



# Cook Inlet Navigational Safety Forum Proceedings

February 21-22, 2007  
Anchorage, Alaska

Prepared by Nuka Research and Planning Group, LLC



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# **Proceedings of the Cook Inlet Navigational Safety Forum**

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## **Introduction**

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The Cook Inlet Regional Citizens' Advisory Council (CIRCAC) is a nonprofit corporation organized exclusively for the oversight, monitoring, assessment, and evaluation of oil spill prevention, safety, and response plans, oil terminal and tanker operations, and environmental impacts of oil terminal and tanker operations in Cook Inlet. Safe navigation of tankers and other vessels carrying fuel oil is paramount to protecting Cook Inlet's commercial and recreational resources and environmental health.

CIRCAC convened the Cook Inlet Navigational Safety Forum to share information about Cook Inlet navigational risks and discuss possible interventions to reduce the risk of vessel casualties and oil spills. This 1-1/2 day event convened political, agency, industry, and community representatives, as well as diverse special interest groups representing both industry and environmental organizations.

The Forum was held at the Wild Berry Theater in Anchorage, Alaska from February 21-22, 2007.

This document presents the proceedings of the Cook Inlet Navigational Safety Forum.

## **Participants**

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### ***Steering Committee***

The Forum was planned by a Steering Committee, consisting of:

- Mike O'Hara, South West Alaska Pilots Association (SWAPA);
- Betty Schorr, Alaska Department of Environmental Conservation (ADEC);
- Mark DeVries, Michael Moss, and Jay Calkins, United States Coast Guard (USCG) Sector Anchorage;
- Mike Munger and Steve Howell, CIRCAC;



- Tim Robertson and Elise DeCola, Nuka Research and Planning Group (CIRCAC contractors)<sup>1</sup>; and
- Jack Jensen, Tesoro Alaska.

Mike Conway of MAC Leadership Services facilitated the Forum sessions.

### ***Attendees***

Over 90 individuals attended the Forum representing the oil industry, professional mariners, state and federal regulators, local elected officials, stakeholder organizations, and the public. A complete list of attendees is included as Appendix A.

## **Forum Proceedings**

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The Forum was divided into seven sessions in addition to a welcome, keynote address, and opportunity for public comment. These sessions are described here. A program is attached as Appendix B.

### **Day 1 – February 21, 2007**

#### ***Welcome and Opening Remarks (noon)***

##### **Presenters:**

Mike Munger, CIRCAC Executive Director  
Mike Conway, MAC Leadership Services

**Mike Munger**, executive director of CIRCAC, presented opening remarks during the luncheon. He began by thanking the attendees for their time and attention, and then emphasized that the purpose of this Forum was to focus the group's attention on identifying navigational safety risks and considering ways to reduce them.

Mr. Munger noted that navigational safety has been an important issue to CIRCAC for many years, and referred to the 1999 Forum that CIRCAC sponsored on a similar topic.<sup>2</sup> He acknowledged that past efforts by CIRCAC and other organizations have already led to improvements, such as the Coast Guard's winter ice guidelines and the recent stationing of a tug at the Nikiski Dock by Tesoro. He then noted that the goal for this Forum was to compile additional recommendations to improve Cook Inlet navigational safety, and to promote a frank and open discussion of the issues that contribute to navigational risks.

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<sup>1</sup> Nuka Research facilitated the development of the Forum program and follow-up.

<sup>2</sup> Proceedings from the 1999 Forum are available online at

[http://www.circac.org/documents/pdf/brochures/Safety\\_of\\_Navigation.pdf](http://www.circac.org/documents/pdf/brochures/Safety_of_Navigation.pdf)



Mr. Munger closed by acknowledging his staff, contractors, and the Forum Steering Committee, for their contributions, and he thanked the Kenai Peninsula Borough, Municipality of Anchorage, Tesoro, Seabulk International, and the Matanuska-Susitna Borough for their financial support of the Forum.

Mr. Munger then turned the floor over to the moderator, Mike Conway.

**Mike Conway**, of MAC Leadership Services, gave an overview of the format, schedule, and procedures for the Forum, including note taking, submitting questions and comments, and session design. He reviewed the program and noted that on Day 2, there will be an opportunity for public comment. Written inputs will be compiled with public testimony. The Forum will conclude with a synthesis of recommendations and information for CIRCAC to use to guide follow-up, including identifying consensus points.

**A transcribed copy of the Flip Chart Notes compiled by Mr. Conway are included as Appendix E to these Proceedings.**

### ***Session 1--Cook Inlet Navigational Safety: Identifying the Risks***

#### **Panelists:**

Captain Mark DeVries, USCG (replacing LCDR Gregory B. Tlapa)

Orson Smith, Author of Cook Inlet Ice Atlas

Ed Page, Alaska Marine Exchange

Captain Jack Jensen, Tesoro

*Carl Anderson, Cook Inlet Tug and Barge, was scheduled to attend but did not make it*

The purpose of this session was to develop a list of inputs—issues, risk factors, and other considerations—relevant to assessing the navigational safety risks in Cook Inlet.

**Orson Smith**, University of Alaska-Anchorage (UAA) and co-author of the *Cook Inlet Ice Atlas*, gave a PowerPoint presentation about the *Atlas*. The current *Atlas* was created as part of the Cook Inlet and Prince William Sound Navigation Safety and Efficiency Project with funding from the National Oceanic and Atmospheric Administration's (NOAA) National Ocean Service, Office of Response and Restoration. The *Atlas* is seven years old, with the most recent data captured from 1999. It is believed to be somewhat out of date due to climate change and other impacts. Other ice information could be incorporated.

Dr. Smith explained that Cook Inlet's winter ice begins to form in Turnagain and Knik Arms and the northern part of the Inlet in December at concentrations ranging up to 70% coverage. Some ice forms early in the inlets on the western shore. At its greatest extent (based on mean ice conditions), sea ice ranges the length of the Inlet on the western shore and almost down to Ninilchik on the eastern shore, with coverage between 20-40% in the southern portion to 60-70% in the north.

There are three types of ice in the Inlet relevant to mariners and those





concerned with safety:

- Pan ice or ice floes can be two feet thick and hundreds of feet across. This ice consists of frozen seawater and can be a concern to shippers, retarding the maneuverability of vessels.
- Beach ice is thick, irregular pieces grounded on the tidelands of Turnagain and Knik Arms, or farther down the Inlet. This ice is repeatedly submerged and usually floats free with the spring tides to mingle with floating ice. Beach ice can be 10-15 feet thick, sediment-laden, and dense.
- Frazil ice is formed in the first phase of freezing in turbulent waters. It forms into needles and plates and can accumulate in the sea chests of vessels. Coast Guard navigation policy for water intake depths relates to frazil ice. Smith is not sure of concentrations of frazil ice in Cook Inlet, but it could be deeper than 10 feet, or less than 5 feet.

An ice guide is available for observers, printed by NOAA, which enables amateur observers to make ice observations.

**Captain Jack Jensen**, Marine Superintendent for Tesoro in Nikiski gave a PowerPoint presentation, focusing on Nikiski and the docks there. He described the climactic factors at Nikiski:

- Temperature: annual average 35 F, range from -30 to 90 F
- Tides: average range 20.5 feet, two highs and two lows per day
- Tidal currents: flood current is stronger (max 5.7 knots), ebb averages 2.8 knots; strongest currents correlate with highest tides
- Wind: prevailing wind from the south in summer, N-NE rest of the year
- Ice: most common in Jan-Feb near Nikiski docks; typically reaches docks during last 2 hours of flood tide when in vicinity
- Shoaling: KPL dock is self-scouring and not subject to changes in water depth

A SWAPA pilot boards the vessel at Homer for travel up the Inlet and docking conducted during flood current (current helps maneuver vessel). An anchor is used to provide additional control. Many areas of Cook Inlet have depths suitable for anchoring.

Tesoro's refinery in Kenai and the KPL dock are valuable to Alaska's economy, providing hundreds of jobs on the Kenai Peninsula and statewide, significant tax contributions to the Borough, refining of all Cook Inlet crude (85% of crude oil refined in Kenai is from Alaska), approximately 50% of the jet fuel used at ANC, and support of petroleum logistics throughout the state.

A copy of Captain Jensen's PowerPoint presentation is included in Appendix C.

**Captain Mark DeVries**, Captain of the Port of Western Alaska, described the Coast Guard's aids to navigation (ATON) program. There are two different ways to maintain navigational aids. Every public aid in the US is maintained by the USCG. The primary buoy tender in Cook Inlet is at Hickory; each buoy



tender has primary, secondary, and tertiary buoys. Aids to Navigation Teams are responsible for shoreside access to ATON. For Cook Inlet, the team is located at Air Station Kodiak.

Most aids are shore-side, and some are decommissioned for winter. The District Commander, 17<sup>th</sup> USCG District has the authority to establish all aids. Jay Boyer currently runs the program. Direct communication from pilots has worked well. There is a process by which the CG evaluates the need for new aids or to remove old ones; the process often works through the pilots who use the ATON through the waterways assessment and management system (WAMS).

**Ed Page** from the Alaska Marine Exchange (AMX) presented the mission of his organization and its cooperative efforts with other marine exchanges. The Marine Exchange tracks vessels to assess risk and manage safety, security, and environmental protection. It is a non-profit organization, with vessels as its clients and customers. Founding members include towing companies, tanker operators, oil companies, ports, and the container and fishing industries.

The Marine Exchange works with the USCG to enhance marine domain awareness with a goal of the effective understanding of anything associated with the global maritime environment that could impact security, safety, economy or the environment of the US vessels. Domain awareness is a cornerstone of maritime security strategy, begun prior to 9-11.

The Automated Secure Vessel Tracking System (ASVTS), developed by the Marine Exchange, uses satellite communications and Automated Identification System (AIS) to track the locations of vessels, providing information in support of risk assessments, response, compliance validation, maritime security, and search and rescue operations. It is cost effective at \$4/day. Page showed several slides demonstrating the types of outputs and information available with the ASVTS. The system provides images showing the location of different types of vessels anywhere in the world at one point in time, or tracks specific vessels over a designated period.

The Marine Exchange has put two AIS sites in Alaska and plans several more for Southeast. The Cook Inlet region has AIS sites at Kodiak, Anchor Point, Homer (two), Nikiski, and Anchorage.

In summary, Page noted that: tracking technology is available at a reasonable cost; satellite tracking is hourly while AIS tracking is every minute; AIS is mandatory for an increasing number of regions and vessels; and tracking is important for assessment, security, efficiency, safety, and emergency response. It is a good tool for assessing and managing risks and for responding to incidents to mitigate impacts.



A copy of Mr. Page's PowerPoint presentation is included in Appendix C.

**Questions and Answer:**

Q: Comment on the risks of freshwater ice coming out of Kenai River into Cook Inlet and associated risks to navigation:

A (Smith): No information available on the quantity of such ice. Freshwater ice is denser and stronger. Not aware of any incidents related to fresh vs. salt water ice. River ice tends to be smaller. It is a good point though that freshwater ice can grow.

