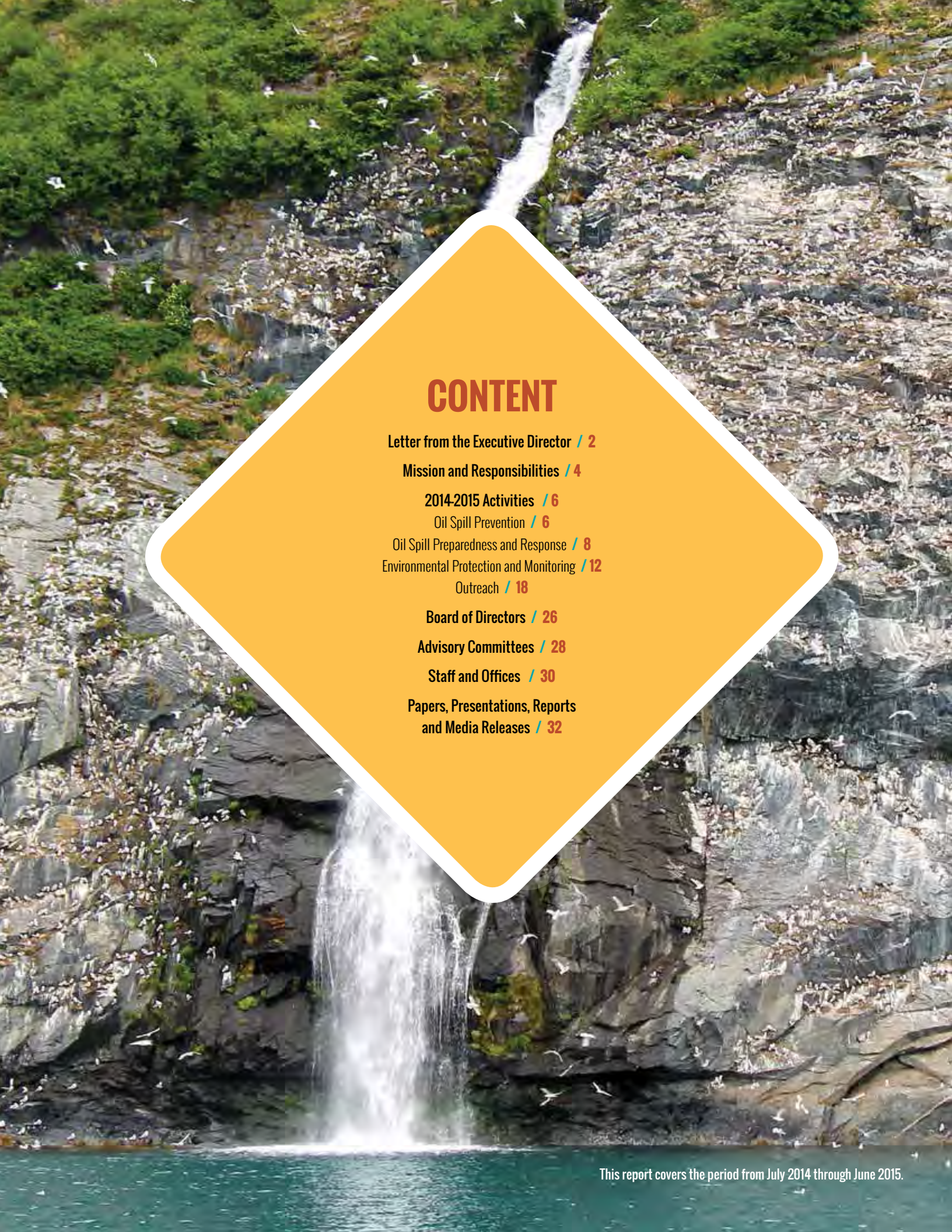


ANNUAL REPORT 2014-2015



Regional Citizens' Advisory Council



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Letter from the Executive Director



MARK SWANSON
Executive Director

25 YEARS
AFTER THE
FORMATION OF
PWSRCAC
& **26 YEARS**
AFTER THE
EXXON VALDEZ SPILL

Responsible Alaskans are committed
to preventing a repeat disaster

Our group is recognized around the world as a model for effective and cooperative prevention of complacency, and promotion of environmentally safe crude oil transportation. The volunteers on our technical committees and board of directors work together with staff and our regulatory and industry colleagues to shape and update public oil spill response policy, help to improve spill response plans, and advocate for the use of best practices and the best technology. Working together, we expand our knowledge about the effects of oil and dispersants on our ecosystem. We educate stakeholders on environmental issues, encourage our youth to become stewards of our environment, and monitor preparedness exercises. This is the everyday work of the council.

Long-standing issues resolved this year

Alaska again has a secure, adequate source of funding for the Department of Environmental Conservation's Division of Spill Prevention and Response. Alaska's Governor Bill Walker signed a bill into law in June of 2015 that addressed this longstanding high priority for the council. Previous funding for the division came chiefly from a per barrel tax on crude oil produced in the state. The new law supplements funding to the division with a per gallon levy on wholesale refined petroleum products, which comprise the majority of products actually spilled within the state.

We saw the second year of progress in resolving problems with the aged Industrial Wastewater System at the Valdez Marine Terminal. Alyeska has been re-lining the wastewater piping within the tank cells with high density polyethylene liners. This project was necessary to maintain the integrity of the secondary containment cells surrounding the crude oil storage tanks. The new liners are expected to provide excellent flexibility and durability for decades to come.



This year marked the long anticipated arrival of two new ships from ExxonMobil SeaRiver. These vessels have new ballast water treatment systems which help prevent the introduction of non-indigenous species and water borne pathogens into Alaskan waters.

Advanced ice and oil detecting radar is now on board several of the tanker escort tugs. These units are similar to the basic ice detecting system originally installed by the council on Reef Island in 2002. That system detects hazardous icebergs from the Columbia Glacier in the shipping lanes and these new systems will further enhance spill prevention and response capabilities.

Remaining concerns

This year, we continued to monitor significant maintenance and inspection activities and sustainability enhancement planning efforts at the Valdez Marine Terminal. The council was pleased to note additional inspections and repairs on the berth piping conducted by Alyeska. The council also completed its own study of Alyeska's plans to reconfigure crude oil pipes at the terminal to make them easier to inspect in the future. You can read more about this study on page 12.

The council observes several oil spill exercises every year. We compiled the lessons learned from these drills and exercises and sought to incorporate those insights when the terminal's oil spill contingency plans came up for review this year. We continue to see challenges in mounting an effective response in higher sea states or poor visibility, conditions which are common for our waters. Read more about this on page 10.

This year the council provided extensive comments on proposed updates to the Environmental Protection Agency's national policy for testing, authorizing, and using alternative oil spill response technologies such as chemical dispersants. Read more about this policy update on page 15.

