



The Observer

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Spill response with dispersants largely impractical

The citizens' council has long doubted that chemical dispersants would work on spilled oil in Prince William Sound. Now, a new study suggests dispersant effectiveness doesn't matter much, because environmental conditions in the Sound make the chemicals impossible to apply most of the time anyway.

Dispersants are chemicals designed to dilute spilled oil so it fades from the surface slick and mixes into the water column below, where it's biodegraded by natural processes.

The new study suggests the application of dispersants is impossible 75 percent of the time in central Prince William Sound and 60 percent of the time at Hinchinbrook Entrance, where oil tankers leave the Sound and pass into the Gulf of Alaska.

The study also found that burning spilled oil on the water is generally impossible 86 percent of the time during winter at Hinchinbrook.

The council-sponsored study, titled "Non-mechanical Response Gap Estimate for Two Operating Areas of Prince William Sound" was conducted by Nuka Research and Planning Group.

Non-mechanical response refers to the use of dispersants and the burning of oil on the water as cleanup tactics. Mechanical response refers to the use of equipment like containment booms and surface skimmers. The latest study is a follow-up to a 2007 Nuka report on the feasibility of mechanical response in Prince William Sound conditions.

"This has been a long-standing concern of the board," said Executive Director John Devens. "The study was prompted over concerns that the oil industry can move tankers through Prince William Sound in environmental conditions that would prevent them from responding to an oil spill, if one were to happen."

See page 7, **RESPONSE**



A FOND FAREWELL— Council President Patience Andersen Faulkner presents Stan Stephens with a photograph of Harriman glacier, thanking him for his years of service with the council at the May board meeting in Valdez. Stephens retired from the council in January after holding many executive positions, including president of the board. Photograph by Linda Robinson.

Council to join international SAFETUG study

Citizens' council marine operations project manager Chris Jones and board vice president Stephen Lewis attended the twentieth biennial International Tug and Salvage Convention and Exhibition in Singapore May 19 through May 23.

The convention is a combined business and technical meeting attended by interna-

tional industry leaders from the towing and salvage world. Over 400 delegates from 46 countries and 110 exhibitors met at the newly completed SunTec International Convention and Exhibition Centre for the event.

Presentation topics included ship salvage and the push for environmental salvage awards, which

would reward salvagers for preventing damage to the environment; hybrid or green tug technology; and modern technological advancements in vessel and vessel equipment.

The purpose of the trip by Jones and Lewis was to meet with members of the Maritime Research Institute

See page 7, **SAFETUG**

INSIDE THE OBSERVER

Volunteer: Green, SAC's scientific sampling expert, p. 2



Invasive species panel visits Alaska, p. 4

Exxon court battle comes to an end, p. 4

An afternoon in Prince William Sound. Alaska wildlife caught on camera, p. 5

Firefighters descend on Valdez for training, p. 6

Community Corner: Council visits salmon hatchery, p. 8

Comings and goings: Two new board members, p. 2

Coast Guard receives new officer in charge, p. 2

Devens: Response gap threatens the Sound, p. 3

Alyeska Viewpoint: Volunteers promote health and safety, p.3

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Volunteer Profile**Volunteer promotes good science and good times****By Amanda Johnson**

Project Manager Assistant

Scientific Advisory Committee member Roger Green seems to take his favorite ancient Chinese proverb, "May you live in interesting times," very seriously. After sitting down one afternoon and hearing him speak about his life, it's impossible to imagine that he is ever bored.

Green's interests range from recent studies on the history of religion to his field of expertise: designing scientific studies for collecting biological samples.

From consulting on issues relating to coral reefs in Florida and rivers downstream from pulp and paper mills in Alberta, Canada, to a roundtable discussion of religion in science at Oxford University, Green's knowledge and expertise are always in high demand.

Green, originally from Canada, moved his winter residence back to Ontario a few years ago, but maintains a summer cabin in Hope, Alaska. Still, he has managed to stay very active with the citizen's council. Green said his volunteer work for the council takes a lot of time, but he is intensely dedicated to supporting the council mission. To keep up with all the issues, he employs a mix of teleconferencing and coordinated visits to Anchorage.

