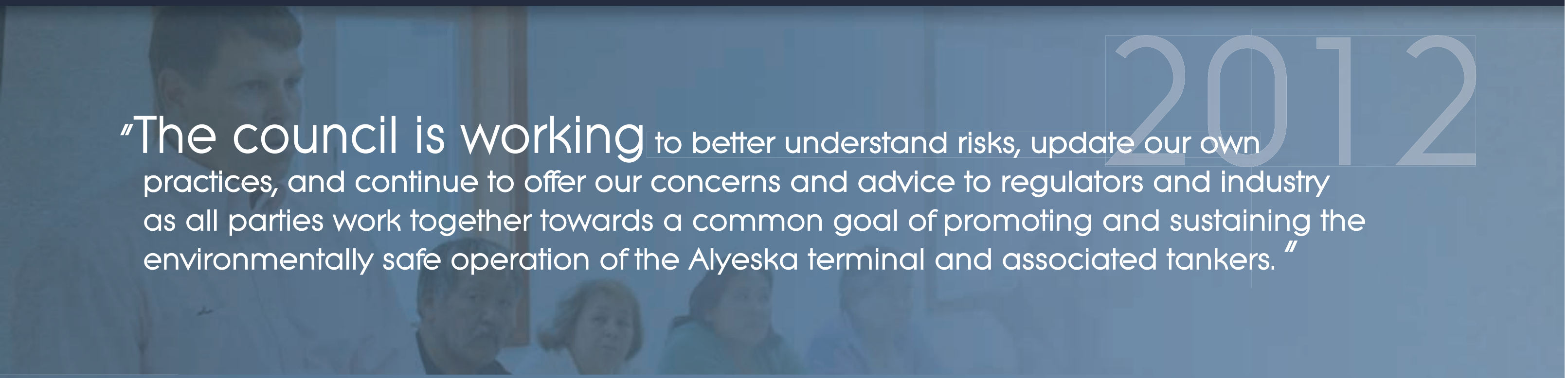
2012-2013 Annual Report

Prince William Sound
Regional Citizens' Advisory Council



"The council is working to better understand risks, update our own practices, and continue to offer our concerns and advice to regulators and industry as all parties work together towards a common goal of promoting and sustaining the environmentally safe operation of the Alyeska terminal and associated tankers."

2012

Letter from the Executive Director

Mark Swanson
Executive Director

It's been another eventful year at the council.

This year, we focused on issues ranging from projects aimed at better understanding and monitoring risks and concerns at the Valdez Marine Terminal, an examination of best practices and equipment applicable to tug escorts used by the Ship Escort/Response Vessel System (SERVS) and the renewal of the tanker contingency plan.

Over the past year, the council concluded a report on corrosion maintenance practices and a survey of fire protection assets at the terminal. Alyeska was cooperative with both of these efforts and responded positively to the council's observations and recommendations. Alyeska has expanded inspections of their over-water oil piping in 2013 and beyond, and is working with the City of Valdez to clarify expectations regarding their respective fire department's responsibilities in the event of a fire at the terminal.

In addition, the council dedicated a great deal of effort to better understand the overlapping multi-agency regulatory oversight of the inspection and maintenance of the crude oil piping at the terminal that has permitted extensive portions of the terminal's very difficult to access buried and insulated piping to remain uninspected since new construction in the 1970's. Recent initial inspections on Berth 4 have shown the welds and over water piping to be in generally excellent condition. While initial results and increased regulatory focus on the issue are encouraging, the council remains concerned that there are no explicit commitments and regulatory requirements for the crude oil piping to be fully inspected periodically. Given the severity of berth piping corrosion discovered and repaired by Alyeska in 2012, the council views this as an un-quantified but potentially significant oil spill risk. Routine inspections are the obvious answer. The council has advocated for the extension of corresponding industry and regulatory inspection standards and practices currently applicable to the pipeline be made applicable to the crude oil piping and infrastructure at the terminal.

The council continues to be concerned with decreased oil flow conditions in the pipeline, and the associated build-up of wax that settles out of the crude oil. To combat this increased build-up, Alyeska has incrementally increased the frequency of their routine "pigging", or cleaning, of the main pipeline. Public documents show that wax associated with cleaning pigs can and has triggered unintended relief valve actuations, and clogged important safety valves. Plans are being advanced at Alyeska to increase the number of pig entrance and exit points to reduce the distances traveled and the wax each pig removes, and to improve the design to mitigate the risk of pig ingestion into relief piping. Until those plans are completed, these vulnerabilities remain a significant risk to the safe transportation of oil at the terminal.

Another focus this past year has been monitoring the efforts to repair the aging industrial waste water system, which drains rain water from the secondary spill containment around the crude tanks, with cure-in-place polymer pipe linings. For various

reasons, this repair strategy did not achieve the intended outcome. Alyeska is considering alternatives. The council will continue to monitor new repair strategies for this waste water system.

The council examined best available technology for escort tug towing equipment. A significant council study, reported in maritime periodicals, differentiated between towing and escorting functions and recommended that the tugs currently in service be assessed according to international best practice standards and assigned to service according to their respective capabilities and specialties.

The tanker's and the terminal's oil spill contingency plans underwent their five year update process this year. During this process, the council received and fully used an opportunity to provide comments and make suggestions on how these plans can be more effective and better assure proficiency in responding to a crude oil spill.

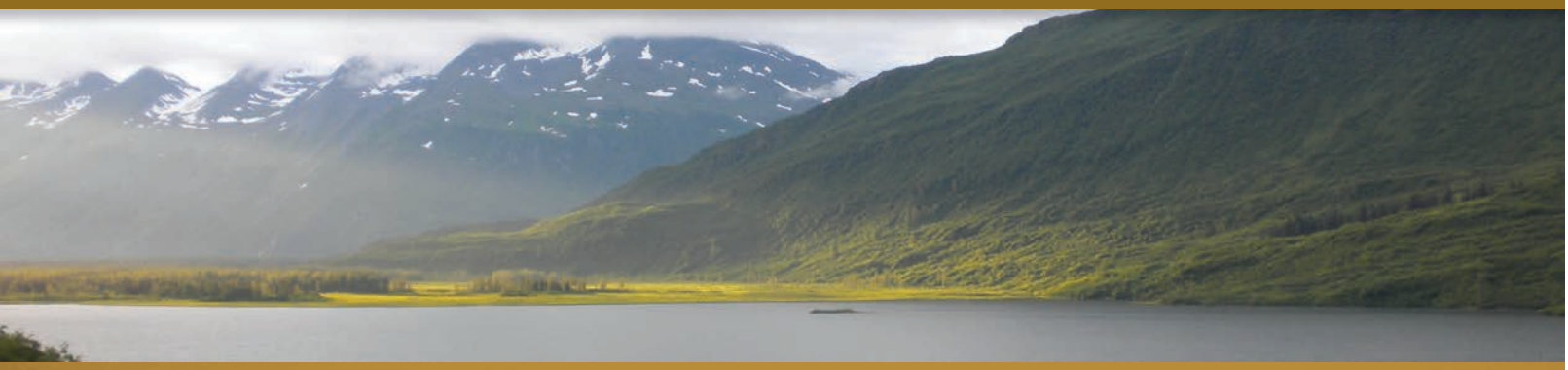
The council has been participating in a long needed re-write of Prince William Sound's sub-area oil spill contingency plan. The process was broken down into working groups under the leadership of U.S. Coast Guard Marine Safety Unit Valdez and we are happy to report the council is a fully engaged participant.

This past year has seen a flurry of Alaska Regional Response Team activity surrounding an effort to update the 1989 Dispersant Usage Guidelines, which articulate procedures for ensuring well-informed dispersant usage decisions in Alaska. The council has long advocated that these guidelines be updated in an open and transparent process that includes stakeholders. The non-public elements of this process are of great concern to the council because they bypass the meaningful opportunity for officials to consult with federally recognized tribes and with federally established citizens' advisory councils as they are required to do for such public oil spill response policy development activities.