Q: A ship attempting to anchor in a current greater than three knots would probably lose its anchor. Can you comment?

A (Jensen): It is done quite frequently at the KPL dock. Have never heard this question before and do not have data to answer it either way.

Q: Are there plans to try piggybacking additional sensors onto AIS to take advantage of satellites and use data in assimilation models throughout coastal Alaska?

A (Page): Yes, have talked about putting weather stations and other sensors on the AIS sites. They are constantly evaluating monitoring sensors. Also helps determine problems with the site, lie at Scotch Cap due to the winds. Broadband communications are in some areas.

Q: Are you working with Alaska ocean observing system (AOOS), which has real-time oceanographic data?

A (Page): Willing to talk about it. Putting new sites up.

Q: Would risk be reduced by having shore-based winches at the KPL dock instead of winches on vessels?

A (Jensen): Won't speculate because no data is available to confirm this either way. Have not seen it on other docks.

Q: What technologies exist to track ice? How can we understand ice movement in real time without scouting vessels?

A (Smith): It is easy to observe ice with remote sensing including satellites. Radarsat can observe ice at a fairly fine scale. There are also shore-based versions. CIRCAC gathers current measurements with CODAR. Visual observations are sometimes best. In general, reports from NWS and National Ice Service, based on satellites, are pretty good. Have seen experiments with infrared and other systems. Synthetic Aperture Radar and visual are pretty effective.





Q: Has movement of shoals in the Upper Inlet been identified as a risk? What do you do to track it?

A (DeVries): ACOE maintains the channels. The channel is 36 feet deep. Shoals are shifting, but the depth of the channel is maintained and verified on each trip by masters and pilots. Communication with the Corps and USCG is frequent. Cannot speak to actual shifting and the future path, but the channel being where it should be and properly marked is most important. (Smith) NOAA keeps a close eye on it.

Q: Anchor dragging is used to manage a vessel during docking. Is this a technique that could be used in Cook Inlet?

A (Jensen): Dragging anchor is not necessarily a desirable thing. When anchor comes alongside KPL it's a different term. Dragging anchor implies it is not holding. When docking, they put anchor out a certain depth to assist in maneuvering. Locations of subsurface gas lines are well-marked and so can be avoided.

Q: During *Seabulk Pride* incident last year, assets necessary to dislodge the tanker from beach were unavailable. It was necessary to temporarily charter the *Pacific Challenger* and also call in lightering barge & tugs from PWS. Should similar vessels be added to state & federal plans under federal regulations for salvage & firefighting capability?

A (Jensen): Asks that questions related to that incident be held for the session on the *Seabulk Pride*.

Q: Is transit data archived?

A (Page): Some AIS data is, some is not. Long-range tracking is archived. Have done some analysis for the Coast Guard to monitor vessels through Unimak Pass. Hope to get more funding and capability in the future (\$100,000 for module to do charting and analysis of vessel transits).

Q: Navy underwater sound system – are they still in existence and if so is Alaska Marine Exchange (AMX) coordinating w/them?

A (Page): The Navy is not sharing that information, yet they are asking AMX for info all the time.

Q: Note that FAA is changing their system drastically. Are we headed towards something similar for vessels?

A (Page): In most cases, all sites now are receive-only. Want to go in the direction of two-way in the future. Need to build infrastructure.

Comment from Captain DeVries: On shore-based winches, are they being used anywhere? If so, how do you address the issue of the vessel master



being able to quick release for safety? It is important not to send people away thinking this should be done if there is a problem with it or another option.

Q: On ice monitoring, do any of the monitoring capabilities address thickness?

A (Smith): No, not directly. Ice forecaster will touch on it tomorrow. Thickness is function of age, etc. so NWS forecasters do a pretty good job in terms of ice age and thickness.

Q: Is AMX involved in advance arrival arrangements for vessels?

A (Page): This is based on Captain of the Port (COTP) determinations. ASVTS or other technologies could be used.

## ***Session 2--Cook Inlet Navigational Safety: Understanding the Impacts and Potential Consequences of Accidents, Spills, and Groundings***

### **Panelists:**

Mayor James C. Hornaday, City of Homer  
Mayor Mark Begich, Municipality of Anchorage  
Mayor John Williams, Kenai Peninsula Borough  
Bob Shavelson, Cook Inlet Keeper  
Bruce Gabrys, Commercial fishing  
Vern McCorkle, Alaska Business Monthly

The purpose of this session was to identify the potential impacts of a Cook Inlet navigational accident to local communities, economies, and the environment. Each panel member was given 10 minutes to present, followed by a facilitated discussion.

**Mayor John Williams** of the Kenai Peninsula Borough discussed historical information on various incidents and issues in Cook Inlet over the past few years. He described the recent flood of the Kenai River, which caused huge amounts of ice to flow downriver, some of which has already reached the Inlet and more is expected. There will be a second event during breakup when additional debris is expected to move. This is being addressed by a group at the Kenai River Center, which has mitigation plans in place. The primary concern is that about twenty years of debris collection has been torn loose from shores and trapped in ice as it moves down river. A lot can be salvaged and a lot cannot. There are concerns about navigational hazards caused by the debris that cannot be collected. This may pose a hazard, especially to small vessels. They recently declared a disaster, especially for Soldotna, to get federal resources. However, the Borough's priority is on cleaning up the river debris as much as possible.

Williams provided an anecdotal list of incidents and cited some vessel statistics from the recent *Cook Inlet Vessel Traffic Study*: from Jan 1, 2005-



July 15, 2006 704 deep draft vessels visited Cook Inlet ports. Nearly half were container or RoRo vessels; 17% were ferries; 20% were gas or liquid tankers.

A summary of major casualties: Glacier spill 1988. Barge Oregon in 1997. Container ship hold fire in 2003. Seabulk Pride last year. 225 casualties from 1990-2006.

Mayor Williams continued with a review of events and near-events during the last 15 years, and emphasized that these incidents highlight the risks and the need for action.

**Mayor Mark Begich** from Anchorage emphasized the significance of the risk raised by the *Seabulk Pride* incident, noting that the vessel had nearly 5 million gallons of oil. Alaska has asked its Congressional delegation to fund a risk assessment for Cook Inlet. Tesoro's efforts are another good example of the support and investment needed from business and industry. Collaboration to protect environmental health and safety, and to support CIRCAC's projects, is important. Alaska has a rich marine life and culture, with more coastline than the entire lower 48 states. The Port of Anchorage serves as Alaska's commercial gateway; it is an economic engine vital to the state's economy. Fisheries, wildlife habitat, and tourism overlap in Cook Inlet and provide substantial economic value. The cities and boroughs have elevated this issue, and it is a priority for the City of Anchorage as well.

**Mayor James Hornaday** from the City of Homer thanked Tesoro and Crowley for providing the tug for Cook Inlet. This has been a nearly 20-year battle. The City of Homer has passed numerous resolutions on navigational safety over the years. In essence, they are asking for equal navigational safety equipment as compared to Prince William Sound. Cook Inlet has more vessel traffic overall. Homer is concerned about maintaining the Cook Inlet tug year-round; what goes on in the upper Inlet is relevant to the whole Inlet. Homer is also concerned about having adequate levels of spill prevention and response for Kachemak Bay as the primary Port of Refuge. Past incidents have resulted in damaged or troubled vessels heading for Kachemak Bay (Glacier Bay spill, Potomac Trader, barge overturn, Seabulk tanker grounding in Nikiski). Kachemak Bay is a state-named refuge, Critical Habitat Area and a National Estuarine Reserve. Vessels must notify the City of Homer when heading to Kachemak Bay.

Who is on the Navigational Safety Committee, and why are communities not involved?

Tracing the journey of the *Seabulk Pride*, it is notable that the vessel picked up North Slope crude in Valdez and was subject to Prince William Sound's escort and other response equipment. Then it traveled to Cook Inlet with none of these safeguards available, yet Cook Inlet is more dangerous than



Prince William Sound with the winter ice, tides, and winds.

Homer appreciates the efforts of the USCG and works closely with them as the *Hickory* and *Roanoke* are based in Homer. From a lay perspective, it is no longer acceptable to express surprise over incidents resulting from ice, winds, and tide Cook Inlet. Past incidents resulted from human error and need a better response than stronger mooring lines or more stringent ice rules. Cook Inlet needs the same navigational and safety standards as Prince William Sound.

Homer is also concerned that vessels tying up in Kachemak Bay do not dump their ballast. A regulation is needed; invasive species are becoming an important issue.

Homer supports a risk assessment, but does not want to wait for action. Most of the problems are known. The tug is a good start, but is only a start.

*Note: Mayor Hornaday's written comments and copies of recent resolutions were submitted as part of the Forum documentation, and are included in Appendix D.*

**Vern McCorkle** represented the general public. He is an alternate board member of CIRNAC. It is good that the focus is on preventing marine mishaps. Wildlife, ice, oil, etc. are quantifiable resources. However, when looking at the large numbers it is easy to overlook the individual person, family, community, or business impacted by a marine accident. A single goal should be the marine safety of Cook Inlet and associated water bodies. CIRNAC plays an important role. McCorkle is concerned about whether enough preparations are in place for the harbor of refuge. He recommends that this Forum become an annual conference.

**Bob Shavelson** of Cook Inlet Keeper cites a long list of past casualties in agreement that a risk assessment is an appropriate step. However, it should not be a reason to delay action. We need to focus now on heightened risks. He applauds Tesoro. The Cook Inlet places of refuge process is important. Habitat, resources, and families should be given the highest priority in minimizing risks technologically and economically.

The Cook Inlet Navigational Safety Committee was set up after the *Seabulk Pride* incident. More transparency and public participation are encouraged; transparency is the currency of democracy. It is frustrating to have the same conversations repeatedly. Everyone agrees about the disparate prevention systems between Cook Inlet and Prince William Sound. The fact that anchors are being used to dock tankers indicates that there is a long way to go. It is time for sweeping improvements, not incremental changes, before another incident. The impacts of a spill can be understood from the *Exxon Valdez* experience. Oil toxicity is important. According to the Auke Bay lab, low levels



of PAH may have chronic toxicity. For fisheries, the marketing and branding of Kenai's wild salmon is critical and would suffer in the event of a spill. The decline in the beluga whale population in spite of the changes to Alaska Native harvesting indicates the fragility of this species in Cook Inlet.

**Bruce Gabrys** represented the commercial fishing industry. He highlighted some of the successes in place, such as double hull tankers, spill response training, critical habitat protection, and the Cook Inlet tug. The bottom line is that Cook Inlet traffic is central to the economy. Risks cannot be completely eliminated from tankers and cargo ships, so must be vigilant and proactive in moving forward. The impacts of a major spill on the commercial fishing community can be considered in two scenarios. In a winter spill the ice would make it extremely difficult to clean up, so in the winter season the focus needs to be on prevention. Tourism and fishing could suffer from the residual impacts of a winter spill. A summer season spill could have greater impacts. The response methods were fairly primitive in the Glacier Bay spill. In the case of EVOS, the world was watching. The closure of the fisheries probably saved the long-term reputation of the product. Subsistence harvesting and the long-term toxic effects of oil are also important concerns. It is time to come in to the 21<sup>st</sup> century.

