



2018 Annual Report

Citizens Promoting Environmentally Safe Operation
of the Alyeska Terminal and Associated Tankers





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Letter from the President and Executive Director

Next year will mark 30 years since the Exxon Valdez oil spill. In light of this coming anniversary, the timing could not be better to consider where we've been, how far we've come, and how to continue to prevent complacency within an excellent prevention and response system.

Changes to Prevention and Response in Prince William Sound

You will find in this report a taste of how busy Council staff and volunteers have been this year. We have seen the culmination of a major change in the prevention and response system for Prince William Sound, Alyeska Pipeline Service Company's marine services provider. Services provided by this contract include operation of escort tugs, general purpose tugs, oil recovery storage barges, and associated personnel. This is the most significant change in oil spill prevention and response equipment and personnel since the system was created. As these changes took place, our volunteers and staff put in countless hours fulfilling our mandate as outlined in the Oil Pollution Act of 1990 and our contract with Alyeska Pipeline Service Company: conducting research, monitoring, and providing advice to industry and regulators.

While the Council believes the new technology and equipment that have come with the transition are improvements, we continue to push for further verification of equipment and crew capabilities in all of the environmental conditions in which the oil tankers are allowed to operate. Any time a system goes through transition, in any industry, risk is introduced. This is especially true for a transition of this magnitude, which happened in a tight timeframe.

Alyeska's Dedication to a Safe System

We are encouraged by areas in which Alyeska has acted proactively. The comprehensive inspection of crude oil piping at the Valdez Marine Terminal was made possible by recent technological advancements. These inspections, done from 2016-2018, were the first since the facility's start-up in 1977. Alyeska was not required to conduct this work, but still moved forward in the interest of maintaining a safe and reliable system.

Looking to the Future

At a time when investments are being made to improve reliability, we have also seen staffing

Those with the most to lose from oil pollution must have a voice in the decisions that can put their livelihoods and communities at risk.

cutbacks from regulators, loss of long-term staff who had important historical knowledge, and changes to key components of contingency plans. Our job is to advocate for maintaining the highest level of protections for the environment and our stakeholders.

Our organization was created to prevent the type of complacency that led to the Exxon Valdez spill. The Council is a voice for the people, communities, and interest groups in the region impacted by the spill. Those with the most to lose from oil pollution must have a voice in the decisions that can put their livelihoods and communities at risk.

As the years go on and these incremental changes to the system slowly take place, the Council's long memory, extensive archive of past work and regulatory decisions, and unique position to protect the environment and our stakeholders are needed more than ever. We provide information and context to encourage sound decisions that maintain or improve safeguards put in place since 1989.

This year in particular, we have seen many improvements and technological advancements, but there is still work to be done. We must remain vigilant to avoid the creep of complacency as memories of 1989 fade and oversight becomes more relaxed. The mission of the Council is as relevant today as ever, ensuring that prevention efforts are maintained, response strategies continuously improved, and opportunities for technological advances are pursued.



Board President
Amanda Bauer



Executive Director
Donna Schantz



Mission and Responsibilities

The Council's 18 member organizations are communities in the region affected by the 1989 Exxon Valdez oil spill, as well as Alaska Native, aquaculture, commercial fishing, environmental, recreation, and tourism groups.

Consistent with its mission, the Council's structure and responsibilities stem from two documents. The first is a contract with Alyeska Pipeline Service Company, which operates the Trans Alaska Pipeline as well as the Valdez Marine Terminal. The Council's operating funds come from this contract.

The second guiding document, passed after the Council was created, is the Oil Pollution Act of 1990 (the Act), which requires citizen oversight councils for Prince William Sound and Cook Inlet. The purpose of the councils is to promote partnership and cooperation among local citizens, industry, and government; to build trust; and to provide citizen oversight of oil terminal and tankers.

The Act allows pre-existing organizations to fulfill the requirement for citizen oversight, which the Council has done for Prince William Sound since 1990. The Council's contract with Alyeska pre-dates the Act, but the similarities in the powers and duties given the Council in the two documents are not coincidental. Many people who helped establish the Council also promoted citizen involvement requirements in the federal law.

The Prince William Sound Regional Citizens' Advisory Council is an independent non-profit corporation guided by its mission: promoting **environmentally safe operation** of the Alyeska terminal and associated tankers.

The Council was formed after the Exxon Valdez oil spill to provide **a voice for citizens** affected by decisions made by the oil industry in Prince William Sound.

Functions

In accordance with the provisions of the two documents, the Council performs a variety of functions aimed at reducing pollution from crude oil transportation through Prince William Sound and the Gulf of Alaska:

- Monitoring, reviewing, and commenting on oil spill prevention and response plans prepared by Alyeska and shipping companies moving oil through Prince William Sound.
- Monitoring, reviewing, and commenting on the environmental protection capabilities of Alyeska and the tanker operators, as well as on the environmental, social, and economic impacts of their activities.
- Reviewing and making recommendations on government policies, permits, and regulations relating to the oil terminal and tankers.

As part of these undertakings, the Council regularly retains experts in various fields to conduct independent research and technical analysis on issues related to oil transportation safety.

The Alyeska contract also calls for the Council to increase public awareness of the company's oil spill response, spill prevention, and environmental protection capabilities, as well as the actual and potential environmental impacts of terminal and tanker operations. The contract states that the Council may work on other related issues not specifically identified when the contract was written.

Funding

The Council was initially funded at \$2 million a year. The funding is renegotiated every three years; current Alyeska funding is approximately \$3.6 million a year.

Although the Council works closely with and is funded chiefly by Alyeska, the Council is an independent advisory group. The contract is explicit: "Alyeska shall have no right...to have any degree of control over the formation or operation of the corporation."

