Cook Inlet Regional Citizens Advisory Council

2006 ANNUAL REPORT

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mission statement

Our mission is to represent the citizens of Cook Inlet in promoting environmentally safe marine transportation and oil facility operations in Cook Inlet.

The mission statement of Cook Inlet RCAC is a reflection of the mandates spelled out by Congress when it passed the Oil Pollution Act of 1990, thereby creating two citizen oversight councils – one for Cook Inlet and one for Prince William Sound. Congress established the councils to ensure that citizens, the oil industry, and government agencies would work together to prevent oil spills in Alaska's waters.

Since that time, Cook Inlet RCAC has been a strong voice for citizens from Anchorage to Kodiak working to keep the waters of Cook Inlet free from pollution.



message from the president & executive director

No single event of 2006 cast a longer shadow over oil spill prevention and response discussions than did the grounding of the tanker Seabulk Pride in February. A rising tide pushed heavy ice into the bow of the tanker while it was loading fuel at the KPL dock in Nikiski, breaking it loose and shoving it hard aground about a half mile north along the beach.

The incident prompted Cook Inlet RCAC to renew our call for assist tugs, clearer ice guidelines, and a comprehensive navigational risk assessment. The United States Coast Guard delivered its investigation report on the incident in late 2006 in which they describe a series of serious missteps that likely contributed to the tanker's grounding. Among their conclusions: insufficient mooring lines, engine room staffing for immediate standby, and training. But perhaps the most troubling determination of all was "a degree of complacency" regarding the risk presented by the ice.

One of the major goals of Congress in creating the Regional Citizens' Advisory Councils in Cook Inlet and Prince William Sound under the Oil Pollution Act of 1990 was to end complacency at all levels of spill prevention and response. But complacency can only be diminished when industry, state and federal agencies, and citizens work together to scrutinize even our best practices.

Last March, the Municipality of Anchorage and the Kenai Peninsula and Matanuska-Susitna boroughs joined Cook Inlet RCAC's multi-year efforts calling for a comprehensive Cook Inlet navigational risk assessment. Their Tri-Borough agreement stated that "no recent event underscored the need for such an assessment better" and though "response capabilities have improved significantly over the years, gaps in prevention continue to threaten the environment and the economy that depends on it." Legislators for the Kenai Peninsula and Kodiak areas concurred, noting the importance of protecting both the fishing community and the commercial shipping corridor to Alaska's population center.

The investigation report serves as a kind of micro-assessment aimed at one facet of a complex and hazardous navigational system on which the bulk of Alaska commerce relies. The docking, tug assist, and communication systems in Cook Inlet all deserve the analysis afforded to Prince William Sound and other waterways where rich natural resources and commercial development coexist.

Inside this year's Annual Report, you'll learn how Cook Inlet RCAC's Prevention, Response, Operations, and Safety Committee continues to lead projects like the Geographic Response Information Network or GRIN, which aggregates logistics information by community to improve effectiveness in the first critical days of an incident. You will also read about work the Environmental Monitoring Committee continued this year with its efforts to inventory and characterize nearshore habitat for Cook Inlet and surrounding areas. So far, these efforts have included mapping of biophysical habitat along thousands of miles of coastline, species-level seaweed and invertebrate data at hundreds of beach sites, and detailed mapping of several unique or particularly sensitive habitats.

These and other Cook Inlet RCAC projects continue to enhance our understanding of Cook Inlet and improve our abilities to protect its many resources. But when a tanker still ends up high and dry on our beaches, it sends a very clear message that all of us – industry, state, federal, and citizens alike – must create a more aggressive prevention environment. Once the oil is in the water, it's too late.



Michael Munger Executive Director



Doug Jones President

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a close call





Early on February 2, 2006, an ice floe tore the tanker *Seabulk Pride* from its mooring at KPL dock in Nikiski and pushed it aground about one-half mile up the beach. The tanker had been loading gasoline and VTBB, a viscous fuel similar to asphalt, when lines began to part and several barrels spilled onto and over the side of the ship.