#### Question and Answer:

Q: One of the major risks in Cook Inlet is a collision between a ship and fishing boat. As a pilot, it is difficult to raise 90% of the fishermen in Cook Inlet as compared to Prince William Sound. All have their own frequencies. Would like to get somebody to speak to fishermen about what channels they'll be on so we can inform them where ships will be.

A (Gabrys): Channel 16 is the common channel. Most salmon fishermen fish in radio groups. They have two radios onboard, one for the radio group and one on channel 16. Running over nets is more likely than a collision because of limited mobility, especially for barges. As people see traffic coming through, they know how to contact pilots. One issue they do have is that when they do corridor fishing it extends beyond the Nikiski docks. By and large, it has worked out and fishermen understand tankers have limited mobility. *The issue of communication was saved for later discussion; Mike O'Hara cited a past conflict during the opener when the fishing vessel was not listening to channel 16. It was suggested that CG do radio checks. It was also mentioned that when fisherman are catching fish they don't want to reveal their location.*

Q: Should ADFG be involved in this type of discussion? Should fishing be limited in the corridor?

A (Shavelson): This points to the need to open the Navigational Safety Committee. A (Gabrys): Shipping lanes have been discussed for Cook Inlet



but it has never led anywhere. Generally, fishing vessels will clear the right-of-way. Closing the area to fishing is not necessary, and if it were considered it would require extensive discussion. ADFG should be involved, but not necessarily closing the areas.

Q: Two fishing vessels sank in the last few years. The trend is that spills from larger vessels are going down, while fishing vessel spills are increasing.

A (Gabrys): When a vessel sinks, the fuel on board is lost. Voluntary safety inspections can be a very good educational tool.

Q: The aviation accident rate was reduced to 1% in the Air Force, and there is a good correlation between talking about safety and reducing accidents. These forums are good. There is also a need for top-down directives for the municipality, borough, etc. Safety culture is very important.

A (Hornaday): We have lots of emergency plans but there is always room for improvement. A (Begich): The size of the port is doubling. There will be more training for emergency preparedness. CIRCAC presentation helped put this on his radar screen.

### ***Session 3--Cook Inlet Navigational Safety: Identifying the Interventions***

#### **Panelists:**

Betty Schorr, ADEC  
CAPT Mark DeVries, USCG  
Captain Tim Plummer, Tesoro  
Mike O'Hara, SWAPA  
Mike Munger, CIRCAC

The purpose of this session was to develop a list of interventions that may reduce the navigational safety risks and impacts in Cook Inlet.

**Betty Schorr** from Alaska Department of Environmental Conservation (ADEC) gave a PowerPoint presentation about the activities of the Industry Preparedness Program (IPP). The IPP regulates many aspects of both crude and non-crude oil exploration, production, transport, and storage in Alaska. There have been changes since the 1999 Forum on navigational safety in Cook Inlet: now non-tank vessels up to 400 gross tons (GT) are regulated under their state contingency plans and the plan review cycle has been changed from three years to five to facilitate an emphasis on drills and inspections.

Unregulated vessels are responsible for more oil spills than regulated ones, by both number of spills and cumulative volume. Eighty-nine percent of spills are non-crude oil, with only 4% crude; non-crude oil accounts for 78% of spills by volume, and crude oil 17%. Fishing vessels (unregulated) account for 52% of





spills by vessel type, with tankers at 10%, barges at 15%, and other vessels under 400 gt at 19%.

From January 2002-2007, there were 32 enforcement actions of non-tank vessels for c-plan violations, 49 vessel inspections, 38 EPR inspections, 31 terminals and tank farms (TTF) inspections, and 63 oil spill response exercises.

Some ADEC initiatives include the Cook Inlet Risk Assessment Capital Improvement Project (CIP) Proposal (\$250,000), Cook Inlet Potential Places of Refuge, Geographic Response Strategies (129 in Cook Inlet), and Spill Tactics for Alaska Responders (STAR) Manual.

A copy of Ms. Schorr's PowerPoint presentation is included in Appendix C.

**Tim Plummer** from Tesoro discussed potential interventions in Cook Inlet. Vessels carrying liquid bulk petroleum products are the most regulated and inspected in the world. Tesoro has a remote mooring monitoring system which provides the dock and vessel with real time data on the tension at each of the 16 mooring hooks on the KPL dock. The system records data for retrieval and review and is used to monitor the effectiveness of the vessel's mooring configuration. The latest version was installed on February 19, 2007. Vessels provide mooring diagrams and draft limitations prior to arrival. Weather conditions, tides, and expected currents are forecasted. Dock personnel are continuously trained.

USCG winter ice guidelines were developed by Cook Inlet stakeholders and implemented by USCG to mitigate risks to life, property, and the environment. The first phase of implementation involved modifications to vessels and equipment, and operating guidelines for tugs and barges. In phase two, specific recommendations are created for the docks at Nikiski when ice is in the vicinity of Lower Cook Inlet. In extreme ice conditions, the Captain of the Port has the option to close the port.

Tesoro interventions include an ice scout and tractor tug. This is a CISPRI vessel used to provide advance notice of approaching ice. It is under the direction of the vessel's Master/Pilot and travels in a quadrant pattern ahead or astern of the vessel. The tractor tug was provided by Tesoro for the winter. It is operated by Crowley Marine Services and has a crew that is very experienced in Alaska.

Other potential interventions include a risk assessment, Nikiski Range light, and updated or clarified information.

A copy of Mr. Plummer's PowerPoint presentation is included in Appendix C.

**Mike O'Hara** of SWAPA emphasized that anchors are good and necessary. Tugs would provide an advantage, but docking maneuvers are not as difficult



as everyone makes out. He drew an illustration to support this point.

**Captain Mark DeVries** gave a history of USCG interventions. In 1992 Max Miller published a Captain of the Port (COTP) order for winter ice. When he tried a COTP order for life rafts he was placed on report for rulemaking, so now guidelines are used. There are tools that help the USCG measure risk and incorporate measures into regulation. They are now considering regulations vs. guidelines. USCG has relied on guidelines in the past, so why should these be changed to regulations? It all comes down to enforcement. If it's a guideline or regulation, it doesn't matter if there is no enforcement. The Master is responsible for the vessel mooring safely. The pilot is there to be able to get a moored vessel safely underway.

Phase one has been described. Phase two, "extreme" ice rules focus on the ability to moor/maintain vessels on the dock. When conditions are such that the potential for incident is higher, vessels may need to be moved away from the dock for greater maneuverability.

Captain DeVries recommended that CIRCAC take over the role now filled by the Cook Inlet Navigational Safety Committee and hold an annual event similar to the Forum to focus on these issues. There is always a need for regulators and the regulated community to come together for frank and open discussion, and by including CIRCAC and holding public forums, the issue of transparency that has been raised regarding the Navigational Safety Committee would be addressed.

**Mike Munger** began by stating that CIRCAC hopes, by the end of the forum, to have built consensus on the types of interventions required to improve navigational safety, and to have identified the next steps toward implementation. He then acknowledged that significant improvements have already been made, such as the Coast Guard's improvement of navigational aids, the purchase of an AIS receiver by CIRCAC, and the stationing of a Nikiski tug by Tesoro. Mr. Munger also expressed support for the Navigational Safety Committee, and recommended that they take up many of the issues raised during the forum.

Mr. Munger pointed out that despite ongoing progress, the Cook Inlet operating environment remains challenging, and the potential impacts of a major spill devastating. He presented a series of recommendations for risk interventions to reduce the risk of accidents and oil spill and Cook Inlet:

- Develop regulations, policies, and guidelines to implement at the regional, state, and federal level. These might include:
  - Safety parameters for berthing, unberthing, and cargo transfers;
  - Revisiting winter ice rules;
  - Improving ice reporting and weather observation systems; or



- Strengthening C-plan requirements to plan for winter ice operations.
- Implement engineering solutions to improve mooring equipment or vessel systems and capabilities. Adding support vessels to the system – like the Nikiski tug – are also valuable interventions.
- Address human factors, through improved communications procedures, training initiatives, and promotion of a “safety culture.”
- Conduct additional study or research, such as a risk assessment, mooring study, or tug capability analysis.

### **Question and Answer**

Q: Is current speed real time or based on projections? Also, is there a graph for load lines to show the differences between 4-5 knots at the dock?

A (DeVries): This was discussed at the last Navigational Safety Committee meeting. They are getting on the same page and will base their approach on SWAPA guidelines. There are NOAA tables for Wrangell Narrows, but don’t have a current meter at Nikiski docks.

A (Plummer): There was a second *Seabulk Pride* incident in January, but the ship did not break away. One mooring line broke and a couple of mooring winches paid out wire as a result of the current and ice. The ship made a decision to depart the dock.

Q: How often is the load system at KPL calibrated?

A (Plummer): Annually.

Q: Is the dredge anchor really bad?

A (O’Hara): It is not like a brake on a car, it helps create a pivot point to make up for the fact that the boat wants to go away from the dock, not toward it. A tug would make it about 15 minutes faster, but that’s all. The anchor just helps slow speed and improve steering.



## Day Two

### ***Session 4—Recent Studies and Projects on Cook Inlet Navigation Issues***

During this session, expert speakers presented information on a range of topics related to Cook Inlet navigation issues. The purpose of the session is to highlight recent and ongoing processes and projects that relate to Cook Inlet navigational safety.

#### **Cook Inlet Winter Ice Conditions and Reporting**

**Speakers: Orson Smith, UA author of Cook Inlet Ice Atlas  
Kathleen Cole, NWS Ice Forecasting**

**Orson Smith** provided an overview of Cook Inlet ice conditions based on his experience compiling the Cook Inlet Ice atlas, and Ms. Cole discussed how ice conditions are monitored in real time.

Recommendations include updating statistical summaries for the ice atlas, investigating climate trends, investigating frazil ice profiles and beach ice. There are problems with ice growth calculations and formulas. The currents and tides are not factored into ice reporting; the images are snapshots and do not account for movement. The forecast office is working on a mesoscale model incorporating GIS and a 3-hour graphic of wind on the internet.

Smith concluded the presentation with the following recommendations:

- Update statistical summaries of ice conditions.
- Investigate climate trends (patterns and trends of ice conditions correlated with weather patterns and trends).
- Investigate frazil ice, including concentration profiles.
- Investigate beach ice, including ranges of characteristics, predictive models of formation and decay.

A copy of his PowerPoint presentation from this session is included in Appendix C.

**Kathleen Cole** presented the National Weather Service production of sea ice advisory, analysis, and forecast and Cook Inlet ice analysis. They put out advisories with text and graphics every three days. Their data sources include synthetic aperture radar (SAR), satellite (GOES/POES), and MODIS for high resolution. Observations are provided by pictures, e-mail, and phone. Cole showed images created using the different imaging tools.

Calculating thickness is a challenge; they do it now based on sea water salinity and purity. Cook Inlet has varying salt content and silt. Tides are also a significant factor. There is no data on climate change effect on sea ice in Cook Inlet. Also no study of freshwater influxes due to glacial recessions.