The Council monitors, reviews, and makes recommendations on:



Oil spill prevention and response plans prepared by Alyeska and by operators of oil tankers



Environmental protection capabilities of Alyeska and the tanker operators, as well as on the environmental, social, and economic impacts of their activities



Government policies, permits, and regulations relating to the oil terminal and tankers

The Council's Role



Observe • Inform
Verify • Advise

Preventing an Oil Spill

Preventing an oil spill from occurring in the first place is the most effective strategy to protecting human health and the environment. The spill prevention system in Prince William Sound is among the best in the world. The Council works to keep it that way.

To ensure the maximum level of safety, the Council reviews all aspects of the oil transportation system in Prince William Sound including:

- operations of oil tankers and the Valdez Marine Terminal
- oil spills and other incidents
- the adequacy and maintenance of the U.S. Coast Guard's Vessel Traffic Service

New Equipment

Council representatives visited Louisiana to tour Edison Chouest Offshore's shipyards, headquarters, and training facilities, where the company built the new escort tugs and response vessels. The visitors were given unfettered access to Edison Chouest's staff and the opportunity to ask questions about their operations. Those present were impressed with the facilities and the company culture focusing on safety and cultivating competent staff. The quality of workmanship and use of new technologies were also on display.



Marine Services Transition

On July 1, 2018, Edison Chouest Offshore took over as the marine services contractor for Alyeska Pipeline Service Company from Crowley Marine Services. Under this contract, Edison Chouest now provides key oil spill prevention and response assets for the Valdez Marine Terminal and associated oil tankers operating in Prince William Sound. The transition brought many improvements, including:

- five new escort tugs
- four new general-purpose tugs
- four new purpose-built oil recovery storage barges
- one offshore utility vessel

This transition represents the most significant change in the oil spill prevention and response system

since it was created after the 1989 Exxon Valdez oil spill. The Council is encouraged by the state-of-the-art equipment purpose-built for use in Prince William Sound, and has been working with Alyeska and regulators to ensure that the level of oil spill prevention and response remains strong.

Remaining Concerns

During this transition, a significant number of new vessels, equipment, and crews have entered the system in an extremely short time. The Council has recommended additional training, including during inclement weather, to ensure the safety of the crews and to prevent future spills. If inclement weather is too hazardous to train crews, the Council recommends limiting the transportation of oil to those conditions that the industry has deemed safe for operation.



Weather Monitoring

Safe Anchoring for Tankers in Distress

In 2004, the Council partnered with the Alaska Department of Environmental Conservation to develop a list of sheltered locations an oil tanker in distress could be taken. Establishing these places of refuge prior to a crisis allowed local knowledge and conditions to be considered.

This year, the Council worked in cooperation with experienced marine pilots who used the full bridge ship simulator at AVTEC Alaska Vocational Technical Center to evaluate some of these sites. The first phase looked at three previously approved sites, only one of which was found to be a suitable location. Plans are being made to complete the next phase of the project.

Understanding Weather and Sea Currents in Prince William Sound

Wind, waves, water currents, and other environmental factors affect the safe transportation of crude oil through Prince William Sound. The Council supports two weather stations, one on Hinchinbrook Island and the other at Cape St. Elias, both on the border of Prince William Sound and the Gulf of Alaska. Much of this information is collected via the Prince William Sound Weather Station Network, developed and maintained by the Prince William Sound Science Center. The Council is a co-funding supporter of the network.

Studying Wind and Waves at Hinchinbrook Entrance

Many decisions about the safe transportation of oil are based on the weather reported by the National Oceanic and Atmospheric Administration's weather buoy at Seal Rocks, near Hinchinbrook Entrance. This buoy is somewhat sheltered in its location, a nod to its continued survival in this extreme environment.



Crude Oil Piping Inspections

For the first time since the facility's construction was completed in 1977, a majority of the large diameter crude oil piping at Alyeska's Valdez Marine Terminal is undergoing a comprehensive inspection, both externally and internally. The inspections of these 36- and 48-inch diameter pipes began in 2016, and will be completed by the end of 2018. Before this expansive inspection work, the piping had been monitored and inspected to a relatively limited extent. Technological advancements have helped make this comprehensive inspection work feasible. Alyeska's 2016 and 2017 inspection results have shown that the crude oil piping at the Valdez Marine Terminal is in good working order, requiring no repairs. The Council will continue to track the progress and results through the rest of the project.

Traditionally, piping and pipelines, including the Trans Alaska Pipeline System, have been inspected with "free-swimming" tools that are propelled by the flow of oil in the line. However, using oil to push an inspection tool along is not always feasible or practical. To address the propulsion shortcomings of traditional inspection tools, newer "self-propelled" piping inspection tools have been developed to inspect more challenging sections of piping.



Planning and Preparing for an Oil Spill

Oil Spill Contingency Plans

State and federal laws require operators of oil tankers and the Valdez Marine Terminal to prepare detailed plans showing how they will prevent and respond to oil spills. The Council devotes significant resources to review plans for Prince William Sound and the terminal, as well as to participate and monitor federal and state planning efforts in Alaska that have impacts in our region, including the Alaska Regional Response Team and government response plans for Prince William Sound, Kodiak, and Cook Inlet. The Council promotes compliance, enforcement, and funding for federal and state regulations and oversight. Along with local communities, the Council encourages incorporating local knowledge of sensitive areas into contingency planning.



The Council and our industry and regulatory counterparts devote considerable resources to preventing oil spills and reducing the likelihood of another spill, but the risk cannot be eliminated entirely. A quick and effective response must be ready if prevention measures fail.

