PRINCE WILLIAM SOUND
REGIONAL CITIZENS' ADVISORY COUNCIL

September 2021
Status Report

3100 – Public Information Program

Objectives: Inform general public, member entities, and agency and industry partners of PWSRCAC projects. Support legal requirements for ongoing updates to the public.

Accomplishments since last report: Staff continues to inform the general public and others about PWSRCAC's projects and mission through publications and online presence.

3300 – Annual Report

Objectives: Prepare and publish PWSRCAC's Annual Report each year to inform the general public, member entities, and agency and industry partners of PWSRCAC projects and activities; and support legal requirements for ongoing updates to the public.

Accomplishments since last report: A new three-year contract with the graphic designer was implemented. Work to draft content for the next report has begun with staff and graphic design development with the contractor has been initiated.

3410 – Fishing Vessel Program Community Outreach

Objectives: For bringing the realities of oil spill response tactics, equipment, and planning to life for citizens within the Exxon Valdez oil spill region communities, the fishing vessel community outreach program is a perfect venue. Each fall and spring SERVS holds its fishing vessel program training in the following communities: Cordova, Valdez, Whittier, Seward, Homer, and Kodiak. The on-water portion of the training, in partnership with Alyeska/SERVS, shows real-time capabilities of oil spill response equipment and tactics. This project contracts a local tour boat that will allow interested students, members of the public, and media to observe and learn about oil spill response.

Accomplishments since last report: A spring 2022 event in Seward is tentatively proposed. Planning will commence once the spring SERVS schedule is posted, depending on feasibility of group gatherings at that time.

3500 – Community Outreach Program

Objectives: Increase awareness of PWSRCAC and increase communications with member organizations and communities in the Exxon Valdez oil spill region.

Accomplishments since last report:

- PWS Natural History Symposium was held virtually again, in May, hosting 20 presenters and over 260 attendees. Recordings are available here https://www.princewilliamsound.org/2021-natural-history-symposium
- Salmonfest resumed in Ninilchik, AK. The Council's booth represented oil spill prevention along the "Salmon Cause-way" with other NGO's sharing salmon-related conservation issues.

3530 – Youth Involvement

Objectives: Select proposals for youth activities, in collaboration with partner agencies and organizations throughout the Exxon Valdez oil spill region. Coordinate activities to facilitate hands-on learning about topics related to the Council's mission. Where appropriate and feasible, participate in mission-relevant youth activities.

Accomplishments since last report:

- The Alaska Oil Spill Curriculum has a new, searchable online database to make accessing the Council's resources easier for educators.
- Five teachers learned place-based education skills while kayaking in Prince William Sound with the Chugach National Forest and Alaska Geographic.
- Teens in Kachemak Bay participated in a 3-day marine hazards and ROV workshop, and then led a one-day camp for elementary students with Center for Alaskan Coastal Studies, reaching over 100 students.
- Oil spill education, including activities from the Alaska Oil Spill Curriculum, was featured in Center for Alaskan Coastal Studies' after school program in Homer.
- 11 youth from PWS and Copper River region participated in a field program learning about the ecological, cultural, and economic resources and history of the region. Council funding supported the marine component, including a visit to Bligh Reef, observing two tankers, and several activities from the Alaska Oil Spill Curriculum.
- 25 sixth graders in Cordova participated in a 3-part series on oil spills, including activities from the Alaska Oil Spill Curriculum, storytelling from Native elders, and a boat cruise to experience the marine ecosystem first-hand.
- Nine teachers met in Valdez with Prince William Sound College to develop science, technology, engineering and math lesson plans. They beta-tested the new Alaska Oil Spill Curriculum online database.
- The proven Remotely Operated Vehicle (ROV) course taught by Prince William Sound Science Center now has a manual so that educators can develop their own ROV kits. The program was field tested with 12 teachers in Cordova.
- 51 Valdez sixth graders participated in a four-week course on the impact of the oil spill on the environment as well as on other industries. Every student produced their own documentary film about the Exxon Valdez oil spill.
- 10 Alaskan teachers participated in a week-long, place-based learning course in the Copper River Delta and Prince William Sound, including lessons from the Alaska Oil Spill Curriculum and in-field plankton monitoring.

3600 – Public Communications Program

Objectives: This program disseminates information and increases awareness through the Observer newsletter and the Council's online presence. This program helps publicize information generated from the Council's technical committee projects. Project results and information will be disseminated in a format that is easily understood by the general public.

The Observer: Print and email versions of the Observer newsletter are produced three times per year.

3610 – Web Best Available Technology

Objectives: This project helps ensure the Council's websites and web presence uses the best and most up-to-date technology available by funding new features, repairs, and upgrades to the Council's websites. This includes regular maintenance and technical upgrades as well as upgrades to such aspects as user experience and branding.

Current projects: Updates to the Resource Library on the www.pwsrcac.org website are under development. This work will support a searchable/filterable database for educational lesson plans, among other improvements. This project also supports technical assistance for the OSPR project called 7901 Web-based Regional Stakeholder Committee (RSC) Resources.

Website data: Website usage for www.pwsrcac.org is tracked through Google Analytics for information such as numbers of visitors, location of visitors, how visitors found the site, which pages are visited most often, how much time is spent on pages, whether visitors were engaged enough to visit more than one page and much more.

Top content from 5/5/2021 to 8/5/2021.

1. Job announcement for Valdez Administrative Assistant ↑
2. Requests for Proposals (Category plus individual RFPs)
3. Columbia Glacier ↑
4. History of EVOS
5. PWS radar repairs ↑
6. About staff
7. Coping with Technological Disasters – Updated Guidebook ↑
8. RSC Resources ↑
9. Tanker Escort System
10. Regulatory reform

↑ denotes hot topics compared to previous three months.
Please contact Project Manager Amanda Johnson if you would like more details.

3620 – Connecting with Our Communities – Pending Funding in FY2022

Objectives:

1. Contract with a public relations firm to work with the Council to develop a long-term communications and public image strategy.
2. Develop Council image, messaging, and voice, as well as contemporary ways to communicate who we are to the public within the EVOS region and beyond.
3. Implement the strategy and evaluate its effectiveness in the short run. Make changes as necessary and implement for the long term.

Accomplishments since last report: Staff coordinated with Helvey Communications on closing out most of the remaining deliverables for the FY19 and FY20 contracts by the end of the FY21 fiscal year (June 30, 2021). New graphic materials featuring the updated logo (approved in September 2020) have been printed (letterhead, business cards, etc.). Due mostly to pandemic considerations, the media training deliverable was not able to be completed by that time. Staff are working to carry over most of the remaining contract funds into the FY22 budget, through a budget modification, to hopefully conduct this deliverable in spring of 2022.

3903 – Youth Internship

Objectives: Coordinate with regional secondary and/or higher education institutions to recruit students for internships, coordinate with other committees to help support students' education goals while meeting appropriate PWSRCAC project needs.

Summary: Intern Rosie Brennan created a template for the Alaska Oil Spill lesson plans, researched other online curricula and informed the Council's database development, managed metadata for over 50 lessons, and presented a draft web tool to an audience of teachers to get feedback and ideas for further refinement of the tool.