A copy of her PowerPoint presentation from this session is included in Appendix C.



## Cook Inlet Vessel Traffic Study

**Speaker: Dave Eley, Cape International Services**

Dave Eley presented the findings of a recent vessel traffic study conducted by his firm for CIRNAC. The *Cook Inlet Vessel Traffic Study* is a succinct summary of vessel traffic in Cook Inlet and review of mishaps and trends. It can be used to focus future risk analysis. The study was conducted by obtaining the advance notice of arrival records from the USCG for January 1, 2005-July 15, 2006. All casualty and spill reports provided to the USCG and ADEC since 1991 were compiled. This information was validated with Cook Inlet facilities, pilots, and agents.

Cook Inlet is a wide, long inlet with moderate to low levels of vessel traffic when compared to other large North American ports. However, it is vexed by sudden, severe weather, strong tides, and large ice pans which are moved aggressively by tides. Of vessels 300 GT or over calling at Cook Inlet ports, 29% carry oil or liquid gas. Twelve vessels managed among 6 operators accounted for 80% of deep-draft traffic.

Risk is defined as the product of probability and consequence. Of the 12 vessels accounting for 80% of traffic, 5 are high consequence oil or gas carriers. Fishing vessels are difficult to quantify. Between 500-900 commercial vessels fish in Cook Inlet annually. Most carry 300-1000 gallons of diesel. No serious problems have been reported between deep-draft and fishing vessels. The gillnet fishery in the restricted channel approach to Nikiski would be the most likely location of conflict.

From 1991-2000 there were 226 casualties affecting vessel seaworthiness. In 11 of these incidents, damage exceeded \$250,000. From January 1, 1992-August 30, 2006, there were 295 minor oil spills from vessels in Cook Inlet, and 333 spills reported from the 15 Cook Inlet oil production platforms. No useful trends were noted.

In conclusion, severe environmental conditions coupled with human error during vessel operations poses the most likely root cause of the next major vessel casualty. Mooring studies are important, given that potentially the most serious casualties can occur while a vessel is moored. Local knowledge is important to risk assessments, just like the Potential Places of Refuge Project.

A copy of Mr. Eley's PowerPoint presentation is included in Appendix C.



## Cook Inlet Potential Places of Refuge Project

### Speaker: Larry Iwamoto, ADEC

Larry Iwamoto described an ongoing project funded by the State of Alaska to identify areas of safe refuge for vessels in distress. The Prevention and Emergency Response Program maintains and updates the Cook Inlet Subarea Plan for oil and hazardous substance releases. The purpose of the Potential Places of Refuge (PPOR) project is to prevent spills such as the *Prestige* incident in 2002, which occurred when a vessel in distress was denied entry into a port of refuge and ended up breaking up and causing a major oil spill. The International Maritime Organizations established guidelines for places of refuge after this event, as did the Alaska Regional Response Team (ARRT). The ARRT guidelines were approved in 2004.

Some of Alaska's more significant POR incidents include: the barge *Oregon* in 1997, ferry *LeConte* in 2004, *T/V Seabulk Pride* in 2006, and *M/V Cougar Ace* in 2006. Drills have been conducted with POR as an objective: Tesoro Worst Case Spill (1997), PWS Tanker Drills (2004, 2006, 2007), and Southeast PERP Drill (2006).

Alaska is divided into 10 subareas for planning purposes. Nine of these are coastal; there are 35,600 miles of shoreline in Alaska. Cook Inlet's subarea has 2,600 miles of shoreline. There are several PPOR identified by the USCG and ADEC for Cook Inlet. Now a Cook Inlet PPOR project is underway in partnership with CIRCAC. Nuka Research is the contractor conducting the work. Work group members provide in-kind contributions by attending meetings, reviewing drafts, and providing input.

The PPOR development process is as follows: 1) gather information on the area to be addressed, 2) identify potential sites and select priority sites, 3) internal work group review of sites, 4) public comment period, 5) finalize and incorporate into plan. EPA and Coast Guard typically participate actively in the process, though they are not required to do so. Multiple maps are developed to show the vessel traffic and related resources in the target area. Other source documents used are the Cook Inlet Marine Firefighting and Prevention Plan, Most Environmentally Sensitive Area (MESA) maps, Geographic Response Strategies (GRS), and resource agency documents. Work group members include six federal agencies, primary state resource agencies, local communities and tribes, CIRCAC, SWAPA, CISPRI, Cook Inlet Keeper, and PWSRCAC.

The basic parameters for the different types of vessels that may be seeking a place of refuge are established. These include deep draft (tankers, cruise ships), light draft (ferries, trampers), and shallow draft (fishing and excursion vessels). The group agreed on twenty physical and operational characteristics that are important for a PPOR. A site assessment matrix and key are developed to compare the areas under consideration. PPORs are reviewed by the group, emphasizing the input of the pilots. Maps are created with





markings to identify PPORs in specific areas. The final document includes maps based on NOAA navigational charts and photographs of the area. On the back, there are tables showing the physical and operational characteristics of each PPOR; area stakeholders, considerations for people and animals, booming, GRS, and other PPOR nearby. A total of 51 PPOR sites were developed for the Cook Inlet subarea: 15 deep draft sites, 17 light draft sites, and 19 shallow draft sites. The project should be completed in the summer of 2007.

Elsewhere in Alaska, 66 sites have been identified in PWS, 97 for Kodiak, and the Aleutians PPOR project just began. Southeast Alaska will present another challenge, with 6,500 linear miles of coastline.

ADEC incorporates lessons learned to improve existing products. One recently reinforced lesson is the need to keep local communities informed.

Iwamoto was asked whether the PPOR project will change that fact that vessels always go to Kachemak Bay; he hopes this will help alleviate that pressure by identifying sites on the outer coast.

Sue Saupe suggested that efforts should be coordinated to place meteorological stations in PPOR, to transmit real-time conditions to help with decision-making. Ocean observing systems should be based on user needs.

A copy of Mr. Iwamoto's PowerPoint presentation is included in Appendix C.

### **Cook Inlet Navigational Safety Committee Activities Update**

**Speaker: Mike O'Hara, President**

A representative of the navigational safety committee described that group's purpose and activities to date.

The committee was formed after the *Seabulk Pride* incident. Ice guidelines have been developed, mooring procedures changed, and recommendations made on future dock construction and operations. ADEC will be included in the next meeting, and they would like to include ADFG and fishers in future. Participants have been handpicked to focus strictly on safety (this is why no public participation to date).

A comment was made that the transparency of the committee should be improved by involving the public more directly.



## Overview of Tug Capabilities and Limitations for Tanker Assistance

**Speaker: Bruce Harland, Crowley Marine Services VP**

Bruce Harland of Crowley Maritime presented information on tug capabilities with emphasis on Cook Inlet. The Cook Inlet tug is an important tool, but there are other things to consider. The single biggest benefit is thrust in any direction. Technology has advanced significantly in Cook Inlet and Alaska. The Protector is not an ice breaker, but it does have firefighting capability. It takes around \$10,000/day plus fuel to operate the tug with its six crew. Currently, it spends most of its time around Kenai/Drift River.

The time period of “winter only” will be determined by Tesoro, which has the contract for the tug with Crowley.

A copy of Mr. Harland’s PowerPoint presentation is included in Appendix C.

## Session 5—Seabulk Pride Incident: Looking Forward

### Panelists:

Gary Folley, ADEC

CAPT Mark DeVries, USCG

Captain Tim Plummer, Tesoro

Steve Willrich, Seabulk Tankers, Inc. (*note: Patrick Callahan participated in Mr. Willrich’s place*)

During this session, representatives of organizations involved with the *Seabulk Pride* will discuss their organization’s role in the incident and highlighted operational changes taken since the incident.

**Gary Folley**, ADEC State On-Scene Coordinator during the *Seabulk* incident, noted that probability of an oil spill is equivalent to the product of the probability of a casualty occurring and the probability of a spill, in the event of a casualty. By this measure, Cook Inlet’s spill record is quite good: 4% of casualties result in spills. This is due to improvement in safeguards. The *Seabulk Pride* incident was not considered a landmark event for ADEC. They looked back to the 1999 Cook Inlet forum concerns.

Oil recovery in ice is about the same as in 1990 (rope mop and brush skimmers; weir or suction skimmers have trouble separating ice from oil), but there have been some operational improvements. In lower temperatures (0-20 F) and winds over 10 knots, icing of ropes will occur. A low pressure-high volume water wash can be used to separate oil from ice. A response vessel may be used to create a recovery opening in the ice.

Lessons learned from drills result in improved practices. The first line of defense is always casualty prevention; the second is preventing spills if casualties do occur.



A copy of Mr. Folley's PowerPoint presentation is included in Appendix C.

**Patrick Callahan** from Seabulk Tankers International delivered a PowerPoint presentation about Seabulk Tankers, Inc. The company is headquartered in Florida and owns and operates 10 US flag tankers, five of which are double-hulled (seven will be by July). After the *Seabulk Pride* incident in 2006, Seabulk Tankers commissioned a study to evaluate the risks posed by ice and the safety of the docking arrangement at KPL. They also held conferences with Masters and Chief Engineers operating ships in Alaska, and replaced wire and synthetic ropes on the bow and stern with high-modulus polyethylene mooring lines. Two different constructions are used to maximize effectiveness. The new, synthetic material does not require lubrication and will not rust. The lighter weight means increased safety for the crew handling these lines. Also, the number of mooring lines was increased from 16 to 20 based on the study conducted.

An overflight of Cook Inlet provided valuable information on the location and size of ice in Cook Inlet. This also allowed USCG, Tesoro, and Seabulk personnel to view conditions together.

Seabulk Tankers, Inc. took the additional steps of requesting a stand-by tug during ice season, actively participating in the Cook Inlet Navigation and Safety Committee, and using remote tension data at KPL. They also increased coordination with the ice scout, added a deck officer during ice season, and began using NOAA ice information.

Next steps include continuing to: learn about the effects of ice and how to prepare for them; work with local authorities, SWAPA, and Tesoro to improve the safety of operations in Cook Inlet; and employ the most qualified personnel available to man Seabulk vessels.

A copy of Mr. Callahan's PowerPoint presentation is included in Appendix C.

**Tim Plummer** reiterated points from his presentation the day before. He highlighted operational enhancements at the KPL dock, USCG guidelines, tension readouts system, and modified mooring equipment and arrangements.

A copy of Mr. Plummer's PowerPoint presentation is included in Appendix C.

**Mark DeVries** commented on casualty investigation lessons learned which have resulted in guidelines:

- Operations in currents greater than 5 knots are restricted,
- The ice situation can change suddenly, requiring an improved awareness to avoid surprises,



- Human factors are critical,
- Systems,
- Preparedness and readiness.

***Keynote Address: Vessel Traffic Risk Assessment Issues, Methods and Lessons Learned***

Dr. Jack Harrauld, Director of George Washington University's Institute for Crisis, Disaster, and Risk Management gave a presentation entitled, "Vessel Traffic Risk Assessment Issues, Methods and Lessons Learned."