Green recently developed and ran several day-long intensive workshops, co-sponsored by the council and the University of Alaska Anchorage, on the principles of designing scientific sampling studies. Sampling studies are an important part of the council's Long Term Environmental Monitoring Program. Green said it's important to pay attention to the little things when you are designing studies that involve collecting samples.

"If I have a regular rant over the decades, it's to stop people from changing sampling protocols in mid-stream," Green said. Small differences in procedure can create widely varying results in almost any study.

One cautionary tale he cites is that of a study years ago when he was part of a group collecting mud samples in Canada's Bay of Fundy. The protocols for the study called for collecting samples, separating the organisms, then placing them into preservative for later counting.

The weather was rough and cold, as



SAC volunteer Roger Green may be a busy guy, but he always has time for his daughter Charlotte, aka "Nanook." Photograph by Lisa Ka'aihue.

Canadian winters can be, and the group changed one small part of the process. For safety reasons they decided to place the mud samples straight into the preservative and wait to separate the organisms in the laboratory the next day.

The extended exposure time to the preservative caused the soft-bodied organisms to become brittle. Worms and other species could not wash through the sieve as in previous sample collections. This small change drastically affected the species count.

Green said he sees the council's Scientific Advisory Committee in a role that is currently shifting gears.

"Given our mandate, what is the best use of our funding?" Green said. He would like to see the committee reduce the frequency of testing for hydrocarbons left from the Exxon Valdez oil spill, and instead concentrate on planning how to respond to new spills. Continual monitoring is necessary to keep a background portrait of the water composition for comparison in case of another event like the Exxon Valdez spill. In his opinion, reducing the amount of testing at existing sites would save money that could be

put to other uses.

However, he would recommend adding a site or two. Nearly twenty years after the Exxon Valdez oil spill, there are still pockets of oil in Prince William Sound. He thinks that monitoring these sites would provide valuable information about the environmental damage done during the 1989 spill.

Dispersants and their effect on the environment is another subject that gets Green's blood boiling.

"Oil companies do love the idea of just throwing dispersants at oil spills, which is unproven for Alaska and Prince William Sound," Green said. While dispersants do get the oil out of sight quickly, Green said his concern is that dispersing oil into fine droplets in the water column may make the oil more bio-available or consumable to organisms in the environment.

As a parent of a small child, Green's time with his daughter Charlotte is precious. However, Green maintains a wealth of up to date information and a variety of experiences, and his good natured temperament adds a jovial sense of humor to every gathering he attends.

Coast Guard receives new commander

As of July 8, the Coast Guard will have a new commanding officer for Prince William Sound. Darryl Verfaillie will take over as Officer in Charge of Station Valdez, replacing Verne Gifford, who is being transferred New Orleans.

Verfaillie hails from Eastham, Massachusetts, and joined the Coast Guard in 1991. Before that, he served in the Merchant Marine from 1986 to 1991.

At present, he is chief of marine environmental response for the Coast Guard's Thirteenth District in Seattle.

He is also incident commander for the Pacific Area Incident Management Assist Team. In that role, he worked Hurricanes Katrina and Rita and the 2006 wild fires in Arizona and New Mexico.



Commander Darryl Verfaillie replaced Verne Gifford at the Coast Guard's Valdez Marine Safety Unit Change of Command ceremony July 8.

Council board confirms new members

Iver Malutin was confirmed for a one-year appointment to the board of directors at the May board meeting. Malutin represents the Kodiak Village Mayors Association, replacing existing member Jim Nestic of Old Harbor.

Malutin is a lifelong resident of Kodiak and was a commercial salmon fisherman for over 50 years.

He is an active board member on the Commission on Aging and serves on several other advisory boards and councils, including the State of Alaska subsistence advisory board, the Alaska Native Elders



Iver Malutin



Donald Kompkoff

Health Advisory Board, and the Koniag Regional Corporation and is a Sun'aq Tribe Council member.

Malutin visits with many schools to talk about Alaska history as documented by the Russian Orthodox Church, indigenous people, Kodiak history, Native traditions and native way of life as it relates to subsistence today.

Donald Kompkoff joined the board, representing Chenega Bay, he replaces Pete Kompkoff. Kompkoff lived in Chenega Bay before the 1989 oil spill and witnessed firsthand its effect on his home.

From the Executive Director**Despite progress, response gap threatens Sound**

It took a lot of hard work and cooperation between the people of Prince William Sound and the oil industry for the citizens' council to confidently say that the Sound has some of the best oil spill prevention and response capabilities in the world.