5000 – Terminal Operations Program

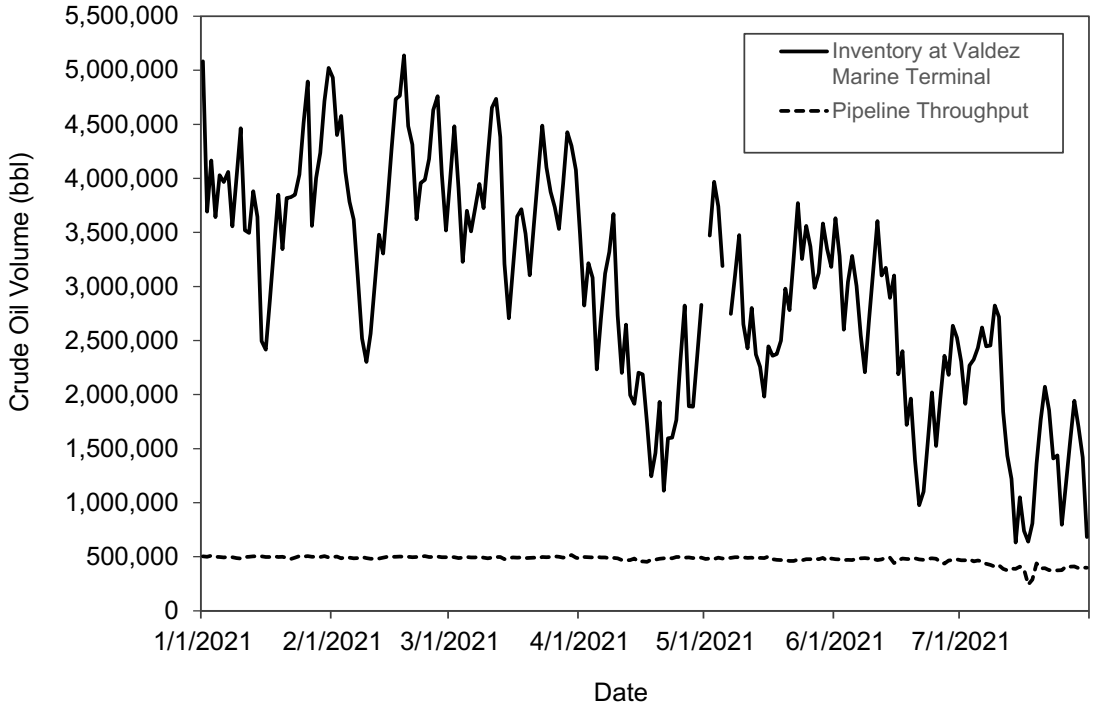
Objectives: The goal of the Terminal Operations and Environmental Monitoring Program is to prevent oil and hazardous liquid spills and minimize the actual and potential environmental impacts associated with the operation and maintenance of the Valdez Marine Terminal (VMT).

Accomplishments since last report: Monitored spills associated with operation and maintenance of the terminal, crude oil laden tanker ship tug escorts, 2020 VMT projects, and water quality of effluent discharged from Ballast Water Treatment Facility (BWTF) and sewage treatment facility.

Attachments: Graphs depicting a variety of data related to the operation and environmental impacts of the Valdez Marine Terminal.

2021 Daily Oil Inventory at the Valdez Marine Terminal and Trans-Alaska Pipeline Throughput

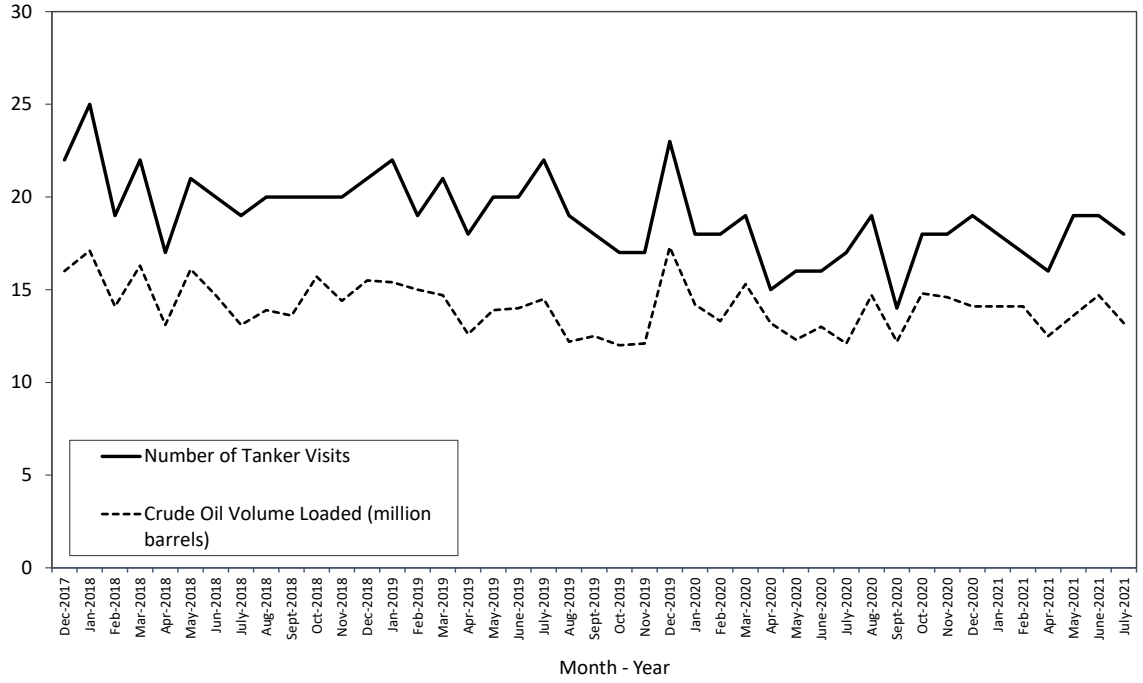
(Source: Alaska Department of Revenue - Tax Division).



Crude oil loaded and tanker visits at VMT

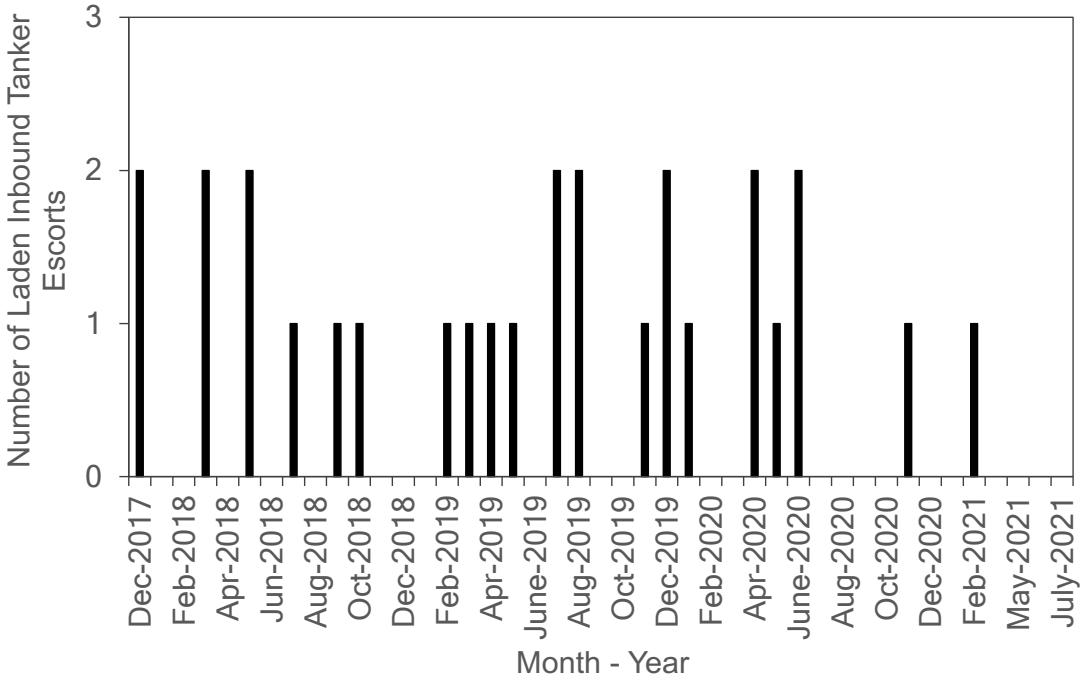
(Source: Alyeska Pipeline Service Company, partitioned by VMT vessel arrival date)