The council has also continued to advocate for various state and federal regulators to adopt readily available better standards and best practices for terminal fire protection, terminal pipe inspection, ship escort tug equipment, and validating spill recovery capabilities and realistic weather limitations for specific spill clean-up equipment and strategies.

Marine Fire Symposium

This year, in cooperation with the city of Valdez, the council hosted a marine firefighting symposium. This event, designed to improve shore-side firefighters' ability to respond to an oil tanker fire, attracted the support of the state and many coastal community fire departments and industrial responders. Through that support, the symposium was able to provide valuable ship and marine firefighting training to firefighters from across the entire state. Read more about this event on page 6.

Resisting complacency

With these and the other activities highlighted throughout this annual report, the council has remained focused, informed, and engaged. We work in partnership with industry and regulators to resist complacency and to promote the environmentally safe operation of the Alyeska oil terminal and associated tankers.



Mission and Responsibilities

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

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 in Valdez and the oil tankers that use it.

Structure 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 Co., which operates the trans-Alaska pipeline as well as the Valdez terminal. Most of 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, which required citizen oversight councils for Prince William Sound and Cook Inlet. Their purpose is to promote partnership and cooperation among local citizens, industry, and government; to build trust; and to provide citizen oversight of environmental compliance by oil terminals and tankers.

The Act allows pre-existing organizations to fulfill its requirement for citizen oversight and our council has done so for Prince William Sound since 1990. Each year, the U.S. Coast Guard certifies that 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.

The council's contract with Alyeska pre-dates the Oil Pollution Act, but the similarities in the powers and duties given the council in the two documents are not coincidental. Many people involved in the establishment of the council also promoted citizen involvement requirements in the federal law.





26
YEARS
SERVING
PRINCE WILLIAM
SOUND

3.5
MILLION
IN FUNDING

OIL POLLUTION ACT
WAS PASSED
25
YEARS AGO

18 **MEMBER ORGANIZATIONS**
AFFECTED BY EXXON VALDEZ OIL SPILL

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:

- We monitor, review, and comment on oil spill response and prevention plans prepared by Alyeska and by operators of oil tankers.
- We monitor, review, and comment on the environmental protection capabilities of Alyeska and the tanker operators, as well as on the environmental, social, and economic impacts of their activities.
- We review and make 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 \$3.5 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."

Oil Spill Prevention



To ensure a maximum level of safety, the council reviews all aspects of the oil transportation system in Prince William Sound. These include operations of oil tankers and the Valdez Marine Terminal, oil spills and other incidents, and the adequacy and maintenance of the Coast Guard's Vessel Traffic Service.

Marine Firefighting Symposium

A shipboard fire is dreaded by all mariners. If a vessel fire occurs at or near a port, local fire departments are expected to respond. In light of requirements in the Oil Pollution Act of 1990 for marine salvage and firefighting contractors, it is important to provide training opportunities that allow local, state, and federal entities to work with industry representatives on operations and command functions involved in responding to a fire on a tanker or other ship. As part of its effort to foster the safest possible transportation of crude oil through Prince William Sound, the council developed the Marine Firefighting Symposium to provide the basics of marine firefighting to land-based fire department personnel. This May marked the sixth Marine Firefighting for Land-Based Firefighters Symposium in Valdez. The 38 participants and ten facilitators represented a mix of communities from throughout Alaska and industry.

The symposium was held over three days. The first day of the event provided the classroom training needed by the firefighters to pass a State of Alaska certification test given later in the week. The Marine Firefighting Symposium could not be held without the significant support of industry and community participants. Crowley Maritime/Marine Response Alliance provided substantial financial support. The City of Valdez waived facility fees for the Civic Center. Textbooks were donated by the Alaska Fire Chief's Association. Polar Tankers provided operational support and sponsored travel for the Nikiski Fire Department.

Weather in Prince William Sound

This year, the council partnered with the Alaska Experimental Forecast Facility to develop mesoscale weather models for use in Prince William Sound. Mesoscale meteorology studies the atmosphere at typical scales of five to 5,000 miles. Most of the weather phenomena of interest to mariners occurs at this scale. Recent improvements in cell phone reception in central Prince William Sound allow mariners to use this increasingly accessible information.

These models are run twice daily by the facility, which is located at the University of Alaska Anchorage. This



**Columbia Retreat
1980-2015**

Columbia Glacier

Icebergs have proven to be one of the greatest hazards to tanker navigation in Prince William Sound, and a significant contributing factor in the Exxon Valdez grounding in 1989. In light of the risks that icebergs generate, the council initially funded the Iceberg Monitoring Project in 1996 to analyze calving and drift of icebergs into the shipping lanes used by oil tankers. Since that time, Columbia Glacier has retreated significantly. The size and mass of icebergs that break away from the glacier is changing and will change more as topography beneath the glacier changes. The volume of Columbia Glacier has decreased by 50 percent in the last 30 years. Columbia Glacier alone has contributed 1 percent of the rise in average global sea level. The glacier calves an estimated 3.4 million tons of ice per day. Columbia Glacier has retreated 30 miles since the current period of rapid retreat started in the 1980s. Columbia Glacier represents a significant research legacy, and the most complete observational record of a retreating tidewater glacier.

The reports from this project include a compilation of data, a review of fjord processes, a look at iceberg processes and flow dynamics, a description of the glacier bed, and a study of the long-term stability of the glacier. During the studies, the researchers found what are believed to be the first documented freshwater springs found at the base of a tidewater glacier in Alaska.

modeling provides easy to understand graphic depictions of weather forecasts in the Sound. Ideally, these models should be run four times per day. Work being conducted in the next year by the facility will accomplish this goal.

Accurate forecasts are critical when making decisions about oil transport, terminal work, port activities, spill planning, spill drills and spill cleanup. In today's world, the mesoscale models and graphics are constantly being improved and now provide a visual display of winds across an entire area of concern, not just at a single point. These models produce specific forecasts for any place desired.

Expanded navigational training for Prince William Sound

Safe navigation and bridge crew training is vital to ensure safe shipment of oil in Prince William Sound. Alaska's Institute of Technology, known as AVTEC, trains shipping and response vessel crews to operate in the Sound. AVTEC is home to a world class digital ship simulator that mimics a ship's bridge, allowing mariners an opportunity to practice navigating a wide variety of scenarios while in a safe environment. This year, the council partnered with AVTEC to help improve the simulator's navigational database for Prince William Sound. A high fidelity navigational chart for Prince William Sound was completed by AVTEC and is now in use in the simulator.

Mariners are required to operate over the sea routes they normally travel several times a year to maintain their license for that area. While AVTEC is leading the way by providing many U.S. Coast Guard-approved training courses to Alaskan mariners, current route simulations for Prince William Sound have yet to gain this approval. With the new technology and updated local data base in 2015, we are working to gain U.S. Coast Guard approval for route recency training. This training program improves marine safety and provides career development opportunities.