For almost 20 years now, the council has worked with the oil and shipping industries and regulators to identify and minimize the potential dangers of transporting oil through the Sound.

However, the council recently analyzed an oil spill response gap that could severely limit the ability to effectively respond to a spill considering the various weather conditions that exist in Prince William Sound.

The response gap was documented in two council-sponsored studies by Nuka Research and Planning Group that confirm a long-standing concern that tankers are being allowed to move oil at times when sea and weather conditions make it impossible for the existing response system to perform as designed should an oil spill occur.

The studies reviewed the limitations of mechanical spill response technologies such as skimmers and boom, and non-mechanical technologies such as dispersants and in-situ burning (burning of oil on the water), in light of weather data from the Sound from 2000

through 2005.

These studies suggest that, at Hinchinbrook Entrance, oil spill response is severely impaired or impossible 56 percent of the time during the winter and 30 percent of the time in the summer. That means, for a significant portion of the year, a spill could happen in Prince William Sound and even our most capable response systems could not perform in a meaningful way.

According to the oil industry's contingency plan for cleaning up tanker spills, Hinchinbrook Entrance does not close to tankers until winds reach 45 knots (51 mph) or waves reach 15 feet.

When tankers are operating just under closure limits, response tugs and other vessels, such as fishing vessels, could not effectively operate the existing spill response equipment that they are regularly trained to use.

The council's conservative approach in the response gap studies didn't even include all weather-related restrictions. Limitations in the studies, such as inadequate visibility and current data, and lack of reliable weather data from areas within Prince William Sound such as the Valdez Narrows, leave room for further research.

While the council is identifying areas where the response system may be improved, we recognize that prevention is still the best tool to

fight oil spills. In an effort to improve prevention measures, the council is participating in the SAFETUG I and II projects being conducted by the Maritime Research Institute of the Netherlands. The data we receive should provide

additional information on the capabilities of response vessels in rough seas and allow us to make recommendations for improvements to this vital oil spill prevention system.

While improvements in equipment, technology and operation make a catastrophic spill today much less likely than in 1989, we don't want to gamble on a mistaken assumption that our current response fleet could handle any spill, in all weather conditions.

While we wait for further improvements in heavy weather response technology, we continue to focus on prevention measures. We do believe the response gap needs to be significantly narrowed, if not closed entirely.

• John Devens is executive director of the Prince William Sound Regional Citizens' Advisory Council.



John Devens

Alyeska Viewpoint**Alyeska brings health fair to remote communities**

By Ruth Black

Communications Manager, Valdez Terminal

The goal of the Prince William Sound Traveling Health and Safety Fair and Events is simple: Trans-Alaska Pipeline System employees and health care volunteers visit some of the region's most remote communities to deliver health and safety messages and lessons to the people who live there.

For one week, volunteers travel by boat throughout the Sound, visiting with children, elders, and community leaders, staging educational assemblies and informative meetings, and offering services such as mammograms, blood pressure and diabetic screenings, and lessons in everything from emergency preparedness to dental hygiene.

Each year Alyeska employees look forward to this opportunity to provide health and safety programs to the communities and villages in Prince William Sound. 2008 marked the eighth year that Alyeska has sponsored this unique community event.

The fair's theme this year was called Celebrate Life with the three P's: prevent, protect, and plan. Activities included a women's tea, where women discussed domestic violence, wrote songs and beaded bracelets; a breakfast for fathers to discuss healthy relationships; school assemblies for children; and, in each of the three communities, a health and safety fair with various booths geared toward physical and mental health and general safety and emergency preparedness instruction.

Other services provided to the communities included mammography clinics, height and weight checks, vision tests, blood pressure and diabetes screenings, and lessons about diet and exercise, first aid, oral health, relationships, domestic violence, prescription medication,



Communications Manager Ruth Black and health fair attendee Richie Kompkoff at the Alyeska Booth in Chenega Bay on April 16. Photograph courtesy of Alyeska Pipeline Service Company.

sexually transmitted diseases and the Women, Infants and Children program.

Alyeska also sponsored community dinners in the villages of Tatitlek and Chenega Bay.

From its creation, the traveling health fair was a joint project between Alyeska and state agencies to target Prince William Sound communities that had specific unmet health care needs.