Updates to Oil Spill Contingency Prevention and Response Plan for the Terminal and Tankers

In the last year, the Council reviewed and commented on proposed amendments to the oil spill contingency plans for the Valdez Marine Terminal and the tankers that transit Prince William Sound. The Council submitted comments covering changes to the marine service provider for these plans. The Council carefully reviewed technical information on the transition to ensure that the world-class prevention and response capability in Prince William Sound was maintained.

Neither the tanker plan, nor the terminal plan was due for a renewal. However, Edison Chouest Offshore is bringing so much new equipment and personnel to their new role as Alyeska's marine services contractor that major changes were needed to both plans. Major amendments require a public comment period.

Both approvals are subject to several conditions, meaning the plan is tentatively approved, but there are required steps that must be taken for the approval to be valid.



One of the major changes incorporates new oleophilic oil skimmers, which are on board all of the new Edison Chouest barges, into the plan. These skimmers, along with the Current Buster booming system, make up a more advanced and effective oil recovery system. The new system allows responders to operate and collect oil for longer periods, as less water is collected requiring less storage.



Improved Knowledge of Water Circulation in Port Valdez

This year, the Council partnered with the Prince William Sound Science Center to study how water circulates in Port Valdez. Buoys were set adrift around the port with sensors at different water depths, carrying instruments that gathered data about temperature, salinity, and location to determine the surface and subsurface circulation patterns. Data was gathered in late winter, summer, and fall to understand how circulation changes with the seasons. The patterns vary greatly due to freshwater entering the port from major drainages such as the Lowe River and spring snowpack melt in Valdez. These seasonal freshwater inputs change the circulation patterns in Port Valdez. The data will increase understanding of how surface oil would move in the event of a spill and help determine the potential fate of dispersed oil.



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Supporting Communities Affected by Oil Spills

The oil industry in Prince William Sound doesn't just affect the environment. Results of Exxon Valdez oil spill studies showed that mental health impacts still persisted years after the spill. These impacts included disruption of family structure and unity, family violence, depression, alcoholism, drug abuse, and psychological impairment. The extent of chronic mental health patterns appears to be correlated to the extent that a community is dependent on its natural resources for survival. As such, Native and non-Native fishing and subsistence-based communities are at higher risk for elevated levels of chronic psychological stress associated with technological disasters, such as an oil spill.

Review and update of "Coping with Technological Disasters – A User-Friendly Guidebook"

Human impacts of oil spills are not typically addressed in state and federal contingency plans. To help fill this significant gap in oil spill planning, the Council applied the results of several years of socio-economic research and developed the "Coping with Technological Disasters" guidebook and appendices. The guidebook explains how communities can deal with technological disasters. The Council recently began revising the 2005 version of the guidebook and an updated version should be available soon.



Recovering a Subsistence Way of Life

The Council is partnering with Alaska Department of Fish and Game to look at the socio-economics of the post-spill recovery in small communities. Data from a 2015 survey of the communities of Chenega, Cordova, Nanwalek, Port Graham, and Tatitlek will be analyzed to determine the current level of harvest and use of wild resources, demographics, and economics of area communities. The analysis will be used to determine post-spill economics and recovery in area communities.

“Coping with Technological Disasters” Guidebook



Developed by the Council to help address the human impacts of oil spills not typically addressed in state and federal contingency plans.

Responding to an Oil Spill



To respond effectively to an oil spill or to an emergency that could cause a spill, it takes more than volumes of carefully written and reviewed contingency plans. It also takes equipment, trained people, and a management system to implement the plan. The Council monitors the operational readiness of Alyeska's Ship Escort/Response Vessel System, or SERVS, and the tanker companies while also ensuring the Council itself is prepared to respond to oil spills and other emergencies as a conduit for public concerns and as an independent monitor.

Oil Spill Monitoring

The Council monitors spills that occur from terminal and tanker operations.

Spill from Loading Berth at the Terminal

On September 21, 2017, approximately 150 gallons of North Slope Crude oil spilled into Port Valdez. The spill occurred during a planned annual leak-test of the pipes that load oil onto tankers out at the end of loading Berth 5 at the Valdez Marine Terminal. About 70 gallons of the spilled oil was trapped or contained in semi-submerged piping systems with the remainder spilling into Port Valdez.

To conduct the annual test, Alyeska uses the berth's fire system to pump seawater into the crude piping to a pressure of 190 pounds per square inch. That pressure is held for a prescribed amount of time to allow inspectors to visually check the pipes for leaks. However, that day Alyeska was unable to achieve the necessary test pressure and an operational error led to a mixture of crude oil and seawater being spilled into Port Valdez. Alyeska conducted a thorough investigation of the spill.

Lessons to Prevent Future Spills

From the Council's perspective, given mild weather conditions, calm sea state, and extent of the oiling, it appears that overall the response to this spill was appropriate. Resources were deployed quickly and sensibly, and local environmentally sensitive areas were prioritized for protection. Alyeska estimated that they recovered 129 gallons of the spilled crude oil during the response.

While no amount of oil spilled to water is acceptable, the Council took the opportunity to learn from the event in order to promote measures designed to prevent and respond to oil spills from the terminal in the future. Alyeska also used this spill as an opportunity to improve their spill response capabilities, improve their personnel management, and change the leak-test procedure so the risk of a similar spill in the future is minimized.

Incident Monitoring

Fortunately, because spill prevention efforts in Prince William Sound are among best in the world, spills such as the September 21 incident are rare. More common are minor spills, usually a teaspoon or less.

The Council observes drills to monitor readiness and suggest improvements annually.





Responders practice deploying oil spill boom during a recent exercise.

These minor spills are tracked and improvements are made where possible to prevent small problems from becoming larger issues.

From July 2017 through June 2018, a total of 15 spills were reported, five of which were crude. The majority of the spills were relatively small amounts of petroleum products like hydraulic fluid and diesel. The largest spills were the aforementioned September 21 spill and another spill in February 2018 in which about 200 gallons of crude were spilled to containment (with another five gallons finding their way to water). The February spill was thought to have been caused by cold weather freezing the drain piping, allowing pressure to build and causing oil to spray from the loading arms.