From December 2017 through July 2021 the average monthly tanker visits at the VMT were 19.0 tankers and the average monthly crude oil volume loaded was 14.1 million barrels.



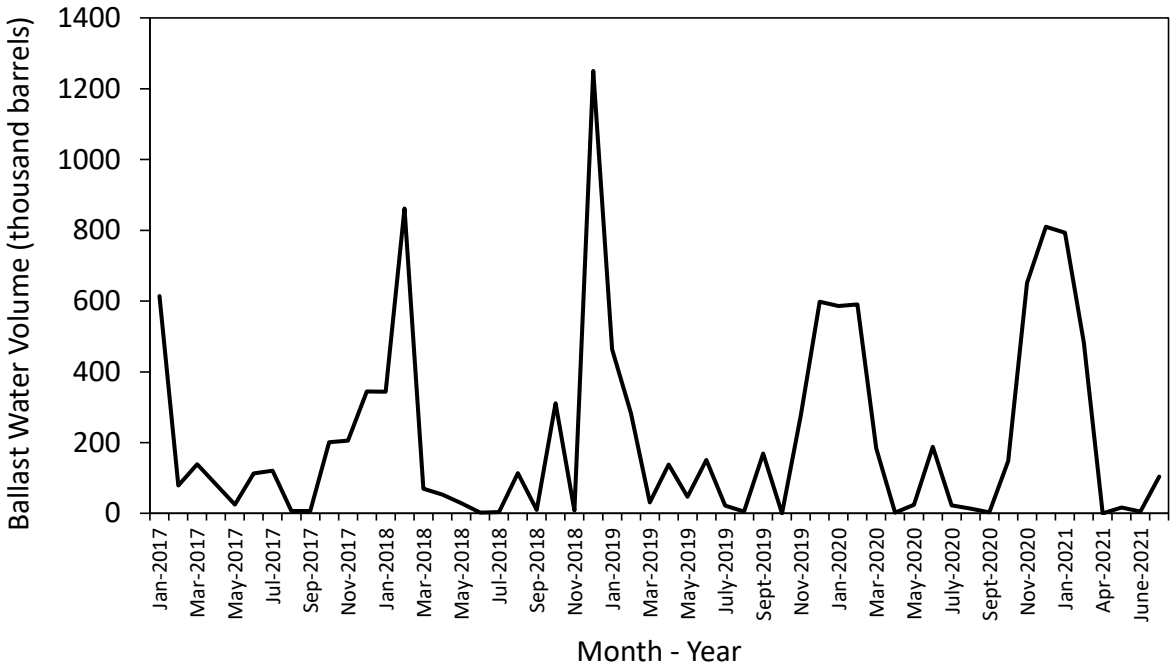
Inbound, laden tanker escorts to VMT

(Source: Alyeska Pipeline Service Company, partitioned by VMT vessel arrival date)



Monthly ballast water deliveries to Ballast Water Treatment Facility from tanker ships

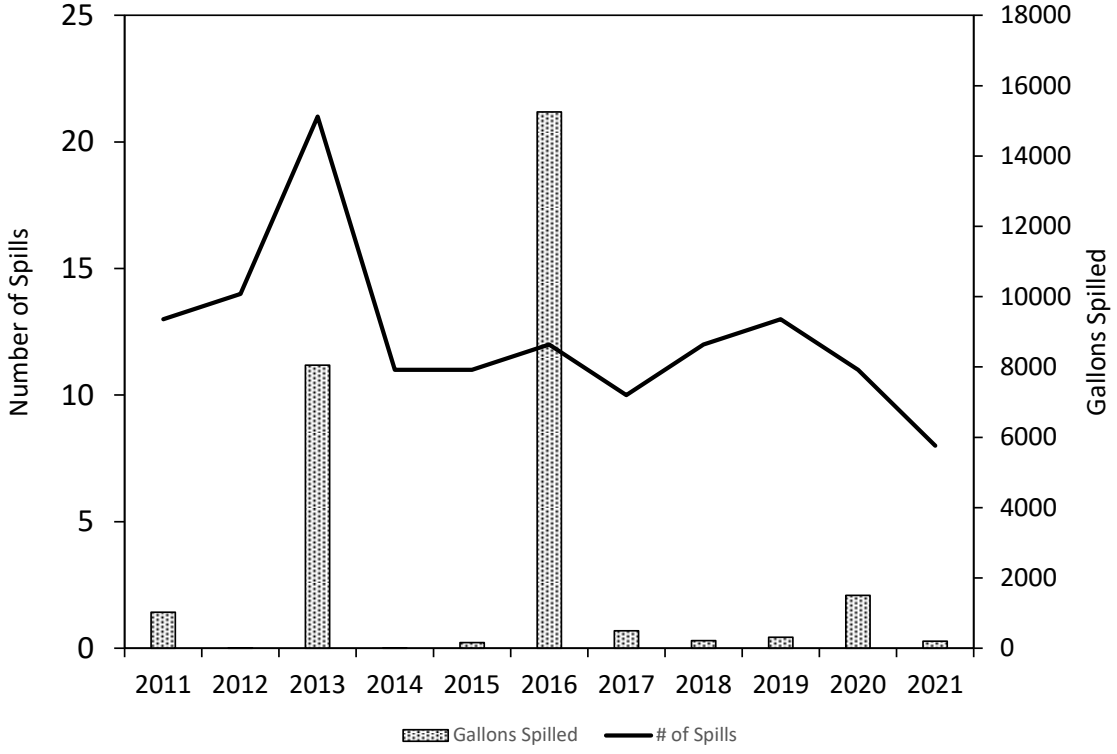
(Source: Alyeska Pipeline Service Company, partitioned by VMT vessel arrival date, current through February 2021)



Annual spills associated with the operation and maintenance of the VMT

(Source: Alyeska Pipeline Service Company)

This chart shows all spills, of all types (e.g., hydraulic fluid, crude oil, lube oil, ballast water).



5056 – Tank 8 Internal Inspection Review

Overall Goal: The FY 2021 goal of this project was to review the records and procedures used to maintain the integrity of Tank 8, in order to ensure the risk of a spill from this large, oil storage tank are minimized. The FY 2022 goal of this project is to ensure that the design of Tank 8's new floor and cathodic protection system (scheduled for installment in 2023) are aligned with industry best practices and designed to protect the tank bottom for the life of the structure.