It's never simply a matter of staying abreast of the terminal, the tankers, contingency plans, response policy, and equipment. The council has also initiated research on hydrocarbon impacts on humpback whales and local subsistence species like spotted and striped shrimp. We advocated for increased federal awareness and support for navigationally important weather buoys, pushed for long-needed upgrades to the original council and congressionally funded ice detection radar processor system, and advocated for state programs that respond to the threats of non-indigenous species that can potentially be transported to Alaska through tanker ballast water and other vectors.

On the people side, we said some tearful goodbyes to some of our passionate and long serving board members, volunteers, and staff and welcomed a number of new folks that we expect will be able and eager to carry on the challenge of sustaining constructive and informed citizen oversight of oil transportation and environmental stewardship in our region. As we mark the passage of the 25th anniversary of the Exxon Valdez oil spill this next year, I think we must anticipate additional instances where this legacy of responsible and passionate engagement is passed from one generation to the next. The council has been working to ensure our history, knowledge, and passion are passed to the next generation of volunteers and staff undiminished by the transition.

Eventful as the year has been, we close with much the same focus as when we began. The council is working to better understand risks, update our own practices, and continue to offer our concerns and advice to regulators and industry as all parties work together towards a common goal of promoting and sustaining the environmentally safe operation of the Alyeska terminal and associated tankers.



Mission and Responsibilities

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.

How We Are Structured

The council's 19 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.

Visit to Washington D.C., *Photo by Roy Jones, (non-staff)*

Functions We Perform

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.

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.
- 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.

Our Funding

The council was initially funded at $2 million a year. The funding is renegotiated every three years; current Alyeska funding is approximately $3.4 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."

2012-2013 Activities

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 U.S. Coast Guard's Vessel Traffic Service.

Photo by Bill Rome, (non-staff)

"Columbia Glacier has been in a state of rapid retreat since the early 1980s, having retreated some 17 kilometers (10.5 miles) and undergoing a reduction in mass of about 150 cubic kilometers (5.3 trillion cubic feet). Most of the reduction has been in the form of calved icebergs. The ice drifts with the current and wind towards Bligh Reef, south of the Valdez Narrows."

Columbia Glacier Iceberg Monitoring

Icebergs calving from Columbia Glacier and drifting into the vessel traffic lanes frequented by the oil tankers traveling though Prince William Sound has long been a subject of interest to the council. In the late 1990s, the council participated in pioneering research conducted by Drs. Austin Post and Wendell Tangborn, with the Columbia Glacier Iceberg Monitoring Project.

Columbia Glacier has been in a state of rapid retreat since the early 1980s, having retreated some 17 kilometers (10.5 miles) and undergoing a reduction in mass of about 150 cubic kilometers (5.3 trillion cubic feet). Most of the reduction has been in the form of calved icebergs. The ice drifts with the current and wind towards Bligh Reef, south of the Valdez Narrows.

This year's continuation of the Columbia Glacier Iceberg Monitoring Project is being conducted by two well-known glaciologists, Drs. Tad Pfeffer and Shad O'Neel. Work being conducted by Pfeffer and O'Neel will summarize the current state of knowledge concerning the retreat of Columbia Glacier, especially in the interval that has taken place since the original project.

To quantify or estimate future risks to oil tanker traffic, our researchers intend to reevaluate the concept of calculating glacier retreat rates using photographic records of daily changes in the terminus, or end of the glacier. In cooperation with the Tatitlek Corporation, a digital camera has been placed on Heather Island overlooking the glacier's moraine.

Pfeffer and O'Neel will also reevaluate the "mass balance," or the difference between accumulation and melting of the

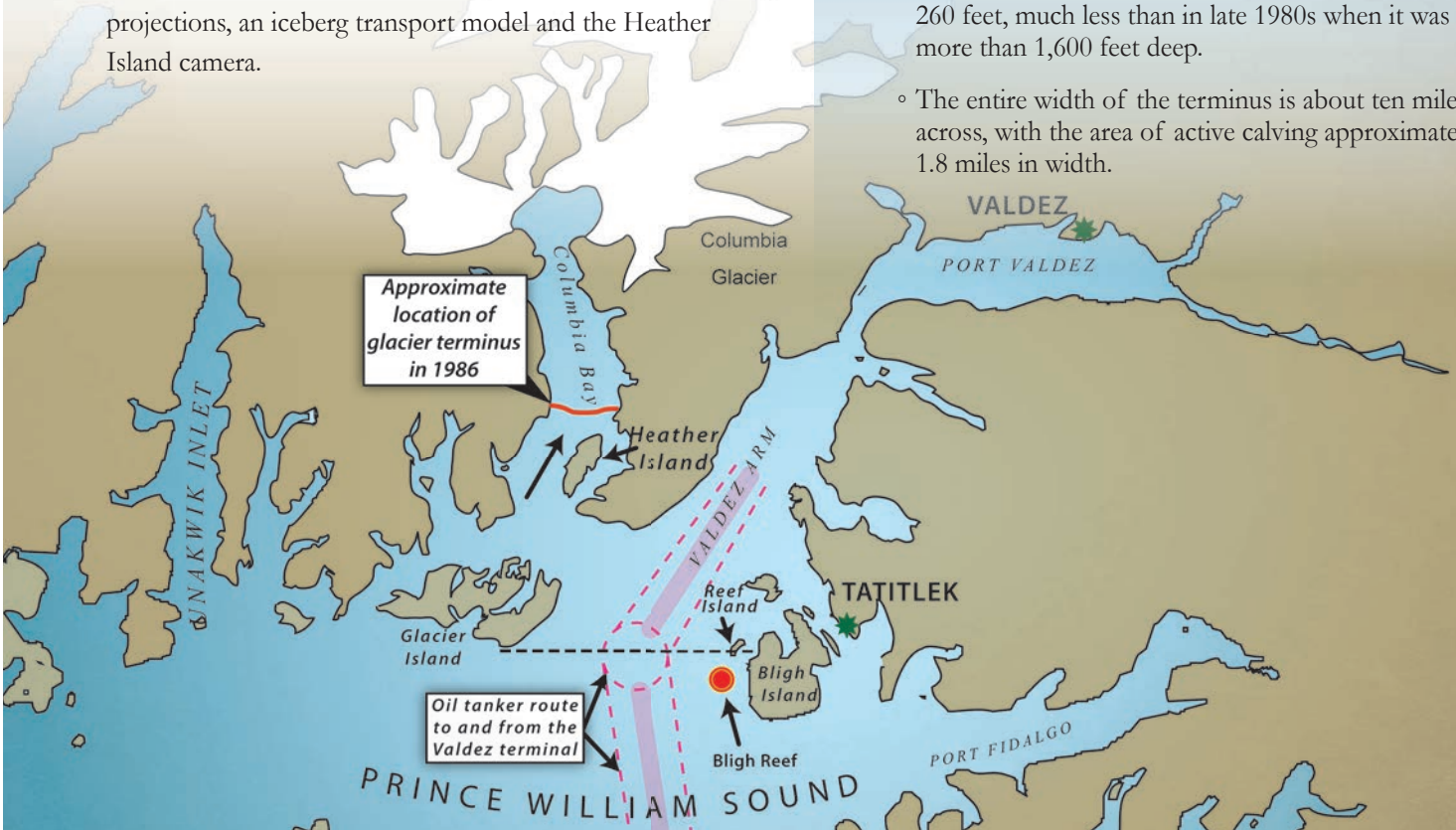
glacier, and the iceberg production model developed by Post and Tangborn in 1996 to 1998. Ultimately, in service of the council's goals of improving safety and preventing spills, the project hopes to develop a forecast for iceberg production generated by Columbia Glacier for the next ten years.

Project Goals

Goals for the project are to determine the best estimate of glacial retreat and volume loss, evaluate iceberg transport into the Sound and describe the passage constraints of icebergs over the Columbia Glacier moraine shoal. The first report, approved by the board this past year, describes the available data for Columbia Glacier and the second will discuss recovery of historic research materials, the original project, water depth measurements of Columbia Bay, glacial retreat projections, an iceberg transport model and the Heather Island camera.