Oil Spill Preparedness and Response

Two council programs address emergency preparedness and response: Oil Spill Prevention and Response Planning, and Oil Spill Prevention and Response Operations.

Oil Spill Prevention and Response Planning

State and federal laws require operators of oil tankers and the Valdez Marine Terminal to prepare detailed plans showing how they will respond to oil spills should prevention measures fail. The council devotes significant resources to ensure plans are in place to prevent and respond to spills both in Prince William Sound and at the terminal. Other planning and preparedness efforts of interest to the council include the Alaska Regional Response Team and associated committees, as well as plans for Prince William Sound, Kodiak, and Cook Inlet.

The council promotes compliance, enforcement, and funding for state and federal regulations and oversight. Along with local communities, the council encourages incorporating local knowledge of sensitive areas into contingency planning.

Valdez Marine Terminal Oil Spill Contingency Plan

During the past year, the council reviewed and submitted comments on the renewal of the Valdez Marine Terminal contingency plan. The council spent considerable time reviewing changes to the plan, as there were significant revisions. After an arduous review process, the plan was renewed in November 2014 with some conditions and will be valid for five years. The council also spent much effort reviewing the Prince William Sound Subarea contingency plan

The Valdez Marine Terminal Coordination Work Group, originally formed during the 2003 plan renewal, meets quarterly and focuses on improvements to the contingency plan. Members of the group include the state and federal representatives from the Joint Pipeline Office, including the Alaska Department of Environ-



The council and our industry and regulatory counterparts devote considerable resources to preventing oil spills, but the risk cannot be eliminated entirely. So a quick and effective response must be ready if prevention measures fail.



mental Conservation and Bureau of Land Management; the U.S. Coast Guard; U.S. Environmental Protection Agency; Alyeska, and the council. The direct communication through this work group helps everyone understand the prevention and response activities contained in the contingency plan.

Inspections of oil storage tanks

Plan-related concerns tracked by the council include inspections on crude oil storage tanks. Internal inspections on several of these tanks had been scheduled for the past year, and the council has been tracking inspections and waivers associated with those inspections. Repairs to the industrial wastewater system at the terminal, corrosion of buried piping, and integrity of the secondary containment liner underneath the crude oil storage tanks are other plan-related concerns the council tracks.

Geographic Response Strategies

Geographic response strategies are map-based tactics designed to protect sensitive areas and resources, such as salmon streams and clamming beaches, from an oil spill. These customized, pre-determined plans save critical time during an oil spill by showing responders where sensitive areas are located and how to place spill protection resources. Sites are identified through a cooperative workgroup effort and are included in area contingency plans. The council has been a part of this workgroup since 2002.

This year, the council sponsored a joint workshop together with the Alaska Department of Environmental Conservation, U.S. Coast Guard, U.S. Environmental Protection Agency, and the Cook Inlet Regional Citizens' Advisory Council to look at the Geographic Response Strategies program statewide to help develop standardized procedures for testing and improving these strategies.

Information on geographic response strategies in Prince William Sound can be found at: <http://www.dec.state.ak.us/spar/perp/grs/pws/home.htm>.

Monitoring other contingency plans and spill programs

The council also developed comments on proposed changes to the Unified Plan, a nationwide plan which covers the State of Alaska; the federal drills and exercise program; and proposed changes to State of Alaska oil spill regulations. The council similarly monitored and provided public comment in advance of the reorganization of the Spill Prevention and Response Division of the Alaska Department of Environmental Conservation.

Oil Spill Prevention and Response Operations

To respond effectively to an oil spill or to an emergency that could cause one, 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's Oil Spill Prevention and Response Operations program monitors the operational readiness of Alyeska's Ship Escort/Response Vessel System, called SERV, and the tanker companies, and makes sure the council itself is prepared to respond to oil spills and other emergencies as a conduit for public concerns and an independent monitor.

The council's staff, volunteers, and contractors monitor and report on spill response drills, exercises, and training throughout the region to





Activities: Drills and Exercise

provide citizens, regulators, and responders with information about the state of readiness, and any learnings that may lead to recommendations for improvement. The council staff presents annual reports summarizing each year's activities, lessons learned, recommendations, and outstanding issues.

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. This past year, the council participated in seven oil spill exercises.

Monitoring the Fishing Vessel Response Fleet

The council continues to monitor the fishing vessel response program. These vessels are on contract to Alyeska. In the event of a spill, they would be assigned such tasks as running skimmers, towing boom, protecting sensitive areas and handling oiled wildlife. Fishing vessel captains and crew undergo annual training to learn tactics, personal safety and protection, and practice deploying equipment, among other topics. This three-day training allows for hands-on time with equipment, a day of classroom materials, and a day of actual practice on water with response gear and boom. These vessels and their trained crews would be vital in an actual spill.

The council met with the representatives from the various ports that have vessels under contract with the program. At least one representative each from Kodiak, Homer, Seward, Whittier, Cordova and Valdez attended, along with several council volunteers who are also under contract with SERVS. The group discussed the status of each port's fleet, concerns about responding in higher sea states, and other

Oil shippers' exercise

Every year, one of the five companies who ship oil from the Valdez marine terminal take a turn conducting a major oil spill drill in partnership with SERVS. This year, SeaRiver Maritime took their turn, conducting a multiple day exercise with Alyeska. The exercise simulated an 8.4 million gallon oil spill in the center of Prince William Sound. This exercise ran continuously overnight to simulate a real world situation. Participants also practiced transitioning the command center from the Valdez Emergency Operations Center, located in the SERVS building, to the Valdez Civic Center, as would happen during a real incident.

Testing new equipment

During 2014, SERVS and the Prince William Sound shippers developed a new open water oil skimming system, which is now operational and onboard one of SERVS' large oil spill response barges. The skimmer was put to the test on December 1, 2014 when the barge was deployed for a 24-hour exercise, allowing the skimmer to be tested in darkness and harsh weather conditions. While the council noted a few minor issues, this new system and the responders participating in the exercise demonstrated the potential of the new open water recovery system, which uses new technology to pick up less water mixed in with the oil than previous systems. SERVS also conducted a two-day nearshore exercise in Cordova that helped train a Barge crew and the participating fishermen who comprise the principal elements of a nearshore response capability on the internal offloading pumps recently installed in modified mini-barges used to store recovered oil.

Drills to test oil spill management teams

This year, the Valdez Marine Terminal held two exercises that tested their oil spill management team. One of the two, held in October 2014, included significant field deployments of spill response equipment. This valuable exercise tested communications between the field and the command post responders. Another tabletop exercise in May 2015 also included a field component on the same day but those two activities were not conducted simultaneously.

trends within the program. While there are always items of concern, most participants reported their satisfaction with the program and an overall trend of continuous improvement.