Monitoring Drills and Exercises

Both the Oil Pollution Act of 1990 and the Council's contract with Alyeska task the Council with monitoring

the operational readiness of SERVs and the oil shipping companies.

The Council observes, monitors, and reports on spill response drills, exercises, and training in the Prince William Sound/northern Gulf of Alaska region to provide citizens, regulatory agencies, and oil spill responders with information about readiness as well as recommendations for improvement.

The Council observed over 50 drills, trainings, and exercises in Prince William Sound over the past year. Many of the events were required by the Alaska Department of Environmental Conservation due to the transition. The department required each vessel and crew member to demonstrate their capabilities before beginning service. Each tug and barge, as well as each crew member, had to perform a set of maneuvers which differed according to the vessel and its purpose. These exercises included tanker towing, open water



50+



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and nearshore recovery, among other activities. These events also provided the crews a valuable chance to train, build, and demonstrate proficiency.

Major Annual Spill Drill

Every year, the Valdez Marine Terminal conducts a large-scale drill. This year, the scenario for the exercise picked up where field activities stopped in the previous year's drill. The incident management team worked the next hours of the event, where the spill volume reached over 2.5 million gallons, and entered Port Valdez where on-water assets would be deployed.

Oil shipping companies who transport oil through Prince William Sound also conduct their own large drill each year. This year, Polar Tankers and ConocoPhillips simulated a barge colliding with a Polar Tanker ship, then spilling over 10 million gallons of crude oil near Glacier Island and Point Freemantle. The simulated spill's trajectory headed towards the village of Tatitlek and the small community of Ellamar. Drill activities included the activation of the Regional Stakeholders' Committee, a forum that was put in place after the Exxon Valdez oil spill to communicate with those stakeholders affected by an oil spill.

Chemical Dispersants

Chemical dispersants are substances that are intended to disperse spilled oil into the water column rather than leave it floating on top in a slick. For many years, the Council has been concerned about the effectiveness of dispersants in the cold waters of our region, as well as the toxicity of these chemicals, especially when mixed with oil. This concern has led to a number of studies in the Council's history regarding this subject.

Tracking Research on Dispersants

Every year, the Council updates a comprehensive database of research about dispersants. To complement the database, the Council also develops an overview of recent science on dispersants every few years to document key themes, trends, and areas where research is lacking.

This year, the overview includes a stand-alone report focusing on human health effects due to recent significant research.

State of the Science for Dispersants in Arctic Waters

The Council, along with the State of Alaska, the U.S. Coast Guard, the Oil Spill Recovery Institute, and others, were invited by the Coastal Response Research Center to participate on the Organizing Committee for the State of the Science for Dispersants in Arctic Waters Initiative, an initiative funded by NOAA and U.S. EPA.

While the Council's work is focused on the Exxon Valdez oil spill impacted region, the science on dispersant use in the Alaska Arctic is related. Our continued participation increases our knowledge about the effects of dispersants in the subarctic waters and on the species of Prince William Sound. The initiative is completing its work this year, and the Council provided comments on human health and food safety, the final subject under review.



Protecting the Environment

The Oil Pollution Act of 1990 directs the Council to review, monitor, and comment on Alyeska Pipeline Service Company's environmental protection capabilities, as well as the actual and potential environmental impacts of terminal and tanker operations.

The Act also calls on the Council to develop recommendations on environmental policies and permits.

The Council collects mussel samples as part of its long-term monitoring activities.

The Council conducts scientific research on risks to the environment from tanker and terminal operations. Council research documents levels of pollution and biological effects and helps us better understand new technologies and the costs or benefits associated with their use.

Monitoring Invasive Species

Tankers sometimes carry invasive species in ballast water or attached to their hull. If introduced to a new environment where there are no native predators to keep populations in check, they can become established, resulting in economic and environmental damage. Invasives can destroy local species and their habitat, including commercially important species, such as Alaska salmon. Some ports visited by Prince William Sound oil tankers are known to be infested with invasive species.

The Council helps coordinate citizen-based monitoring for these species in our area, particularly the European green crab and invasive tunicates. Currently, European green crab and invasive tunicates are the biggest potential threat to our area. No green crabs or tunicates have yet been captured in the Council region. Since the Council initiated the program in 2000, the program has evolved into a self-sustaining grassroots system.

The Council also partners with the Prince William Sound Science Center to monitor for invasive zooplankton. Plankton samples are collected from Prince William Sound each year and analyzed by a California laboratory, using a new cutting-edge process that can detect and identify marine invasive species by extracting and comparing genes.

Monitoring for Lingering Oil

In 1993, per directives in the Oil Pollution Act of 1990, the Council started monitoring the region affected by the Exxon Valdez oil spill to assess the status of hydrocarbon levels in Port Valdez, Prince William Sound, and the Gulf of Alaska. This program monitors the long-term downward trend of lingering oil from the



When ships take on ballast water, plants and animals such as this European green crab, are sometimes picked up and released into the environment at the ship's destination.

Exxon Valdez spill in the Sound, as well as any new oil spilled since that time.

Today, samples of mussel tissues and sediments are collected at intertidal sites near the terminal and where tankers are active in Prince William Sound and the Gulf of Alaska. The samples are analyzed in a laboratory to determine whether hydrocarbons are accumulating and, if so, their source. The result is the largest chronological data set ever compiled for hydrocarbon presence in Prince William Sound. The Council reports on this data annually.