Interesting Facts Concerning Columbia Glacier:

- Columbia Glacier calves, a process where pieces of ice break off into the water as icebergs, about 3.4 million tons of ice per day.
- The distance from the glacier's terminus to the Heather Island Moraine is about 13.7 miles and from the moraine to the tanker traffic lanes is approximately 12 miles.
- The height of the glacier's terminus ranges from 33 to 92 feet.
- Constrained by water depth at the moraine, the largest icebergs that can reach the traffic lanes are 328 feet (at their largest dimension).
- The main branch of the Columbia Glacier is now about 29.8 miles in length, down from 43 miles in the early 1980s at the onset of the current retreat.
- The water depth at the terminus ranges from 26 to 260 feet, much less than in late 1980s when it was more than 1,600 feet deep.
- The entire width of the terminus is about ten miles across, with the area of active calving approximately 1.8 miles in width.



Oil Spill Preparedness and Response

The council's foremost interest is in preventing oil spills and devotes considerable time and effort to ensure appropriate prevention measures are in place, but the risk cannot be eliminated entirely. So we must be prepared to respond quickly and effectively if prevention measures fail. 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 the operators of oil tankers and the Valdez Marine Terminal (as well as the trans-Alaska pipeline) to prepare detailed plans showing how they will respond to oil spills should prevention measures fail. The council devotes much time and attention to oversight of these all-important plans for the tankers and their terminal.

In many cases, the council participates with government and industry in work groups that develop and improve contingency plans. The council conducts independent reviews and submits comments and recommendations from these reviews.

The council promotes compliance, enforcement, and funding for state and federal regulations and oversight, and also supported the Alaska Coastal Management Program when it was still in existence. Along with local communities, the council encourages incorporating local knowledge of sensitive areas into contingency planning.

Tanker Contingency Plans

The Prince William Sound Tanker Oil Discharge Prevention and Contingency Plan was renewed in November 2012 and will be valid for a period of five years. Prior to the tanker plan approval, state regulators required additional information and details on controlling, containing and cleaning up a potential spill in Prince William Sound. The council reviewed and provided input on these plans along with associated plans of Alaska Tanker Company, BP Oil Shipping Company, Polar Tankers, SeaRiver Maritime, Tesoro Alaska Company, and Alyeska Pipeline Service Company/ Ship Escort/Response Vessel System.

The council's goal throughout the plan renewal process was to foster continuous improvement of oil spill prevention, preparedness, and response in the Prince William Sound region and downstream communities. As such, the council identified specific elements of the contingency plan such as sensitive area protection; on-water recovery; best available technology; fishing vessel types, numbers, and crew that are a key asset during a response; tankers and barges which would be available on short notice for storage of recovered oil; and even operating in darkness as concerns to be addressed during the renewal. Workgroups comprised of the council, industry and shipping representatives, regulatory agencies, and other stakeholders focused on the changing physical and chemical properties of crude oil and improvements to

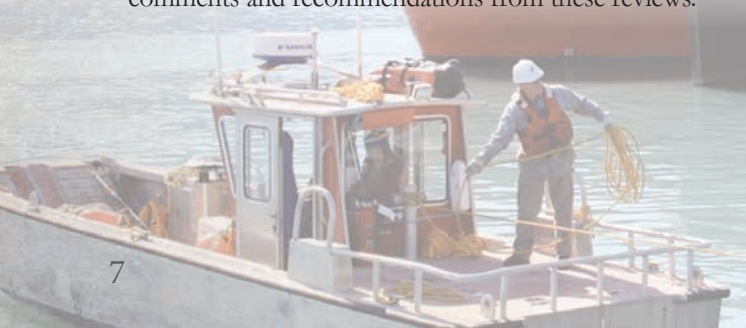


Photo by Alan Sorum

Fishing Vessel Training in Seward
Photo by Jeremy Robida

the nearshore response. These workgroup efforts continue today.

Comments provided by the council are based on accumulated knowledge and expertise derived from involvement in drills and exercises over the past two decades. These exercises serve to validate the prevention and response system in place today. The Alaska Department of Environmental Conservation (ADEC), the state agency tasked with approval of these plans, has indicated several areas will be validated over the next few years through oil spill exercises including nearshore and open water responses, sensitive area protection, fishing vessel availability, operating in darkness, and availability of tankers and barges of opportunity.

Valdez Marine Terminal Contingency Plan

The contingency plan covering the Valdez terminal was slated to expire in May 2013. However, due to a large number of changes, including the plan being reformatted into four separate volumes, the deadline for expiration of the existing plan was extended to December 2013. This short-term extension will allow the plan renewal process to continue until ADEC has conducted a thorough review.

The council is involved in various phases of the review by providing comments on the information requested.

The Valdez Marine Terminal Coordination Work Group, formed as part of the 2003 plan renewal, focuses on improvements to the terminal contingency plan. The group meets quarterly. Members of the work group include the state-federal Joint Pipeline Office, the U.S. Coast Guard, Alyeska Pipeline Service Co, and the council. Direct communication through this work group has provided the council with an understanding of prevention and response activities addressed in the contingency plan.

The council focused on tracking internal inspections on several crude oil storage tanks for the past year. Other related concerns include industrial wastewater system repairs at the Valdez terminal, possibility of corrosion of buried piping, location of the lightering barge, and integrity of the secondary containment liner underneath the crude oil storage tanks designed to prevent oil from escaping should there be a spill. The council has also participated in drill design and spill exercise evaluations at the terminal.

Geographic Response Strategies

Project work associated with geographic response strategies has been ongoing since 2002. Geographic response strategies are map-based mini-plans designed to protect sensitive areas and resources, such as salmon streams and clamming beaches, during an oil spill response. These pre-established defense plans allow response teams to take immediate action, and save critical time during the first few hours of a spill response. These strategies show responders where sensitive areas are located and where to place resources such as oil spill boom. Sites are identified through a cooperative workgroup effort and surveyed for future use in oil spill response.

The council is currently completing work to add 20 sites to the Seward zone. This information will be integrated into the Cook Inlet Subarea Plan when that plan is updated. Next year, the council will collaborate with the Alaska Department of Environmental Conservation to update the plans for current sites in Prince William Sound. As part of the Prince William Sound tanker plan, Alyeska's Ship Escort/Response Vessel System, also known as SERVS, has tested strategies on five geographic response strategy sites per year for the

past several years, and the council seeks to incorporate the changes suggested by those tests. As the Prince William Sound Subarea Plan is currently under revision, updates to the state website are timely as those sites will be included in the revised plan.

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

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. And it takes practice, practice, practice. The council's Oil Spill Prevention and Response Operations program monitors the operational readiness of SERVS and the tanker companies, and makes sure the council itself is prepared to respond to oil spills and other emergencies.

Council staff members, volunteers, and contractors monitor and report on spill response drills, exercises, and training throughout the region to provide citizens, regulators, and responders with information about the state of readiness and to make recommendations for improvement. Most of the monitoring work is done by council staffers, who present annual reports summarizing each year's activities, lessons learned, recommendations, and outstanding issues.

Drills and Exercises

Council staff attended nine drills and exercises during the year covered by this report. These exercises included a wildlife and sensitive area protection exercise, the Tesoro Prince William Sound Shipper's exercise, and a three-day Geographic Response Strategies deployment in the eastern part of Prince William Sound.

The largest of these was a major oil spill drill that Tesoro conducted in October 2012 in Prince William Sound. The fictional scenario imagined that, during inclement weather, an outbound partially loaded tanker struck an unknown object and suffered a breached hull. The tanker instantaneously released a simulated 20,000 barrels of North Slope crude oil. The vessel sustained no further damage and the bad weather eased as the response continued with no further release of oil. This exercise focused on setting up staging areas in Valdez, Cordova and Whittier. A full incident management team was set up in the Valdez Emergency Operations Center.