Shortly after it grounded, a service vessel attached an emergency tow line to the tanker but was unable to pull it free. Unified Command had planned a second attempt to pull the tanker off the beach with the high tide the same evening but safety concerns regarding one of the tugs and other considerations postponed the attempt to approximately 7:00 a.m. the next morning. The oil spill response vessel *Seabulk Nevada* and two tugs requested from Anchorage, the *Stellar Wind* and *Glacier Wind*, were in the immediate vicinity preparing for the attempt before a fourth vessel, the tug *Pacific Challenger*, arrived at 6:00 a.m. February 3 and assisted with the refloating effort. Two large tugs had also been summoned from Prince William Sound. The 7200 hp *Sea Voyager* tug had been en route with an estimated arrival of Noon February 3 while a sister vessel, the *Bulwark* and *Barge 450-3*, with a capacity of 149,700 bbl would not have arrived until late that Saturday approximately 36 hours after the grounding.

The tide was estimated to be at a +17 feet the morning the vessel went aground and a -0.4 low tide occurred at 1:37 p.m. leaving the vessel high and dry with even its prop out of the water. The February 3 morning tide of +22.6, approximately one foot higher than the previous evening's tide, was enough to re-float the vessel before tugs pulled the tanker into deeper waters. The U.S. Coast Guard approved the vessel's transit to Kachemak Bay as a Place of Refuge after preliminary surveys in and around the vessel determined that it was sound to continue there. Once in the bay, divers surveyed the vessel for the American Bureau of Shipping. They observed a dimple and several cracks in the outer hull requiring repair before continuing south to offload its cargo. There was no indication of leaking product in or out of the vessel, according to authorities. The cracks in the ship's bow, apparently the result of grinding against a boulder on the beach, allowed water to leak into the space between the hulls. Because the vessel was doublehulled, the cargo remained intact and no oil leaked from the storage tanks. Following repairs in Kachemak Bay, crews also pressure tested valves and manifolds before gaining approval from the Coast Guard to leave port for Anacortes, Washington.



Carrying nearly 5,000,000 gallons of fuel, the tanker threatened the Cook Inlet environment and economy on a scale to rival the 1989 *Exxon Valdez* oil spill, inexcusable with the prevention tools available in 2006. An oil spill would be devastating to the commercial fishing fleet and salmon processors that are an integral part of the Kenai Peninsula and Kodiak Island economies. The 1987 *Glacier Bay* incident spilled 207,000 gallons of oil closing a fishery and costing that industry millions in revenue. The *Seabulk Pride* cargo presented an even greater challenge because of its viscosity and the presence of sea ice that would have severely limited any spill recovery efforts.

Since the incident, Cook Inlet RCAC has focused on the lessons that would lead to a better understanding of the *Seabulk Pride* grounding and ultimately to changes to improve vessel safety in Cook Inlet. The Council hosted a moderated panel discussion regarding the incident at its 2006 Board of Directors Annual Meeting in Kenai. Participants from Tesoro Maritime, Alaska Department of Environmental Conservation (ADEC), Coast Guard, Southwest Alaska Pilots Association, Seabulk Tankers, and Cook Inlet Tug and Barge were on hand to discuss the event and changes to safety procedures. Subsequently, Cook Inlet

RCAC passed a resolution calling for the immediate deployment of adequately equipped tug vessels to assist operations at the Nikiski docks. The same resolution also asked shippers and producers to develop a funding formula to provide for such navigational safeguards.

Cook Inlet RCAC also continued its call for a risk assessment to identify safety gaps. A 1999 Cook Inlet RCAC-sponsored forum among environmental organizations, oil industry representatives, native leaders, state and federal elected officials, Coast Guard, and the ADEC determined that an assessment was a critical first step in establishing additional spill prevention safeguards in Cook Inlet. Because the Coast Guard is the regulatory authority for navigational issues in U.S. waters, they are the appropriate agency to conduct the assessment for Cook Inlet. Cook Inlet RCAC strongly supports designating federal funds, \$1.5 to \$2 million, in the Coast Guard budget to perform this important task and help prevent events like the *Seabulk Pride* grounding in the future.

