*Detailed instructions for each section below are given in Section II. Quarterly Project Reports in the Reporting Policy on the website, https://evostc.state.ak.us/policies-procedures/reporting-procedures/

Project Number: 24220502

Project Title: Clean Water Act Assessment of Beaches with Lingering Oil

Principal Investigator(s): Terri Lomax, ADEC Water Quality Program Manager

Reporting Periods and Due Dates: November and December 2024, January 2025

Reporting Period	*Due Date*
February, March, April	June 1
May, June, July	September 1
August, September, October	December 1
November, December, January	March 1

Submission Date: February 24, 2025; corrected March 11, 2025; correction April 18, 2025

Project Website: https://dec.alaska.gov/water/water-quality/evos-lingering-oil/

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

☒ **Project progress is on schedule.**

☐ **Project progress is delayed**

☐ **Budget reallocation request for this reporting period.**

☐ **Personnel changes.**

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1. Summary of Work Performed:

DEC utilized the literature completed during the previous quarter to guide the development of a draft contract for the final stages of this grant project. The end result of the contract is to draft and finalize a listing methodology for lingering oil, associated technical support documents, gather data and conduct a Clean Water Act assessment of Exxon Valdez impacted beaches. DEC and its contractor worked in earnest on tiered approach to evaluate EVOS impacted beaches. A draft listing methodology and technical approach document was developed and reviewed this quarter. Additional work on both documents is planned for the next quarter.

Objective #1 Identifying waters of concern.
Task A. Identify Waters of Concern.
    Status: Ongoing. DEC submitted and received approval for an amendment addressing the continuation of this task. Through the literature review, DEC recognized that the identification of waters of concern will continue to evolve throughout the life of this grant.

Task B. Develop a set of standards suitable to gauge recovery and compliance with water quality standards.
    Status: Initiated. Utilizing information gained from the Literature Review, DEC determined the best course of action is the development of a standalone listing methodology (LM) rather than updating a current petroleum hydrocarbon LM. The contract was initiated on April 25, 2024, it outlined the following tasks:

1. **Identify Listing Methodology Options**
   Completed- DEC reviewed multiple approaches and explored approaches employed nationally and internationally.
2. **Develop Draft LM and Technical Approach Document**
   Ongoing: The initial draft of the listing methodology and technical approach document were developed and reviewed. Significant comments and direction were provided. Comments by the US Environmental Protection Agency and DEC Spill Prevention and Response Division were solicited. The contractor schedule was modified to allow for a second draft of both documents. DEC and its contractor reviewed comments and will incorporate those into the second draft. The second drafts are due in February.
3. **Finalize LM and Technical Approach**
   Pending
4. **Data Analysis**
   Pending

DEC finalized the definition of Listing Oil specific to our project. This definition will allow DEC to differentiate between beaches impacted by recent oil versus lingering oil. A tiered approach to reviewing data was developed, this tiered approach utilizes multiple lines of evidence. The tiers of data are:

Tier	Data Type
1	Test Pit Data
2	Sediment Chemistry Data
3	Biological Data
4	Modeled Data
5	Overwhelming Evidence

Tier 1 will first be explored and if test pit data doesn't exist or is inadequate Tier 2 would be explored. This prioritizes direct measures (tiers 1 and 2), while including important indirect measures (tiers 3 and 4), and allows for multiple lines of evidence to be used in tier 5. Minimum data requirements for each tier have been drafted and are under review.

Task C. Compile available information regarding impaired waters
Status: No work to report on this Objective/Task.

Task D. Develop GIS map
Status: Ongoing. Through the annotated bibliography contract, DEC began the process of compiling data with geolocations from several documents for use in the planned Clean Water Act assessment of impacted beaches. Initial work showed disagreement between DEC listed impaired beaches, field data, and model predictions of locations with lingering oil. This task has been extended in recognition of evolving list of waters of concern. Draft and final GIS maps will be created during several tasks outlined in the most recent contract.