Alyeska conducted four exercises related to the Valdez Marine Terminal's oil spill contingency plans during the past year. In July 2012, Alyeska set up its bird stabilization units and simulated bringing in oiled birds for treatment during a wildlife exercise. Alyeska conducted a sensitive area and open water recovery exercise in August 2012 and an incident management team tabletop exercise in November 2012. The last exercise was a U.S. Coast Guard led exercise in June of 2013, when Alyeska conducted a tabletop exercise with a full incident management team and deployed equipment to simulate open water and nearshore oil recovery efforts, as well as protection of two nearby sensitive areas. During this drill, the council put aspects of its own internal spill readiness plan to the test and communicated with board members and volunteers in a mock board meeting, set-up a website to relay response information to the public, and worked on other small but important aspects such as travel logistics and tracking spill related accounting.

SERVS conducted a three-day Geographic Response Strategies exercise in October of 2012. The goal of the exercise was to validate the strategies developed by State and Federal agencies with input from stakeholders, incorporating local knowledge, assisted by funding from the council. Other exercises conducted during the past year included tanker towing exercises and open water and nearshore readiness exercises.

Monitoring the Fishing Vessel Response Fleet

The council continues to monitor the strengthened proficiency of 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 their crews undergo annual training from SERVS covering various oil spill response tactics, equipment, and personal safety and protection, among other topics. This three-day training allows for a day of hands-on time with equipment, a day of classroom materials, and a day of actual practice on water with response gear and boom. The past year's annual training emphasized sensitive area protection tactics, incorporated the basics of the tanker contingency plan scenario, and showcased several pieces of response equipment that have not been part of training in some years. Overall, participants reported the training went well and that the scenario overview helped them to understand what a full-fledged response would look like. Over 300 vessels and their associated crews participated in the spring session of annual training; a fall session is also planned. There are approximately 400 vessels enrolled in this program and on contract to SERVS. Reliance on these vessels and their training will be vital in an actual spill.

SERVS' response vessels and crews practice oil spill response maneuvers near the Valdez Marine Terminal. *Photo by Alan Sorum*

Spill Response Training Improvements

Because evaluating the effectiveness of oil recovery efforts during trainings and drills can be difficult, the council has been working to find, and permit, an appropriate oil simulant. A simulant would mimic some key characteristics and properties of oil on water and provide responders with a practice target, create realism during exercises, and help to increase proficiency with response gear and tactics.

In March 2013, the council, along with the Oil Spill Recovery Institute and the Spill Control Association of America hosted a high-level workshop of national experts to discuss the need for suitable oil spill simulants, develop criteria for selecting appropriate simulants, identify applicable regulations, and permitting procedures and options for oil simulants use in U.S. waters. Representatives from several federal agencies, including the U.S. Coast Guard, National Oceanic and Atmospheric Administration, Pew Environmental Trust, and the Bureau of Safety and Environmental Enforcement joined the meeting.

The group came to a consensus on a number of items, including:

- Simulants could help improve oil spill response technologies and tactics in the U.S.
- There is a need to clearly define processes and permitting procedures regarding simulant use
- There is a lack of knowledge regarding the patchwork of current oil simulants use.

Other consensus items addressed ways to solicit input on simulants, allow for varying local needs, evaluate the potential for any negative environmental effects, and deal with different localized permitting processes, among others.

The report concerning this workgroup effort will be presented at Clean Gulf, a national oil spill response conference, this fall. The full report is available on our website: www.bit.ly/OilSimulantsWorkshop2013.

This first stage of the project addressed simulant use on a national policy level. The council is continuing this work with the goal of permitting a particle based simulant for use in Prince William Sound area waters during exercises and vessel training activities.

Incident Management for Stakeholders workshop
Photo by Amanda Johnson.

Incident Management for Regional Stakeholders

In 2013, the council started conducting workshops in local communities to educate stakeholders about specifics of the Prince William Sound oil spill contingency plans and the incident command system. The system, first developed in the 1970's to manage rapidly moving wildfires, is a standardized structure that has been adopted to manage a variety of emergencies and incidents.

The incident command system as it pertains to oil spills has some unique features, however, and the workshop describes the processes and decisional authorities in place during a spill, and how stakeholders and communities can constructively and effectively work within the incident command system to ensure their concerns are heard and addressed.

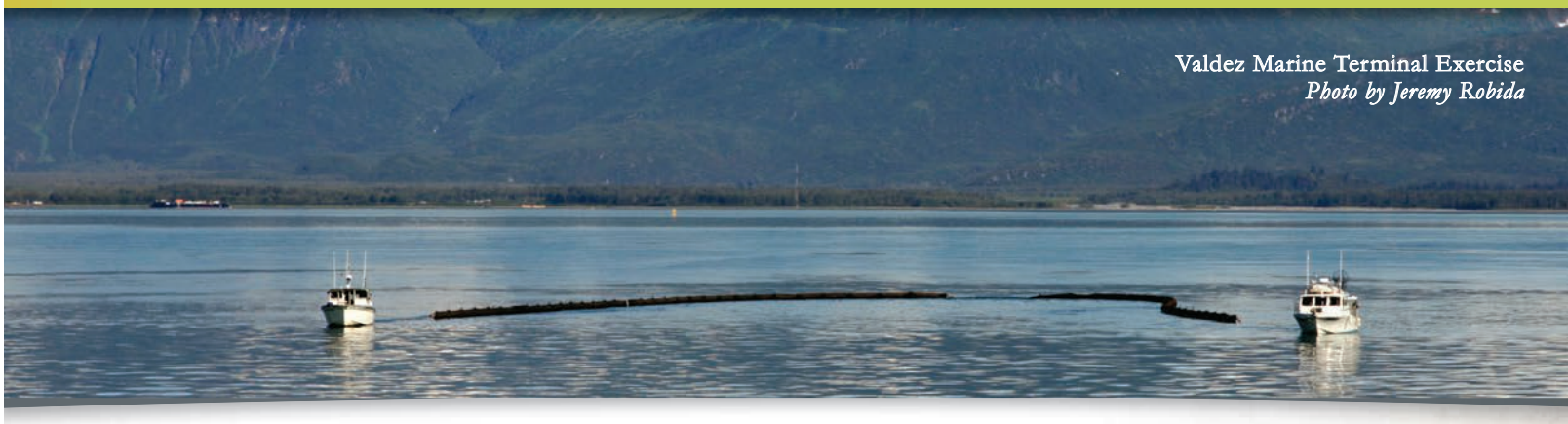
By understanding the roles and responsibilities of those involved in an incident, stakeholders will be better able to represent their communities and express their concerns. They will better understand how the response will unfold since the workshops also provide basic information about the prevention and response assets that are in place.

Participants include those people who would be representing their communities in a spill response incident or who would be affected by an oil spill in some fashion. Examples include: mayors, city managers, local emergency responders, finance agencies and non-profits.

The first workshop occurred in Homer at the end of May, and participation and feedback was very positive. Future events are scheduled in Whittier, Cordova, and Seward this fall.

Workshop topics include:

- A brief introduction to the citizens' advisory council and our role
- The basics of the Incident Command System
- An explanation of Unified Command (the joint leadership entity that controls the activities of an event) and its decisional and jurisdictional authorities and composition
- The processes for interactions with, and soliciting input from, local stakeholders
- How news and status updates are delivered
- An explanation of oil spill contingency plan requirements and the regulations that shape those plans
- A focused look at the tanker oil spill contingency plans and prevention and response systems in Prince William Sound
- Review of the various agencies, stakeholders and their roles during a spill



Valdez Marine Terminal Exercise
Photo by Jeremy Robida

Environmental Protection and Monitoring

Operations at the Valdez Terminal

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 us to develop recommendations on environmental policies and permits. The council carries out this work through two major programs: under the leadership of the Scientific Advisory Committee and the Terminal Operations and Environmental Monitoring Committee. Through these programs we commission 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 associated with their use.

Operations at the Valdez Tanker Terminal

Besides posing the risk of a major oil spill caused by earthquake or accident, Alyeska's Valdez tanker terminal produces ongoing air and water pollution from routine operations, as allowed by its permits from regulatory agencies. The council monitors terminal operations with the goal of minimizing the risk of spills and ensuring that permitted pollution is within or below regulatory limits and that those limits are set at the lowest feasible levels, consistent with preventing harm to the surrounding environment.