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%projects PROPS

PROPS PROJECTS

- ~ Navigational Risk Assessment
- ~ Geographic Response Information Network

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- ~ Contingency Plan Review
- ~ Vessel Traffic Study
- ~ Kodiak Potential Places of Refuge
- ~ Geographic Response Strategies

A local fishing vessel and response barge during VOSS Drill in Kachemak Bay.

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Photo by Steve Howel

NAVIGATIONAL RISK ASSESSMENT

A key to the process for identifying additional navigational safeguards in Cook Inlet is a U.S. Coast Guard-led comprehensive navigational risk assessment. The 1999 "Safety of Navigation" Forum, organized by Cook Inlet RCAC and held in Homer emphasized this need.

Over the past year, Cook Inlet RCAC has made repeated attempts to secure agency funding for such an assessment with only limited success. The *Seabulk Pride* grounding reminded everyone that there is no time to waste on this important issue and the Council remains optimistic that the funds will be appropriated to begin this long overdue study of the risks in Cook Inlet. Cook Inlet RCAC Executive Director Michael Munger met with the ADEC Commisioner Kurt Fredrickson directly after the *Seabulk Pride* grounding and secured a commitment from the department to request \$250,000 in their budget beginning July 2007 to conduct the assessment. Mr. Munger also met with the previous Commander of the 17th Coast Guard District, Admiral James Olson, to ensure that the Coast Guard viewed Cook Inlet as a high priority. Cook Inlet RCAC has also been working with Alaska's congressional delegation to identify funding in the Coast Guard budget to conduct the assessment. \diamondsuit

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GEOGRAPHIC RESPONSE INFORMATION NETWORK

Contractors working for Cook Inlet RCAC on the Geographic Response Information Network or GRIN Project completed the prototype that will help guide development for other communities in Alaska. GRIN takes existing information from a number of sources, supplements that information as needed, and compiles both electronic and paper documents that allow the user to easily locate and view logistical information relevant to oil spill response in coastal Alaska.

Information in the GRIN is organized by community so that incident personnel assigned to a specific community (or a number of communities within a larger geographic region) are able to access a broad range of logistics, safety, and public information in one central location. In some ways, this project represents a first step toward developing an "online" or paperless version of the Subarea Contingency Plans.

Much of the information in the Subarea plans will be incorporated into the GRIN; however, instead of relying on text-based descriptions in a printed plan, the GRIN will use maps and pictures to provide responders with a visual reference to accompany textual information. The project is also developed for use online – both web available and transportable via CD or DVD. Cook Inlet RCAC is very excited to watch the development of this project and looks forward to expanding it throughout Cook Inlet. \Rightarrow



The GRIN web site centralizes information used in the initial response during a crisis such as an oil spill.

ROPS S Contingency Plan Review

Representing the public's interest, Cook Inlet RCAC works with state agencies and industry during plan review to reinforce their importance to protecting Cook Inlet's productive waters. A thorough review of these plans is especially important to the Inlet's health since the State of Alaska lenghtened the effective period for contingency plans from three years to five.

Cook Inlet RCAC commented on the following Contingency Plans:

- Forest Oil Corporation Cook Inlet Area Exploration Operations
- Union Oil Company of California (Unocal) Cook Inlet Vessel
 Operations
- Marathon Oil Company, Beaver Creek Production Facility
- XTO Energy
- Escopeta Oil and Gas
- Elmendorf Air Force Base (though a funding agreement with the Matanuska-Susitna Borough and the Municipality of Anchorage)

Cook Inlet RCAC staff has been soliciting C-Plans from the Cook Inlet plan holders prior to their application to the Alaska Department of Environmental Conservation in order to expedite the review process. Doing so allows Cook Inlet RCAC a longer review period, minimizes delays, and allows time for the plan holder to consider our recommendations and to make changes streamlining the formal process.