The basic premises of maritime risk assessment are: 1) risk assessments are not a means to delay needed action, and should only be conducted for the purpose of determining how best to manage risk to make a system safer; 2) historically, they have been focused on oil spills and passenger safety, but now efforts turn to consider security, as well; 3) risk management must be sustainable to ensure the continuing safety and economic viability of a port or waterway; 4) risk is a situationally-determined property of a dynamic system; and 5) the risk assessment process must be transparent and assumptions vetted with stakeholders and experts.

The accident event chain begins with root causes, and progresses through immediate causes to the incident itself. These first three stages are subject to organization factors as well as human and mechanical. The accident itself is followed by consequences and, finally, impacts. These, as well as the incident, may be affected by situational factors such as visibility and time of day, among others.

Risk reduction interventions can be made at any of the stages from root causes to impacts. These may include training, improved maintenance, inspections, redundant vessel systems, closure conditions, navigational aids, emergency repairs or response coordination, double hulls, and pollution containment and clean up.

Previous projects include a Lower Mississippi River Risk Assessment to determine the relative risk of gambling boat operational alternatives, the Prince William Sound Risk Assessment focused on reducing oil spill risk and resulting in multi-million dollar investments, the Washington State Ferries Risk Assessment to reduce risk alternatives to lifeboats, and the San Francisco Bay Exposure Assessment to identify risks associated with a major expansion of ferry services.

Previous work has relied on multi-attribute models such as the State of Washington Office of Marine Safety's Vessel Inspection Matrix or the USCG's



Ports and Waterways Safety Assessment used for federal examination of numerous ports. The multi-attribute model was created from expert and stakeholder sessions and is used in resource allocation for new vessel traffic management technology. Data is required to analyze each step of the accident chain, but is often sparse for root causes, immediate causes, and the incident, while databases are usually available to describe accidents and immediate consequences.

A maritime system simulation model requires inputs on traffic, data, current, and traffic rules. This requires close cooperation with the USCG VTS for data and validation. A vessel traffic risk assessment methodology begins with the maritime system simulation then proceeds to predict situational incident opportunities, predict incident location and frequency and accident location and frequency (using expert judgment and incident/accident data), and finally the creation of consequence models to predict consequences.

In conclusion, it is notable that: 1) the impetus for each risk assessment is unique; 2) a qualitative risk assessment will characterize risk and identify obvious problems, but will not test interventions; 3) potential risk interventions have typically been identified, but not evaluated or tested; 4) not all interventions work, but may unintentionally increase risk or relocate it within the system; and 5) multiple risk interventions at different points in the accident chain can create a defense in depth.

Data sources are improving, but obtaining and resolving data is a time consuming and difficult process. Every system has experts and stakeholders. As the two groups usually overlap, it is important to de-bias expert judgment. Finally, if stakeholders do not buy into assumptions and methodology, they will not buy the result.

Maritime risk management efforts must now consider security risk. This requires domain awareness, prevention/mitigation, preparation/planning, response, restoration, and recovery.

Risk perception is biased by low probability events that have actually occurred. Risk analysis should therefore identify and evaluate the risk of rare events that have not yet happened.

A copy of Dr. Harrauld's keynote PowerPoint presentation is included in Appendix C.



### **Public Testimony**

Mary Jacobs recommended increased enforcement of fishermen monitoring channel 16.

Tom Lakosh submitted written comments on oil toxicity science, holding a compliance conference, assist tug capabilities, and developing a contribution matrix for funding. Written comments submitted are included in Appendix D.

Rob Lindsay expressed concerns about the sustainability of the Cook Inlet tug; cannot expect Tesoro to fund it forever.

### **Session 6—Cook Inlet Navigational Risk Assessment: Forum Recap and Way Forward**

#### **Panelists:**

Dr. Jack Harrauld, George Washington University  
Betty Schorr, ADEC  
CAPT Mark DeVries, USCG  
Mike O'Hara, SWAPA  
Carl Anderson, Cook Inlet Tug & Barge  
Mike Munger, CIRCAC

This facilitated panel discussion explored the information needs, process, and funding considerations for a Cook Inlet navigational risk assessment.

**Mike Munger** opened the session with prepared comments and a PowerPoint presentation. The PowerPoint presentation is included in Appendix C. Munger made the following remarks:

*Since its inception, CIRCAC has advocated for a quantitative risk assessment of navigational hazards and oil spill risks in the Inlet. Obviously, we still want to move forward with a Cook Inlet risk assessment. But more importantly, we want to make sure that the risk assessment is done right.*

*A risk assessment is a highly technical, theoretical process. It can help us to predict how certain changes to a system will interrupt the accident chain that leads to oil spills, groundings, or collisions. But I think it's important, as Dr. Harrauld discussed, for those of us who live here and use the Inlet, to understand how a risk assessment works, what it will tell us, and what it will not.*

*The National Research Council has made recommendations for how to approach and carry out a risk assessment, and we believe that these guidelines would be a good starting point for Cook Inlet. So I will quickly discuss the NRC's 5 recommendations, and what they mean to CIRCAC in terms of a Cook Inlet navigational risk assessment.*





**1. Get the science right.** To me, this means making sure the risk analysis is scientifically defensible. Both the study plan and the final outcome should be peer-reviewed.

**2. Get the right science.** To me, this means making sure we use the right inputs to create the risk assessment. The assessment can't just look at information in databases or reports – it must also include the firsthand inputs from members of the port and waterway community, commercial fishing, subsistence users, environmental groups, public officials, regulators, scientists and other specialists.

**3. Get the right participation.** The key to getting the right science is to make sure the risk analysis has broad stakeholder participation, includes intensive public outreach, frequent meetings, and open participation. Public participation takes time, but it is worthwhile to the final product.

**4. Get the participation right.** To me, this means that not only do we need to solicit broad input and participation, but also to listen and respond to the concerns of all parties. Stakeholders not only need a forum to speak, they need to know that their voices are heard and their concerns are included in the analysis. Not all ideas are good ideas, but the risk assessment gives us the tool to filter out the bad ideas.

**5. Develop an accurate, balanced, and informative synthesis.** I'm not sure why the NRC couldn't come up with a "right" statement for this fifth component, but what I think they mean by this final point is that the risk assessment must be honest. It should acknowledge the strengths as well as the weaknesses of the data used to generate the analysis. There will always be uncertainty and information gaps.

CIRNAC has a final recommendation that is not part of the NRC report. The risk assessment process is as important as the inputs and the outcomes. A risk assessment is a useful tool, but it is a theoretical exercise. Cook Inlet waterway users understand the risks and hazards on a different level than statisticians and risk managers, and it is important to respect their experience-based perceptions and positions as well as what the risk assessment tells us.

Finally, as many of the panelists have emphasized over the last day and a half, there are certain prevention measures and capabilities that we all recognize as valuable. I am thinking first and foremost about the Nikiski tug, but there have been other good ideas brought forth in this Forum and others. If there are proactive measures that we all agree are valuable, why wait?



## **Discussion**

The following comments and suggestions were made:

- Involve the media in the risk assessment process
- What kind of budget is necessary? The Seattle project was about \$800,000. In Alaska, the first priority is the Aleutians, second Cook Inlet. The Aleutians estimate is \$2 million. The state's \$250,000 could be used to fund scoping. The third priority is to revisit PWS.
- To what extent will the scoping process address consequence modeling? Is the risk of oil spillage the endpoint, or would environmental impacts be factored into the risk analysis?
- Money being discussed for risk assessment could be used to fund a tug.
- In 1999 a risk assessment was seen as necessary to fund tugs, etc. The powers that be in Congress and legislature can put the regulatory muscle behind getting a tug and planning a risk assessment itself.
- Huge strides have been made already. Don't underestimate the power and importance of people. Complacency is the cause of marine accidents; this is a human factor. Applies to foreign ships in our waters, too.
- There is an NVIC for harbor safety committees. A Cook Inlet group was started at the initiative of pilots and meets three times a year. The USCG is committed to take a look at the safety committee to be all-inclusive.
- Do vs. think. Funding, initiative, OPA 90. There is a different standard of care in different ports.
- Ground level initiatives are often the most effective.
- Need the science to back up what all intuitively believe.
- However, you don't always understand the system as well as you think you do.
- Funding mechanism? Cost-sharing?
- What will be achieved from risk assessment? Understanding what the risks are. Can't overlook differences. As a primary player in the Cook Inlet oil industry, Tesoro doesn't want disproportionate cost and unfair burden.



## **Session 7—Forum Recap and Way Forward**

### **Facilitator:**

Mike Conway, MAC Leadership Services

The following consensus points were reached:

1. Move forward with risk assessment.
2. Political process will be used to obtain funding.
3. Public participation and outreach—Navigation and Safety Committee—media role.
  - An important part of industry is not represented, notably the foreign vessels, Tote, and Horizon. Would be good to have the other 48% of vessels involved in this as well. Give credit to operators that take risk abatement measures.
  - Need more than popular opinion to do a risk assessment; it is a stepping off point to free up funding and regulatory authority.
  - Need to develop a checklist or steps for how to do the process; write a plan for the assessment and share it with people.
  - Would be primarily government funding.
  - Resolutions have already been passed by Kenai Peninsula Borough.
  - Inability to clean up spills in ice.
  - CIRCAC is optimistic about getting funding.

## **Closing Comments**

### **Speaker:**

Mike Munger, Cook Inlet Regional Citizens' Advisory Council

Mr. Munger gave the following prepared remarks:

*Yesterday, when this Forum convened, I stated that we were all here to learn what the risks are in Cook Inlet and what we can do to reduce those risks.*

*Over the last day and a half we have heard from a variety of experts on a wide range of topics. I'd like to take a few minutes to review what we've discussed and to provide some closing thoughts on what CIRCAC will take away from the Forum and what we can all do to carry the spirit of this Forum*



*forward to continue to improve safety and reduce risks.*

*In our first panel, we reviewed the navigational risks posed by ice, we discussed the operating procedures at the KPL Dock, we heard about the Coast Guard's aids to navigation program, and we learned about the vessel tracking capabilities of the Alaska Marine Exchange. This information helped to set the scene and focus our thinking on the problems at hand.*

*Our second panel brought together a number of political leaders and stakeholder representatives who helped to put into context the impact of a major oil spill or incident to the economy, environment, and people of Cook Inlet.*

*Our third panel considered the measures that have already been taken by regulatory agencies, the industry, and the pilots, and touched on some of the ways we might build on existing safeguards to continue to improve safety.*

*All three of yesterday's panels were followed by constructive and frank discussion that yielded several good recommendations for moving forward, as Mr. Conway has just outlined.*

*Today has been a full and informative day, despite the technical difficulties, and I appreciate the patience and good nature of all participants and panel members. We didn't realize when we booked this venue that the temperature in the Theater would be even more variable than the Cook Inlet ice conditions.*