In 2006, Lynden-owned Alaska Marine Lines from Cordova and Bering Marine Corporation joined as full sponsors, providing the marine craft and crew to move the volunteers through the Sound. Alyeska's Ship Escort/Response Vessel System provides the fuel.

These activities are supported by Alyeska's co-sponsors, which include the State of Alaska Division of Health and Social Services, Valdez and Cordova public health nurses, and

Chugachmiut Wellness Advocates.

The effort this year reached a broad audience with stops in Tatitlek, Chenega Bay, and Whittier. The teams provided 67 activities in six days and made 1,436 individual contacts. The week wrapped up with no safety incidents or injuries.

In 2006, the Prince William Sound Traveling Health and Safety Fair won the Alyeska Pipeline President's Awards for Excellence in Environment and Health and Safety. The award is distributed each year to celebrate outstanding environmental, health, and safety performances along the Trans-Alaska Pipeline System.

The program annually rewards and recognizes employees who demonstrate the excellence that is the hallmark of Alyeska's core values.

National invasive species panel gets a look at Alaska

The introduction of foreign species into Alaska could threaten ecosystems and damage fishing, subsistence, hunting and tourism industries. For the first time ever, the Invasive Species Advisory Committee met in Anchorage for a week-long summit. The committee, based in Washington, holds meetings in locations across the United States, in order to get a first-hand look at the issues at hand.

The committee is composed of stakeholders from state organizations, industry, conservation groups, scientists, academia and other interests from across the U.S. It advises the National Invasive Species Council, an inter-departmental body that helps coordinate federal action on invasive species.

Lori Williams, the executive director of the national council, said that, given the absence of any huge problems with invasive species in Alaska to date, she was impressed by the level of effort on the part of volunteers and agency experts to confront the issue here.

"Even though it's a small number of people and the programs are relatively small, everyone was on the right track and knew what the issues were," Williams said. "They were very aware of their challenges."



The council's Lisa Ka'aihue and Jeff Heys of the National Park Service worked to bring the Invasive Species Advisory Committee meeting to Alaska.



The Prince William Sound Regional Citizens' Advisory Council has held a seat on the Invasive Species Advisory Committee since 2000.

Council Director of Administration Lisa Ka'aihue worked primarily with Jeff Heys of the National Park Service to bring the Invasive Species Advisory Committee meeting to Alaska, in an effort to collaborate on invasive species prevention and to share information about the latest legislation, technologies and progress in the fight against invasive species across the U.S.

While Alaska is threatened by many invasive species, including Norwegian rat populations in the Aleutian Islands and several invasive weeds through the state, the council has taken a particular interest in species that could hitchhike their way into Prince William Sound on or inside the hull of an oil tanker.

The transport of coastal organisms in ballast water has been a major concern for invasions in recent years. Port Valdez ranks third in the United States for ballast water discharge, putting it at high risk for invasion.

Hull fouling is another focus of the council with regard to invasive species. Hull fouling involves organisms such as barnacles or mussels

attaching themselves to ship hulls and either coming in contact with structures in a new port or releasing larvae into the water.

A critical issue for the council is the fact that the National Invasive Species Act of 1996 exempts crude oil tankers in the Alaska North Slope trade from ballast water exchange requirements. Ballast water exchange is a technique to remove coastal organisms from ballast tanks by replacing the seawater taken on in port with open-ocean seawater.

The council is currently working on several projects to defend the Sound from invasive species, including monitoring for the European green crab, partnering with U.S. Fish and Wildlife Service to identify and record hull fouling on large ships, and working with the University of Washington to develop hull sampling methods, focusing on oil tankers in particular.

Several invasive-species bills are before Congress, some addressing ballast-water management. The council has submitted comments in favor of bills that remove a trade exemption that includes Alaska tankers sailing to domestic ports, currently exempt from ballast water regulations that require exchange and reporting.

At the state level, the council has been active in the Alaska Invasive Species Working Group to coordinate efforts and push forward issues of concern.

For more information on invasive species, visit www.adfg.state.ak.us and look for the invasive species link under News & Issues. Or, visit the citizens' council website, www.pwsrccac.org.