🥱 Vessel Traffic Study

Our PROPS Committee commissioned a vessel traffic study which culminated in a written report and illustrated inventory of vessel traffic movements in Cook Inlet. The report by Dave Eley of Cape Decision, Inc. may be used as a reference document to support discussions on the environmental risks associated with vessel traffic in the area, as well as any discussions regarding mishap prevention initiatives. This study, funded solely by Cook Inlet RCAC, will also be used to augment the navigational risk assessment once it begins. \Leftrightarrow

KODIAK POTENTIAL PLACES OF REFUGE

Leaking or disabled vessels may require a sheltered location with adequate water depth to repair or lighter the vessel in order to minimize the amount of spilled product. If disabled vessels are not repaired, oil or other hazardous substances released from the vessel can impact downstream environmental resources and shoreline. Vessels should be anchored or moored in protected waters to safely undergo repairs and minimize polluting the environment.

In 2006, Cook Inlet RCAC partnered with agency, industry, and community stakeholders to develop the Kodiak Potential Places of Refuge project to identify places where a stricken vessel may best find shelter. Once identified, suitable emergency mooring locations are included in the Kodiak Subarea Contingency Plan.

Kodiak has some of the most environmentally sensitive coastal areas in Alaska. In addition to sensitive shoreline habitats such as marshes, sheltered tidal flats, and exposed tidal flats, Kodiak supports a number of sensitive biological resources including birds, fish and shellfish, and marine mammals. The area contains national refuges, national parks, state critical habitat areas, state parks, native and other private lands, and is managed for a variety of uses. Kodiak is also widely used for marine commerce and has significant traffic passing nearby en route to other ports. As international trade and development of Alaska's natural resources increases, this traffic will likely increase. Identifying places of refuge for vessels is corollary to such development.



Map by Nuka Research & Planning Group

GEOGRAPHIC RESPONSE STRATEGIES

Geographic Response Strategies (GRS) are oil spill response plans tailored to protect a specific sensitive area from impacts following a spill. These response plans are map-based strategies that can save time during the critical first few hours of an oil spill response. They show responders where sensitive areas are located and where to place oil spill protection resources.

Cook Inlet RCAC co-funded the Kodiak phases of GRS development in 2006 along with the Prince William Sound Response Planning Group,

Prince William Sound RCAC and others. The workgroup weighed the advantages and disadvantages of each location and developed plans for 43 sites along Kodiak, Afognak, and the Alaska Peninsula across Shelikof Strait. Workgroup members collected site survey information using the U.S. Fish and Wildlife vessel URSA Major II. Sites are selected using several criteria including environmental sensitivity, exposure to risk of being oiled, and ability to succeed in protecting the area with the current response technology. 💠



KODIAK GRS SITES

Map by Nuka Research & Planning Group

public outreach

Cook Inlet RCAC staff and volunteers attend many different workshops, conferences, and other venues each year to present information to educate others, including the general public, on oil production and transportation issues affecting Cook Inlet. As well, staff and committee members take advantage of opportunities to learn and bring information back to the organization. For example, during the past year Cook Inlet RCAC representatives:

- Presented the GRIN project at the annual Arctic and Marine Oil Spill Program (AMOP) held by Environment Canada. The technical conference often highlights new developments in oil spill response in cold climates.
- Visited Larsen Bay, Port Lions, and Ouzinkie to give presentations on Kodiak GRS and to solicit comments, answer questions, and gather information from local residents and tribal leaders on sites important to the local communities.
- Presented the GRIN project at Alaska Regional Response Team meetings in Anchorage and the Local Emergency Planning Committee meeting in Kodiak to make users aware of its benefits.
- Visited XTO Platform "C" for a comprehensive look at platform operations and equipment functions. The helicopter ride back provided a good relational view of the platforms and shore side facilities as well as an aerial view of the current ice conditions in the Inlet and T/V Seabulk Pride grounding site.