Oil Flow in Barrels and Dollars

The council has monitored oil loadings at the terminal since January 2003. At that time, an average of 968,000 barrels per day of North Slope Crude moved through the terminal and onto tankers every day. Since then oil flow decreased steadily every year reaching a low in 2012/2013 of about 506,000 barrels per day.

The value of oil moving through the terminal varies with the price of oil. In 2002, the oil moving through Valdez was valued at $700 million per month. The oil increased in value reaching a peak of $2.7 billion per month in June 2008 and then dropped to a low of $675 million per month in December 2008. The value of product remains high at approximately the same level as last year with approximately $1.5 billion worth of product loaded in Valdez in May 2013.

Oil Storage Tank Levels At Valdez

Council staff continues to monitor oil storage at the Valdez Marine Terminal. While the inventory of oil remained mostly in the range of 30% to 80% of capacity, inventory levels spiked to 90% several times. Inventory levels above 80% are seen as problematic, and levels above 90% can potentially pose serious operation problems for Alyeska.

Air and Water Quality

For many years, the council has been concerned about the emission of hazardous air and water pollutants from the Ballast Water Treatment Facility. This facility services the terminal groundwater runoff and few occasional tankers arriving in Valdez with oily water in their cargo tanks. On average, 2 million gallons of fresh water runoff and oily ballast which could produce air and water pollution are treated each day. Council staff reviews monthly discharge monitoring reports filed by Alyeska with the Alaska Department of Environmental Conservation. Recent improvements to the water treatment facility have resulted in substantial improvements to both air and water quality emissions.

Photo by Tom Kuckertz

System Integrity Issues at the Valdez Marine Terminal

We monitor 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 of concern or other projects that are being addressed by Alyeska.

This year, the council developed three projects associated with integrity issues at the Valdez Marine Terminal involving the fire protection systems, management of corrosion, and the ability of Alyeska to remotely control oil handling assets at the terminal from Anchorage. Recognized experts with national reputations were engaged to assist staff in completing these projects and to ensure the project results and recommendations were widely viewed as credible.

Fire Protection Assets at the Terminal

Alyeska's Fire Brigade and the Valdez Fire Department have various responsibilities for addressing a fire at the terminal. The Valdez Fire Department has responsibility and mission to be a first and primary responder; however, the Alyeska Fire Brigade will likely, at least initially, have operational control of the fire engines, pumpers, monitors, and other equipment necessary to extinguish a fire at the terminal. Because Valdez firefighters and their equipment may be 15 or more miles away if an incident occurs, the Alyeska Fire Brigade will likely be the first responders. The council's expert assessed the extent to which the two fire departments, using available assets, were capable of successfully fighting a fire at the terminal. One key finding by the council's expert was that a memorandum of understanding regarding joint operations between the Valdez Fire Department and Alyeska Fire Brigade did not exist. The council has encouraged the City of Valdez and Alyeska to work together to develop the needed memorandum of understanding.

Corrosion of Assets at the Terminal

When the Valdez Marine Terminal was designed in the 1970s, its useful life was thought to be 30 years. Many of the subsystems and components were designed accordingly. Often components wear out from mechanical action and corrosion. The identification of corrosion can be difficult because many instances are hidden in buried pipe, on the inside of pipes, tank bottoms, or otherwise obscured from view. Periodic inspection of such components is often difficult and expensive. Nevertheless, it is also necessary to manage corrosion risk and prevent oil spills.

This year, the council hired a contractor to help identify potential corrosion problems at the terminal. A key finding by the council's expert was that a considerable portion of crude oil piping at the terminal had not been inspected for potential corrosion since original construction. Coincident with this project, Alyeska discovered and repaired corrosion at welds on piping leading to a berth oil loading arms that in one location had suffered a 70% wall loss. Only a fraction

Valdez Marine Terminal
Photo by Tom Kuckertz

of the hundreds of similar welds have ever been inspected. Although U.S. Department of Transportation regulations call for annual inspection of over-water piping at other terminals, the regulating agencies for the Valdez terminal do not explicitly require regular inspection of the piping. A key recommendation of the council's expert is to employ some form of in-line inspection technology at the terminal and to regularly inspect all of the terminal's crude oil piping. The council recommended that State and Federal agencies with authority over the terminal operations adopt and enforce Department of Transportation or equivalent requirements for routine piping inspections.

As this annual report went to press, Alyeska has embarked on extensive efforts to examine and inspect over water girth welds on Berth 4 with plans to continue the inspections to Berth 5. Initial results were extremely positive showing little to no corrosion of the welds. Alyeska further reported plans to develop some form of in-line inspection technology similar to that recommended by the council.

Staff member Jeremy Robida makes a presentation at Science Night.
Photo by Amanda Johnson

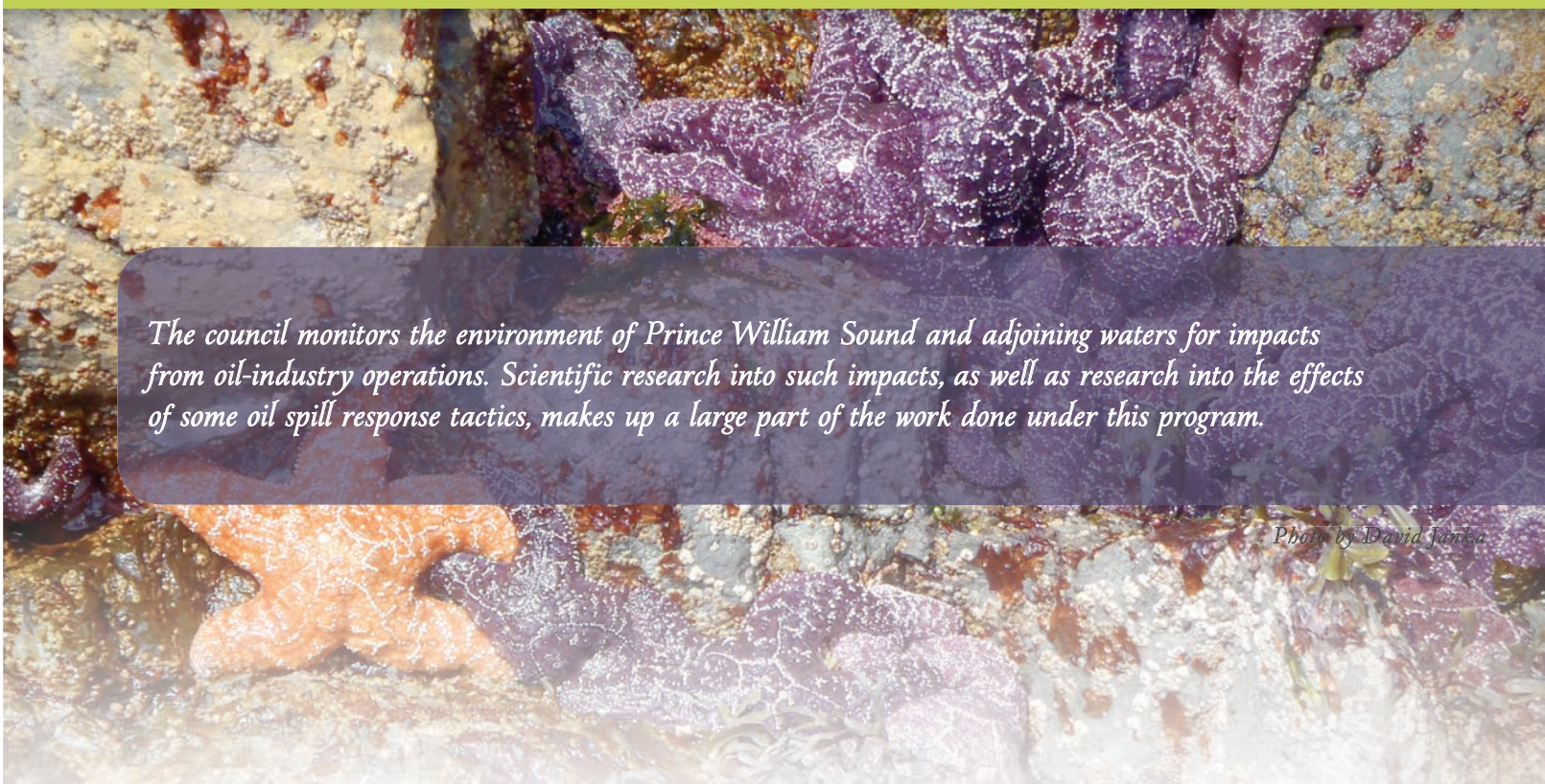
Council representatives continue to participate in the Alaska Regional Response Team's Science and Technology Committee as it works to update the Alaska dispersant use guidelines.