Effects of Hydrocarbons on Mussels

The Council studies the effects of hydrocarbons on the genes of mussels and related species, compiling knowledge about genetic changes in mussel species, testing for how those genetic changes occur, and gathering information on how to determine whether the animals have been exposed to, or injured by,



The Council recently added passive sampling devices (absorbent plastic strips) to the sampling work. This new technology will help us diversify our monitoring efforts, while continuing to use mussels as a target species. The mussels provide data about trends in waterborne contaminants while the new sampling devices measure chemical concentrations in the water that can be directly compared to toxicity shown in research on salmon and herring.

hydrocarbons. Researchers also look at contemporary methods for evaluating the effects of hydrocarbons on mussels' genes, identify gaps in existing knowledge, and pinpoint areas for future research.

Toxicity of Oil

The Council researches and addresses the gaps in knowledge about the chronic toxic effects of oil, dispersed oil, and in-situ burn (burning spilled oil) residue under study conditions similar to the cold marine waters in our region.

Low Levels of Crude Oil Shown to Have Long-Term Effects on Salmon and Herring

This past year, the Council continued its work with NOAA's National Marine Fisheries laboratories to determine the effects of low levels of crude oil

exposure on the embryos of pink salmon, Pacific herring, and other forage fish. A previous study showed that exposure to low levels of crude oil caused cardiac abnormalities that led to permanent changes in heart anatomy and physiological performance. This year, the studies looked at the effects of crude oil on genes in herring, surf smelt, and Arctic cod. The fish embryos are exposed to Alaska crude oil, then grown in clean water up to a year for analysis of growth and "bioenergetics," or the transformation of food into stored energy. The results will then be related to a large dataset collected by the Oil Spill Recovery Institute on growth and the relationship of bioenergetics to successful hatching and first year survival for juvenile herring in Prince William Sound.

This is a part of a cooperative joint research project between NOAA's Ecotoxicology Program and the Norwegian Institute of Marine Research to study the effects of oil and chemical dispersants on high latitude Alaska fish species including Arctic cod, pollock, and forage fish.

Monitoring Operations and Maintenance at the Terminal

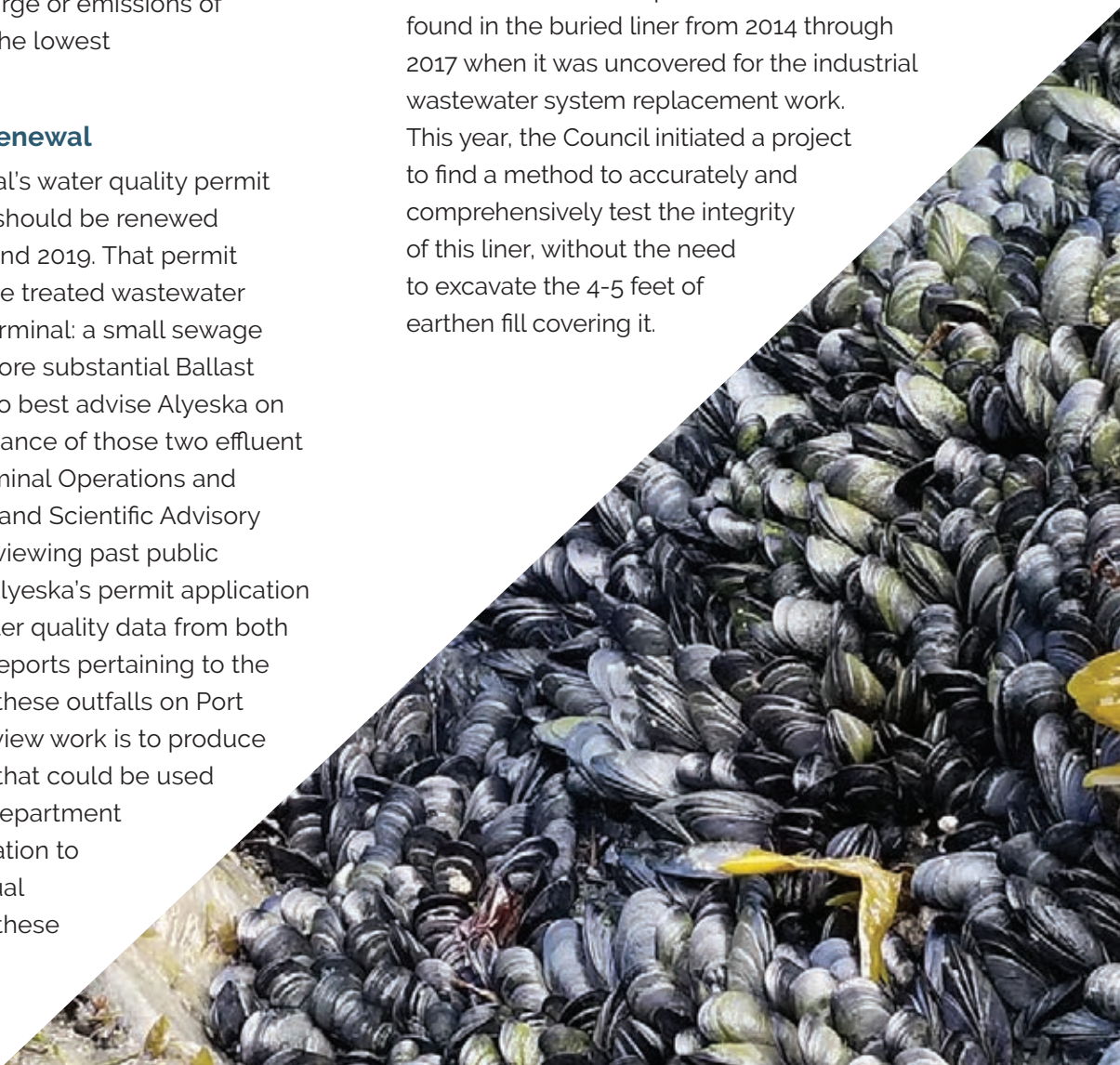
Besides posing the risk of a major oil spill caused by an earthquake or accident, the Valdez Marine Terminal produces ongoing air and water pollution from routine operations and maintenance, as allowed by its permits from regulatory agencies. The Council monitors terminal operations and maintenance to minimize the risk of spills and reduce the facility's discharge or emissions of water and air pollution to the lowest reasonable levels.