Verifying fishing vessels are available to respond during an oil spill

The council monitors the contracted vessel spill response program to ensure there are enough vessels to adequately respond to an oil spill. As part of their contract, the approximately 400 vessels must report whether they are available and ready to respond, as

a way to help ensure there are enough vessels available at a given time to mount a proper response. Council staff walked the docks in Whittier and Valdez this past year to physically spot verify vessels listed readiness status. Reported readiness seemed to match the council's observations.

The search for an environmentally safe substitute for oil for spill response practice

For the past few years, the council has been advocating for an oil spill simulant, or surrogate, for use in oil spill drills. A simulant would mimic characteristics of oil, minus the toxicity concerns, and provide responders with a practice target to enhance the value and learning potential of on-water exercises. The council initiated a national workgroup in 2012. Additional efforts, funded by the Bureau of Safety and Environmental Enforcement, recently concluded. Guidance from this Federal effort and earlier workgroups will be used by the council as we begin a similar local workgroup.

Updating shoreline video for spill response

The council recently upgraded the Prince William Sound "ShoreZone" imagery from the original video tape into digital format. ShoreZone is a web based program that offers a bird's eye, low-tide view of the shoreline in Alaska and much of the West Coast. Information on biology and geology was also recorded so together, the images and narration help to classify the coastline. The new digitized videos are easier to edit and can be streamed on the Shorezone website. This imagery is useful in spill response planning and operations, coastal management, research, or other science. The imagery and corresponding maps are available at: <http://alaskafisheries.noaa.gov/shorezone/>

Educating our stakeholders about oil spill management

The council is continuing to conduct workshops in local communities to educate public response officials and stakeholders about responding to an



L to R: Observing training for fishing vessels to respond to oil spills;
Board member Robert Beedle participating in training

oil spill through the incident command system. The system, first developed in the 1970's to manage rapidly moving wildfires, is a standardized multi-agency organizational structure that has been adopted to manage a variety of emergencies and incidents.

The incident management system as it pertains to oil spills is slightly different than for fire or other civic emergencies. The workshop describes the processes and decision-making authorities in place during a spill, and how stakeholders fit into the system.

By understanding the roles and responsibilities of those involved in an incident, stakeholders will be better able to represent their communities and effectively advocate for their concerns. Participants will better understand the sequence and mechanics of a spill response since the workshops also provide basic information about prevention and response assets and strategies that are in place. Target participants included those representing their communities in a spill response incident or who would be affected by an oil spill in some fashion, including mayors, harbor masters, and representatives from local agencies and non-profits. This year, workshops took place at the Alaska Forum on the Environment conference and in Cordova. An additional workshop is slated for Kodiak in September.

Environmental Protection and Monitoring



The Oil Pollution Act directs our council to review, monitor, and comment on Alyeska'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 carries out this work through two major programs: Terminal Operations, and Environmental Monitoring. Under the leadership of the Scientific Advisory Committee and the Terminal Operations and Environmental Monitoring Committee, the council commissions scientific studies to determine actual or potential risks, document levels of pollution and biological effects, and better understand new technologies and the environmental costs or benefits that might be associated with their use.

Operations at the Valdez Marine Terminal

Besides posing the risk of a major oil spill caused by earthquake or accident, the Valdez terminal produces ongoing air and water pollution from routine operations, as allowed by its permits from regulatory agencies. The council monitors terminal operations to minimize the risk of spills and ensure that the allowed amount of pollution is within or below regulatory limits and that those limits are set at the lowest feasible levels.

System Integrity Issues at the Terminal

The council monitors operations at the terminal to ensure that specific system issues become known to the council, identified integrity issues do not pose an increased risk for oil spills, and proper procedures are in place to resolve issues.

Council representatives visit the terminal on a regular basis to observe selected system integrity issues. Typically, council staff requests briefings on the following: crude oil storage tanks; spill containment around crude oil storage tanks; power generation; management of hazardous vapors; corrosion of piping and tanks; metering facilities and management pressures associated with incoming oil; control systems; berth and loading equipment; and ballast water treatment facilities.

Inspectability of Crude Oil Pipes at the Terminal

There are close to four miles of pipes on the terminal facility that carry crude oil from the Trans-Alaska Pipeline into storage tanks at the Valdez Marine Ter-



L To R: Laura Meadors, Valdez Marine Terminal Operations Manager, makes a presentation to staff and volunteers during a tour of the facility; View of berth 5 at the Valdez Marine Terminal

minal and eventually onto tanker ships. The system of pipes at the terminal is complex. The pipes vary in size, ranging in diameter from 24 inches to 48 inches. Some pipes are buried underground and some are above ground. Some sections climb steep hills while others descend. The path of the pipes include many twists, turns, and valves. The complexity of this network of pipes makes it challenging for Alyeska to monitor and inspect, yet monitoring and inspection is critical to ensure oil remains inside the pipes where it belongs.

Over the past decades, available technology to inspect in-service pipes has greatly improved and can be used to inspect complex piping networks like the one at the terminal. This year, the council studied new inspection tools that could be used at the terminal and how the inspections currently being planned by Alyeska will effectively implement these new tools and technologies. The council worked with Dynamic Risk Assessment Systems, a leader in pipeline risk management, to evaluate Alyeska's plans to internally inspect the crude oil piping. Dynamic Risk found Alyeska's plan to implement new inspection technology

4 MILLION GALLONS OF OIL PER HOUR FLOWS WHILE LOADING TANKERS

at the terminal is technically sound and should improve their knowledge of the condition of both buried and aboveground pipes at the terminal. The report was shared with Alyeska and regulators to promote the sufficiency of the plans, as well as to promote regulations, or regulatory interpretations, which would ensure these inspections actually take place in the future.

The importance of this inspection project was underscored in the fall of 2014 when Alyeska found a significant amount of corrosion on a segment of pipe located over Port Valdez. Up to 4,200,000 gallons of oil per hour can flow through this pipe. If oil were to leak from this location it would spill directly into Port Valdez. In one particular spot, about the size of a golf ball, Alyeska found that about 80% of the pipe's thickness had been lost.



For an unknown reason, this segment of pipe had not been properly coated during original construction and prior to being covered with insulation, allowing the pipe to significantly rust on the outside. Engineering analyses completed for Alyeska quantified the damages and the conditions under which oil could continue to be safely loaded onto tanker ships. Alyeska is working with state and federal regulators to permanently repair this damaged section of pipe by the end of 2015.

Alyeska's current external inspection techniques were able to sequentially identify and then quantify this isolated degraded piping segment. With the new technologies being considered, Alyeska will be able to inspect these particular pipes and others at the terminal more thoroughly, with less labor, and with a better degree of accuracy.