Accomplishments since last report:

- During the May 6, 2021 meeting, the Board accepted the final FY2021 report by Taku Engineering LLC (the Council's contractor) for this project.
- On June 14, 2021, the final FY2021 report and associated Council-recommendations were sent to Alyeska (with copies to appropriate state and federal regulators) in a letter signed by the Council's Executive Director.
- Council staff have initially concluded that it would be appropriate to enter into a sole source contract with Taku Engineering to complete the FY2022 scope of work.

5057 – Alyeska's Appeal of EPA's July 2020 Air Quality Rule (NESHAP OLD): Establishing a Council Positon

Overall Goal: This project will entail the review of an EPA air quality rule that is applicable at the Valdez Marine Terminal and review Alyeska's subsequent arguments stating that certain parts of the new rule should not go into effect because those particular provisions would adversely affect the operation and maintenance of the terminal.

Accomplishments since last report:

- A request for proposals was advertised for this project on April 7, 2021.
- Three proposals were received in response to the request for proposals by May 14, 2021.
- On May 27, 2021, a proposal review team (made up of Terminal Operations and Environmental Monitoring Committee members and Council staff) identified the proposal by John Beath Environmental as the best suited to complete the scope of work for this project.
- A contract was executed between John Beath Environmental and the Council on June 29, 2021.
- John Beath Environmental began work and provided the Council project manager (Austin Love) with a project status update on August 2, 2021 – the project is on track to be completed in a timely manner.

5081 – Crude Oil Tank 7 and Ballast Water Tank 94 Maintenance Review

Overall Goal: This project would entail performing a technical review of the maintenance of crude oil storage Tank 7 and ballast water storage Tank 94 at the Valdez Marine Terminal. Both Tank 7 and Tank 94 are scheduled to undergo comprehensive internal inspections in 2021. The last time Tank 7 underwent a similar internal inspection was in 2008, and Tank 94's last internal inspection occurred in 2012. The 2021 internal inspections of both tanks will result in a large amount of new information pertaining to the past, current, and future maintenance of each storage tank. Additionally, since their last internal inspections were done back in 2008 and 2012, Alyeska has gathered and maintained other information, such as cathodic protection system testing records and external inspection results pertinent to the maintenance of Tanks 7 and 94. The new information generated from the 2021 internal inspections and the other, older information must all be considered to continue to safely maintain each of these tanks. This project is necessary to ensure that Alyeska is using industry best practices and considers all the pertinent information in the decisions they make to safely maintain both tanks, now and in the future.

Accomplishments since last report:

- A request for proposals was advertised for this project on July 2, 2021.
- Five proposals were received in response to the request for proposals by August 4, 2021.
- On August 11, 2021, a proposal review team (made up of Terminal Operations and Environmental Monitoring Committee members and Council staff) identified the proposal by Taku Engineering LLC as the best suited to complete the scope of work for this project.

5640 – ANS Crude Oil Properties

Objectives: This project entails analyzing the physical and chemical properties of Alaska North Slope Crude Oil and interpreting how those properties would impact the effectiveness of oil spill response measures including mechanical recovery, in-situ burning, and dispersants.

Accomplishments since last report: No work has been accomplished since the last report. This project remains on hold because Environment Canada, the lab that would analyze the November 2019 sample of Alaska North Slope Crude Oil, cannot analyze the oil sample due to COVID-19 restrictions. Environment Canada has offered to perform this chemical and physical analysis of the Council's crude oil sample free of charge.

5998 – Cathodic Protection Systems Review

Objectives: The purpose of this project is to review and analyze the operation and maintenance of the cathodic protection systems used at the Valdez Marine Terminal to limit corrosion on the crude oil storage tanks and piping at the facility. The goals of this project are to improve the Council's current understanding of these critical systems and, if warranted, identify ways Alyeska's operation and maintenance of the VMT could be improved, such that the risks of an oil spill from the terminal are decreased. Another goal of this project is to highlight where and how Alyeska implements industry best practices in regard to the operation and maintenance of cathodic protection systems at the VMT.

Accomplishments since last report:

- During the May 6, 2021 meeting, the Board accepted the final report by National Pipeline Services (the Council's contractor) for this project.
- On June 14, 2021, the final report and associated Council-recommendations were sent to Alyeska (with copies to appropriate state and federal regulators) in a letter signed by the Council's Executive Director.

6000 – Oil Spill Response Program

Objectives: Through this program, PWSRCAC develops positions and recommendations on oil spill response technologies; reviews state and federal contingency plans (c-plans) and plan-related issues; promotes compliance, enforcement, and funding of existing environmental regulations; and promotes the incorporation of local knowledge of sensitive areas into contingency planning.

Accomplishments since the last report:

Alaska Regional Response Team (ARRT): General information on the ARRT can be found HERE, and meeting summaries and presentations can be found HERE. The next ARRT meeting is scheduled for September 23, 2021, in Anchorage, which will be available by zoom.

Alaska Regional Contingency Plan Public Review: The public review for the Alaska Regional Contingency Plan (RCP) began on June 16, 2021, and closed on August 6, 2021. Based on this review, our primary concerns are:

- Retaining the Regional Stakeholder Committee in the plan as the primary mechanism for stakeholder engagement during an oil spill
- Ensuring the RCP sets policy for the area contingency plans
- Clarifying the process for updating the RCP

Prince William Sound Area Contingency Plan (PWS ACP): Informal comments were submitted to the PWS Area Secretary on the PWS ACP in July. Comments provided can be viewed HERE. This plan will go out for public comment in the near future. Our suggested priorities for future plan updates include:

- Updating Geographic Response Strategies
- Updating information on the Potential Places of Refuge

Arctic and Western Alaska Area Contingency Plan (AWA ACP): The USCG Area Secretary requested informal comments on the AWA ACP to identify changes that would not trigger a public review due in August.

6510 – Contingency Planning Project

Objectives: The purpose of this project is to monitor, review and comment on state and federal c-plans for the Valdez Marine Terminal and the Trans Alaska Pipeline System tankers that transit Prince William Sound. Reviewing c-plans is a major task for PWSRCAC as outlined in both the PWSRCAC/Alyeska contract and OPA 90.

The Prince William Sound Tanker Oil Discharge Prevention and Contingency Plan (PWS Tanker C-Plan) and associated vessel response plans for Alaska Tanker Company, Andeavor, Crowley Alaska Tankers, Hilcorp North Slope, and Polar Tankers (last renewed on February 1, 2017) will expire in 2022. Alyeska Pipeline Service Company (Alyeska) Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan (VMT C-Plan) was last renewed on November 15, 2019, and will expire in 2024.

Accomplishments since last report:

PWS Tanker C-Plan: Comments and suggested Requests for Additional Information on the five-year renewal of the PWS Tanker C-Plan were submitted to ADEC on July 22, and are available HERE. These comments cover the Prince William Sound Core Plan, SERVS Technical Manual, and the individual vessel response plans for Alaska Tanker Company, Andeavor, Crowley Alaska Tankers, Hilcorp North Slope, and Polar Tankers. Documents for the review can be found on OSPR's website HERE. ADEC will issue Requests for Additional Information (RFAIs) by October 21, 2021.