Water Quality Permit Renewal

The Valdez Marine Terminal's water quality permit expired in December and should be renewed sometime between 2018 and 2019. That permit allows Alyeska to discharge treated wastewater from two sources at the terminal: a small sewage treatment plant and the more substantial Ballast Water Treatment Facility. To best advise Alyeska on the operation and maintenance of those two effluent sources, the Council's Terminal Operations and Environmental Monitoring and Scientific Advisory Committees have been reviewing past public comment on this permit, Alyeska's permit application information, 2013-2017 water quality data from both wastewater sources, and reports pertaining to the environmental impacts of these outfalls on Port Valdez. The goal of this review work is to produce well-informed comments that could be used by Alyeska or the Alaska Department of Environmental Conservation to limit the potential and actual environmental impacts of these two wastewater sources.

Secondary Containment Liner Integrity

From 2014 through 2017, Alyeska completed an important project to replace a cast iron, steel, and concrete industrial wastewater system that was old and leaking with a new high-density polyethylene plastic system. That industrial wastewater system is designed to drain both freshwater runoff and crude oil, in the event of a spill, from the secondary containment areas that surround all the storage tanks at the Valdez Marine Terminal. Part of those secondary containment areas also include an underground liner that is supposed to prevent spilled oil from ever reaching groundwater. Visual observations of that liner, made while the industrial wastewater systems were being replaced, indicate that the liner may not be able to sufficiently protect groundwater resources in the event of an oil spill. Holes and cracks were found in the buried liner from 2014 through 2017 when it was uncovered for the industrial wastewater system replacement work. This year, the Council initiated a project to find a method to accurately and comprehensively test the integrity of this liner, without the need to excavate the 4-5 feet of earthen fill covering it.



Outreach

The Council maintains productive relationships with its 18 member entities, which include communities within the region affected by the 1989 Exxon Valdez oil spill, as well as aquaculture, commercial fishing, environmental, Alaska Native, recreation, and tourism groups.

Community Outreach

Every year, the Council's staff and volunteers visit communities in the Council's region, attend group member functions, give presentations, coordinate special events involving the Council and its member groups, exhibit and present at conferences, and encourage citizen involvement in the Council's work.

Engaging the Next Generations to Protect Prince William Sound

Funding Youth Education Programs

The Council helps support regional partner programs which teach youth about topics related to the Council's mission. Youth of all ages and teachers participate in a variety of settings to learn about oil spill prevention and response, citizen oversight, response capabilities in Prince William Sound, and more. The Council also educates youth directly through classroom visits, college field courses, and expeditions.

Interns Help Council Achieve Our Mission

The Council recruits youth interns from our region to complete Council projects that also incorporate career development opportunities. For a second year, high school student Cori Pegau monitored the Cordova area for invasive green crab and tunicates and did marine invasive species education.

Touring Fishing Vessel Spill Response Training

In April of 2018, the Council partnered with Alaska Coastal Marine, Alyeska, and the Center for Alaskan Coastal Studies to take Homer residents out to see SERVS' local fishing vessel responders' annual oil spill response training. Over ninety people spent two hours in Kachemak Bay, including the general public, elected officials, a high school class, area volunteers and Board members, and local media. Everyone on board the two tour vessels learned how Kachemak Bay fishermen are integral to Alyeska's oil spill response team. Council and Alyeska staff and volunteers narrated the oil spill response training and shared information about the unique program, equipment, and tactics being used.



The Observer Newsletter

The Observer is a free newsletter with copies distributed throughout Prince William Sound, the northern Gulf of Alaska, lower Cook Inlet, and the Kodiak archipelago. It covers Council activities, developments in the oil transportation industry related to our mission, and news about policy and operational issues related to marine oil transportation in Prince William Sound. The Observer is available on the Council website and as an email newsletter.

Government Relations

The Council monitors state and federal actions, legislation, and regulations that relate to terminal and tanker operations or to oil spill prevention and response. To help track developments, the Council retains a monitor under contract during the legislative sessions.

Recertification

The U.S. Coast Guard certifies the Council as the federally approved citizens' advisory group for Prince William Sound, pursuant to the Oil Pollution Act of 1990. The Council has been the certified group since 1991.

Under the annual recertification process, the Coast Guard assesses whether the Council fosters the general goals and purposes of the Act and is broadly



representative of the communities and interests as envisioned in the Act.

As part of its recertification process, the Coast Guard considers comments received from industry, interest groups, and citizens. The Council fulfills the Act's requirement for an industry-funded citizens' advisory group, although it was established before the law was enacted.

Outreach Activities

The Council touched many of our communities last year through our outreach and youth involvement programs. Numbers in the map denotes total interactions with each community. For more details on outreach in our communities, visit our website: www.pwsrcac.org/outreach



Karluk: 1

Larsen Bay: 1



Board of Directors

Each member entity chooses one representative to our Board. The lone exception is Valdez, which has two representatives, giving our Board a total of 19 members. The Board meets three times a year. The January meeting is in Anchorage, the May meeting is in Valdez, and the September meeting rotates among other member communities in the oil spill region.

