



**Exxon Valdez Oil Spill Trustee Council**  
**General Restoration, Habitat Enhancement, Habitat Protection, and Facilities Projects**  
**Quarterly Project Reporting Form**

*\*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:** 2020131 (Includes 21210131)

**Project Title:** Alaska SeaLife Center Facilities Project \$2,000,000/\$500,000

**Principal Investigator(s):** Chip Arnold, Ben Smith

**Reporting Periods and Due Dates:**

<i>Reporting Period</i>	<i>Due Date</i>
February, March, April	June 1
May, June, July	September 1
August, September, October	<b>December 1</b>
November, December, January	March 1

**Submission Date:** June 1, September 1, **December 1**, or March 1

**Project Website:** N/A

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

**Project progress is on schedule.**

Project funding/award documents have not been received from EVOSTC; however, partner funding sources through Murdock and ASLC have enabled work on the project to begin.

**Project progress is delayed**

Text

**Budget reallocation request.**

Text

**Personnel changes.**

ASLC Project Manager Ben Smith begins employment on September 6th. He will be replacing Caryn Fosnaugh, who exited ASLC in the 3<sup>rd</sup> fiscal quarter.



**Exxon Valdez Oil Spill Trustee Council**  
**General Restoration, Habitat Enhancement, Habitat Protection, and Facilities Projects**  
**Quarterly Project Reporting Form**

---

---

**1. Summary of Work Performed:**

ASLC has initiated the contractual process and began expending funds on partnership funding from the Murdock Trustee Council for the building automation system. ASLC has initiated the contractual process and monitoring documentation requirements for Global Diving. Industrial Pumps of Alaska has been providing pump repair service and working to strategically plan for pumphouse upgrades. Ozone Water Systems has rebuilt significant portions of the systems and has provided onsite training for operations staff.

---

**2. Abstract:**

**Building infrastructure:**

Trane's electrical subcontractor began work installing conduit and cabling to support the Lutron lighting system on October 3<sup>rd</sup>. Basement systems were installed by 10/13 including lighting panel replacement. The contractor completed most of the conduit and cable installation necessary to support the Lutron wireless controls in early November. Lighting panels were replaced in 2<sup>nd</sup> floor areas and the basement. The contractor worked with ASLC Operations and Security to devise plans for operating lights in the interim period before cutover.

Lutron performed a site visit on 10/5/2022. Some areas in the quarantine and vet spaces were identified as requiring programming changes and reallocation of devices. Only two additional switches were needed due to freeing up switches elsewhere in the plans. ASLC supervisor staff were surveyed and invited to comment on the lighting zone plans. These responses were collected by ASLC project manager and relayed to Trane and Lutron. ASLC submitted an RFI regarding quarantine and veterinary space lighting controls. A virtual meeting was held November 2 with Trane, the electrical subcontractor onsite electrician and ASLC Project Manager to resolve ASLC concerns. Additionally, the prospect of re-integrating the building EMS system was discussed resulting in options ranging from installing side-by-side equipment or working with the third part vendor to provide hardware necessary to allow the Eaton and Trane systems to communicate.

Trane reports continuation of procurement efforts, panel construction in their shop and programming work. Through part of the mechanical maintenance agreement Trane identified a failed air handling unit motor which will be repaired by the ASLC Operations team. The operations team has been briefed and instructed to identify any other deficiencies in order to ensure the Trane team can properly program and adjust the BAS system when is installed.



**Exxon Valdez Oil Spill Trustee Council**  
**General Restoration, Habitat Enhancement, Habitat Protection, and Facilities Projects**  
**Quarterly Project Reporting Form**

---

**Seawater Life Support System:**

Global Diving with four-person crew documented and surveyed the overall condition of the well (depth of silt layer, intake line penetrations, siphons and pigging station) with an eye to repairing the broken siphon. Removing the mud proved problematical. There is 4 feet of silt and mud piled up in the center of the well rising as high as 6 feet in the corners. The siphon with the booster pump attached was working briefly at removing this until it hit the heavy mud and that immediately bound up the pump. Bernie of Global has submitted an updated proposal that included the use of a hydraulically powered submersible pump. Sedimentation in the well continues to be a major area of concern and has recently caused a heat pump outage due to severely clogged strainers.



*Suction equipment used to support initial dive and inspection of intake wells.*

The Global Bathymetric survey of intakes (Part 1) was performed on Wednesday 10/26. They will present a full report in a few weeks. Preliminary results are show the intake for the East side of the well has been found and documented. The intake for the West side of the well appears to be buried. While they know generally where the intake is they were unable to video it.



**Exxon Valdez Oil Spill Trustee Council**  
**General Restoration, Habitat Enhancement, Habitat Protection, and Facilities Projects**  
**Quarterly Project Reporting Form**



*Towing side scan sonar (left) and ROV used to inspect intakes (right).*

KING2247.JPG

### **SeaWater Pump Replacement**

The SeaLife Center continues to work diligently and responsively to current pumproom issues. The Operations crew had to respond to a failed variable frequency drive on an effluent pump temporarily using a drive from pump #LSS-02 which is inoperative and under repair. A replacement drive was ordered however lead times remain lengthy. Overall the obvious mechanical issues with the pumps are well known and documented, however the drive failure and other issues regarding the supply of electrical power prompted ASLC to purchase a three-phase power quality meter. Power quality survey work was started by the ASLC project manager. Power quality concerns were immediately identified in the pump MCC room. It is not unexpected to see power quality issues with variable frequency drives however parameters were outside of acceptable limits. Work is continuing to identify issues. It is likely more electrical work will be required than was initially anticipated. In addition to the power quality meter a field data logger was purchased in order to collect and log additional VFD parameters. With the additional data the operations crew will be able to better optimize pump performance and efficiency and will be able to compare existing performance with future upgrades.