*Today's first session – session #4 - provided a break from the panel discussions while we were educated by the experts on Cook Inlet ice formation and forecasting, Potential Places of Refuge, the Cook Inlet Navigational Safety Committee, and the capabilities of Crowley's tugs. And of course, Dave Eley was charitable enough to present the study that he didn't write and won't be paid for.*

*Our fifth session considered the Seabulk Pride incident, focusing on changes that have been made by the industry and regulators since the 2006 tanker grounding. The participants in this panel supported the idea of a risk assessment to better quantify the risks, but also agreed that immediate changes to operating procedures and prevention measures are necessary and prudent.*

*Dr. Harrauld's keynote address considered the prospect of a risk assessment from both a technical and a practical standpoint. Jack explained how risk interventions can impact the causal chain, and helped to educate us all about what a navigational risk assessment can and can't do. He emphasized that the navigational safety and maritime security are increasingly intertwined, and that most funding sources require that a risk assessment project address both safety and security.*



*Finally, Dr. Harrauld's presentation underscored a theme we have heard many times over the last day and a half – the importance of full and open public participation and complete transparency during all phases of the project.*

*After lunch today, we heard from members of the public.*

*Our sixth and final panel discussion provided an opportunity to synthesize previous discussions about how a Cook Inlet navigational risk assessment might take shape. CIRCAC offered our recommendations and the rest of the panel added detail and depth to our recommendations, and we are hopeful that we will be able to use the information and discussion to move forward as we seek funding for a comprehensive navigational risk assessment for the Inlet.*

*In closing, I would like to highlight the recommendations that CIRCAC will be taking away from the Forum and presenting to our Board members tomorrow at our annual meeting:*

- Move forward with a formal Cook Inlet Navigational Risk Assessment, by soliciting funding from all available sources and developing recommendations for a study plan.*
- Identify funding sources up front.*
- Improve transparency and public participation in the Cook Inlet Navigational Safety Committee.*
- Consider holding this Forum more regularly, to ensure that progress is made and all viewpoints are considered.*
- Secure funding to ensure that a Nikiski tug is on station year-round and available to respond to all of the terminal docks.*

*One thing I hope we will all bear in mind as we move forward with our discussions of risk and risk management is that oil tankers and ice are a serious risk, but not the only risk. While we can and have learned from the past, we should not narrow our focus to past incidents only. As Dr. Harrauld pointed out, bad things can happen. We've discussed a lot of bad things here today, but there are many more that we may not have foreseen. (Are these "known unknowns" or "unknown unknowns"? An effective risk management approach must anticipate new types of incidents that may not have occurred in the past. The best way to do that is to keep the conversation moving and to extend it beyond the folks in this room to representatives of other industries that may not have been represented during this forum.*

*Before we all leave today, I would to offer thanks and appreciation to all of our panelists for their contributions of information and time.*



*I would like to thank our keynote speaker, Dr. Jack Harrauld, who traveled all the way from Washington, D.C. to contribute his expertise and experience.*

*I would like to thank Mike Conway for his thoughtful and effective facilitation of this Forum.*

*And finally, I would like to thank all of you for your time and attention. CIRCAC will continue to build partnerships among citizens, industry, agencies, and other stakeholders to promote safe navigation and oil spill prevention in Cook Inlet, and we look forward to pursuing this shared goal with all of you here today, and the organizations and stakeholders you represent.*

*Thank you.*





## **Appendices**

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***Appendix A – Participant List***

***Appendix B – Program***

***Appendix C – PowerPoint presentations***

***Appendix D – Public comments and documentation***

***Appendix E – Transcribed Facilitator Flip Charts***

***Appendix F – Acronyms and Abbreviations***



## Appendix A: List of Participants

The following individuals registered for and participated in part or all of the Forum.

Last Name	First Name	Affiliation
Anderson	Carl	Cook Inlet Tug and Barge
Arnesen	Britt	Joint Pipeline Office
Arts	Bob	Alaska Maritime
Banta	Joe	PWS RCAC
Bauer	John	ADEC
Begich	Mark	Mayor, Municipality of Anchorage
Blajeski	Valerie	ADF&G
Brookman	Jerry	PROPS Committee Public Member
Brown	John	ADEC
Burns	James	The O'Briens Group
Butler	Jim	Baldwin & Butler
Calkins	Jay	USCG Sector Anchorage
Callahan	Patrick	Seabulk Tankers
Carpenter	Phil	Alaska Maritime Agencies
Catalano	Vinnie	CIRCAC Director of Operations
Clark	Lindsey	ConocoPhillips
Cole	Kathleen	NWS Ice Forecasting
Conway	Michael	MAC Services, LLC, Forum Facilitator
Cutler	Phil	PROPS Committee Public Member, Institute of the North
DeCola	Elise	CIRCAC Contractor, Nuka Research



Last Name	First Name	Affiliation
Delaney	Karen	CIRCAC Asst. Executive Director
DeVries	Mark	USCG Sector Anchorage
Dickens	Rosanna	ADEC/Marine Vessels
Eley	Dave	Cape International
Fandrei	Gary	CIRCAC Board Member
Farris	Martin	ADEC
Folley	Gary	ADEC
Flint	Bob	Flint Emergency Management Services
French	John	PWS RCAC Volunteer
French	Margaret	CIRCAC Admin Asst
Gabrys	Bruce	United Cook Inlet Drift Assoc.
Gardner	Dale	ADEC
Glenzer	Glen	CIRCAC EMC Public Member
Harland	Bruce	Crowley-Alaska
Harrauld	Jack	George Washington University, Forum KeyNote Speaker
Harrauld	Ingrid	Cook Inletkeeper
Hasenbank	Luke	Alaska Maritime Agencies
Heisler	Tom	Alaska Maritime Agencies
Hornaday	James	City of Homer Mayor
Howell	Steve	CIRCAC Director of Public Outreach
Iwamoto	Larry	ADEC
Jacobs	Mary	CIRCAC Board Member
Jensen	Jack	Tesoro Alaska
Jones	Doug	CIRCAC Board Member

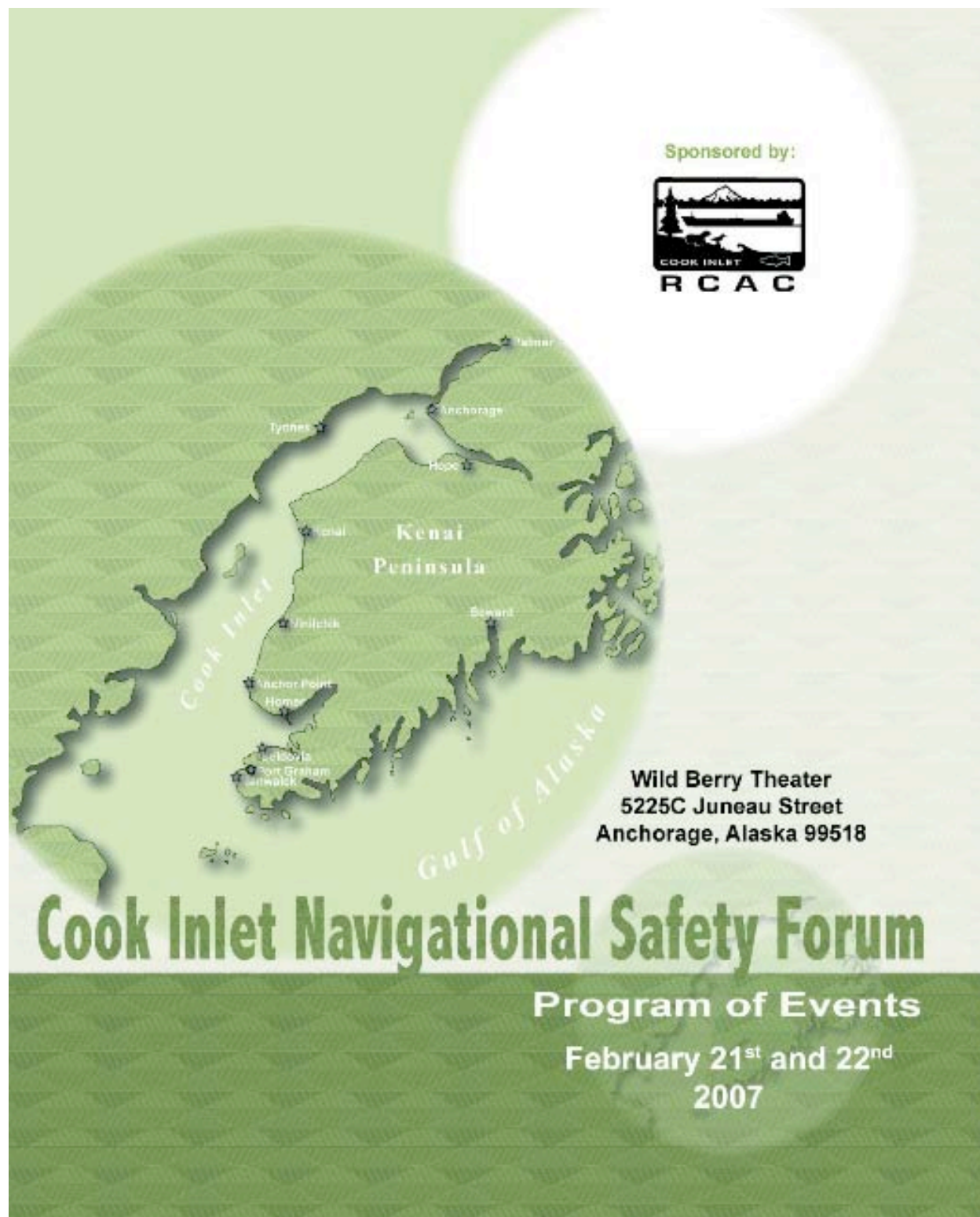


Last Name	First Name	Affiliation
Kadow	Kenn	Response Strategy Group
Kelly	Vince	ADEC
Kotula	John	ADEC
Kroon	Brad	Cook Inlet Tug and Barge
Lakosh	Tom	Public
Leonard	Nathaniel	Crowley Marine Services
Lindsey	Rob	CIRCAC Board Member
McCorkle	Vern	Alaska Business Monthly Magazine
Merkes	Grace	CIRCAC Board Member
Moore	Ted	CIRCAC PROPS Public Member
Morris	Ron	Alaska Clean Seas
Morse	Bill	Pinkston Enterprises
Moss	Mike	USCG Sector Anchorage
Mulligan	Patrick	Alaska Maritime Agencies
Munger	Mike	CIRCAC Executive Director
Mutter	Doug	DOI
Newgren	Maritta	CIRCAC Grants Manager
Newman	Tom	TerraSond Limited
O'Hara	Mike	SWAPA
Olson	Jacquelyn	PWS RCAC
Owens	Mavis	CIRCAC Board Member
Page	Ed	Marine Exchange of Alaska
Parker	Walt	Parker Associates
Peterkin	Robert	CIRCAC Board Member



Last Name	First Name	Affiliation
Phillips	Ken	USCG MSD Kenai
Plummer	Tim	Tesoro Maritime Company
Reynolds	Rodney	Agrium
Rich	Taro Lucky	Public
Robertson	Tim	CIRCAC Contractor, Nuka Research
Robinson	Linda	PWS RCAC
Rueter	Tom	Alaska Maritime Agencies
Sanguinetti	Cindy	CIRCAC Special Projects Asst.
Saupe	Sue	CIRCAC Director of Science & Research
Schoch	Carl	AOOS
Schorr	Betty	ADEC
Shadura II	Paul	KPFA
Shavelson	Bob	Cook Inletkeeper
Sienkiewicz	Mark	Trident Services
Smith	Orson	UAA School of Engineering
Stanley	Carla	CIRCAC Board Member
Stergiou	Elizabeth	ADEC
Tate	Paul	NMC
Turkington	Jeff	Agrium
Valentine	Craig	CIRCAC EMC Public Member
Whitney	John	NOAA
Wigglesworth	David	Municipality of Anchorage
Williams	John	Forum Panelist Mayor, Kenai Peninsula Borough
Wrede	Walt	City of Homer, City Manager
Zezula	David	NOAA

## Appendix B: Final Program





Notes:

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**Cook Inlet Navigational Safety Forum**





## PURPOSE OF FORUM

The Cook Inlet Regional Citizens Advisory Council (CIRCAC) is sponsoring the Cook Inlet Navigational Safety Forum to provide an opportunity for participants to share information about Cook Inlet navigational risks and discuss possible interventions to reduce the risk of vessel casualties and oil spills.

