Oceanographic and Atmospheric Administration

Submission date: May 6, 2024

Please check all the boxes that apply to this request.

- Changes to the original scope or objectives of the project.**
 - Personnel changes.**
 - Budget reallocation request.**
 - Milestone/task changes.**
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The overall goal of this project is to continue periodic lingering oil monitoring of previously sampled oiled beaches in Prince William Sound by documenting occurrence, archiving samples to facilitate analysis of weathering, and assess bioavailability of oil in mussels.

The original objectives included:

1. Conduct regular surveillance of lingering oil
 - Sediments will be excavated to quantify occurrence (in FY25 and FY30).
 - 5 sites surveyed in 2015 will be resampled, up to 10 samples will be collected from each site.
2. Conduct PAH composition analysis of lingering oil
 - 24 samples from the 5 sites collected in FY25 will be analyzed.
3. Document contaminant levels of mussels
 - Mussels will be collected in 2025 from rocky intertidal sites and analyzed for contaminants.



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We propose to decrease the number of samples associated with objectives 1 and 2, to reduce disturbance and release of oil, and increase focused efforts to objective 3, considering recent recommendations made by Heintz et al. (2023).

It is well understood that a small proportion of spilled *Exxon Valdez* oil remains sequestered in intertidal sediments at a few locations in Prince William Sound with certain physiographic characteristics. Chemical analysis has shown that lingering oil has weathered very little while sequestered. Lingering oil monitoring has demonstrated that occurrence and weathering state is not changing markedly through time (e.g., Michel et al. 2016, Lindeberg et al. 2018). This conclusion was confirmed most recently by Heintz et al. (2023), based on sampling in 2021.

Given the continued stable state of lingering oil, and the conclusion that the only regular disturbance and release of oil at these sites was the oil monitoring itself, Heintz et al. (2023) recommended that future lingering oil monitoring limit excavation of sediments. Instead, Heintz et al. (2023) recommended focusing on use of biota to monitor and detect bioavailability of any released oil.

Our original proposal for Project 22200114-P included sediment excavation to quantify occurrence in FY25 and FY30 (Objective 1), chemical analysis of excavated oil in FY25 (Objective 2), and a region-wide collection of mussels to assess contaminants in the spill-affected area in FY25 (Objective 3). Given the recommendations of Heintz et al. (2023), we propose to modify project activities and monitoring timeline, as described below.

Modifications to Objectives

Based on the Heintz et al. (2023) recommendation, we propose to greatly reduce sampling for Objectives 1 and 2 to minimize the release of oil into the environment and focus efforts into Objective 3 to sample mussels at the known-oiled beaches and analyze them for hydrocarbons and other contaminants as part of the National Oceanic and Atmospheric Administration (NOAA) Mussel Watch program. These mussel collections would be in addition to the region-wide mussel analyses, as originally proposed. Consistent with previous protocols, we would still take and archive samples of lingering oil (one sample from each of the five sites), but with a minimum amount of excavation, in case evaluations of weathering state are desired in the future.

Changes to Timing:

We have learned that the Mussel Watch program is intending to sample regionally in a more coordinated manner; coastal Alaska samples are planned for collection in 2024. To allow our samples to be best evaluated in a regional context, we propose to sample mussels (from both



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lingering oil sites and Gulf Watch Alaska-Long Term Research and Monitoring program nearshore sampling sites throughout the Gulf of Alaska) this summer (FY24) instead of waiting until FY25 as originally proposed. Also, because Mussel Watch is conducted at 5-year intervals, we recommend repeat sampling in 2029 if EVOSTC funding is available. The project milestone/task table from our 2021 proposal has been modified to reflect the schedule changes for the current 5-year cycle (see below).

Project milestones and tasks by fiscal year and quarter, beginning February 1, 2022. Fiscal Year Quarters: 1= Feb. 1-April 30; 2= May 1-July 31; 3= Aug. 1-Oct. 31; 4= Nov. 1-Jan 31. **Original task quarters that have been changed are shown as strikeouts and new task quarters are highlighted yellow.**

Milestone/Task	FY22				FY23				FY24				FY25				FY26			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Field Prep and Logistics																				
Contracting and Gear prep										X	X	X	X							
Field Work																				
Oil surveys and Collection of oil and mussel samples											X			X						
Lab Analyses																				
Oil composition and Mussel contaminant analyses													X	X	X	X				
Reporting																				
Annual reports													X					X		
Deliverables																				
Data posted online																			X	



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Budget Reallocation:

We request reallocating some funds from FY25 to FY24 and recategorizing some of the analytical costs to align with the proposed changes in sampling methods. The overall budget remains the same. Please see the budget reallocation and original budget screenshots below and the attached spreadsheet for detailed reallocations.