Objective #2 Updating Clean Water Act status of impaired beaches.
Task A. Develop listing methodology.
Status: A contract was put in place to assist DEC in the development of a listing methodology and technical approach document on April 25, 2024. The contractor and DEC met several times to discuss technical and federal requirements of impairments listings and potential approaches that could be employed by DEC. The contractor provided three options for DEC consideration. These options considered the 1) best available data, ranked on age of data; 2) weight of evidence; and 3) preferred data. These approaches considered narrative criteria, sediment chemistry data, SCAT data, and model-based data.
DEC evaluated these suggested approached and identified a preferred approach for the development of the LM. This approach prioritizes multiple lines of evidence (data). In this approach field observations are the highest tier of evidence, followed by sediment chemistry, biological data, modelling outputs, and an overwhelming evidence policy.

The initial draft of the listing methodology was reviewed during this quarter. Significant comments and edits were generated. A second draft is due February 2025.

Task B. Evaluate Data.
    Status: No work to report on this Objective/Task.

Objective 3. Stakeholder Involvement during this reporting period.
Task A. Communication Plan.
    Status: Completed. DEC identified communities and opportunities to share resources and learn more about community concerns related to lingering oil.

Task B. Public Engagement.
    Status: Ongoing. DEC will continue to investigate options to present to local communities or environmental managers from affected EVOS communities. A factsheet summarizing the project was prepared for the Alaska Forum on the Environment for February 2024.

    DEC developed a listserv to reach out to interested members of the public. Project updates and opportunities for engagement will be noticed here in addition to the usual channels for public engagement. The Literature Review was shared with via our list serv.

    The previous contractor, Geosyntec, was granted permission to share their work at the Society of Environmental Toxicology and Chemistry North America conference in June 2024. The title of the proposed session is "Lingering Oil and Lasting Impacts: Prince William Sound 35 Years After Exxon Valdez".

    No additional communication or engagement occurred during this period.

2. Abstract:

The Alaska Department of Environmental Conservation initiated the Clean Water Act Assessment of Beaches with Lingering Oil grant in February 2023. During this quarter DEC, in conjunction with a contractor, developed a draft listing methodology and technical approach document. These documents were provided to partners for review and additional edits are underway. A second draft is due in February 2025. DEC proposed an integrated approach with multiple tiers of data to account for the variety and lack of complete datasets for any one beach location. Both documents will undergo a public comment period and final edits before any data evaluation occurs.

3. Coordination and Collaboration:

ADEC Division of Water coordinated with the Division of Spill Prevention and Response to review the initial listing methodology and technical approach document to ensure state regulations regarding oil cleanup standards, contaminated sites, and impaired waters are adhered to. Additional comments from the United States Environmental Protection Agency were solicited to ensure compliance with the Clean Water Act.

4. Response to EVOSTC Review, Recommendations and Comments:

FY22-FY23 Biennial Review

Science Panel	Executive Director	PAC	
Major concerns	No administrative concerns	Minor concerns	

Recommendation: No actions at this time, given that this was a project that was brought forth by the ADEC Commissioner/Trustee at the time, and that the funding remaining for FY25 and FY26 is relatively small, and that funds for this project are being used to leverage funds for remediation projects.

Science Panel Comments

Date: September 2024

This project is to collect data needed to determine if impairments remain, develop the tools necessary to manage the impaired beaches for the long term, and to solicit public input regarding the impacts of long-term impairment status.

The objectives are to conduct a literature review and provide a summary of the following:
 1) which beaches impacted by the *Exxon Valdez* Oil Spill (EVOS) still have lingering oil, and
2) what resources and data are available that could be used to evaluate the degree and effects of residual crude oil.