Supreme Court slashes Exxon Valdez punitive damages

The long-awaited ruling in the case of the Exxon Valdez oil spill was handed down June 25 when the Supreme Court capped punitive damages at \$507.5 million, bitterly disappointing thousands of commercial fishermen and other plaintiffs who had seen the award whittled down from \$5 billion by a series of court rulings.

The citizens' councils for Prince William Sound and Cook Inlet filed a friend of the court brief in January 2008 arguing to retain punitive damages as a deterrent to risky corporate behavior of the sort that led to the Exxon Valdez spill.

The final decision was divided, 5-3. Justice Samuel Alito did not take part in the case, because he owns Exxon stock.

The court's reasoning was summed up by Justice David Souter, who said punitive damages should not exceed the \$507.5 million the company has already paid in compensation to victims for economic losses.

Exxon claims it has already paid \$3.4 billion in fines, penalties, cleanup costs, claims and other expenses resulting from the spill.

Nearly 33,000 plaintiffs will share the decreased award.

John Devens, executive director of the Prince William Sound citizens' council, said \$507.5 million is little more than a slap on the wrist for the oil giant, which earned profits at the rate \$1,287 per second in 2007, a total of \$40.6 billion for the year.

"We were relieved that punitive damages weren't wiped out altogether, but we don't believe that \$500 million is much of a deterrent for a company the size of Exxon," Devens said.

In 1989, the grounding of the Exxon Valdez on Bligh Reef dumped an estimated 11 million gallons of crude oil into Alaska's Prince William Sound, oiling 1,300 miles of coastline and leading to the deaths of hundreds of thousands of marine animals and seabirds.

In 1994, a federal jury decided that Exxon should pay \$5 billion in punitive damages. In 2006, a federal appeals court cut that verdict to \$2.5 billion. Further appeals led to the June 25 Supreme Court ruling capping the damages at \$507.5 million.

Former Valdez city councilman and council director dies in accident

The citizens' council is saddened to report that former Valdez city councilman and former council board member Rich Nielsen died May 27 on a Canadian highway when an oncoming driver swerved into his lane and forced his motorcycle off the road.

Nielsen was 62 when he died at the scene, off the Alaska Highway near Beaver Creek, just across the border in the Yukon Territory, after the accident.

Nielsen, who served on the Valdez city council for six years, was on his

way to the Hyder Motorcycle Rally with a friend. The oncoming driver told investigators she swerved into Nielsen's lane trying to avoid an object in the road.

Nielsen was seated to council's board in 2002 representing the City of Valdez and was also a member of the POVTS Committee. He resigned from the council in 2004.

Nielsen had recently retired from working in the oil transportation and measurement business. Before that he spent 21 years in the U.S. Coast Guard, including service in Valdez.



Having worked in the shipping industry for 20 years, Nielsen's career experience served him well on the citizens' council. Photo courtesy of the Nielsen family.

Photographs from Prince William Sound

Bald eagle, Whittier kittiwake rookery



Photo by Kyle von Bose

Mountain goat, Whittier



Photo by Kyle von Bose

Steller sea lions, Valdez



Photo by Kyle von Bose

Humpback Whale, Whittier



Photo by Jeff Schardt

Firefighters attend marine training symposium

Land-based firefighting techniques can be inefficient and even dangerous aboard vessels in port or on the ocean. That's why Alaska coastal community firefighters, including Prince William Sound, made their way to Valdez for the Land-Based Marine Firefighting Symposium, sponsored by the citizens' council May 5-7.

Firefighters from more than a dozen communities throughout Alaska, including the state fire marshal and representatives from the U.S. Coast Guard, state of Alaska, American Salvage Association, Marine Pilots Association, Bureau of Land Management, oil shipping companies, Alyeska Fire Brigade, and the city of Valdez participated in this year's event.

Participants learned some basics about shipboard firefighting as well as fire awareness and prevention for tank farms, cruise ships, small boats, and marinas.

Council maritime operations project manager and symposium co-coordinator Chris Jones said the training the firefighters received should give them a better understanding of how to react in the event of a marine fire, whether on a small vessel, tanker or tug.

The main highlight of this year's symposium was a tour of the Polar Discovery, one of ConocoPhillips' Alaska double-hulled tankers. Attendees received a guided walk-through and an overview of shipboard fire prevention systems. The ship's captain and chief engineer were available to speak with tour participants about the ship's fire plans.