- Attended the NPDES (pollutant discharge) public hearings in Homer, Kenai, and Anchorage and testified on Cook Inlet RCAC's behalf.
- Participated alongside industry and agency representatives in the Homer City Council's panel discussion on Kachemak Bay as a Port of Refuge reviewing the process for selecting and then allowing a stricken vessel to use a particular place of refuge.
- Participated in the GRS/Potential Places of Refuge meetings in Kodiak. The public component for both GRS and PPOR has been very helpful in selecting sites and getting local participation.
- Presented information on the Council's structure, funding, and projects to visiting delegations from the Aleutians East Borough, France, British Columbia, and Russia.
- Participated in a panel discussion on the effectiveness of the RCAC model at the Alaska Forum on the Environment along with other RCAC, university, state, and environmental representatives.
- Presented at the CRSA Forum in Dillingham regarding the public's interest in Shell Oil's development prospects for Bristol Bay/East Aleutians oil and gas leases. The panel convened local stakeholders, industry, and various municipal representatives from across the region.
- Presented information about our coastal habitat mapping and monitoring program at the Aleutian Life Forum in Dutch Harbor. The goal of the forum was to help develop or identify realistic monitoring program components for Sea Grant to lead in the area with local Aleutian communities.

∽projects

EMC PROJECTS

- ~ Cook Inlet Physical Oceanography
- ~ Cook Inlet General Oil and Gas NPDES Permit
- ~ Ballast Water/Non-Indigenous Species (NIS)
- ~ Coastal Habitats
 - > SeaweedsofAlaska.com
 - > ShoreZone Beach Survey Aniakchak National Park
 - > ShoreZone Beach Survey Forage Fish Surveys
 - > Salt Marsh Mapping
 - > Macrocystis Kelp Mapping

Scientist dives to collect *Macrocystis* kelp data near Kodiak Island.

COOK INLET PHYSICAL OCEANOGRAPHY

In 2006, we continued our partnerships with the Kachemak Bay Research Reserve (KBRR) and the University of Alaska Fairbanks to conduct the third year of a project collecting physical oceanographic measurements at the "boundaries" of Cook Inlet. By measuring temperature, salinity, dissolved oxygen, and transmissivity at stations along each transect we obtain information on the influences of freshwater from the Alaska Coastal Current and the Upper Cook Inlet rivers. This information is essential to understanding Cook Inlet's water circulation patterns that would be responsible for transporting spilled oil or other contaminants.

The results of the first two years of surveys led to additional funding from the Coastal Marine Institute to expand the research to include more transects and to purchase and deploy temperature and salinity loggers at two locations in the Inlet. Dr. Scott Pegau of the KBRR deployed an instrument near Flat Island in lower Cook Inlet and, by partnering with XTO Energy, we were able to deploy an instrument on their Platform "C" to continuously log temperature and salinity data. Unfortunately, the instrument had to be removed from the platform early, but it will be redeployed during the 2007 ice-free season.

Cook Inlet RCAC continues to support the Alaska Ocean Observing System (AOOS) which eventually will serve as the Alaska regional node for a national network and will systematically deliver both real-time information and long-term trends about Alaska's ocean conditions and marine life. Ultimately, AOOS will provide public access via the Internet to cost-free data and information on coastal conditions. To help meet those goals, Cook Inlet RCAC staff submitted a draft plan in 2006 for a Cook Inlet Ocean Observing System and will be working with other agencies and organizations to coordinate these efforts with a larger



Graph of salinity along a transect bisecting the mouth of Cook Inlet showing fresher surface water (green and blue) along the east and west coasts.

Gulf of Alaska observing system. All of the physical oceanography programs together, if carefully integrated and communicated among researchers, modelers, and user-groups, can help us provide the best tools for predicting water movement in Cook Inlet and potential oil spill or underwater plume trajectories.