There were no significant changes proposed in the plan. Comments were divided into four categories where additional information was requested:

- New proposed language or context –additional information was requested on oil properties, vessels of opportunity, and barge and contractor updates.
- Key issues that have not been resolved – including downstream planning, sensitive area protection, Realistic Maximum Response Operating Limits, and operation of a tank vessel under escort.
- Training and exercises – including suggestions for gas meter testing, tether exercises, communications with respirators, exercising in darkness and reduced visibility, continue exercising with foreign flagged vessels, etc.

- Individual shipper plans – provide information on contractual obligations with TAPS tankers required by state regulations.

VMT C-Plan: The next VMT Workgroup meeting is scheduled for September 21. Our issues from the informal review remain outstanding (secondary containment, number of personnel in a Response Planning Standard (RPS)-sized spill, drainage 58).

6511 – History of Contingency Planning

Objectives: Objectives: The purpose of this project is to take a long-term view of contingency planning in Alaska spanning over 30 years since the *Exxon Valdez* spill. This project will document where progress has been made and where protections have decreased through the established regulatory record. The first phase of this project is focused on the Prince William Sound tankers and the second phase will focus on the Valdez Marine Terminal. The final report from each phase will capture the evolution of contingency planning in Alaska by identifying key issues, themes, and trends over time.

Accomplishments since last report:
Phase One – History of the Prince William Sound tanker contingency planning: At the August 5, 2021 OSPR Committee meeting, OSPR recommend that the Board accept the following documents on the history of contingency planning for the Prince William Sound Tanker C-Plan found on the OSPR website HERE:

- Prince William Sound Tanker Oil Discharge Prevention & Contingency Plan: Summary (1995-2020), DRAFT v2 (March 1, 2021);
- Prince William Sound Tanker Oil Discharge Prevention & Contingency Plan: Compendium of Event Summaries (1995-2020), DRAFT v2 (March 1, 2021); and
- Prince William Sound Tanker Plan History v1 (March 1, 2021).

Phase Two - History of Valdez Marine Terminal contingency planning: At the June 16, 2021 OSPR Committee meeting, OSPR recommended that the second phase of the history of contingency planning covering the Valdez Marine Terminal be deferred until FY2023.

6530 – Weather Data / Sea Currents Project

Objectives: This project studies wind, water current, and other environmental factors near the Valdez Marine Terminal, in Prince William Sound, and in the Gulf of Alaska. Weather conditions affect the safe navigation of vessels and aids the ability to prevent, respond to, contain, and clean up an oil spill. Accurate weather data for the region supports research and decision making in areas like oil spill response, traffic management, vessel performance specification, and contingency planning.

Accomplishments since last report: The Council's two weather stations are operating normally and we have had no maintenance issues with them. At its August 12 meeting, the Executive Committee accepted a grant from the Alaska Ocean Observing System (AOOS) in the amount of $20,000 to install a Conductivity, Temperature, and Depth (CTD) sensor in Port Valdez.

6531 – Port Valdez Weather Buoys

Objectives: This project originally assembled and deployed, and continues to maintain two buoys which measure ocean currents and common weather parameters in Port Valdez. The first buoy is

installed near Jackson Point [61.0910°N 146.3811°W]. The second buoy is installed at the Valdez Duck Flats [61.1201°N | 146.2914°W]. The Prince William Sound Science Center (PWSSC) partners with the Council to facilitate this project.

The Oil Pollution Act of 1990 requires the Council to study wind and water currents and other environmental factors in the vicinity of the terminal facilities which may affect the ability to prevent, respond to, contain, and clean up an oil spill.

The Council's Board of Directors has long advocated that robust weather monitoring systems be located in the vicinity on the Valdez Marine Terminal (VMT). This includes proposals to install ultrasonic anemometers at the loading berths and a weather station at the VMT. The Council's Board of Directors passed a resolution expressly requesting a weather station be employed at the terminal on January 22, 2016.

Weather is a significant factor in the management of safe crude oil transportation through Prince William Sound. Some of these concerns include marine safety, tanker escort operations, oil spill contingency planning, containment boom design, and safe loading of oil tankers.

Accomplishments since last report: The spring haul out and service visit was successful. The buoy hulls were cleaned and repainted, zinc anodes replaced, sensors replaced as needed, and batteries recharged. A representative from JOA Surveys will attend the fall haul out.

Funding for this project was in included in the AOOS five-year program planning proposal. One of their priorities is to improve marine safety and there is an interest in weather related projects. In a related effort, AOOS has offered, and the Executive Committee has accepted, a $20,000 grant to the Council to install a CTD sensor in Port Valdez. Information from this sensor would become part of the Physical Oceanographic Real-Time System (PORTS) site for Port Valdez.

6534 – Cape Hinchinbrook Weather Surveillance

Overall Goal: Working cooperatively with the Prince William Sound Science Center (PWSSC), this project seeks to provide improved observations of weather and wave conditions seen at the Hinchinbrook Entrance to Prince William Sound. The primary focus of this effort will be the eastern portion of the Entrance that encompasses the established vessel traffic lanes that pass by Cape Hinchinbrook.

Initially this project will be focused on securing a land use permit from the U.S. Coast Guard and U.S. Forest Service at Cape Hinchinbrook. The follow-on project will be the installation of an upland weather station and supporting equipment at the Cape. This equipment will provide observations of standard meteorological variables, wind speed and direction, temperature, humidity, and barometric pressure at the Cape. Power to the equipment installed on the uplands will be provided by solar panels and a wind generator. Data generated by the equipment will be telemetered out via cellular modem link to the Naked Island communications site.

Once the site is established, additional instruments may be considered, including an X-band (8.0 to 12.0 GHz) wave radar and a subsurface moored wave gauge.

Accomplishments since last report: This project was included in the current Long Range Planning process and the funding request is for potential permit fees needed to secure a land use permit from the Coast Guard. Establishment of a weather station at Cape Hinchinbrook will be proposed once a permit is secured.

Funding for this project was in included in the AOOS five-year program planning proposal. One of their priorities is improving marine safety and there is an interest in weather related projects.

Staff continues to work with the 17th Coast Guard District on permitting for the weather station.

6536 – Analysis of Weather Buoy Data

Objectives: In 2019, PWSRCAC was able to install two weather buoys in Port Valdez, one in the vicinity of the Valdez Marine Terminal and the other near the Valdez Duck Flats. The buoys are expected to collect weather data for at least five years. This project is the first of five projects that would take the data collected in each of the five years and perform an analysis to determine any weather trends throughout the year and seasonally. The analysis includes current and wind direction and speed information, wave direction and heights, and other pertinent information that can be obtained from the weather data.

Accomplishments since last report: The draft Port Valdez Weather Buoy Analysis report was forwarded to OSPR Committee member Dave Goldstein for his review and the draft report was sent to Merv Fingas of Oil Solutions to peer review. Both report reviews were shared with the report's author, Dr. Rob Campbell, for his consideration and revision of the report, after which it was sent to the project team with few comments received back. The report was then edited by Brooke Taylor and the proposed final version sent to the OSPR Committee. The Committee voted to recommend that the PWSRCAC Board of Directors accept the report.