"This was the most difficult activity to arrange, since we relied wholly on Polar Tankers' generosity and commitment to public safety by their vessel operators, who allowed us access to the vessel," Jones said.

Participants also attended a realistic hands-on firefighting exercise aboard the pilot boat Emerald Isle, provided by Southwest Alaska Pilots Association. A smoke machine was placed in the lower decks of the vessel. Firefighters used a thermal imager to locate a simulated body in a corner of the vessel's lower deck. They also practiced routing hose down through the vessel to the source of the smoke.

A facilitated panel discussion was held for the purpose of understanding how participants from different backgrounds could work together in the event of a fire aboard a tanker in Prince William Sound or at the Valdez Marine Terminal.

The symposium addressed the problems of dowsing down an oil tank only to have the roof collapse or spraying water on a burning vessel, which can swamp a boat that most likely was headed for the ocean floor anyway.

To address fire issues near storage tanks, participants were led through a tour of the Petro Star tank farm. Participants also discussed fire pre-planning and tactical approaches to fighting tank farm fires.

Council Executive Director John Devens said he was very impressed with the organization and execution of this year's



Council Project Manager Chris Jones gets suited up with the help of Bureau of Land Management Operations and Maintenance Specialist Rhonda Williams, before entering a simulated vessel fire aboard the vessel the Emerald Isle. Photograph by Billy Jo Gehring.

symposium and is looking forward to further promoting dialog between firefighters and industry.

"Just like in the event of another big spill, if a tanker or terminal fire were to break out, cooperation would be the most important tool we have to contain and avoid a large-scale disaster," Devens said.

Devens and Jones expressed their gratitude to co-coordinators Capt. Jeff Johnson and Capt. John Taylor, the instructors and everyone else who made the symposium a success.



Firefighters route hose into the Emerald Isle. Photograph by Billy Jo Gehring.



The Southwest Alaska Pilots Association provided unlimited access to the pilot boat the Emerald Isle for a fire-fighting exercise. Attendees dressed out in fire-fighting gear, including oxygen to find their way through the vessel using a thermal imager to locate a body, played by an instructor, on the floor of the vessel's lower deck. Photograph by Billy Jo Gehring.

Regional Citizens' Advisory Council

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Council launches outreach and education committee

The newly formed Information and Education Committee held its inaugural meeting in Anchorage on June 12.

Participating in the meeting were its founding members: Seward volunteer Peter Armato, Kodiak board member Jane Eisemann, Cordova board member Nancy Bird, Anchorage board member Cathy Hart, Seldovia volunteer Savannah Lewis, Valdez board member Dorothy Moore, board president Patience Andersen Faulkner of Cordova, and former Valdez board member Stan Stephens.

At the meeting, committee members created the education committee's mission statement, and worked toward developing its goals.

The mission: support the council's work by fostering public awareness, responsibility and participation through information and education.

Members also chose goals for the committee. They include fighting complacency, attending a broader range of events to help promote the council, promoting family involvement, promoting projects from other council committees to the general public, and broadening the age range of those participating in the council.

Another goal is to develop collaboration with people, communities and organizations in regions that have environmental challenges similar to those faced by the council in its region.

The committee also spent some time discussing next year's 20th anniversary of the Exxon Valdez Oil Spill.

The next meeting will be an in-person retreat Aug. 8 to review the council's projects and determine which of those the committee would like to have input on.

SAFETUG: Findings may help to determine operating limitations of tugs in the Sound

Continued from Page 1

Netherlands and to get a better understanding of its joint industry projects, SAFETUG I and SAFETUG II.

The institute, an international authority in hydrodynamics, determines the performance and capabilities of tugs through the use of systematic model testing supported by computer simulations. This accounts for a large portion of the SAFETUG projects.

SAFETUG I took place in 2007 and studied the performance and behavior of tugs assisting vessels during berthing and high speed escorting. The data is being used to determine how tugs operate in rough seas and at what limits, such as waves and wind, they can no longer perform the tasks they were designed for.

SAFETUG II, which began in May of 2008, focuses on tug design and equipment such as winches, fenders and towlines. The data will be combined with operational aspects, including training and the human factor, which will give researchers a tested assessment of the capabilities of tugs in all types of weather and sea conditions.