This 1-1/2 day event will convene political, agency, industry, and community representatives, as well as diverse special interest groups representing both industry and environmental organizations. Panel sessions and expert speakers will cover a range of navigational safety topics, including the potential development of a formal navigational risk assessment for Cook Inlet. A final report will be prepared to summarize the issues discussed, comments shared, and next steps in the promotion of safe navigation in Cook Inlet.

Cook Inlet RCAC is hosting and funding the forum, and has hired Nuka Research and Planning Group, LLC to facilitate the conference planning and logistics. A website has been set up with additional information at: <http://www.circac.org/conference.php>

## DAY 1:

Wednesday, February 21, 2007

Time	Event	Location
9:30 a.m. to 10:30 a.m.	<b>Speaker/Panelist Breakfast Reception</b> ..... All panel members and speakers are invited to attend a breakfast reception where they will have an opportunity to meet the facilitator and their fellow panelists and to review the format and content of their respective panels. Panelists and speakers will also have an opportunity to work through any technical needs they may have (e.g., audio/visual equipment) at this time.	<b>Theater</b>
10:00 a.m.	<b>REGISTRATION OPENS</b> .....	<b>Lobby</b>
Noon	<b>Lunch Reception and Opening Remarks</b> ..... <i>Welcome and Opening Remarks</i> Mike Munger, Executive Director Cook Inlet Regional Citizens Advisory Council <i>Forum Schedule and Format</i> Mike Conway, Forum Facilitator MAC Leadership and Consulting	<b>Theater</b>
1:30 p.m.	<b>SESSION 1</b> ..... <b>"Cook Inlet Navigational Safety: Identifying the Risks"</b> <i>Panel members:</i> LCDR Gregory B. Tiapa, USCG Carl Anderson, Cook Inlet Tug and Barge Orson Smith, Cook Inlet Ice Atlas Author Ed Page, Alaska Marine Exchange Captain Jack Jensen, Tesoro <i>Discussion Topic:</i> Session 1 will consider the types of navigational safety risks and hazards that exist in Cook Inlet. For the purpose of discussion, four topic areas have been identified by CIRCAC: <ul style="list-style-type: none"><li>• Weather, ice, and current;</li><li>• Mooring and anchoring;</li><li>• Tugs; and,</li><li>• Navigational aids, operating procedures, and traffic systems.</li></ul> The panel members will be invited to share their experience relating to one or more of these topic areas, followed by a facilitated discussion with audience participation. <i>The purpose of this session is to develop a list of inputs – issues, risk factors, and other considerations – relevant to assessing the navigational safety risks in Cook Inlet.</i>	<b>Theater</b>
2:45 p.m.	<b>Coffee break</b> .....	<b>Lobby</b>

Cook Inlet Navigational Safety Forum





Day 1 (continued)

Time	Event	Location
3:00 p.m.	<b>SESSION 2</b> ..... <i>Theater</i> <b>"Cook Inlet Navigational Safety: Understanding the Impacts and Potential Consequences of Accidents, Spills, and Groundings"</b> <i>Panel members:</i> Mayor James C. Hornaday, City of Homer Mayor Mark Begich, Municipality of Anchorage Mayor John Williams, Kenai Peninsula Borough Bob Shavelson, Cook Inlet Keeper Bruce Gabrys, Commercial fishing Vern McCorkle, Alaska Business Monthly <i>Discussion Topic:</i> Session 2 will consider what's at stake when navigational risk factors lead to oil spills, groundings, or vessel casualties. For the purpose of discussion, several topic areas have been identified by CIRCAC: Impacts to wildlife, habitat, and Cook Inlet ecology; Impacts to fishing industry; Impacts to recreational waterway users; and Impacts to tourism. The panel members will be invited to share their experience relating to one or more of these topic areas, followed by a facilitated discussion with audience participation. <i>The purpose of this session is to identify the potential impacts of a Cook Inlet navigational accident.</i>	
4:15 p.m.	<b>Coffee Break</b> ..... <i>Lobby</i>	
4:30 p.m.	<b>SESSION 3</b> ..... <i>Theater</i> <b>"Cook Inlet Navigational Safety: Identifying the Interventions"</b> <i>Panel Members:</i> Betty Schorr, ADEC CAPT Mark DeVries, USCG Captain Tim Plummer, Tesoro Mike O'Hara, SWAPA Mike Munger, CIRCAC <i>Discussion Topic:</i> Session 3 will build on the discussion from Sessions 1 & 2 by identifying possible interventions to address the risk factors and consequences identified during Sessions 1 & 2. The types of interventions discussed may include: Regulations, Policies, or Guidelines; Engineering Solutions; Human Factors Interventions; and Additional study/research. The panel members will be invited to describe the types of interventions they recommend, followed by a facilitated discussion with audience participation. <i>The purpose of this session is to develop a list of interventions that may reduce the navigational safety risks and impacts in Cook Inlet.</i>	
5:45 p.m.	<b>Adjourn Day 1 Sessions</b>	
6:00 p.m.	<b>Reception</b> ..... <i>Sourdough Mining Company</i>	

Cook Inlet Navigational Safety Forum

## OBJECTIVE



CIRCAC has organized this forum to promote frank and open discussion among stakeholders, waterway users, regulators, the marine transportation industry, the oil industry, and the public regarding the navigational safety risks in Cook Inlet and measures that may be taken to reduce those risks. CIRCAC's objective is to use the information and discussion generated during the Forum to develop a list of actionable recommendations and consensus items that may be used as the basis for improving navigational safety through regulations, engineering solutions, human factors interventions, or additional research and study.

## FORMAT



The Cook Inlet Navigational Safety Forum will consist of

- Five separate panel discussions with pre-established topics;
- One "conference-style" session where a series of expert speakers present brief presentations on topical subjects;
- A keynote address;
- A public testimony session; and,
- A wrap-up session.

All sessions will be led and moderated by a facilitator, and all will include the opportunity for questions or comments from the participants in the audience. Participants will be encouraged to submit questions in writing whenever possible.





## LOCATION



The Cook Inlet Navigational Safety Forum will be held on February 21-22, 2007 at the Wild Berry Theater, which is located in Midtown Anchorage off the east end of International Airport Road.

### WILD BERRY THEATER

5225C Juneau Street  
Anchorage, Alaska 99518

<http://www.alaskawildberryproducts.com>

## REGISTRATION



Participants may register online at <http://www.circac.org/conference.php> or by contacting CIRCAC at 907-283-7222. Pre-registration begins January 2, 2007 and runs through February 16, 2007.

Participants may also register at the event, as space allows.

There is no cost for registration, and Forum participants will be provided with lunches, coffee, snacks, and an evening reception. The number of participants will be limited by space constraints, so early registration is encouraged.

## DAY 2:

Thursday, February 22, 2007

Time	Event	Location
7:30 a.m.	Coffee and continental breakfast served.....	Lobby
8:30 a.m.	SESSION 4: ..... "Recent Studies and Projects on Cook Inlet Navigation Issues"	Theater
	<b>Session Format:</b> During this session, expert speakers will present information on a range of topics related to Cook Inlet navigation issues. Unlike previous sessions, this will not be a panel discussion but a series of discrete presentations. An opportunity for questions and answers will be provided after all speakers have completed their presentations, as time allows. The purpose of this session is to highlight recent and ongoing processes and projects that relate to Cook Inlet navigational safety.	
	<b>Topic: Cook Inlet Winter Ice Conditions and Reporting</b> Speakers: Orson Smith, UA author of Cook Inlet Ice Atlas Kathleen Cole, NWS Ice Forecasting Mr. Smith will provide an overview of Cook Inlet ice conditions based on his experience compiling the Cook Inlet Ice atlas, and Ms. Cole will discuss of how ice conditions are monitored in real time.	
	<b>Topic: Cook Inlet Vessel Traffic Study</b> Speaker: Dave Eley, Cape International Services Mr. Eley will present the findings of a recent vessel traffic study conducted by his firm for Cook Inlet RCAC.	
	<b>Topic: Cook Inlet Potential Places of Refuge Project</b> Speaker: Larry Iwamoto, ADEC Mr. Iwamoto will describe an ongoing project funded by the State of Alaska to identify areas of safe refuge for vessels in distress.	
	<b>Topic: Cook Inlet Navigational Safety Committee Activities Update</b> Speaker: Mike O'Hara, President Mr. O'Hara, a pilot with SWAPA and President of the navigational safety committee will describe that group's purpose and activities to date.	
	<b>Topic: Overview of Tug Capabilities and Limitations for Tanker Assistance</b> Speaker: Crowley Maritime Representative A Crowley Marine tug representative will present information on tug capabilities with emphasis on Cook Inlet.	
10:30 a.m.	Coffee break.....	Lobby

Cook Inlet Navigational Safety Forum





Day 2 (continued)