To accurately and properly manage electrical power our investigations led us to some gaps in the building EMS (electrical monitoring system) and the BAS plans. The ASLC building originally included the EMS system in the Johnson Controls Metasys, however that system became inoperable when the PC running the software failed years ago. A company in Houston, TX with specific knowledge of the Eaton INCOM system, Parijat Controlware, Inc, has been working on a



**Exxon Valdez Oil Spill Trustee Council**  
**General Restoration, Habitat Enhancement, Habitat Protection, and Facilities Projects**  
**Quarterly Project Reporting Form**

potential solution to integrate the existing EMS system to the BAS system. Trane will include integration into the Tracer Ensemble BAS system, however at an additional cost as it falls outside the scope of the BAS project.

A strategic planning session was held with Andy Dixon from Industrial Pumps of Alaska. From the meeting it was determined to best meet the centers needs and with extended lead times and pump availability issues that rebuilding some of the better condition existing pumps combined with purchasing several new pumps was the best course of action. In addition, a submersible pump option for the contamination well was selected due to the improvements in efficiency in the design and the inclusion of an agitation system. The existing turbine pumps are not well suited to conditions in the well. The two trash pumps operate with vacuum on the intakes at a reduced efficiency so it is hoped that by addressing these complaints with a submersible pump designed specifically to operate in these conditions the center can benefit from reduced operation and maintenance costs as well as benefit from higher availability.

**Ozone Water Treatment System:**

The Ozone Water Systems, OWS, crew sent two from Phoenix, AZ to rebuild several ozone generators, install new coronal discharge cells and associated plumbing, assess the entire ozone system, install and calibrate sensors and other associated components, Industrial Pumps of Alaska replaced belts to repair a Kaiser compressor which supplies the ozone generators with clean dry air. The system is now working as designed. John Overby from OWS conducted training for the ops team consisting of a 2-hour classroom meeting followed up by in-plant training. Picture attached is John training staff to rebuild ozone generators. Additionally, the ORP sensors were replaced and calibrated, and pH sensors replaced and calibrated. These sensors are critical to proper ozone production and regulation. ASLC operations crew were trained in-plant on the calibration and replacement procedures. John Overby will be sending certificates of training for all that attended.



*Receiving in-plant customized ozone system training (left) and awarded certificate.*



**Exxon Valdez Oil Spill Trustee Council**  
**General Restoration, Habitat Enhancement, Habitat Protection, and Facilities Projects**  
**Quarterly Project Reporting Form**

---

**Pump House Barrier:**

Due to work being conducted by the Army Corps of Engineers on the Lowell Canyon diversion tunnel design considerations for the pump house barrier may change. The Corps has completed seismic studies in the area which will be used to determine the course of repairs. Currently 5 alternatives to the tunnel are open for consideration, with the recommended plan consisting of construction of a completely new tunnel and refurbishment of the old tunnel. This plan if implemented may significantly reduce the risk of flooding to the pumphouse.

An inspection video from spring 2022 showing current tunnel conditions is available here:  
<https://youtu.be/RTKtjJu17Fo>



*Aerial view of Lowell Creek diversion tunnel during a flood event in 2018. Photo by Alaska Aerial Technologies as published in the Seward Journal.*

**Cast Iron Drain Pipe Assessment:**

ASLC Operations crews have been working to maintain and clear drains and other leaks in the structure. Several referrals to engineering firms were obtained. Currently the RESPEC group in Anchorage intends to perform an initial site visit.



**Exxon Valdez Oil Spill Trustee Council**  
**General Restoration, Habitat Enhancement, Habitat Protection, and Facilities Projects**  
**Quarterly Project Reporting Form**

**3. Coordination and Collaboration:**

N/A

**4. Response to EVOSTC Review, Recommendations and Comments:**

N/A

**5. Budget:**

<b>Budget Category:</b>	<b>Proposed FY 22</b>	<b>Proposed FY 23</b>	<b>Proposed FY 24</b>	<b>Proposed FY 25</b>	<b>Proposed FY 26</b>	<b>5-YR TOTAL PROPOSED</b>	<b>ACTUAL CUMULATIVE</b>
Personnel	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Travel	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Contractual	\$126,095	\$0	\$0	\$0	\$0	\$126,095	\$3,625
Commodities	\$0	\$0	\$0	\$0	\$0	\$0	\$22,147
Equipment	\$2,373,905	\$0	\$0	\$0	\$0	\$2,373,905	\$7,432
Indirect Costs (report rate here)	\$0	\$0	\$0	\$0	\$0	\$0	\$3,247
<b>SUBTOTAL</b>	<b>\$2,500,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,500,000</b>	<b>\$0</b>
General Administration (9% of subtotal)	\$225,000	\$0	\$0	\$0	\$0	\$225,000	N/A
<b>PROJECT TOTAL</b>	<b>\$2,725,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,725,000</b>	
<b>Other Resources (In-Kind Funds)</b>	<b>\$580,897</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$580,897</b>	<b>\$342,903</b>