Information on the council's work on dispersants is available on our website: www.bit.ly/OilSpillDispersants.

Alaska North Slope Crude Oil Properties

Some of the physical properties of Alaska North Slope crude oil, such as API gravity (density), temperature, viscosity, dispersability, emulsification, hydrocarbon component content and toxicity can vary over time. Information about current crude oil properties is important, because it can affect the type of equipment and resources needed to clean up spilled oil. Some physical properties of the crude oil may have changed significantly since production began on the North Slope. Assumptions that rely on these properties must periodically be validated.

A working group was formed to examine the properties of the oil as they related to various spill response considerations. The tanker shippers, Alaska Department of Environmental Conservation, Alyeska, and the council worked together to develop protocols for taking samples of crude oil that were analyzed by two independent laboratories. Those results produced by the laboratories are now being incorporated into spill response considerations.



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.

Photo by David Janka

Chemical Dispersants

Chemical dispersants are substances designed to disperse spilled oil into the water column, rather than leaving it floating on top in a slick. Due to our concerns about the efficacy and toxicity of dispersants, we promote research and testing to increase knowledge about chemical dispersants and the environmental consequences of their use in Alaska waters.

The council accepted a final report under this project titled "Ingestion and Effects of Dispersed Oil on Marine Zooplankton" by Dr. Dick Lee of the Skidaway Institute of Oceanography. The report summarized recent research regarding the uptake and effects of dispersed oil on zooplankton. Zooplankton are large plankton from the animal kingdom, not plants. Plankton are a keystone species that are a fundamental base of the food chain, so deleterious effects upon their health and viability holds the potential to impact entire ecosystems. The report identifies gaps in the research where further investigation is needed.

In early 2009, the council accepted two valuable literature surveys—"A Review of Literature Related to Oil Spill Dispersants 1997-2008" and "A Review of Literature Related to Oil Spill Solidifiers 1990-2008." (Oil-spill solidifiers are products that combine with oil to produce a more solid, less sticky, rubbery compound that is easier to pick up and remove from the environment.).

These reviews were complemented by a searchable database of the recent research reports identified in the reviews. This database is now being updated annually. in order to provide easy access to all of the most recent dispersants information and research.

Hydrocarbon Toxicity

Through this project, we research and address the gaps in knowledge regarding 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.

In May, the board accepted the final report from the Department of Fisheries and Oceans Canada titled "Toxicity Effects of Dispersed Alaska North Slope Oil on Fish." The report summarizes original research on hydrocarbon toxicity from dispersed oil to herring, salmon and cod. Another contract continues with work in progress by the National Marine Fisheries Service.

The data from this project will be of important use to our long term environmental monitoring and dispersants projects. We hope to enhance our understanding of the major classes of compounds and their environmental impacts that result from spilled oil and the in-situ burning process.

Monitoring
Photo by Jeremy Robida

Invasive species

Invasive species, long a major concern for the citizens' council, refers to the problem of non-indigenous plants, animals, or microorganisms reaching Alaska and establishing themselves here. Such invasions can harm native species, including commercially valuable ones such as salmon. The council believes the best way to eliminate invasive species is preventing their arrival in the first place.

For the council, the primary concern is non-indigenous organisms arriving via oil tankers—either attached to hulls or riding in the ballast water that the tankers discharge into Prince William Sound before loading North Slope crude at the Alyeska terminal in Valdez.

The council continued to provide leadership to citizen monitoring efforts, particularly for the European green crab. This 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.

In July, the council accepted a final report from the Smithsonian Environmental Research Center on a survey of bottom-dwelling invasive species in Prince William Sound. Two of the species collected are known to be non-native to Alaska: the bryozoan Schizoporella japonica and the barnacle Amphibalanus improvisus. The bryozoans had previously been documented in Alaskan waters, however this is thought to be the first time the invasive barnacle has been documented in Alaska. This barnacle is native to the Atlantic Ocean and is known to be established on the Pacific Coast of North America, occurring as far north as British Columbia. Genetic data confirms that the Alaska specimen is consistent with invasive barnacles in California.

The monitoring program has evolved into a self-sustaining grassroots system since it was initiated by the council in 2000. Communities now run their own operations through local science centers in Homer and Seward. The council continues to support some of the smaller communities to encourage participation for those areas. No green crabs have yet been captured in the council region by these trapping efforts.

A copy of the final project report can be found here: www.bit.ly/NISinPrinceWilliamSound2012.

Council staffer, Anna Carey, checking green crab traps and measuring by-catch.

Regional Environmental Monitoring

In 1993, the council established a Long-Term Environmental Monitoring Program, called LTEMP. The program assesses the status of hydrocarbon levels in the Sound, as well as long-term trends and any new developments that could have an effect on those levels.

Samples are collected at ten intertidal sites in Prince William Sound and the Gulf of Alaska. 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.

LTEMP sampling is conducted once per year at two Port Valdez sites and at one site in eastern Prince William Sound. Every fifth year, 10 sites are sampled. Before the current schedule was adopted in 2009, the sampling frequency was as high as three times annually at all ten sites. 2013 is the fifth year of the sampling cycle and samples were collected in early July.

The council's LTEMP reports, along with additional information on the program, are available at www.bit.ly/LTEMPproject on the internet.

Outreach

Member Relations

The council's full-time outreach coordinator maintains productive relationships with its 19 member communities and organizations. The coordinator visits communities in the council region, attends member group functions, gives presentations, coordinates special events involving the council and its member groups, and encourages citizen involvement in the council's work.

Several educational expeditions visited Valdez and attended council staff presentations. Participating students were part of educational learning experiences funded by various sources. Their expeditions included learning about the Exxon Valdez oil spill, improvements made to oil spill prevention and response in Prince William Sound, as well as science, invasive species, and the Chugach National Forest.

Council volunteers Blake Johnson and John Velsko at council booth. *Photo by Linda Robinson*

Over the past year, the council participated in outreach activities at local and national levels. Some of those included:

- Community receptions in Valdez, Seward and Kenai.
- Community visits to Old Harbor, Seldovia, Whittier, and Nanwalek
- Shareholders meeting in Port Graham
- Ocean Science Fairs in Cordova and Valdez
- Eyak Sobriety Celebration in Cordova
- Alaska Committee for Noxious and Invasive Plant Management and the Alaska Invasive Species Working Group conference in Kodiak
- Kenai Peninsula Fish Habitat Partnership science symposium in Homer
- Alaska Marine Science Symposium in Anchorage
- Alaska State Science & Engineering Fair
- Cook Inlet Regional Citizens' Advisory Council meetings
- Alaska Federation of Natives annual conference in Anchorage
- Alaska Forum on the Environment in Anchorage
- Kodiak ComFish
- Alaska State Library conference in Valdez
- North American Marine Environment Protection Association "Environmental Intelligence in Maritime" Senior Leadership Roundtable in Anchorage
- Pacific Marine Expo in Seattle
- Arctic and Marine Oil Spill Program seminar in Halifax, Nova Scotia

Photo courtesy of Alaska Geographic

Ocean Science Festival Partnership
Photo courtesy of PWS Science Center

Youth Involvement

The Information and Education Committee supports the council's mission by fostering public awareness, responsibility, and participation through information and education.

The committee accepted several proposals in the past year to fund educational opportunities for students from the region affected by the Exxon Valdez oil spill. These proposals were funded under our Youth Involvement project, which assists educational groups in studying topics related to our mission.