The council is joining the SAFETUG II project in the hope of finding out how well Prince William Sound's tugs stack up against the environmental conditions in the northern Gulf

of Alaska, which oil tankers enter when they leave the Sound via Hinchinbrook Entrance. The results of the study should help the council better understand the capabilities and limitations of the Sound's current escort fleet.

The council's cost for admission into SAFETUG I and II is \$93,600.

The council is simultaneously working with the National Weather Service to define the typical winter storm conditions for the northern Gulf. Once established, these conditions will be used in simulations to assess the capabilities of the current escort fleet.

The information could be used to address limitations in the Sound's current fleet and provide answers on how to fill those gaps, with the most likely result being a need for an emergency towing vessel.

"Many industry leaders at the conference agreed that the northern Gulf of Alaska may have some the worst ocean conditions in the world," Jones said. "Almost every expert we talked to said that we need a more capable vessel. At the upper limits, when tankers are still allowed to operate, our tug is going to have a difficult, if not impossible time making the save. Our participation in SAFETUG II should give us more knowledge about our current vessels' performance to decide whether we are in need of a more capable vessel for Hinchinbrook Entrance duty."

Response: Conditions like wind, waves, limit in-situ burning and dispersant application

Continued from Page 1

The purpose of the project was to estimate how often conditions in the Sound would prevent a successful spill response. Two key areas, Hinchinbrook Entrance and Central Prince William Sound, were the focus of the study, because of a pre-existing body of extensive weather data for the two locations.

The study looks at dispersant distribution by aircraft, the method of application outlined in the oil industry's contingency plan for cleaning up tanker spills. The study analyzes four environmental factors to determine the limitations of applying dispersants: wind, the state of the sea, temperature and visibility.

Wind and sea state are critical to dispersant application. If the sea is too calm, dispersants will not churn into the oil and dispersion will not occur. But, if the sea is too rough, dispersants are likely to be displaced before they are able to mix with oil and dispersion also fails to occur. Winds between 12 and 25 mph create an ideal mixing environment for dispersants.

Sea state means the vertical height of waves. Waves of two feet to 10 feet are considered ideal mixing conditions for dispersants.

Visibility is a major factor for airborne dispersant application, eliminating night-time response altogether and impairing or preventing it if daytime visibility drops below about two miles. Temperature was not a limiting condition for dispersant application.

The same four environmental factors were applied to burning oil on water, which is known as in-situ burning. In-situ response often uses containment booms to corral oil into a thick slick in order to burn, which can subject in-situ

response to some of the same constraints as mechanical response.

Winds over about 17 mph make it difficult to ignite and sustain a burn. At 23 mph and over, the study deemed in-situ burning impossible. Wind also hinders the effectiveness of containment booms and can damage equipment.

Calm seas provide ideal burning conditions, according to the study, while swells three to six feet high impair burning and swells over six feet make it virtually impossible.

Visibility conditions limit burning to daylight hours for practical reasons regarding vision and being able to monitor the smoke plume.

Nuka's Tim Robertson said the latest study was limited by questions about the accuracy of available data on visibility and sea conditions in the Sound. The study took a conservative approach and considered only the darkness of night as a visibility factor and did not consider reductions in visibility caused by fog, snow, or other precipitation.

Marine forecasters in the Anchorage Region Headquarters of the National Weather Service have been noting for years that automated measurements from moored weather buoys tend to under-report sea conditions such as wind speed and wave height.

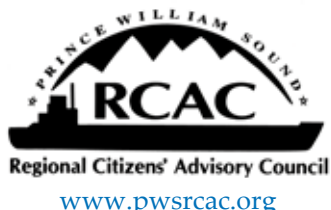
The next step in the project is to determine if the two studies require further investigation, such as a more comprehensive collection of visibility data or a closer look at data to determine which environmental factors have the greatest effect on the study's results.

The council is in the early stages of communicating the results of the response gap studies with industry officials, in an effort to develop a collaborative approach to address these mounting concerns.