Crude Oil Storage Tank Inspections

On a periodic basis, the 14 crude oil storage tanks in service at the Valdez Marine Terminal are inspected externally and internally for corrosion or any other type of damage or degradation that could weaken the strength of these critical structures. The external inspections can take place without taking the tank out of operation and happen relatively frequently, every 5 years. Internal inspections happen less frequently, because the tanks must be taken out of service and cleaned before inspection. These inspections are very thorough, covering the tank floors, walls, roof support structures, and the roof itself. The length between the internal inspections typically varies between 10-20 years. These inspections give Alyeska the information they need to properly maintain these tanks which are capable of storing more than half a million barrels of oil.

In order to verify that Alyeska follows industry best practice, the council reviewed Alyeska's reports about the internal inspections of two of



Clockwise starting top left: Volunteer Jerry Brookman gets ready to board a boat: A skiff makes way in Prince William Sound: Two of the 14 Crude oil storage tanks at the Valdez Marine Terminal

the 14 tanks at the terminal. The council developed recommendations based on these reports, for improving the tank inspections in the future. The council provided the recommendations to Alyeska and the Alaska Department of Environmental Conservation. The primary recommendation from the council was that 20 years between internal inspections is too long, taking into account the somewhat degraded condition of certain tank components, the location of the tanks in a seismically active region, and the proximity of the tanks to Port Valdez – a socially, economically, and environmentally important body of water.



L to R: A small boat gets ready for a drill to start;
A SERVS response barge sits at the ready in Port Valdez



Alaska North Slope Crude Properties

Understanding the physical and chemical properties of Alaska North Slope crude oil is an essential step toward planning for, and possibly responding to an oil spill in Prince William Sound. Physical properties such as density and viscosity, and chemical properties such as the dispersibility of oil are critically important pieces of information needed for effective spill response activities. These properties change over the years as oil fields on the North Slope age, old wells are shut down, and new fields are developed. Therefore it is necessary to analyze current samples of the crude oil to update the information being used for oil spill response planning.

The council is evaluating a new sample. Working with a lab operated by Environment Canada, the council is testing the oil for a number of physical and chemical properties that could affect spill response activities such as skimming and the potential use of dispersants. The results of this analysis will help ensure effective planning for an oil spill in Prince William Sound.

Tanker Ship Emissions in Prince William Sound

The council wants to understand how tanker ship air emissions will be reduced in Prince William Sound as a result of international marine pollution regulations ratified by the United States. The regulations set limits for sulfur dioxide and nitrogen oxides emissions from large ships and will also lead to significant reductions in particulate mat-

ter releases. Those pollutants can have negative impacts on the environment and human health. To reduce those potential impacts, the Prince William Sound tankers are complying with the regulations by using low sulfur fuel. The first phase, requiring the use of fuel that contains 1 percent or less sulfur by weight, was instituted on August 1, 2012. The second and final phase, requiring the use of fuel that contains 0.1 percent or less, began on January 1, 2015. The council sponsored a study that will quantify the expected reductions in air pollutants emitted from tanker ships in Prince William Sound as a result of these regulations.

Environmental Monitoring and Science

The council monitors the environment of Prince William Sound and adjoining waters for impacts from oil-industry operations. Scientific research into such impacts, as well as research into the effects of some oil-spill response tactics, makes up a large part of the work done under this program.

Chemical Dispersants

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 the chemicals, especially when mixed with oil. This concern has led to a number of studies on subjects including swirling flask laboratory testing, photo-enhanced toxicity, test tanks, re-surfacing of dispersed oil, dispersants policy and other related subjects.

Database of research

The council annually updates a comprehensive database of dispersants research reports. The database is complemented by a literature survey and synthesis that summarizes the state of science of dispersants. The original survey covered research done between 1997 and 2008. This year, the council sponsored an update, which summarized research done since the Gulf of Mexico oil spill.



National rules on using dispersants

This year, the Environmental Protection Agency began updating its rules for using chemicals, including dispersants, to respond to oil spills in the United States. The update is intended to address the concerns that arose during and after the BP Deepwater Horizon disaster in 2010. The council provided detailed comments during a public comment period. This was the first opportunity the council has had in over 20 years to provide input on the national policy governing the use and regulation of dispersants.

Toxicity of oil

Through this project, 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.

This year, the council worked with scientists at the National Auke Bay Lab in Juneau to answer the question – are shrimp caught in Port Valdez contaminated by Alaska North Slope crude oil? Small amounts of crude oil hydrocarbons are discharged from the terminal's ballast water treatment facility into the waters of Port Valdez. The study determined that the shrimp's exposure to hydrocarbons from the terminal does not appear to pose a significant human health risk. Very low levels of hydrocarbons were found in samples closest to the terminal. The study also compared the amount of oil found in various parts of the shrimp, as well as amounts found in different species of shrimp. The highest levels of



Monitoring Invasive Species

The council continued to support citizen-based monitoring efforts, particularly for European green crab and invasive tunicates. The green crab, a known ballast-water-borne invader, is an efficient and voracious predator that has invaded the West Coast from San Francisco to Vancouver Island. It is feared that the green crab will find its way to Alaska waters.



The monitoring program has evolved into a self-sustaining grassroots system since the council initiated it in 2000. The council continues to support some of the smaller communities to encourage participation for those areas. This past year, Whittier was added to the list of monitoring sites. No green crabs have yet been captured in the council region by these trapping efforts. The Council is also monitoring the implementation of preventative measures introduced by the United States Coast Guard and International Maritime Organization.

2000
THE YEAR
COUNCIL BEGAN MONITORING
GREEN CRAB ACTIVITY



hydrocarbons found in the study were in the eggs of pink shrimp, where the average concentration was 630 parts per billion, well below contaminant levels considered unsafe to eat. No evidence of hydrocarbon contamination was found in the shrimp's tail, which is the part usually consumed.

Effects of oil and dispersants on Alaskan whales

The council worked with Dr. John Wise of the University of Southern Maine to study the effects of Alaskan oil, dispersants, and chemically dispersed oil on humpback and sperm whales. Prior to this study, there had been little lab-based data regarding the toxicity of dispersants and dispersed oil in marine mammals. The investigators found that dispersants alone have a toxic effect on humpback and sperm whale cells and can change genes in sperm whales. Crude oil alone affected genes in both species. Adding dispersants to the oil increased the toxic effects in both species.

Regional Environmental Monitoring

In 1993, 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 in the Sound from the Exxon Valdez spill, as well as any new oil spilled since that time.

Today, samples are periodically collected at intertidal sites in Prince William Sound and the Gulf

of Alaska near the terminal and where tankers are active. Mussel tissues and sediments from the sites 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 hydrocarbons in Prince William Sound. The council reports on this data annually. Every fifth year, a more in-depth report summarizes the data and trends of the previous five years. A new five-year trend report was completed this year.

11 MILLION GALLONS
OF CRUDE OIL FROM SPILL

1300
MILES AFFECTED
OF ALASKA SHORELINE

Outreach



Community Outreach

The council continues to maintain productive relationships with its 18 member organizations within the region affected by the 1989 Exxon Valdez oil spill, as well as aquaculture, commercial fishing, environmental, Native, and recreation and tourism groups.