Proceedings from the "Cook Inlet Physical Oceanography Workshop" were made available in spring 2006 at www.aoos.org. The major goals for that workshop were to provide descriptions of on-going research and monitoring in Cook Inlet waters and to assess the needs for products and services to aid mariners, scientists, industry, resource managers, educators, and other users of marine resources. The workshop results are being used to frame issues important to an ocean observing system in Cook Inlet.

COOK INLET GENERAL OIL AND GAS NPDES PERMIT

Cook Inlet RCAC responded in 2006 to the Environmental Protection Agency's (EPA) call for comments on the Proposed Cook Inlet General Oil and Gas National Pollution Discharge Elimination System (NPDES) Permit saying that the permit makes no effort to reduce concentrations or volumes of pollutants discharged into the Inlet. The permit is required for any discharges associated with oil and gas exploration, development, and production activities in Cook Inlet and applies to existing as well as new source discharges. Under the draft permit, producers could increase the levels of contaminants discharged, but the Cook Inlet RCAC contends that EPA should be working with the producers to reduce discharges instead.

Although stopping short of requesting "zero discharge" for all facilities in this permit cycle, Cook Inlet RCAC stresses that the proposed permit limits and mixing zones should be reevaluated and recalculated to ensure that the total concentrations and pollutant loadings do not increase from the current permit and that every effort be made to move toward zero discharge. Recent successful efforts by some Cook Inlet operators to re-inject drill fluids and cuttings and produced water discharges have shown that re-injection is feasible. To re-emphasize the position, council members also passed a resolution stating that they oppose the issuance of a permit that would allow more pollution to be discharged than is currently permitted and that Cook Inlet RCAC supports the goal of zero discharge.

Our comments also strongly supported the inclusion of environmental monitoring associated with new exploration and existing large dischargers in Cook Inlet and provided recommendations on EPA's proposed ambient monitoring program for Cook Inlet. Since then, Cook Inlet RCAC has met with oil industry operators and state and federal agency personnel to provide advice on how to best develop a monitoring program that would fulfill the potential requirements of the permit and dovetail with planned, on-going, and historical studies. *****

BALLAST WATER/NON-INDIGENOUS SPECIES (NIS)

In 2006, through a cooperative agreement with the U.S. Fish and Wildlife Service, Cook Inlet RCAC received funding to develop a ballast water sampling project for ships transiting the North Pacific. We developed agreements with the Smithsonian Environmental Research Center (SERC) and ship owner Marathon Oil Company to sample and analyze ballast water originating in Japan and transiting the North Pacific to Nikiski. In July, SERC scientist Dr. Greg Ruiz, and USF&WS's Gary Sonnavil met with the ship's captain, chief mate, and chief engineer to evaluate the ballast tanks and plumbing to develop a plan for sampling during a trans-Pacific voyage. Sampling onboard the vessel will begin in the spring of 2007 to evaluate the type and abundance of species that might survive as passengers in ballast water.

勿 Coastal Habitats

The Environmental Monitoring Committee continued its efforts to inventory and characterize nearshore habitats in Cook Inlet and surrounding areas. This type of information is essential for understanding potential effects of oil spills to the coastal environment and for developing response plans and monitoring programs in the area. So far, these habitat mapping activities include mapping of biophysical habitat along thousands of miles of coastline, detailed species-level data collected at hundreds of beach sites, and detailed mapping of several unique or particularly sensitive habitats. Activities in 2006 included the development of a web site that provides seaweed information from various habitat types, adding survey data from beaches in Aniakchak National Park on the Alaska Peninsula, and conducting two pilot projects – mapping salt marshes in upper Cook Inlet and studying *Macrocystis* kelp habitat near Kodiak Island.

SeaweedsofAlaska.com

Cook Inlet RCAC is sponsoring a website that displays images and information for many of the seaweeds that occur on beaches in the Gulf of Alaska. Mandy Lindeberg photographed over 120 different seaweed species and is working with web developer Wayne Saucier of Octavient, Inc. to compile the information and images within a web-based, searchable taxonomic structure. Taxonomic expertise is being provided by Dr. Sandra Lindstrom.