Thank you to the sponsors of the 2008 Land Based Marine Firefighting Symposium

- Alaska Division of Homeland Security and Emergency Management
- Alaska Tanker Company
- Alyeska Pipeline Service Company
- City of Valdez
- ConocoPhillips Marine (Polar Tankers, Inc)
- Crowley Marine Services, Inc.
- Petro Star, Inc. (Valdez Petroleum Terminal)
- Reynolds Alaska
- Southwest Alaska Pilots Association
- U.S. Coast Guard Marine Safety Unit Valdez

Working together to train over 50 Alaskan firefighters and other delegates. Training offered at no cost to the many fire departments that participated due to the generous contributions from our sponsors. Symposium coordinated and paid for in part by the Prince William Sound Regional Citizens' Advisory Council.



Community Corner

Day-cruise through the Sound makes stop at salmon hatchery

When the Invasive Species Advisory Committee met in Anchorage in May, the week culminated in an optional field trip on a chartered boat from Whittier to Valdez through Prince William Sound.

On a spectacular day, we were treated to an up-close visit to a black-footed kittiwake rookery, a sea lion haulout, and a trip to the Wally Noerenberg Hatchery, about 20 miles east of Whittier on Esther Island.

When first entering the hatchery through a narrow inlet, you see three round container buoys floating in the water. Each contains boom (a barrier to prevent oil from going into the hatchery) so that in the event of an oil spill or other type of spill, the hatchery can be protected.

The expected harvest of pinks in 2008 is 929,000. The "egg-take" goal for those fish is 148,000,000 eggs. "Egg-take" is when some of the returning fish are harvested, anesthetized, and sorted by sex. Eggs and sperm are then removed and used for fertilization.

A stream environment is created in incubators by capturing fresh water from Esther Lake, which sits above the hatchery. By adjusting water temperature, protein rings are created in the salmon and act as a bar-code. Scientists can then determine which stock the returning fish are from.

About late March, the baby salmon, called fry, are released into underwater pens in the local bay. The fry "imprint" to chemical characteristics of the environment surrounding the hatchery, allowing them to instinctively return to the release site.

The fertilization and incubation process is similar for all species of salmon. But, while coho and sockeye salmon must remain

in fresh water until they become smolt, or juvenile fish, pink and chum salmon can be released from incubation directly to saltwater. For

more information on Prince William Sound Aquaculture, salmon, and hatcheries, go to www.pwsac.com/year.htm

The council participated in the International Oil Spill Conference in Savannah Georgia in May. Training sessions were offered in areas such as efficacy and effects of disper-

sants in oil spill response, use of weather forecasting for emergency response and the basics of oil spill response.

The conference's platform sessions included planning, prevention and preparedness, international oil spills, and response and science. Demonstrations were held to showcase aerial, on-water, and dockside displays showing US Coast Guard, US Navy, and local, regional, and national response helicopters deploying and dropping boom.

The council-produced film, "Then & Now, The Alaska Oil Spill at 20," was shown twice during the conference film festival.

The new Information and Education committee met June 12. Highlighting the first agenda was the formation of mission and goals, and the election of the committee chair. Patience Andersen Faulkner will hold that position for the committee's first year.

The council also attended the Arctic Marine Oilspill Program's 31st technical seminar in Calgary in June. This conference includes technical papers and presentations on topics related to oil, chemicals, and hazardous materials. And the council hosted a reception June 17 at the Kenai Peninsula Borough building for the borough assembly and others.



Linda Robinson



A Coast Guard helicopter drops boom in a spill-response demonstration at the 20th Triennial International Oil Spill Conference in Savannah, Georgia, in May. Over 2,500 people from 80 countries attended the technical sessions and viewed more than 250 exhibits. Photograph by Linda Robinson

Prince William Sound Regional Citizens' Advisory Council

The Prince William Sound Regional Citizens' Advisory Council is an independent, non-profit corporation formed after the 1989 Exxon Valdez oil spill to minimize the environmental impacts of the trans-Alaska pipeline terminal and tanker fleet.

The council has 18 member organizations, including communities affected by the Exxon Valdez oil spill and groups representing Alaska Native, aquaculture, environmental, commercial fishing, recreation and tourism interests in the spill region.

The council is certified under the federal Oil Pollution Act of 1990 as the citizen advisory group for Prince William Sound, and operates under a contract with Alyeska Pipeline Service Co. The contract, which is in effect as long as oil flows through the pipeline, guarantees the council's independence, provides annual funding, and ensures the council the same access to terminal facilities as state and federal regulatory agencies.

The council's mission: Citizens promoting environmentally safe operation of the Alyeska terminal and associated tankers.

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