Time	Event	Location
10:45 a.m.	<b>SESSION 5: .....</b> <b>"Seabulk Pride Incident: Looking Forward"</b> <i>Panelists:</i> Gary Folley, ADEC CAPT Mark DeVries, USCG Captain Tim Plummer, Tesoro Steve Willrich, Seabulk Tankers, Inc. <i>Discussion Topic:</i> During Session 5, representatives of organizations involved in the <i>Seabulk Pride</i> incident will discuss their organization's role in the incident and highlight operational changes taken since the incident.  Panel members will begin the session by each presenting brief summaries of the steps their organization has taken to mitigate risks presented when operating during ice conditions in Cook Inlet. A facilitated panel discussion will follow, with audience questions submitted to panelists through the session facilitator. Participants are encouraged to provide constructive input focused on options and challenges for mitigating operational risks.  The purpose of this session is to consider operational steps which have been taken since the <i>Seabulk Pride</i> incident in February 2006 and what challenges exist in the context of improving navigational safety and reducing oil spill risks in Cook Inlet.	Theater
11:45 a.m.	<b>Lunch Reception .....</b>	Theater
12:30 p.m.	<b>KEYNOTE ADDRESS (during lunch reception) .....</b> <b>Welcome &amp; Introduction of Keynote Speaker:</b> <b>Doug Jones, President of the Board, CIRCAC</b> <i>Keynote Address: Cook Inlet Risk Assessment: Needs, Process, and Way Forward</i> Dr. John Harrauld, Director Institute for Crisis, Disaster, and Risk Management The George Washington University  Dr. John (Jack) Harrauld is the Director of The George Washington University Institute for Crisis, Disaster, and Risk Management and a Professor of Engineering Management in the GWU School of Engineering and Applied Science. He has been actively engaged in the fields of maritime safety, emergency management, and crisis management, as a researcher in his academic career and as a practitioner during his prior career as a U.S. Coast Guard officer. He has written and published in the fields of crisis management, management science, risk and vulnerability analysis, and maritime safety.  In his keynote address, Dr. Harrauld will describe his personal experience in conducting waterways risk assessments, and will discuss the specific actions, information, and planning required to initiate a risk assessment for Cook Inlet. He will address the need for stakeholder and waterway user input, and will also describe the importance of clear communications to the public and the media.	Theater

Cook Inlet Navigational Safety Forum

## FACILITATION

Michael (Mike) Conway of MAC Services in Juneau will facilitate all Forum sessions. Mr. Conway has extensive experience facilitating workshops, public hearings, and team-building events. His facilitation style is casual and informal; however, he remains focused on keeping the program running on-schedule and ensuring that panelists and participants have adequate opportunity to contribute to the discussion.





## LODGING



A block of rooms has been reserved for Forum participants at the Dimond Center Hotel at a reduced rate.

### DIMOND CENTER HOTEL

700 East Dimond Blvd.

Anchorage, Alaska 99515

Phone: 907.770.5000

Toll Free: 866-770-5002

Fax: 907.770.5001

<http://www.dimondcenterhotel.com/>

Information about other Anchorage area hotels is available on the Forum webpage at <http://www.circac.org/conference.php> or by contacting CIRCAC at 907-283-7222.

## TRAVEL INFORMATION AND ASSISTANCE



For additional assistance with travel arrangements, please contact CIRCAC at 907-283-7222.

Day 2 (continued)

Time	Event	Location
1:00 p.m.	<b>PUBLIC TESTIMONY</b> ..... <i>Facilitator: Mike Corway, MAC Leadership Services</i> Members of the public will be invited to speak for the public record. Length of comments will be limited to 5 minutes per speaker, with the opportunity to submit written comments in place of or in addition to oral testimony.	<b>Theater</b>
2:45 p.m.	<b>Coffee break</b> .....	<b>Lobby</b>
3:00 p.m.	<b>SESSION 6:</b> ..... <b>"Cook Inlet Navigational Risk Assessment: Forum Recap and Way Forward"</b> <i>Panelists:</i> Dr. Jack Harrauld, Georgetown University Betty Schorr, ADEC CAPT Mark DeVries, USCG Mike O'Hara, SWAPA Carl Anderson, Cook Inlet Tug & Barge Mike Munger, CIRCAC  This facilitated panel discussion will explore the information needs, process, and funding considerations for a Cook Inlet navigational risk assessment. The panel will review information from PAWSA, WAMS and other studies relevant to a risk assessment, and discuss a way forward to design and implement a risk assessment that will provide the information needed to improve navigational safety in Cook Inlet.  The purpose of this session is to identify consensus points and additional information needs to support the technical and financial requirements for a Cook Inlet waterways risk assessment, and to develop a realistic understanding of how a risk assessment would address the identified risks.	<b>Theater</b>
5:00 p.m.	<b>SESSION 7:</b> ..... <b>Forum Recap and Way Forward</b> ..... <i>Facilitator: Mike Corway, MAC Leadership Services</i> This final discussion will synthesize previous discussion topics by highlighting consensus points and identifying critical next steps in realizing a Cook Inlet risk assessment. The facilitator will recap the outcome of all previous panel discussions and provide an opportunity for closing comments from Forum participants.	<b>Theater</b>
5:45 p.m.	<b>CLOSING COMMENTS</b> ..... Mike Munger, Executive Director Cook Inlet Regional Citizens Advisory Council	<b>Theater</b>
6:00 p.m.	<b>Adjourn Forum</b>	

Cook Inlet Navigational Safety Forum



Notes:

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**Cook Inlet Navigational Safety Forum**

Program designed by:







## **Appendix C: PowerPoint Presentations**

### **Contents**

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#### Session 1--Cook Inlet Navigational Safety: Identifying the Risks

- Presentation by Ed Page, Alaska Marine Exchange
- Presentation by Jack Jensen, Tesoro

#### Session 2--Cook Inlet Navigational Safety: Understanding the Impacts and Potential Consequences of Accidents, Spills, and Groundings

- No PowerPoints presented during this session

#### Session 3--Cook Inlet Navigational Safety: Identifying the Interventions

- Presentation by Betty Schorr, ADEC
- Presentation by Tim Plummer, Tesoro

#### Session 4—Recent Studies and Projects on Cook Inlet Navigation Issues

- Presentation by Orson Smith, Cook Inlet Ice Atlas
- Presentation by Kathleen Cole, NWS Ice Forecasting
- Presentation by Dave Eley, Cape International Services
- Presentation by Larry Iwamoto, ADEC

#### Session 5—Seabulk Pride Incident: Looking Forward

- Presentation by Gary Folley, ADEC
- Presentation by Patrick Callahan, Seabulk Tankers
- Presentation by Tim Plummer, Tesoro

#### Keynote Address: Vessel Traffic Risk Assessment Issues, Methods and Lessons Learned

- Presentation by Jack Harrauld, George Washington University

#### Session 6—Cook Inlet Navigational Risk Assessment: Forum Recap and Way Forward

- Presentation by Mike Munger, CIRCAC





## Appendix D: Public Comments and Written Testimony

Written testimony was submitted as part of the Forum official record by the following individuals. Due to the length of these comments, they have not been reprinted herein. CIRCAC has copies of the specific comments on file in their Kenai office for review by interested parties.

Document	Submitted by	Contents
Letter to CI Navigational Safety Forum dated 2/21/07	Mayor James C. Hornaday, City of Homer, Alaska	Prepared remarks given by Mayor Hornaday during Session 2.
City of Homer Resolutions related to oil spill prevention and navigational safety for Cook Inlet, Kachemak Bay, and the Gulf of Alaska	Mayor James C. Hornaday, City of Homer, Alaska	Full text of Resolutions 06-62, 06-41, 05-24, 97-26, 97-23,
Prepared remarks regarding Potential Places of Refuge Development in Alaska	Larry Iwamoto, Alaska Department of Environmental Conservation	Prepared remarks given during Session 4.
E-mail correspondence between Tom Lakosh and Steve L. Hudson	Tom Lakosh	2-page email with attachment (USCG NVIC 01-05) regarding nontank vessel oil spill contingency plans.
"Major Issues Concerning Salvage and Marine Firefighting" from the August 5, 1997 Vessel Response Plan Workshop, Prepared by the U.S. Coast Guard Office of Response and the Maritime Association of the Ports of New York and New Jersey	Tom Lakosh	Copy of August 5, 1997 workshop report.
"Salvage Plan & Information Sheet," Jamestown Marine Services Survey Form, U.S. Navy Salvage Manual	Tom Lakosh	Copy of Salvage Plan and Information Sheet from USN Salvage Manual
Salvage Engineering Response Team (SERT) brochure	Tom Lakosh	Copy of USCG brochure describing mission, capabilities, and resources of SERT.



Document	Submitted by	Contents
Article entitled "French coast protection vessel designed and equipped by Rolls-Royce," published by Rolls-Royce, 12 April 2005	Tom Lakosh	Article describing one of two identical coast protection vessels designed and equipped to prevent major marine oil spills, such as the <i>Erika</i> and <i>Prestige</i> .
Article entitled "Spain's new coastguard vessel has Rolls-Royce design and equipment," published by Rolls-Royce, 22 January 2007	Tom Lakosh	Article describing one of two coastal protection vessels acquired by Spain's Maritime Safety Authority to provide spill response and vessel assistance.
"Bourbon Orca" DP2 Anchor handling tug supply vessel spec sheet	Tom Lakosh	Specification sheet for Bourbon Orca tug supply vessel, manufactured by Bourbon Offshore.
"Voith Water Tractor" description	Tom Lakosh	Diagram and text description of Voith Water Tractor with booster fin for salvage and deep sea operation.
"Development of an All-Purpose Arctic and Open Ocean Oil Spill Response Vessel and Associated All-purpose Skimmer," submitted to MMS by BMT Designers & Planners, Inc and Avis Marine Consulting	Tom Lakosh	White Paper for Proposed FY2004 Research in response to MMS Solicitation #1435-01-04-RP-33212 (unclear whether project received funding)
"Risk of Oil Spills from Vessels Transiting the Aleutian Island: A Draft Prospectus of the TRB/Marine Board" 11/9/06	John Harrauld	Prospectus describing proposed Aleutian Island risk assessment and identifying the need for National Academies of Science support and involvement through the Marine Board.
"Marine Board Presentation: the Vessel Traffic Risk Assessment Methodology"	John Harrauld	Copy of PowerPoint presentation given by Dr. Harrauld to Marine Board meeting 11/06.



## **Appendix E: Acronyms and Abbreviations**

ADEC	Alaska Department of Environmental Conservation
ADFG	Alaska Department of Fish & Game
AIS	Automated Identification System
AMX	Alaska Marine Exchange
AOOS	Alaska Ocean Observing System
ARRT	Alaska Regional Response Team
ASVTS	Automated Secure Vessel Tracking System
ATON	Aids to Navigation
CIP	Capital improvement project
CIRCAC	Cook Inlet Regional Citizens Advisory Council
CISPRI	Cook Inlet Spill Prevention and Response, Inc.
CODAR	Coastal Radar
COTP	Captain of the Port
EPA	Environmental Protection Agency
EVOS	Exxon Valdez oil spill
GIS	Geographic information systems
GOES	Geostationary Operational Environmental Satellite
GRS	Geographic Response Strategy
GT	Gross tonnage
IPP	Industry Preparedness Program
LLC	Limited Liability Company
MESA	Most environmentally sensitive area
MODIS	Moderate Resolution Imaging Spectroradiometer
NOAA	National Oceanic and Atmospheric Administration
NRC	National Research Council
NVIC	Navigation and Vessel Inspection Circular
PAH	Polycyclic aromatic hydrocarbon



POES	Polar Operational Environmental Satellite
PPOR	Potential place of refuge
SAR	Synthetic aperture radar
STAR	Spill Tactics for Alaska Responders
SWAPA	Southwest Alaska Pilots Association
TTF	Terminals and tank farms
UAA	University of Alaska Anchorage
USCG	United States Coast Guard
WAMS	Waterways Assessment Management System