6540 – History of Copper River Delta Flats GRS

Objective: The purpose of this project is to develop a white paper that captures the history of developing geographic response strategies (GRS) in the Copper River Delta and Flats (CRDF) area. GRSs are pre-built response strategies used to protect pre-identified sensitive areas in the event of an oil spill. Considering CRDF is part of the Prince William Sound Area Contingency Plan (PWS ACP), this information would be applicable to this plan. The white paper would document the significance of protecting this valuable, fragile ecosystem, and explain the current status of the GRS.

Accomplishments since last report: A contract is in the process of being finalized and signed, and work on the project is anticipated to start in early September. Nuka Research and Planning Group, LLC (Nuka) was awarded the contract in late May 2021, via RFP process, but it was understood that project work would not start until September. Nuka's proposal noted they had other projects in progress (helping Council with multiple c-plans under review for example) and key staff they expected to work on this project were occupied with other commitments. The project is on track, but with delay based on when the contract was awarded at the end of May. Staff has used this time to search through old physical files for related documentation and documents within the PWSRCAC document management system.

6560 – Peer Listener Training

Objectives: Review and assess the Peer Listener Training and similar programs nationwide to ascertain current best practices. The resulting report will inform the Council's decisions about how to revise the Peer Listener Training, the associated manual (an appendix of "Coping with Technological Disasters: A User-Friendly Guidebook"), and the train the trainer program going forward.

Accomplishments since last report: An RFP for a data-gathering phase of the project was released, but no proposals were received, even after extending the deadline and targeted outreach by volunteers and staff. Staff are proceeding with research in-house to identify possible steps forward and likely partners to complete the work.

7000 – Oil Spill Response Operations Program

Objective: This program encompasses monitoring and reporting on the activities related to the operational readiness of the oil spill response personnel, equipment, and organization of the TAPS shipping industry. The program also encompasses monitoring actual oil spill incidents within our region and evaluation of overall response readiness. Additionally, the program includes the planning and implementation of PWSRCAC's Incident Response Plan.

Accomplishments since last report: Normally, fishing vessel training for those in the contracted fleet consists of three days of training; a day of classroom based Hazardous Waste Operations and Emergency Response (HAZWOPER) training, a day of equipment explanation and how-to on shore, and a day of working with equipment while actually on the water. As a COVID precaution , this approach was changed in spring 2020. The classroom HAZWOPER portion was conducted online instead, after which participants watched pre-recorded lectures that the PWS College assembled and did an online test to show proficiency. Then, instead of on-land equipment training, two on-water days were conducted instead, with instructors travelling to individual vessels to talk equipment with a limited smaller group. The same approach will be used this fall. Cordova training is slated for 9/24 to 9/29.

Staff members Robertson, Robida, Lally, and Schantz helped evaluate the large-scale VMT exercise that took place 5/25-26. This was scenario 5 of the VMT C-Plan; the worst case discharge scenario. Robertson and Robida observed the 5/25 field portion of the event. The field portion generally went well. Of note from this day was that a tide slide was installed at one of the Drainage 58 connection points. Boom to shore connections at this site have been a long-standing concern of staff and the addition of the tide slide addresses part of our concerns. Following the tabletop portion on 5/26, Robertson covered the Planning Section, Robida covered the Operations Section, Lally the Unified Command, and Schantz the Joint Information Center (JIC) and Liaison Officer functions.

Robida attended a webinar put on by the Pacific States/British Columbia Oil Spill Task Force concerning lessons learned from virtual drills at the end of June. Three different speakers spoke to their experience with virtual exercise play and the pros and cons of managing a large event in this fashion. There was nothing groundbreaking in these talks, but it was satisfying to hear speakers come to many of the same conclusions that staff were also vocalizing after the large-scale tanker exercise this past spring, and more recent VMT exercise; both of which involved virtual/remote participants and processes. Some examples in no particular order included, 1) the need to prepare participants for exercise play on whatever given platform, and the fact that these platforms also needed some preparation work before exercise play could begin, 2) the need for technical support during the actual event to answer questions, address issues, help guide participants who were not as technically savvy, etc., 3) the need for more hardware beside just a laptop to truly be effective (multiple and bigger monitors, headset for hands free talking, better quality webcam, back-up hotspot device, etc.), 4) how sections such as Operations were really best served if they could be at the command post in person, whereas other sections such as Finance would be easier to play remotely, 5) how the virtual world didn't lend itself very well to the sidebar conversations, and finally, 6) how virtual exercise play was realistically here to stay and part of our new normal. Future webinars through Pacific States/British Columbia Oil Spill Task Force are expected and staff will participate based on topics and their availability.

Robida has been monitoring and engaged with discussion on GRSs being converted into a GIS format. This work is being spearheaded by the Arctic and Western Alaska (AWA) Area Committee, specifically the GRS sub-committee of the AWA. This conversion from PDF format to a GIS data layer makes logical sense and will allow responders and planners to access and view this information on a modern GIS platform such as NOAA's Arctic Emergency Response Mapping Application (ERMA). Additionally, the conversion will allow for easier long-term management and the ability to make changes to information far easier, versus the PDF documents this information currently resides in. PWSRCAC is generally supportive of this conversion, but the process has been difficult to follow at times, and Council is concerned that the greater spill response community and industry may not understand the sweeping changes that are already in motion to this long-standing program. Additionally, having this work occur at a sub-committee level and then percolate out to the rest of the state seems backwards, as historically large changes and issues such as this were worked by the Alaska Regional Response Team (ARRT) and then direction and policy went out to the more localized Area planners in order to ensure consistency amongst the then 10 sub areas. Instead, we're in a situation where work from a specific Area planning sub-committee will drive state policy and process.

It's the understanding of Council staff that ALL of the GRSs have been converted into a GIS applicable format at this point. The long-term data management and approval process for suggesting changes to GRSs are being discussed currently by AWA leadership, and it's anticipated that all of this should be known and settled very soon. A USCG led, GRS deployment is scheduled for September 13 in Kodiak to verify and test the decided upon GRS update process. Once the process has been vetted, it's staff's understanding that the intent is to move the entire state to this GIS-based system. GRS information will be stored and maintained in the NOAA Arctic ERMA program and the original PDFs will also be captured and retained. While the move to a GIS system is prudent, the project has included a small working group and PWSRCAC is concerned the process should have been more transparent and inclusive of other Area Committees and the greater spill response community.

7030 – Contracted Fleet Vessel Readiness Verification / Staff-Led Dock Walk

Objective: Contracted vessels serve a vital role in the Prince William Sound tanker and Valdez Marine Terminal contingency plans because almost all of the response tactics described in these plans require contracted vessels and their trained crews to implement. With this project, PWSRCAC intends to conduct a physical survey of a given port (or multiple ports) and attempt to verify that vessels self-reporting as available, actually are available.

There are approximately 400 vessels and associated crew on contract with SERVS. These vessels are predominantly commercial fishing vessels and fall into four categories: (1) Tier I vessels (or the "core" fleet of approx. 50+ vessels on contract), located in ports within Prince William Sound and required to be ready to respond within six hours; (2) A subset of approximately eight Tier 1 vessels (referred to as Rapid Response Vessels), strictly Cordova-based and expected to be underway within an hour of notification; (3) Tier II vessels (the bulk of the fleet, numbering 300+), in ports both within and outside of Prince William Sound, and expected be ready to respond within 24 hours, with a total of 40 vessels anticipated to depart by hour 18; and (4) Tier III vessels, which the contingency plans include discussion on, but the Tier III program is simply a recruitment program with no vessels currently on contract.