The coordinator works with staff and volunteers to visit communities in the council's region, attend group member functions, give presentations, coordinate special events involving the council and its member groups, and encourage citizen involvement in the council's work.

The council's dedicated outreach coordinator and Information and Education Committee work together to support the council's mission by fostering public awareness of our work, and to build participation of this and the next generation in the council's environmental stewardship responsibilities.





Online Educational Curriculum

The newly revised Alaska Oil Spill Curriculum can now be accessed from anywhere through our website. The lessons from the curriculum can help students from kindergarten through high school learn about eco-systems and oil pollution as well as oil resources and energy cycles. The curriculum is grouped by grade level and sorted by Alaska state standard “tracks.” This year the council also supported an environmental educator, Katie Gavenus, to take the lessons into classrooms throughout the region to gather valuable insights from teachers about how the curriculum can continue to be improved over time.

Youth Involvement, and Youth Internships

The Information and Education Committee recommends council partnerships through Youth Involvement projects that assist educational groups to learning about and participate in the council’s mission. The committee also recruits interns to complete council projects that also incorporate career development opportunities for older students within the region.



Outreach Activities

Kodiak Island

Port Lions

- Community Visit and Public Reception

Larsen Bay

- Community Visit
- Salmon Camp, Youth Involvement Project

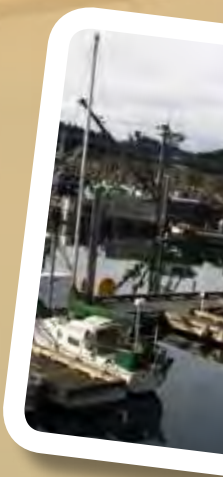
Karluk

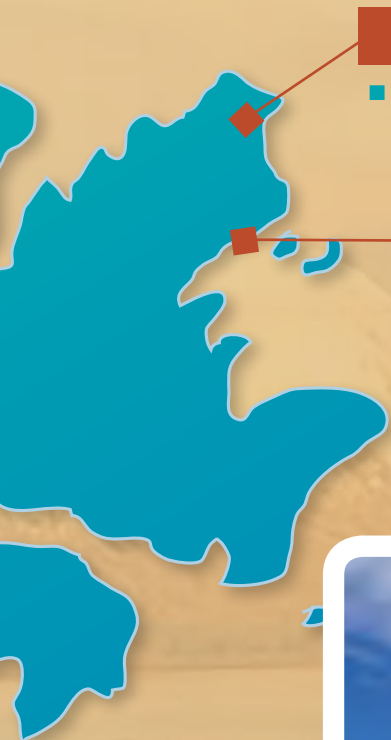
- Salmon Camp, Youth Involvement Project

Old Harbor

- Community Visit and Public Reception

KODIAK ISLAND





Ouzinkie

- Community Visit and Public Reception

Kodiak

- ComFish Alaska, Booth



Outreach Activities

Prince William Sound and Outside



Anchorage

- **Coffee with a Scientist**, Presentation
- **Oil Spill-themed Certified Interpretive Guide Course**, Presentations
- **World Wildlife Fund Workshop**, Presentation
- **U.S. Coast Guard Foundation Dinner**, Support and Attendance
- **Alaska Forum on the Environment, Oil Spill Track Presentations**, Youth Internship Presentation, and Booth
- **Incident Command for Stakeholders**, Public Workshop
- **Alaska SeaLife Center Marine Gala**, Support and Attendance
- **Alaska Science and Engineering Fair**, IEC Youth Involvement Project

Kenai

- **Public Reception**
- **Cook Inlet RCAC's 25th Anniversary Event**, Attendance

Homer

- **K-12 Oil Spill Curriculum Classroom Presentations**, Youth Involvement Project
- **Board Meeting and Public Reception**
- **Kachemak Bay Science Conference**, Poster Presentation and Attendance
- **Elmira College Field Course**, Presentations
- **Aquatic Invasive Species Monitoring**, Youth Involvement Project

Port Graham

- **Aquatic Invasive Species Monitoring**, Youth Involvement Project

KENAI
PENINSULA

PRINCE

Seldovia

- **K-12 Oil Spill Curriculum Classroom Presentations**, Youth Involvement Project
- **Aquatic Invasive Species Monitoring**, Youth Involvement Project
-



Whittier

- K-12 Oil Spill Curriculum Classroom Presentations, Youth Involvement Project

Valdez

- Gold Rush Days, Booth
- Brown University BELL Program, Presentation
- Crooked Creek Chum Salmon Incubation, Youth Involvement Project
- K-12 Oil Spill Curriculum Classroom Presentations, Youth Involvement Project
- Career Day, Booth
- Board Meeting and Public Reception
- Summer Guide Informational Meeting, Presentation

Tatitlek

- K-12 Oil Spill Curriculum Classroom Presentations, Youth Involvement Project
- "Peksulineq" Cultural Heritage Day, Attendance

Cordova

- Aquatic Invasive Species Monitoring and Education, Youth Internship
- Copper River Wild, Booth and Childrens' Activities
- 21st Annual Sobriety Celebration & Memorial Potlatch, Attendance
- Incident Command for Stakeholders, Public Workshop
- Copper River Nouveau, Support and Attendance

Chenega Bay

- K-12 Oil Spill Curriculum Classroom Presentations, Youth Involvement Project

Seward

- K-12 Oil Spill Curriculum Classroom Presentations, Youth Involvement Project
- Ocean Sciences Club, Youth Involvement Project
- Museums Alaska/Alaska Historical Society Conference, Booth and Presentations
- Alaska Tsunami Bowl Judging Team, IEC Youth Involvement Project
- "Remotely Operated Vehicle" Oil Spill Response Activity, Youth Involvement Project
- Marshall Memorial Fellowship Program, Presentation

General Events

- Prince William Sound Teachers Expedition, Youth Involvement Project
- Prince William Sound Marine Stewardship Expedition, Youth Involvement Project
- "Voice from the Spill" Copper River Stewardship Program, Youth Involvement Project

Outside Alaska

- Pacific Marine Expo - Seattle, WA, Booth
- Arctic and Marine Oilspill Program Technical Seminar - Vancouver, BC Canada, Attendance
- Clean Pacific - Vancouver, BC Canada, Booth and Attendance

WILLIAM SOUND



On the Web

The council's online presence, including our website and social media, serves as a public communications tool and educational resource to increase public awareness of the council, the history of the council and citizen oversight of the oil industry, and the environmental impacts of the transportation of oil through Prince William Sound. The use of such technologies help us foster dialog and engagement between the council, our constituents, and the online community. The newly revised Alaska Oil Spill Curriculum can now be accessed from anywhere through our website.