Officers (As of June 30, 2018)



President

Amanda Bauer
City of Valdez



Vice President

Thane Miller
*Prince William Sound
Aquaculture Corp.*



Secretary

Bob Shavelson
*Oil Spill Region
Environmental Coalition*



Treasurer

Wayne Donaldson
City of Kodiak

Ex-Officio Board Members (Non-Voting)

Shannon Miller
*Alaska Dept. of
Environmental
Conservation*

Lee McKinley
*Alaska Department of
Fish and Game,
Division of Sport Fish*

Robert Skorkowsky
U.S. Forest Service

Jason Walsh
*Alaska Dept. of Natural
Resources*

Kevin Kearney
*U.S. Bureau of Land
Management*

Vacant
*Alaska Div. of Homeland
Security & Emergency
Management*

Calvin J. Terada
*U.S. Environmental
Protection Agency*

Phillip Johnson
*U.S. Department of
the Interior*

Commander Michael
Franklin
*U.S. Coast Guard, Marine
Safety Unit, Valdez*

W. Scott Pegau
*Oil Spill Recovery Institute,
Cordova*

Catherine Berg
*U.S. National Oceanic and
Atmospheric Administration*

Board Members



Patience Andersen
Faulkner
*Cordova District
Fishermen United*



Robert Archibald
City of Homer



Robert Beedle
City of Cordova



Mike Bender
City of Whittier



Melissa Berns
*Kodiak Village Mayors
Association*



Rebecca Skinner
Kodiak Island Borough



Alisha Chartier
City of Seldovia



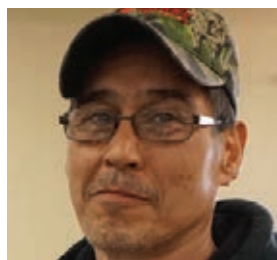
Mako Haggerty
Kenai Peninsula Borough



Luke Hasenbank
*Alaska State Chamber of
Commerce*



Pete Andersen
*Chugach Alaska
Corporation*



Melvin Malchoff
Port Graham Corporation



Dorothy Moore
City of Valdez



Orson Smith
City of Seward



Roy Totemoff
Community of Tatitlek



Michael Vigil
*Chenega Corporation &
Chenega IRA Council*

19

Board members
meet three times
a year.

Advisory Committees

As of June 30, 2018

Five standing committees advise the Board of Directors and Council staff on projects and activities. Committee volunteers also assist the staff on individual projects. The advisory committees are made up of interested citizens, technical experts, and members of the Council Board. Committee volunteers are selected through an annual application process. They are appointed to two-year terms and may serve consecutive terms.



Oil Spill Prevention and Response

Mission Minimize the risks and impacts associated with oil transportation through strong spill prevention and response measures, adequate contingency planning, and effective regulations

Chair: Jim Herbert, Seward

Vice-chair: John LeClair, Anchorage

Robert Beedle, Cordova*
Mike Bender, Whittier*
Jerry Brookman, Kenai
Alisha Chartier, Seldovia*
David Goldstein, Whittier
Gordon Scott, Girdwood

Port Operations and Vessel Traffic Systems

Mission Monitor port and tanker operations as well as the vessel escort system in Prince William Sound and recommend improvements in the vessel traffic navigation system

Chair: Steve Lewis, Anchorage

Vice-chair: Robert Archibald, Homer*

Amanda Bauer, Valdez*

Cliff Chambers, Seward

Pat Duffy, Valdez

Pete Heddell, Whittier

Orson Smith, Seward*

Jeremy Talbott, Valdez



Scientific Advisory

Mission Promote the environmentally safe operation of the terminal and tankers through independent scientific research, environmental monitoring, and review of scientific work

Chair: John Kennish, Anchorage

Vice-chair: Davin Holen, Anchorage

Sarah Allan, Anchorage

Jeffrey Brooks, Anchorage

Wei Cheng, Anchorage

Wayne Donaldson, Kodiak*

Roger Green, Hope

Debasmita Misra, Fairbanks

Dorothy M. Moore, Valdez*





Terminal Operations and Environmental Monitoring

Mission Identify actual and potential sources of episodic and chronic pollution at the Valdez Marine Terminal

Chair: Mikkel Foltmar, Anchorage

Vice-chair: George Skladal, Anchorage

Amanda Bauer, Valdez*

Harold Blehm, Valdez

Matt Cullin, Anchorage

Steve Goudreau, Valdez

Tom Kuckertz, Anchorage



Information and Education

Mission Foster public awareness, responsibility, and participation through information and education

Chair: Jane Eisemann, Kodiak

Vice-chair: Patience Andersen Faulkner, Cordova*

Trent Dodson, Kodiak

Cathy Hart, Anchorage

Ruth E. Knight, Valdez

Andrea Korbe, Whittier

Savannah Lewis, Anchorage

Kate Morse, Cordova

Linda Robinson, Homer

**Member of Board of Directors*



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Executive Director

Donna Schantz

Executive Assistant

Jennifer Fleming

Administrative Assistants

Leigh Lubin, Natalie Novik

Project Manager Assistants

Shawna Popovici, Nelli Vanderburg

Project Managers

Joe Banta, Amanda Johnson, Austin Love, Roy Robertson,
Jeremy Robida, Alan Sorum, Linda Swiss

Outreach Coordinator

Lisa Matlock

Financial Manager

Gregory Dixon

Director of Programs

Joe Lally

Director of External Communications

Brooke Taylor

Director of Administration

Walt Wrede

Papers, Presentations, and Reports

These are just a few of the many reports, papers, presentations, and other materials produced or compiled by the Council in the past year. For further information, or to obtain copies, visit the Council website or contact the Anchorage office (see back cover for contact information).