A minimum number of vessels from each given tier are expected to be available and ready to respond, so as to meet specific timing metrics captured within contingency plans, and therefore, satisfy state regulatory requirements. Alyeska/SERVS verifies vessel availability via phone calls to the captains (check-in frequency based on contract tier) and reports this information to ADEC on a quarterly basis to

ensure that available vessel count is sufficient to meet readiness requirements. ADEC is able to request this availability information at their discretion.

Given response planning standard volumes and c-plan scenarios, the PWS Tanker C-Plan is much more reliant on contracted vessels to implement a response than the VMT C-Plan. For example, the tanker plan scenario requires a total of approximately 279 vessels to be operational within the first 72 hours of a spill. Having approximately 400 vessels on contract allows some flexibility with meeting this requirement, and safeguards against vessels being out for repairs, captains being out of town, etc.

Accomplishments since last report: Work on this project has yet to start, as staff anticipates doing their dock walk over the winter timeframe; end of 4th quarter 2021, and end of 1st quarter 2022. The OSPR Committee will be kept informed as the project start date gets closer.

7520 – Preparedness Monitoring

Objectives: PWSRCAC's Drill Monitoring program falls under a broader program called Oil Spill Response Operations. Objectives for the Drill Monitoring program are to promote oil spill response operational readiness within the EVOS region by observing, monitoring, and reporting on spill response drills, exercises, and training; to provide citizens, regulatory agencies, and responders (Alyeska and the shippers) with independent observations and recommendations to improve preparedness; and provide citizen oversight.

Tasks to be completed include:

- Monitor and report on regular oil spill drills and training exercises at the VMT and throughout the Exxon Valdez oil spill region to citizens, the Board, industry, and regulatory agencies.
- Provide quarterly recommendations to the PWSRCAC Board of Directors.
- Keep PWSRCAC's standing committees (OSPR, TOEM, POVTS, IEC, and SAC) informed.
- Produce an annual report on effectiveness and progress of the regularly monitored drills.
- Continue developing and implementing staff training for drill monitoring.

Recent Exercises:

Los Angeles Spirit Tanker Towing Exercise – June 6, 2021

The foreign flagged tanker Los Angeles Spirit chartered by Hilcorp and operated by Teekay Shipping conducted an emergency towing exercise on Sunday, June 6. This was the first foreign flagged tanker to participate in a towing exercise in recent memory. The exercise went well, and all of the objectives were met.

Alyeska Valdez Marine Terminal Exercise – May 25-26, 2021

Alyeska conduct a two-day exercise in May. The first day consisted of field deployments focused around the VMT's Scenario 5 worst case spill response. These deployments included the booming and oil recovery tactics at Drainage 58 for a spill from the VMT. The second day was the tabletop exercise for the same scenario.

Upcoming Drills and Exercises

Valdez Marine Terminal Settlement Pond Deployments – August 19, 2021
Marathon PWS Shipper's Exercise – October 13-14, 2021

8000 – Maritime Operations Program

Objectives: This program reviews port organization, operations, incidents, and the adequacy and maintenance of the Coast Guard Vessel Traffic System, and coordinates with the Port Operations and

Vessel Traffic Systems (POVTS) Committee. Major program components include participation with the Valdez Marine Safety Committee (VMSC), monitoring changes to the escort system, reviewing Best Available Technology documents for the escort system and the Vessel Emergency Response Plan (VERP), participating in monthly SERVS/PWSRCAC and ADEC/PWSRCAC communication meetings, and supporting maintenance for the NOAA weather stations.

Accomplishments since last report: An article on the Rescue Tug BAT project will be published in the September/October issue of International Tug and Salvage.

The Maritime Operations Project Manager is participating in the Alaska Spatial Priorities Study, focusing on the Gulf of Alaska and Prince William Sound, and an interagency Barry Arm project team for the Council. Executive Director Donna Schantz participated in a NOAA PORTS® (Physical Oceanographic Real-Time System) outreach video commemorating the 30th anniversary of the program. Port Valdez is part of the PORTS® program.

A list of potential projects was sent out to POVTS and OSPR members. The committees are working on developing future projects as part of the PWSRCAC Long Range Planning (LRP) process.

Staff is working with Dr. Nicole Ziegler, Ph.D., at the University of Hawaii on a Maritime English Project.

Work is being done to develop a white paper describing world class standards for Best Available Technology.

8012 – Field Trials of Messenger Line Throwing Devices

Objectives: This project will evaluate the effectiveness of line throwing devices identified as being best available technology in the 2020 report, "Tanker Towline Deployment BAT Review." Field trials of this equipment will underscore best techniques in their use and will improve user experiences with the equipment. Results will be used to develop a set of recommended practices that will be shared with industry. A final report on the project findings will be presented to the Council.

Oil tankers operating in Prince William Sound are required to carry emergency towing equipment. The availability of this equipment can allow a stricken tanker to be towed safely to a place of refuge, where further action can be taken to stabilize the vessel. A key action that must occur in the use of one of these towing systems is to successfully make the final connection between the tow package messenger line and the vessel to be towed. Passing messenger lines to stricken vessels can be passed by hand, heaved or thrown aboard, projected by mechanical means, or picked out of the water. Weather is often a factor in vessel casualties and retrieving a line can be difficult and dangerous in poor weather.

This last year, the Council contracted the maritime research firm Glosten to evaluate the technologies available to pass or deploy messenger lines to vessels in distress to determine what constitutes best available technology (BAT), and then using a similar approach, compare currently used line handling technologies with alternatives identified by the consultant. The final report, "Tanker Towline Deployment BAT Review," has been well received and should prove useful in the future.

Accomplishments since last report: Field work and the final report have been completed, and a draft report received from Glosten. The POVTS Committee has reviewed and recommends acceptance of the report by the Board at its September meeting. Staff is looking at development of a video presentation that details the projects outcomes asthere was significant photo and video documentation of the trials.

8013 – Vessel Traffic System Use of AIS and Radar White Paper

Objectives: The Council has invited proposals to produce a white paper to evaluate, compare, and contrast the utilization of Automatic Identification System (AIS) and land-based radar in Vessel Traffic System operations. The selected contractor will ascertain and review research papers and literature related to this topic; summarize findings of this technology review; prepare a white paper on the subject of AIS and radar use; identify gaps in the research on this topic; and provide recommendations for future research. The final work product of this effort is a report detailing the results.

In its efforts to encourage legislators and the Coast Guard to replace the radar systems used in Prince William Sound, there will need to be accurate resources available that describe the issue well and are based on quality researched facts. This project is intended to provide this resource document.

Accomplishments since last report: Working with members of POVTS, LAC, and staff, the selected contractor (C-CORE) has completed the white paper. The POVTS Committee recommended acceptance of the paper, which was done by the Executive Committee on August 12, 2021. Staff is working with Roy Jones on a cover letter to transmit the report to the members of the Alaska Delegation.

8014 – USCG Basic and Advanced Emergency Ship Handling Training

Objectives: AVTEC - Alaska Maritime Training Center (AMTC) is working to develop simulator intensive Basic and Advanced Emergency Ship Handling courses that meet the International Maritime Organization (IMO) training guidelines and are U.S Coast Guard (USCG) approved. These courses will better prepare mariners for real life situations, including emergency ship maneuvering. Much of this training will be assessment-based and will utilize AMTC's full mission bridge simulator. Most simulations will take place in Prince William Sound using the enhanced vessel database developed by AMTC.