Publications

The council increases public awareness on a wide range of issues pertaining to crude oil transportation through printed and electronic publications.

The Observer

The Observer is a free quarterly newsletter with nearly 5,000 printed copies distributed throughout Prince William Sound, the northern Gulf of Alaska, lower Cook Inlet, and the Kodiak archipelago, and by request to interested citizens around the world, including regulators and industry. It covers council



activities, developments in the oil transportation industry, and news about policy and operational issues related to marine oil transportation. Major oil spill drills are covered, and Alyeska is invited to submit a column for each issue. In the course of preparing articles for The Observer, the council frequently invites feedback from industry and regulatory personnel. The Observer is available on the council website and by email.

Then and Now

This year, the council updated the "Then and Now" report, covering improvements to the Prince William Sound oil transportation system since the Exxon Valdez spill. The report covered remaining issues of concern for the council, the council's plan for the future, and the importance of citizen oversight to the system. The council updates this document every five years.



Stories from a Citizens' Council

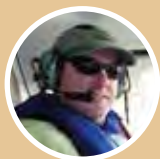
In 2012, a series of interviews were conducted to capture the hopes and intentions of some of those who were most closely involved with the creation of the council. These stories, in oral history format, describe how the organization was conceived, how it was worked out, and whether, in retrospect, the founders would do anything differently.

This year, to mark the 25th anniversary of citizen oversight of Prince William Sound's oil transportation industry, staff collated the written interviews into a booklet titled "Stories from a Citizens' Council."

Below are some of the quotes from the publication.



"We can blame the spill on Exxon, but the fact of the matter is that the blame actually goes to everyone. And to me that was the direction we needed to push for, to have a citizen say-so. We had to begin doing things differently."—Stan Stephens



"I think there was something about how that group came together, in the tragedy and the turmoil of what was going on. It was very intense around here in 1989. A bunch of folks came together and everything seemed to click, and we actually carved something into stone that had never been done before."—Jim Butler



"At those early meetings, I think there were people from Alyeska who were skeptical and they didn't really want to participate, but I think there was also a lot of people from Alyeska who were glad we were there because we helped them to do their jobs better. Our presence lent weight to things they may have wanted to do anyway, and we may have made that a little easier for them."—Marilyn Leland

Government Relations

The council monitors state actions, legislation, and regulations that relate to terminal or tanker operations, or to oil spill prevention or response. To track developments in the state capital, the council retains a monitor under contract during the legislative session.

The council also monitors federal government actions and issues through a contract representative in Washington, D.C.

This area of council activity is coordinated by a Legislative Affairs Committee made up of members of the council board.

Recertification

The 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 from industry, interest groups, and citizens. The council fulfills the Act's requirement for an industry-funded citizens' advisory group, but it was established before the law was enacted.

Board of Directors

Who We Are?

The council is an organization of organizations. Our 18 member entities include state-chartered cities and boroughs, tiny Alaska Native villages with tribal governments, Native corporations, commercial fishing organizations, an environmental consortium, and groups representing the tourism industry.



Executive Committee



PRESIDENT
Amanda Bauer
City of Valdez



VICE-PRESIDENT
Thane Miller
Prince William Sound
Aquaculture Corp.



SECRETARY
Bob Shavelson
Oil Spill Region
Environmental Coalition



TREASURER
Orson Smith
City of Seward

Ex-Officio Board Members (Non-Voting)

- Steve Russell, Alaska Dept. of Environmental Conservation
- Lee McKinley, Alaska Department of Fish and Game, Division of Sport Fish
- Robert Skorkowski, U.S. Forest Service
- Graham Smith, Alaska Dept. of Natural Resources
- Steve Weeks, U.S. Bureau of Land Management
- Colin Blair, Alaska Div. of Homeland Security & Emergency Management
- Chris Field, U.S. Environmental Protection Agency
- Philip Johnson, U.S. Department of the Interior
- Commander Joe Lally, 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

How the Board is Organized?

Each member entity chooses one representative to our board. The lone exception is Valdez. It 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.

Who Serves on the Board?

The names and faces change, but current and recent board members have included commercial fishermen, a schoolteacher, the chief executive of a regional Native corporation, tour-boat operators, an oilfield engineer, a village mayor, and a university department head.

Other Directors



Ian Angaiak
Community of Chenega Bay



Robert Archibald
City of Homer



Robert Beedle
City of Cordova



Melissa Berns
Kodiak Village Mayors
Association



Al Burch
Kodiak Island Borough



Wayne Donaldson
City of Kodiak



Pat Duffy
Alaska State Chamber
of Commerce



Patience Andersen Faulkner
Cordova District Fishermen
United



Mako Haggerty
Kenai Peninsula Borough



John Johnson
Chugach Alaska Corporation



Andrea Korbe
City of Whittier



Jim LaBelle
Port Graham Corporation



Dorothy Moore
City of Valdez



Alisha Sughroue
City of Seldovia



Roy Totemoff
Community of Tatitlek

Advisory Committees

What They Do?

Five standing committees advise the Board of Directors and the 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.

Advisory Committee Missions

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

Oil Spill Prevention and Response Committee:

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

Port Operations and Vessel Traffic Systems: Monitor port and tanker operations in Prince William Sound

Scientific Advisory Committee: Promote the environmentally safe operation of the terminal and tankers through independent scientific research, environmental monitoring, and review of scientific work

Terminal Operations and Environmental Monitoring: Identify actual and potential sources of episodic and chronic pollution at the Valdez Marine Terminal

Information and Education Committee: Foster public awareness, responsibility, and participation through information and education





Oil Spill Prevention and Response Committee

- Chair: John LeClair, Anchorage
- Vice-chair: Jerry Brookman, Kenai
- Robert Beedle, Cordova*
- Colin Daugherty, Anchorage
- David Goldstein, Whittier
- Jim Herbert, Seward*
- Gordon Scott, Girdwood
- Alisha Sughroue, Seldovia*

Scientific Advisory Committee

- Chair: John Kennish, Anchorage
- Vice-chair: Paula Martin, Soldotna
- Sarah Allan, Anchorage
- Wayne Donaldson, Kodiak*
- Roger Green, Hope
- Dorothy M. Moore, Valdez*
- Debasmita Misra, Fairbanks
- Mark Udevitz, Anchorage

Terminal Operations and Environmental Monitoring Committee

- Chair: Harold Blehm, Valdez
- Vice-chair: Mikkel Foltmar, Anchorage
- Amanda Bauer, Valdez*
- Steve Goudreau, Valdez
- Tom Kuckertz, Anchorage
- George Skladal, Anchorage

Port Operations and Vessel Traffic Systems Committee

- Chair: Amanda Bauer, Valdez*
- Vice-chair: Pat Duffy, Anchorage*
- Cliff Chambers, Seward
- Pete Heddell, Whittier
- Bob Jaynes, Valdez
- Orson Smith, Seward
- Jeremy Talbott, Valdez

