



Exxon Valdez Oil Spill Trustee Council

Long-Term Research and Monitoring, Mariculture, Education and Outreach

Annual Project Reporting Form

Project Number: 25200114-P

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

Principal Investigator(s): Heather Coletti, National Park Service, and Robert Suryan, National Oceanic and Atmospheric Administration

Reporting Period: February 1, 2025 – January 31, 2026

Submission Date: March 16, 2026

Project Website: <https://gulfwatchalaska.org/>

Please check all the boxes that apply to the current reporting period.

Project progress is on schedule.

Project progress is delayed.

Budget reallocation request.

The budget was amended to reflect that spending occurred in FY25 instead of FY24 and to reflect cost field cost sharing with the Nearshore project (25120114-H). See the Budget section below for details of the request.

Personnel changes.

FY25 brought significant personnel changes to the Federal agencies that are part of the Gulf Watch Alaska Long-Term Research and Monitoring (GWA-LTRM) program. Both permanent principal investigators (Esler, U. S. Geological Survey, and Lindeberg, National Oceanic and Atmospheric Administration [NOAA]) from the Lingering Oil project left Federal service at the start of the *Exxon Valdez* Oil Spill Trustee Council's FY25. The Nearshore Component Lead of GWA-LTRM (Coletti, National Park Service) and the GWA-LTRM Program and Science Lead (Suryan, NOAA) have agreed to fulfill requirements of this component through the end of this 5-year funding cycle (end of FY26).



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1. Summary of Work Performed:

During FY25, all sediment samples that were collected at the end of the last 5-yr funding cycle (2021, n = 20 samples) and those collected during this 5-yr funding cycle (2024, n = 2 samples) were inventoried and sent to the lab for analysis. Tissue samples that were collected in 2024 (see below) were sent to the lab for analyses following collection in the fall of 2024. The National Oceanic and Atmospheric Administration (NOAA) established a contract for the analysis of all these samples. In addition to lab analyses, the National Park Service (NPS) attempted to create an inter-agency agreement with NOAA to summarize all results similar to a report published by Rider et al. (2020). Due to Federal financial restrictions in place in Federal FY2025, we were unable to process the agreement. However, based on current budget projections, NPS has agreed to support another inter-agency agreement with NOAA to complete the report in FY26.

As background, during FY24, an amended proposal was submitted for this project, which was approved in July 2024. Although overall objectives remained the same, the emphasis on different parts of the proposed work changed, as did the timing. As a result, field sampling was conducted in September 2024 instead of the originally proposed schedule of summer 2025. 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. Lingering oil monitoring has demonstrated that occurrence and weathering state has not changed 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.

The *Exxon Valdez* Oil Spill Trustee Council (EVOSTC) has had a long history of lingering oil studies focusing on quantifying distribution, quantity, loss rate, weathering state, and bioavailability of *Exxon Valdez* oil through field studies and by developing empirical models. These findings are summarized in periodic reports on the status of lingering oil and effects on biota (Michel and Esler 2010, EVOSTC 2016, Michel et al. 2016), which are intended to inform sponsoring EVOSTC agencies, decision makers, and the public. This project is designed to continue this line of inquiry.

Objectives of this study include the following:

1. Conduct intermittent surveillance for presence of lingering oil.
2. Conduct polycyclic aromatic hydrocarbon (PAH) composition analysis of any excavated lingering oil.



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3. Document contaminant levels of mussels, both at Nearshore Component rocky intertidal sites throughout the spill-affected area, as well as at specific Lingering Oil sampling sites known to retain oil.

Following the recommendations of Heintz et al. (2023), we modified sampling activities in the July 2024 amendment of the proposal for this project, with the intent of minimizing sediment excavation associated with Objectives 1 and 2 and focusing on use of mussels as biological samplers of contaminants (Objective 3).

At each of 5 sites known to retain lingering oil (Fig. 1), we conducted the following activities in September 2024:

1. Dig 3 to 4 pits in the lower intertidal zone to evaluate presence of lingering oil, detected through evidence of sheening and odor (Fig. 2).
2. When oil is encountered, collect contaminated sediment for archiving and subsequent PAH analysis to determine weathering state (Fig. 3).
3. Collect mussels for inclusion in NOAA's Mussel Watch analyses of contaminants (Fig. 4).

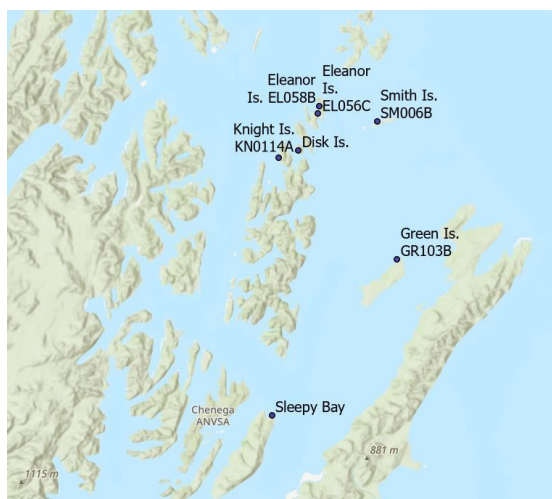


Figure 1. Sites in Prince William Sound known to have sequestered lingering *Exxon Valdez* oil as recently as 2021, which were sampled as part of this project in September 2024. Sites without numbers, Disk Island and Sleepy Bay, were sampled for mussels but not excavated for oiled sediment.