Council funded proposals included:

- **Alaska Geographic**
  Extending an existing student trip so participants and leaders could visit a beach with lingering oil in Prince William Sound, to visit the Port of Valdez and Prince William Sound tug escort system, and to meet in person with council staff.

- **Valdez Elementary School**
  To work with Alaska Department of Fish and Game retired biologists to incubate salmon in the classroom and for students to experience a Stan Stephens cruise in Prince William Sound that helps students connect salmon to the larger history of the Exxon Valdez oil spill and improvements in oil spill prevention and response, the current Prince William Sound tug escort system, Alyeska tanker terminal operations, hatcheries and commercial fishing, and with the larger ecosystem.

Tatitlek
Photo by Alicia Zorzetto

Photo courtesy of Alaska Geographic, (non-staff)

- **Kodiak Island Borough School District**
  Support of the Ocean Advocates Club, including assistance from a high school intern and to hold Ocean Art Workshops for students with a well-known marine science educator and children's book author.

- **Valdez High School**
  Allowing students to attend an Alaska Coastal Ecology field trip at the NOAA Kasitsna Bay Lab located in Kachemak Bay to encourage stewardship of Alaska waters, and to put together a program about their experience to present to the council at the Valdez board meeting.

- **Chugach School District**
  To support a Prince William Sound Habitat Restoration Youth Expedition involving students and teachers from the council's regional schools, incorporating oil spill recovery and prevention into the activities.

- **Katie Gavenus of Homer**
  To develop a revision of the K-12 Oil Spill Curriculum, adding perspectives from multiple educational partners and to update the curriculum for an audience born beyond the era of the Exxon Valdez oil spill.

- **Alaska Geographic**
  For support of a Prince William Sound Teacher Expedition that will help encourage teachers to incorporate oil spill recovery and prevention activities into curriculum taught during the school year.

New website

This past year, the council redesigned our home on the web. The new site is intended to serve 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 technology of the new site will help us foster dialog and engagement between the council, our constituents, and the online community. New features include email and RSS subscriptions to front page announcements and requests for proposals, social media sharing options, improved file management, and an improved workflow for website updates.

Publications

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

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, as well as 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 and the U.S. Coast Guard are 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 posted on the council website and is also available as an email newsletter.

Each year, the council summarizes its work in an annual report such as this one.

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

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

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. The council has been the certified group since 1991.

Under the annual recertification process, the U.S. 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 U.S. Coast Guard considers comments from industry, regulators, 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.

Photo by Bill Rome

Who We Are

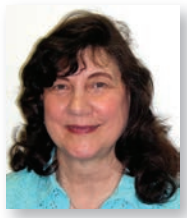
As of June 30, 2012

Executive Committee

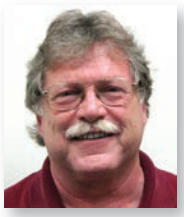
President
Amanda Bauer
City of Valdez

Vice President
Thane Miller
Prince William Sound Aquaculture Corp

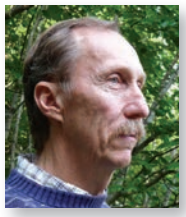
Secretary
Patience Andersen Faulkner
Cordova District Fishermen United



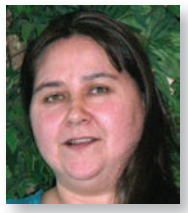
Treasurer
Marilynn Heddell
City of Whittier



Member-at-large
Blake Johnson
Kenai Peninsula Borough



Member-at-large
Stephen Lewis
City of Seldovia



Member-at-large
Diane Selanoff
Port Graham Corporation

The council is an organization of organizations. Our 19 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.

Each member entity chooses one representative to our board. The lone exception is Valdez. It has two representatives, giving our board a total of 20 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, and a village mayor.

Photo by Tom Kuckertz

Robert Beedle
City of Cordova

Al Burch
Kodiak Island Borough

Emil Christiansen
Kodiak Village Mayors Assoc.

Pat Duffy
Alaska State Chamber of Commerce

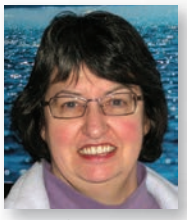
Jane Eisemann
City of Kodiak

Larry Evanoff
Chenega Corp. & Chenega IRA Council

Nick Garay
City of Homer

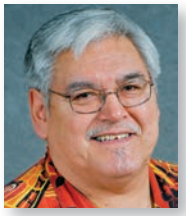
Cathy Hart
Alaska Wilderness Recreation & Tourism Assoc.

Jim Herbert
City of Seward



Dorothy Moore
City of Valdez

Walter Parker
Oil Spill Region Environmental Coalition



David Totemoff Sr.
Chugach Alaska Corporation

Roy Totemoff
Community of Tatitlek Council

Ex-Officio Board Members (Non-Voting)

Ron Doyel, Alaska Dept. of Environmental Conservation

Bradley Dunker, Alaska Department of Fish and Game, Division of Sport Fish

Sharon Randall, U.S. Forest Service

Allison Iversen, Alaska Dept. of Natural Resources

Joe Hughes, U.S. Bureau of Land Management

Denise Hall, Alaska Div. of Homeland Security & Emergency Mgmt.

Chris Field, U.S. Environmental Protection Agency

Pamela Bergman, U.S. Department of the Interior

Commander Ben Hawkins, U.S. Coast Guard, Marine Safety Unit, Valdez

W. Scott Pegau, Oil Spill Recovery Institute, Cordova

John Whitney, U.S. National Oceanic and Atmospheric Administration

Advisory Committee Missions

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

Advisory Committees

As of June 30, 2012

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.

Oil Spill Prevention and Response Committee

Chair: John LeClair, Anchorage
Vice-chair: Jerry Brookman, Kenai
Robert Beedle, Cordova (council board member)
David Goldstein, Whittier
Jim Herbert, Seward (council board member)
Walter Parker, Anchorage (council board member)
Gordon Scott, Girdwood
John Velsko, Homer

Scientific Advisory Committee

Chair: John Kennish, Anchorage
Vice-chair: Paula Martin, Soldotna
Roger Green, Hope
Dorothy M. Moore, Valdez (council board member)
Debasmita Misra, Fairbanks
Dave Musgrave, Palmer
Walter Parker, Anchorage (council board member)
Mark Udevitz, Anchorage

Terminal Operations and Environmental Monitoring Committee

Chair: Bob Benda, Valdez
Vice-chair: Harold Blehm, Valdez
Amanda Bauer, Valdez (council board member)
Jo Ann Benda, Valdez
Stephen Lewis, Seldovia (council board member)
George Skladal, Anchorage

Port Operations and Vessel Traffic Systems Committee

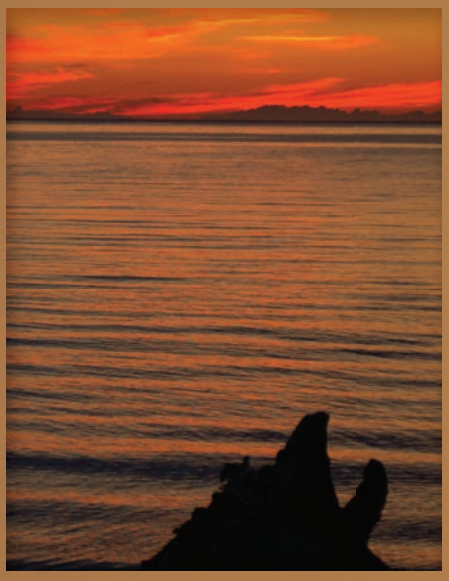
Chair: Bob Jaynes, Valdez
Vice-chair: Bill Conley, Valdez
Kari Anderson, Seward
Cliff Chambers, Seward
Pat Duffy, Valdez (council board member)
Jane Eisemann, Kodiak (council board member)
Pete Heddell, Whittier
Orson Smith, Seward

Information and Education Committee

Chair: Patience Andersen Faulkner, Cordova (council board member)
Vice-chair: Savannah Lewis, Seldovia
Jane Eisemann, Kodiak (council board member)
Cathy Hart, Anchorage (council board member)
Ruth E. Knight, Valdez
Allen Marquette, Cordova
Kate Morse, Cordova