Information and Education Committee

- Chair: Cathy Hart, Anchorage
- Vice-chair: Linda Robinson, Homer
- Trent Dodson, Kodiak
- Jane Eisemann, Kodiak
- Patience Andersen Faulkner, Cordova*
- Ruth E. Knight, Valdez
- Kate Morse, Cordova
- Savannah Lewis, Anchorage

* council director

** as of June 30, 2015

Staff and Offices

Executive Director: Mark Swanson



Worldwide Web: www.pwsrcac.org



Email: anch@pwsrcac.org



Facebook: www.facebook.com/PWSRCAC



Twitter: twitter.com/PWSRCAC



Sign up for the email version of The Observer newsletter: www.bit.ly/TheObserverByEmail

Anchorage

- Joe Banta, Project Manager
- Gregory Dixon, Financial Manager
- Amanda Johnson, Project Manager
- Lisa Matlock, Outreach Coordinator
- Natalie Novik, Administrative Assistant
- Shawna Popovici, Project Manager Assistant
- Steve Rothchild, Administrative Deputy Director
- Linda Swiss, Project Manager
- Alicia Zorzetto, Digital Collections Librarian

Prince William Sound Regional Citizens' Advisory Council

3709 Spenard Road, Suite 100

Anchorage, AK 99503

USA

907-277-7222

Fax: 907-277-4523

Toll-free: 800-478-7221



Valdez

- Jennifer Fleming, Executive Assistant
- Austin Love, Project Manager
- Leigh Lubin, Administrative Assistant
- Roy Robertson, Project Manager
- Jeremy Robida, Project Manager
- Donna Schantz, Director of Programs
- Alan Sorum, Project Manager
- Nelli Vanderburg, Project Manager Assistant

Prince William Sound Regional Citizens' Advisory Council

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

CREDITS

Editors: Stephen Rothchild, Amanda Johnson

Designer: Shaila Abdullah

PHOTO CREDITS

Key: t: top, b: bottom, c: center, r: right, l: left

Front cover: Scenic cove in Prince William Sound, Cathy Hart

Contents: Kittiwakes on a cliff, Nelli Vanderberg

P2: b/l: Seals relax on ice, Jennifer Fleming

P2: b/c: Humpback whale breach, Jennifer Fleming,

P3: b/l: Power-vapor incinerator stacks, Cathy Hart

P3: b/c: Eagles enjoy a meal on ice, Amanda Bauer

P4: c: Fishing skiff sets out, Jeremy Robida

P4-5: SERVS tug at work, Jeremy Robida

P6: Fishing vessels deploy shore seal boom, Jeremy Robida

P7: t/l: Depiction of Columbia Glacier retreat, courtesy of Drew Lindow

P8: t/r: Boom ready for deployment, Jeremy Robida

P8: b/r: Fishing vessel receives a power pack, Jeremy Robida

P9: Boom in water, Jeremy Robida

P10: t/r: Incident Command Section during a drill, Jeremy Robida

P11: t/r: Board member Robert Beedle during fishing vessel training, Jeremy Robida

P11: t/c: Fishing vessels prepares to tow boom, Jeremy Robida

P12: l: Tugs moored alongside, Cathy Hart

P13: t/l: Laura Meadors of Alyeska Pipeline Services Company presents Valdez Terminal orientation, Cathy Hart

P13: t/r: View of berth 5 at the Valdez Terminal, Cathy Hart

P14: t/l: Volunteer Jerry Brookman prepares to board a boat, Cathy Hart

P14: t/r: Skiff at work, Jeremy Robida

P14: c/r: Crude oil storage tanks at Valdez Terminal, Cathy Hart

P15: t/l: Fishing vessel during a drill, Jeremy Robida

P15: t/r: SERVS response barge, Cathy Hart

P16: t/r: Tug alongside a barge, Cathy Hart

P16: c/r: Green Crab, courtesy Dan Gilson

P16-17: t: Sea Lions at Bulls Head in Prince William Sound, Jennifer Fleming

P18: c/l: Alaska Forum on the Environment, Oil Spill Session, courtesy Amy Holman

P18: b/r: Marine Firefighting Symposium participants, Nelli Vanderberg

P18-19: t/r - t/l: Council volunteers at the booth at the Pacific Maritime Expo, Lisa Matlock

P19: t/r: Board member Dorothy Moore and staff at a booth, Lisa Matlock

P19: c/l: Lisa Matlock works with children in Homer, courtesy McNeil Elementary

P19: b/r: Katie Gavenus teaches part of the K-12 curriculum, Lisa Matlock

P21: c/l: Kodiak Harbor, Lisa Matlock

P21: r: Scenes from Old Harbor, Kodiak Island, courtesy Marybeth Phillis

P22: across top: Cordova Harbor, View from Homer, Kayaks in Tatitlek, Lisa Matlock

P23: Fireweed field near Cordova, Lisa Matlock

P24: t/l: Fire fighters during Symposium in Valdez, courtesy of Zac Schasteen

P24: t/r: Fishing vessel prepares for an exercise, Jeremy Robida

P25: t/l: Coast Guard officials observe a drill, Jeremy Robida

P25: t/r: SERVS Response Tug alongside a barge during a drill, Jeremy Robida

P26: t/r: Board Member Robert Beedle starts a pump during training, Jeremy Robida

P28: t/r: Meares Glacier, Prince William Sound, Amanda Bauer

P28: c/r: Staff and volunteers during tour of Valdez Marine Terminal, Cathy Hart

P28: b/r: Ballast Water treatment pool, Valdez Terminal, Cathy Hart

P28: circle: Fishing vessels in Old Harbor, Kodiak Island, courtesy Marybeth Phillis

P29: t/c: Fishing vessel during a drill, Jeremy Robida

P29: c/r: Marine firefighting participants, Nelli Vanderberg

Back cover: Ice near Nunatak, Prince William Sound, Amanda Bauer

Papers, Presentations, Reports, and Media Releases

Alaska's Best Available Technology (BAT) Requirements for Prince William Sound Crude Oil Tankers and Valdez Marine Terminal Oil Spill Prevention and Response (report). Citizens' council. August 2014. Document number: 651.431.140821. BATrequirements.pdf

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Vessel Availability Dock-Walk Observations: Port of Valdez (report). Citizens' council. October 2014. Document number: 703.431.141016.DockWalkValdez.pdf

Vessel Availability Dock-Walk Observations: Port of Whittier (report). Citizens' council. January 2015. Document number: 703.431.150121.DockWalkWhit.pdf

These are just a few of the many reports, papers, presentations, and media releases produced or compiled by the council in the past year. For further information, or to obtain copies, visit the council website or contact our Anchorage office (see page 30).



ANCHORAGE

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

www.PWSRCAC.org

VALDEZ

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