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Figure 2. Dr. Dan Monson digging a pit in search of lingering Exxon Valdez oil in Prince William Sound, September 2024 (right). The left panel is a photo of a pit on Eleanor Island showing sheening resulting from excavation of oiled sediment.



Figure 3. A jar of oiled sediment collected from the intertidal zone of Eleanor Island in Prince William Sound, September 2024.



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*Figure 4. Dan Monson and Jade Couturier collecting mussels (*Mytilus trossulus*) at a lingering oil site in Prince William Sound for inclusion in Mussel Watch analyses of contaminants.*

Field work was conducted according to the plan described in the revised Lingerin Oil proposal approved July 2024. We successfully dug pits and collected mussels from all five sites in September 2024. With minimal excavation (no more than four pits per site), we detected oil at both sites on Eleanor Island. From each site, we collected oiled sediment for subsequent chemical analysis of weathering state; those samples were shipped to Amanda Brewster at B&B Laboratories in College Station, Texas for PAH analysis. The mussels collected at Lingerin Oil sites, as well as those collected at Nearshore Component intertidal monitoring sites across the northern Gulf of Alaska, were shipped to the same lab for inclusion in Mussel Watch analyses. Results of Mussel Watch and PAH analysis will be included in the final report.

Literature Cited:

- EVOSTC. 2016. An Evaluation of Remedial Options for Lingerin Oil from the *Exxon Valdez* Oil Spill. Prepared by the Alaska Department of Environmental Conservation Division of Spill Prevention and Response for the *Exxon Valdez* Oil Spill Trustee Council.
- Heintz, R. A., M. Lindeberg, and A. McCarrel. 2023. Extending the timeline for lingerin 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.



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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., and D. Esler. 2010. Summary of lingering oil studies funded by the *Exxon Valdez* Oil Spill Trustee Council. *Exxon Valdez* Oil Spill Trustee Council.

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.

Rider, M., D. Apeti, A. P. Jacob, K Kimani, E. D. Davenport, M. Bower, H. A. Coletti, and D. Esler. 2020. A Synthesis of Ten Years of Chemical Contaminant Monitoring Data in National Park Service - Southeast and Southwest Alaska Networks. United States, National Ocean Service; National Centers for Coastal Ocean Science (U.S.); NOAA technical memorandum NOS NCCOS 277. <https://doi.org/10.25923/dbyq-7z17>.

2. Products:

No publications, reports, presentations, or public outreach were produced in FY25.

3. Coordination and Collaboration:

This project is part of the EVOSTC funded Gulf Watch Alaska Long-Term Research and Monitoring (GWA-LTRM) program, which is administered, in part, by the Prince William Sound Science Center. The Lingering Oil project is inextricably linked with the Nearshore Component of GWA-LTRM. In FY24, as prescribed by an update to the Lingering Oil proposal, mussels were collected from all Nearshore Component sampling sites across the spill affected region for inclusion in NOAA's Mussel Watch program. Mussel Watch analyzes a large number of contaminants in mussels, including PAHs, which are of most relevance as a contribution to this Lingering Oil project. The Lingering Oil field team was led by Nearshore Component principal investigators (Esler and Monson). Gear, personnel, and vessels are shared between Nearshore and Lingering Oil Components.



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Otherwise, there was no coordination and collaboration to report with the Alaska SeaLife Center, Prince William Sound Science Center, EVOSTC Mariculture projects, EVOSTC Education and Outreach projects, individual EVOSTC projects, Trustee or management agencies (aside from USGS, NOAA, and now NPS), or Native and local communities.

4. Response to EVOSTC Review, Recommendations and Comments:

No review, recommendations, or comments were provided in 2025. This project responded to comments in the FY24 annual report.

5. Budget:

During FY25, PIs Esler (USGS) and Lindeberg (NOAA) left federal service. The USGS portion of the project has transferred to Heather Coletti of NPS and Rob Suryan has taken over management of the NOAA portion of the project. Funds allocated to the lingering oil project have been expended for field work and laboratory analysis. The final report will be written by NPS and NOAA staff.

The project team requests an amendment to the USGS portion of the budget. In the original proposal, no spending was proposed for this project for FY24. An approved amended proposal shifted some spending from FY25 to FY24. However, because the revised proposal and budget were approved late in the year (July 2024), transfer of funds did not occur in time to support field research in September 2024. So, no dollars were expended in FY24. Because the field work was conducted in conjunction with Nearshore project field work (project 25120114-H) during FY24 and covered by the Nearshore project, in FY25 project funds from this project were used to support the use of the USGS R/V Alaskan Gyre to collect field samples during nearshore sampling.



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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	\$12,600	\$0	\$12,600	\$12,520
Travel	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Contractual	\$0	\$0	\$0	\$75,000	\$0	\$75,000	\$75,000
Commodities	\$0	\$0	\$0	\$26,200	\$0	\$26,200	\$26,000
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	\$113,520
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. During FY25, both PIs left federal service. Heather Coletti (NPS) and Rob Suryan (NOAA) will complete the project. Oil samples collected during this funding cycle have been sent to B&B Laboratories for analysis using NOAA's contractual funds. The final report for the project will be written by NPS and NOAA staff. The USGS portion of the budget has been amended to reflect actual spending on the project.

FY22-26	Project Number: 25220114-P Project Title: Lingering Oil PI(s): Coletti (NPS, for USGS) & Suryan(NOAA)	SUMMARY TABLE
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