Staff and Offices

Childs Glacier - Cordova, AK



Sunset over lower Cook Inlet
Photo by Linda Robinson

Executive Director: Mark A. Swanson

Anchorage

Joe Banta, Project Manager
Gregory Dixon, Financial Manager
Amanda Johnson, Project Manager
Tom Kuckertz, Project Manager
Serena Lopez, Project Manager Assistant
Lisa Matlock, Outreach Coordinator
Barbara Penrose, Administrative Assistant
Steve Rothchild, Administrative Deputy Director
Linda Swiss, Project Manager
Alicia Zorzetto, Digital Collections Librarian

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Toll-free: 800-478-7221

Flight to Eleanor Island
Photo by Amanda Johnson

Valdez

Anna Carey, Project Manager Assistant
Jean Cobb, Administrative Assistant
Jennifer Fleming, Executive Assistant
Roy Robertson, Project Manager
Jeremy Robida, Project Manager
Donna Schantz, Director of Programs
Alan Sorum, Project Manager

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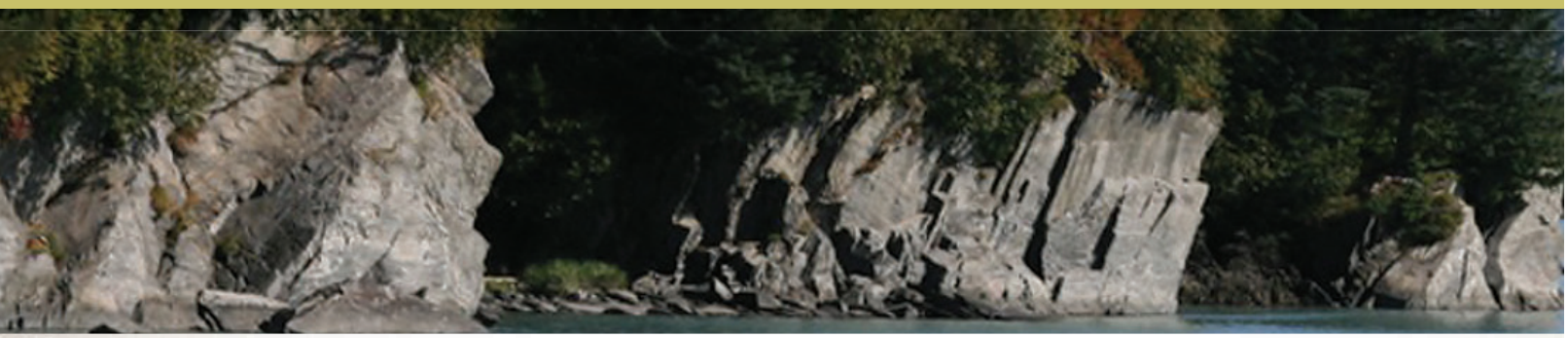
PRINCE WILLIAM SOUND
RCAC
Regional Citizens' Advisory Council



Papers, Presentations, Reports, and Media Releases

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Status of Contaminated Sites at Valdez Marine Terminal (report). Harvey Consulting, LLC., June 2012. Document number: 651.431.120613.VMTContSites.

Managing Invasive Species: How Much Do We Spend? (report). Alaska SeaLife Center, July 2012. Document number: 852.431.120731.ISESRnisEconomics

Quantitative Survey of Nonindigenous Species (NIS) in Prince William Sound (report). Smithsonian Environmental Research Center, July 2012. Document number: 952.431.120701.QuantSurvey

Valdez Marine Terminal Tank Secondary Containment System Catalytically Blown Asphalt (CBA) Liner Integrity Review and Testing Options, Phase I – Initial Assessment (report). Harvey Consulting, LLC., August 2012. Document number: 651.431.120801.CBALinerIntegrit.

Ballot Measure 2 Would Give Alaskans More Clout Over Coastal Development (opinion piece). Mark Swanson. August 2012. Document number: 270.405.120814.ACMPballotMeas2.pdf

Escort Winch, Towline, and Tether System Analysis (report). Robert Allan Ltd, August 2012. Document number: 801.431.120824.RAtugWINCHrpt

Citizen Oversight Group Seeks "Continuous Improvement" in Renewal of Tanker Oil Spill Plans for Prince William Sound. (news release). Citizens' council. October 2012. Document number: 651.108.121025. RenwalPWStkrCP

Citizens' Group Calls for Improvements to Towing Systems on Prince William Sound Tugs. (news release). Citizens' council. October 2012. Document number: 801.108.121017.TowingSysPWStugs

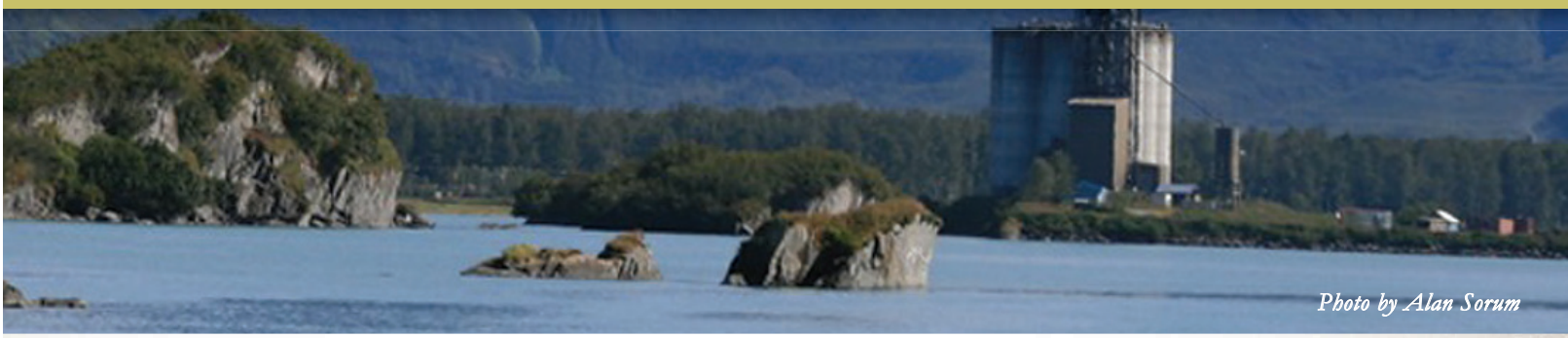

Photo by Alan Sorum

Final Comments on the 2012 Prince William Sound Tanker Oil Discharge Prevention and Contingency Plan and the Ship Escort/Response Vessel System SERVS Technical Manual SV-140 (comments). Citizens' council, October 2012. Document number: 651.431.121012.TkrPlnCmtFinal

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Corrosion Survey of Valdez Marine Terminal (report). Dr. Rust, Inc. December 2012. Document number: 559.431.121220.DRIvmtCorrosSrvy

Future Iceberg Discharge from Columbia Glacier, Alaska (report). W.T. Pfeffer Geophysical Consultants, LLC., December 2012. Document number: 855.431.121204.WTPColGlacierRpt1

Dispersed Oil Effects on Zooplankton (report). Richard Lee of the Skidaway Institute of Oceanography, January 2013. Document number: 955.107.130101.DispOilZooplmktn.pdf

Toxicity Effects of Dispersed Alaska North Slope Oil on Fish (report). Centre for Offshore Oil, Gas and Energy Research (COOGER), March 2013. Document number: 955.107.130301.NrthSlpOilToxFish

PWSRCAC's Requests for Additional Information on the Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan (comments). Citizens' council, March 2013. Document number: 651.105.130329.RFAIcomments.

Citizens' Council Promotes Improvements to Oil Spill Liability Trust Fund (news release). Citizens' council. April 2013. Document number: 210.108.130409.OSLTFres

Oil Spill Simulants Materials – Workshop Proceedings. Nuka Research & Planning Group, LLC., May 2013. Document number: 708.431.130501.NUKAosSimMatWS

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 back page).

Credits

Sea lion cover photo by Jamie Acton, (non-staff)
Back cover photo by Jeremy Robida

Regional Citizens' Advisory Council

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