Original budget

**EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
PROGRAM BUDGET PROPOSAL AND REPORTING FORM**

Budget Category:	Proposed FY 22	Proposed FY 23	Proposed FY 24	Proposed FY 25	Proposed FY 26	5-YR TOTAL PROPOSED	ACTUAL CUMULATIVE
Personnel	\$0	\$0	\$0	\$16,800	\$0	\$16,800	\$0
Travel	\$0	\$0	\$0	\$5,000	\$0	\$5,000	\$0
Contractual	\$0	\$0	\$0	\$75,000	\$0	\$75,000	\$0
Commodities	\$0	\$0	\$0	\$17,000	\$0	\$17,000	\$0
Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Indirect Costs (varies by proposer)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SUBTOTAL	\$0	\$0	\$0	\$113,800	\$0	\$113,800	\$0
General Administration (9% of subtotal)	\$0	\$0	\$0	\$10,242	\$0	\$10,242	N/A
PROGRAM TOTAL	\$0	\$0	\$0	\$124,042	\$0	\$124,042	
Other Resources (In-Kind Funds)	\$0	\$0	\$25,500	\$38,000	\$0	\$63,500	

COMMENTS:
This is the combined budget for Esler at USGS and Lindeberg at NOAA. Please see attached budgets for details. No spending was proposed for this project for FY23.

FY22-26	Project Number: 22220114-P Project Title: Lingering Oil PI(s): Esler (USGS) & Lindeberg (NOAA)	SUMMARY TABLE
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Budget reallocation request

**EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
PROGRAM BUDGET PROPOSAL AND REPORTING FORM**

Budget Category:	Proposed FY 22	Proposed FY 23	Proposed FY 24	Proposed FY 25	Proposed FY 26	5-YR TOTAL PROPOSED	ACTUAL CUMULATIVE
Personnel	\$0	\$0	\$12,600	\$4,200	\$0	\$16,800	
Travel	\$0	\$0	\$5,000	\$0	\$0	\$5,000	
Contractual	\$0	\$0	\$0	\$75,000	\$0	\$75,000	
Commodities	\$0	\$0	\$17,000	\$0	\$0	\$17,000	
Equipment	\$0	\$0	\$0	\$0	\$0	\$0	
Indirect Costs (varies by proposer)	\$0	\$0	\$0	\$0	\$0	\$0	
SUBTOTAL	\$0	\$0	\$34,600	\$79,200	\$0	\$113,800	
General Administration (9% of subtotal)	\$0	\$0	\$3,114	\$7,128	\$0	\$10,242	N/A
PROGRAM TOTAL	\$0	\$0	\$37,714	\$86,328	\$0	\$124,042	
Other Resources (In-Kind Funds)	\$0	\$0	\$25,500	\$38,000	\$0	\$63,500	
COMMENTS:							
This is the combined budget for Esler at USGS and Lindeberg at NOAA. Please see attached budgets for details.							
This is a budget reallocation request to sample in FY24 instead of FY25 and recategorize some analytical costs. The overall budget does not change.							
FY22-26	Project Number: 22220114-P Project Title: Lingering Oil PI(s): Esler (USGS) & Lindeberg (NOAA)					SUMMARY TABLE	

\$12,600 of personnel funds will be moved from FY25 to FY24 to cover one technician and one field assistant (USGS). \$5,000 of travel funds will be moved from FY25 to FY24 for GWA-LTRM PI meeting travel and one conference, and field crew travel from Anchorage to Prince William Sound (USGS). \$17,000 of commodities funds will be moved from FY25 to FY24 for field supplies and charter costs for 8 days (USGS). \$4,200 of personnel funds will remain in FY25 for one technician to conduct data QA/QC and summarize lab analyses (USGS). \$75,000 will remain in FY25 (NOAA) for Mussel Watch analysis of mussels collected from both Nearshore Component sampling sites and lingering oil sites.



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Literature Cited:

Heintz, R. A., M. Lindeberg, and A. McCarrel. 2023. Extending the timeline for lingering oil in Prince William Sound. *Exxon Valdez Oil Spill Long-Term Monitoring Program (Gulf Watch Alaska) Final Report (Exxon Valdez Oil Spill Trustee Council Project 21120014-P)*. Exxon Valdez Oil Spill Trustee Council, Anchorage, Alaska.

Lindeberg, M. R., J. Maselko, R. A. Heintz, C. J. Fugate, and L. Holland. 2018. Conditions of persistent oil on beaches in Prince William Sound 26 years after the *Exxon Valdez* spill. *Deep-Sea Research Part II* 147:9-19.

Michel, J., D. Esler, and Z. Nixon. 2016. *Studies on Exxon Valdez Lingering Oil: Review and Update on Recent Findings – February 2016*. Prepared for the Exxon Valdez Oil Spill Trustee Council.

Internal use only:

Fiscal Year of Request: FY23

Approved by ED? No Yes

Requires TC review? No Yes

Copy sent to fiscal managing agency(yes)? No Yes