A Review of Literature Related to Human Health and Oil Spill Dispersants (report) Merv Fingas, Spill Science. April 2018. Document number: 955.431.180401.HumanHealthLitRvw

A Review of Literature Related to Oil Spill Dispersants (reports) Merv Fingas, Spill Science. June 2017. Elise DeCola, Nuka Research & Planning, LLC. September 2017. Document numbers: 955.431.170601. FingasLitReview and 955.431.170901.LitReviewSynth

A Specification and Capability Comparison of the Tidewater - Gulf Service to the Edison Chouest Offshore - Ross Chouest (report) Little River Marine Consultants. November 2017. Document number: 802.431.171110.LRMCSpecCompare

Circulation in Port Valdez, Alaska, measured by Lagrangian Drifter Experiments, Towed Acoustic Doppler Current Profiler and Hydrographic Profiles in June and September 2016, and March 2017 (report) Shelton M. Gay III, Ph.D. March 2018. Document number: 700.431.180322.PtVdzCirculation

Comments and Requests for Additional Information on the Proposed Amendment to the Prince William Sound Tanker Oil Discharge Prevention and Contingency Plan - Plan Nos. 17-CP-4039, 17-CP-5192, 17-CP-4038, 17-CP-4046, 17-CP-2222 (comments) Citizens' Council. September 2017 and May 2018. Document numbers: 651.105.170918. ADECtankerCmts and 651.105.180523.ADECrfaiR2

Comments on Alaska Regional Response Team (ARRT) Dispersant Use Avoidance Area Annexes (comments) Citizens' Council. December 2017. Document number: 955.105.171201.ARRTareaAnex

Comments on the 2016 National Preparedness for Response Exercise Program (PREP) Guidelines 33 CFR Part 155 [USCG-2017-0894] (comments) Citizens' Council. January 2018. Document number: 600.105.180122.NPREPfedreg

Comments to ADEC on Alyeska Pipeline Service Company, Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan, Amendment 2017-1, ADEC Plan 14-CP-4057 (comments) Citizens' Council. August 2017. Document numbers: 651.105.170823. ADECvmt2017-1 and 651.431.170823.VMTcmts2017-1

Comments to ADEC on Alyeska Pipeline Service Company, Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan - Plan No. 14-CP-4057, Amendment 2017-2 (comments and advice letter) Citizens' Council. August 2017 and April 2018. Document numbers: 651.431.170818.VMT2017-2Cmt, 651.105.170818.ADECvmt2017-2Cmts, and 651.105.180409.ADECvmt2017-2

Comments to ADEC on the Proposed Changes to Alaska's Planning Structure - Spill Prevention and Response (comments) Citizens' Council. July 2017. Document number: 651.105.180717.ADECacpChange

Comments to ADEC Outlining PWSRCAC's Observations and Concerns Regarding the State of the Marine Services Transition and General Response Readiness (advice letter) Citizens' Council. July 2018. Document number: 651.105.180705.ADECchartigECO

Comparison of Capabilities Between Prince William Sound Emergency Towing Package and IMO/SOLAS Emergency Towing Package for Tankers (report) Little River Marine Consultants. February 2018. Document number: 802.431.180220.LRMctowCompare

Joint Request to Alaska Department of Environmental Conservation for Adjudicatory Hearing and Joint Request for Alternative Dispute Resolution on the Alyeska Pipeline Service Company, Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan, ADEC Plan No. 14-CP-4057, Amendment 2017-1, Approved October 23, 2017 (request) Citizens' Council. November 2017. Document number: 651.110.171121.AdjHearingReq

Long-Term Environmental Monitoring Program - Final Report: 2016 Sampling Results and Interpretations (report) James R. Payne Ph.D. and William B. Driskell. August 2017. Document number: 951.431.170801.2016AnnualRpt

Public Service Message to Prince William Sound Commercial Fishing Fleet Regarding Recent Close Calls between Oil Tankers and Commercial Fishing Vessels in Prince William Sound (public service announcement). Citizens' Council. August 2017. Document number: 800.108.170816.RCACcloseCalls

Recommendations for Initial and On-going Evaluation of New Prevention and Response System Readiness in PWS (report) Little River Marine Consultants and Nuka Research & Planning, LLC. September 2017. Document number: 802.431.170907.LRMcnukaReadines

Request to the Alaska Delegation on Support for Congressional Efforts to Reauthorize the Financing Rate for the Oil Spill Liability Trust Fund (advice letter) Citizens' Council. November 2017. Document number: 440.105.171109.AKDelegatnOSLTF

Resolution 18-01 (and background position paper) supporting safe tanker transit through Prince William Sound (resolution) Citizens' Council. January 2018. Document number: 802.106.180118.EscortPosition

Response to questions relating to PWSRCAC's request for support for the installation of an autonomous and independently operated weather station at the Valdez Marine Terminal (comments) Citizens' Council. October 2017. Document number: 653.105.171013. AlyeskaWxStatn

Review of Exercise and Incident Reports for Prince William Sound, 1997-2006 (report) Little River Marine Consultants. April 2018. Document number: 802.431.180417.RevPWSIncidents

September 2017 Berth 5 Oil Spill - Sampling Results and Interpretations (report and advice letter) James R. Payne, Ph.D., William Driskell, and Citizens' Council. April 2018. Document numbers: 951.431.180401.Berth5Samp and 951.105.180606.B5SpillRpt2APSC

Wind Speed and Wave Height at Seal Rocks Buoy During Outbound Tanker Transits, 2010-2017 (report) Nuka Research & Planning, LLC. February 2018. Document number: 802.431.180222.NUKAwindwaveSRB

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ANCHORAGE

3709 Spenard Road, Ste 100
Anchorage, AK 99503
907-277-7222
Fax: 907-277-4523
Toll-free: 800-478-7221

VALDEZ

P.O. Box 3089
130 S. Meals, Ste 202
Valdez, AK 99686
907-834-5000
Fax: 907-835-5926
Toll-free: 877-478-7221

pwsrcac.org