Council will contract with AVTEC faculty to develop and implement these courses, including gaining USCG course approval. Through this work, AVTEC will be able to help close the existing knowledge gap and get people certified to fill critical infrastructure positions within the maritime industry. This project promotes the safe operation of marine vessels in Alaska and beyond.

Accomplishments since last report: A contract has been completed with AVTEC/State of Alaska to complete this project. Updates will be provided by AVTEC-AMTC as the project progresses.

9000 – Environmental Monitoring Program

Objectives: Coordinate projects developed and overseen by the Scientific Advisory Committee and obtain scientific knowledge and technical information with regard to issues related to the actual and potential environmental impacts of the Valdez Marine Terminal and associated crude oil tankers. The notable tasks to be accomplished under this program are as follows:

- Project manager to attend at least one technical scientific conference
- Plan and complete budgeted environmental monitoring and scientific research projects
- Conduct PWSRCAC Science Night

Accomplishments since last report: The work managed under this program continues to be planned and executed successfully. The Board has decided that meetings and gatherings will be held virtually through 2021, and the Science Night event typically held in December will be cancelled.

9110 – Monitoring Spatial Variability of Marine Birds During Winter in PWS Tanker Escort Zone

Objectives: Provide up-to-date information on winter marine bird density and distribution throughout the Prince William Sound tanker transit zone, including under-surveyed areas such as the open waters and adjacent bays in and around Port Valdez, Valdez Arm, Tatitlek Narrows, Port Fidalgo, and Port Etches. Here are the notable tasks to be accomplished under this project:

- Perform winter bird surveys in Prince William Sound for three consecutive years
- Analyze data obtained during winter bird surveys
- Report the results of the analysis
- Make winter bird survey maps readily available for use by spill response managers

Accomplishments since last report: Researchers from the Prince William Sound Science Center have written a report summarizing the methods, findings, and recommendations of the 2021 survey, the first of three years of surveys. This report will be presented to the Board at the September 2021 meeting. It is recommended by the Scientific Advisory Committee that the Board accept the report as meeting the terms of the contract and ready to distribute to the public.

9510 – Long-Term Environmental Monitoring Project

Objectives: Comprehensively monitor the actual and potential environmental impacts related to the Valdez Marine Terminal and associated crude oil tankers and provide the Council with information about the presence and effects of hydrocarbons generated by the terminal facility and associated tankers. Here are the notable tasks to be accomplished under this project:

- Obtain environmental samples in Port Valdez: marine sediments, mussels, and passive sampling devices
- Analyze environmental samples
- Interpret and report results of sample analysis
- Present analytical findings to the PWSRCAC Board of Directors
- Maintain Environmental Monitoring Project plan

Accomplishments since last report:

- The final reports for the 2020 monitoring work (not directly related to the April 12, 2020 oil spill) were completed and results were presented to the Board in May 2021
- A draft of the environmental monitoring work pertaining to the April 12, 2020 oil spill was provided to the Scientific Advisory Committee for review in July 2021
- All 2021 environmental samples were collected in June from Port Valdez
- The 2021 samples are being analyzed for hydrocarbon contamination

9511 – Herring and Forage Fish Surveys

Objectives: Monitor schools of herring and other forage fish species in order to identify areas in the Sound where they tend to concentrate. Here are the notable tasks to be accomplished under this project:

- Conduct aerial surveys of forage fish in Prince William Sound
- Analyze aerial survey data and report on the results
- Make aerial survey maps readily available for use by spill response managers

Accomplishments since last report: Ariel forage fish surveys were conducted by researchers from the Prince William Sound Science Center as of July 6, 2021. This is the third survey conducted in four years of Council funding for this project.

9512 – Determining Concentration and Composition of Oxygenated Hydrocarbons from the VMT

Objectives: The goal of this project is to determine the types and amount of oxygenated hydrocarbons that are released from the Ballast Water Treatment Facility at the Valdez Marine Terminal. The notable tasks to be accomplished under this project are as follows:

- Collect monthly water samples from the Ballast Water Treatment Facility following discharge of oily ballast water by tankers
- Analyze the samples to determine the chemical composition and concentration of oxygenated hydrocarbons
- Interpret and report findings of the analysis and prepare the report for publication in a peer-reviewed journal
- Produce recommendations on future research to understand the fate, transport, and toxicity of oxygenated hydrocarbons in the marine environment

Accomplishments since last report: The contract for this project is in draft form and has been reviewed by the Contractor. Council staff have been communicating with Alyeska for their cooperation with obtaining water samples from the Ballast Water Treatment Facility.

9513 – Hydrocarbon Sensor Monitoring of Valdez Marine Terminal Impacts in Port Valdez

Objectives: Measure the concentration of hydrocarbons in the marine waters of Port Valdez on a continuous basis to support real-time or rapid assessment of the hydrocarbons generated by the Valdez Marine Terminal and associated tankers. The notable tasks to be accomplished under this project are as follows:

- Install a hydrocarbon sensor on the Council's weather buoy adjacent to the Valdez Marine Terminal
- Collect and review data acquired by the sensor and make the data publicly available online
- Perform annual maintenance on the sensor

Accomplishments since last report: There have been no notable accomplishments on this project since the last report.

9520 – Marine Invasive Species

Objectives: Understand and minimize the environmental impacts of invasive species arriving in the PWSRCAC region from tanker ballast water and hull fouling. Here are the notable tasks to be accomplished under this project:

- Obtain plankton samples in Port Valdez at three sites: the small boat harbor, Valdez Container Terminal, and Valdez Marine Terminal
- Perform metagenetic analysis on plankton samples to identify variability in the plankton community between locations and through time, and identify any nonindigenous species
- Interpret and report results of plankton metagenetic analysis
- Conduct monitoring of invasive crab and tunicate species in Valdez and Cordova

Accomplishments since last report:

- Council staff identified and began working with three high school age invasive species monitoring interns. Two of the interns are located in Cordova, Levi Pearson and Maggie Herschleb, and one is located in Valdez, Dillon Fowler.
- Council staff have been diligently collecting plankton samples from Port Valdez throughout the summer.
- A contract has been finalized with the Smithsonian Environmental Research Center to analyze the samples and interpret the results. A donation has been made to the Tower Foundation of San Jose State University to support collaboration on sample analysis and report writing with Moss Landing Marine Laboratories.

9550 - Dispersants

Objectives: This project entails reviewing and potentially updating the Council's current position regarding the use of dispersants in the event of an oil spill in our region. The current position states that the Council does not support the use of dispersants for spill response in Prince William Sound. In addition to reviewing the current position, the project would also involve updating Council documents that are used to technically support and educate the public about the Council's official dispersant use position

Accomplishments since last report: Dr. Merv Fingas completed a summary review of dispersant-related research that has been published since the last in-depth review by the Council in 2017. This report is included in this September Board packet. An appendix to the summary, which details the reports reviewed, is available upon request. This information will support the Board to have access to the most up-to-date science in its considerations of a position on the use of dispersants in the event of an oil spill in the waters of our region. Contract negotiations for a facilitator to guide the review and potential position revision process are underway.