While the historical presence of EVO on specific beaches is documented, currently surface oil is not visible. Without digging pits and looking for subsurface oil, and/or using mussels as bioindicators of PAHs on known oiled beaches (see project 114-P Lingering Oil Monitoring), it is still unclear to us how this project will accomplish its stated goals, especially without field studies or collaborations with the Lingering Oil Monitoring project. The Science Panel in 2021 stated "The lingering oil efforts supported by EVOSTC has been extremely limited to a

handful of sites, the oil is buried, and there is no information that organisms at these sites are impacted. As such, an inventory of impaired beaches from EVO seems not possible; therefore, we do not recommend funding." Our recommendation has not changed with this biennial review.

Actual physical/chemical data are required to establish impairment on a given beach, and it is not clear that older publications or interviews with stakeholders will provide compelling data to develop the GIS layered maps proposed for this project.

The Science Panel remains skeptical of the feasibility and value of this project and recommends terminating the project after FY24.

PI Response:

DEC recognizes the age and sparsity of data across this region. In recognition of this we have developed a draft process that utilizes multiple lines of evidence and establishes a tiered approach to data quality. A tiered approach is transparent about what data are adequate for decision making, what data are preferred, and yet is flexible to allow for overwhelming evidence when the preferred data are not available. This approach is based on 5 lines of evidence.

TEST PITS are dug during the initial response to see how much oil has penetrated deeper sediment. These data have potential to show trends if more are dug over time. There must be at least 10 test pits in each area being assessed.

SEDIMENT CHEMISTRY DATA examines the most toxic chemicals in oil, polycyclic aromatic hydrocarbons, and compares results to levels protective of human health and aquatic life. There must be at least 10 samples in each area.

BIOLOGICAL DATA evaluates impacts to wildlife by looking at tissue chemistry data, whether sediment is toxic to organisms, whether populations of organisms are low compared to a reference area, or if an organism's diet uptakes pollutants. The data must be compared to a clean, unimpacted reference site and at least two types of biological data are needed.
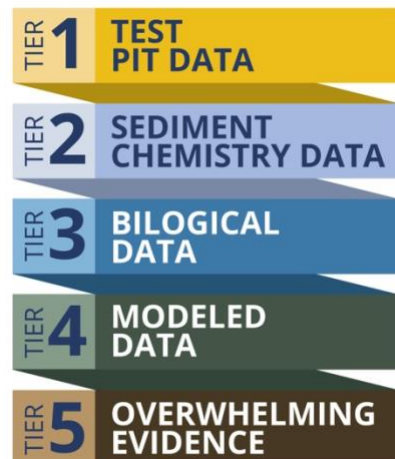
COMPUTER MODEL DATA predicts a probability of oiling for a given shoreline location and must predict probability of oiling for at least 50% of the shoreline in each area. The model must be calibrated with and validated to real world results.

OVERWHELMING EVIDENCE allows the DEC to use their years of experience and training to interpret several types of data that are either inconclusive or not sufficient on their own

Unfortunately, in a state as large as AK the lack of data is fairly common. DEC has encountered this in numerous other projects and makes recommendations on what is available. DEC, EPA, and other states have developed similar approaches when addressing this issue. We have full confidence this effort is meaningful not only to us, but other coastal states have reached out and are interested in reviewing our work.

Executive Director Comments

Date: October 2024

Administratively, this project is progressing as planned. The PI is easy to work with and communicative. Quarterly reports are not always submitted on time, but the PI is typically easy to reach to discuss any late reports. Reports are well-organized and comprehensive. If any edits are needed, PI typically responds promptly. Funding for this project is managed by ADEC. During FY23 Q3, the project overspent on both personnel and commodities budget categories and it is over 10% of the approved budget. The PI submitted a Proposal Amendment to reallocate funding to cover the overspending which was approved by the Executive Director. Staff do not have any administrative concerns at this time.

PAC Comments

Date: October 2024

Stephens asked about the biological data used and whether it includes studies of less mobile organisms. Lomax stated they were not conducting work on the ground, but harvesting all data collected by other researchers. Model data is appropriate for them to make decisions and complete listings without physical or chemical data. They are discussing biological datasets and may look at resident animals and macro invertebrates that live on the rocks. They are also considering species recovery as a threshold to make decisions.

Stekoll asked how the report will be used and their confidence with listings. Lomax stated the final report will be an updated list of impaired waters, which is released every two years to inform Alaska citizens about polluted waters and the safety of consuming organisms from those waters. The report is used in state and federal permitting, and impaired areas may have more permitting obstacles. The project also looks at available data to determine what decisions they can make for each beach with 50% confidence. The three listing categories include: attaining, impaired, and unknown. Sites must have a high degree of confidence to be delisted.

Whissel asked about proving negative bioavailability of oil. Lomax stated they are relying on work done by other researchers. They are not ready to answer questions about bioavailability of lingering oil and potential impacts. Whissel suggested bioavailability requires organisms to be nearby and asked how it may affect recovery assessments. Lomax noted the State of Alaska protects waters for all uses, including aquatic life, regardless of whether life is present. The waters should be safe in case something travels there.

Stekoll asked about Auke Bay studies. Wang noted there is an ongoing lingering oil monitoring project, but they are only sampling every five years at five beaches. She recommended Lomax coordinate with the project.

Stephens asked about the depth of oil deposits, which could be dug up by sea otters. Lomax stated they are not including depth as a data point. They are concerned about the presence or absence of oil, not how deep it is.

Stekoll suggested it is good to compile studies to better understand lingering oil, but he expressed concerns about including it in a Clean Water Act assessment report published for public use. Stephens asked if this project is linked to declaring shorelines condemned for commercial use, and Lomax clarified they are different processes.

Whissel asked about Clean Water Act assessments and whether outcomes for oil positive findings have automatic triggers. Lomax stated there are no automatic triggers. The State has delegated authority, but they submit the report to the Environmental Protection Agency, which has final approval authority. Impaired sites may be eligible for grant funding to clean up contamination. However, they may also have roadblocks for permitted use and require additional protections or treatments.

Whissel suggested he did not necessarily agree with the Science Panel and was in favor of continuing the project. Traveling to sites is expensive, and it is better to have this information beforehand to travel more efficiently. He also supported how the project can assist the pursuit of remediation funding.

Whissel introduced a motion to proceed with minor concerns, acknowledging the Science Panel's criticism and the lack of site sampling. Raven Cunningham seconded, noting there is real value in the project. Combining data can support the work of other organizations and researchers. She reiterated the high cost of travel to remote sites. There was no opposition to the motion, which passed unanimously.

PI Response:

Thank you for this suggestion. The data collected in the Auke Bay studies has been received and will be evaluated once the draft listing methodology is completed. The Auke Bay data provides the highest quality, most recent data we will review. This data will be reviewed under the first Tier of our draft process.

5. Budget:

Budget Category:		Proposed FY 22	Proposed FY 23	Proposed FY 24	Proposed FY 25	Proposed FY 26	5- YR TOTAL PROPOSED	QUARTERLY EXPENDITURES	ACTUAL CUMULATIVE
Personnel		$0	$59,481	$51,015	$51,783	$51,032	$213,311	$9,166	$106,034.33
Travel		$0	$0	$6,640	$6,640	$6,640	$19,920	$0	$0.00
Contractual		$0	$38,978	$93,426	$76,574	$0	$208,978	$38,201	$118,884.40
Commodities		$0	$0	$750	$750	$0	$1,500	$0	$0.00
Equipment		$0	$0	$0	$0	$0	$0	$0	$0.00
Indirect Costs	Rate = 0%	$0	$0	$0	$0	$0	$0		$0.00
	SUBTOTAL	$0	$98,459	$151,831	$135,747	$57,672	$443,709	$47,367	$224,918.73
General Administration (9% of subtotal)		$0	$8,861	$13,665	$12,217	$5,191	$39,934	$825	$12,976.51
	PROJECT TOTAL	$0	$107,320	$165,496	$147,964	$62,863	$483,643	$48,192	$237,895.24
Other Resources (In-Kind Funds)			$6,624	$6,823	$7,027	$7,238	$27,712	$0	$915.00