The home page of the website allows visitors to access seaweed information through a search tool or by looking at links to individual species organized under the categories for green, red, and brown algae. The imagery available for each species might include photos of the algae in their natural habitats, at different stages of growth or bleaching, in a close-up of a single plant, or as a pressed specimen. In a few instances, microscopic detail showing individual cells is provided. The web site also describes different intertidal habitats and regions of the Gulf of Alaska and shows map locations of individual sampling sites where intertidal photos have been collected. In July, the website was presented in Juneau at the annual meeting of the Phycological Society of America, a gathering of botanists who specialize in algae.



EMC

ShoreZone Beach Survey - Aniakchak National Park

Also in July, Cook Inlet RCAC led a small team of scientists on a short survey of rocky reef habitats along the Aniakchak National Park coastline, which is on the Alaska Peninsula "downstream" of Cook Inlet based on prevailing ocean currents. We know that oil spilled in Cook Inlet could potentially impact areas along the Peninsula and this has been illustrated by the pathways of Cook Inlet RCAC's drifter buoys that were released during a different study tracking surface ocean currents near Cook Inlet. The Aniakchak beach surveys were conducted through a partnership with the National Park Service to collect species diversity measurements in intertidal areas and to ground-truth ShoreZone biophysical data collected in 2003. The project is an expansion of the larger ShoreZone mapping efforts to provide a contiguous, continuous dataset for biophysical habitats in the intertidal and shallow subtidal areas of the Gulf of Alaska (www.coastalaska.net).

Eight sites were intensively sampled to provide invertebrate and algal species lists for the park. The biophysical maps produced from the 2003 aerial surveys were assessed at over 50 sites – verifying the alongshore and across-shore geomorphology and major biota.



Marilyn Sigman, Director of the Center for Alaska Coastal Studies and a public member of the EMC, surveys intertidal species in Aniakchak National Park.

EMC

ShoreZone Beach Survey – Forage Fish Surveys

Cook Inlet RCAC worked with the National Marine Fisheries Service (NMFS) in several areas of the Gulf of Alaska to conduct ShoreZone beach surveys in intertidal areas where NMFS scientists were conducting fish capture surveys just offshore. The fish capture surveys were to assess forage fish use of nearshore habitats by comparing fish use of kelp, eelgrass, sand, and rock wall habitats. Data and digital imagery collected during earlier ShoreZone surveys were used to pre-identify sampling locations. The field studies were led by Mandy Lindeberg and Scott Johnson of NMFS. Ms. Lindeberg's study consisted of recording information about the intertidal areas, including species-level assessments of invertebrates and algae as well as measuring specific beach attributes such as sediment type and beach profiles. Mr. Johnson's team deployed either a beach seine or a nearshore purse seine in the shallow subtidal areas just offshore of each intertidal sampling location. These data will be provided as a data layer within the larger ShoreZone web-served data.



Beach seining to assess forage fish use of an eelgrass bed.

EMC

Salt Marsh Mapping

Many areas of Cook Inlet are surrounded by wide salt marshes that can extend miles inland. Some of these areas have a significant risk of being impacted in the event that an upper Cook Inlet oil spill reaches the shoreline during higher tides. Salt marshes are particularly sensitive to spilled oil since the marsh plant roots and sediments retain the oil. They are not cleansed by natural tidal action as some shore types are and clean-up options are limited by logistics and the fact that response actions can cause more damage than does leaving the oil in place. The existing Cook Inlet coastal habitat databases lack detailed information about the extent of salt marshes and the plant species associated with different areas within the marshes. These habitats are best mapped as polygon units which can show total area of a habitat. This complements ShoreZone data which provides good regional summaries of salt marsh locations represented as lines or points along the shore.

In 2006, Cook Inlet RCAC initiated a project to map saltmarshes in upper Cook Inlet by contracting with scientists Conrad Field and Steve Baird from the Kachemak Bay Research Reserve. The biologists spent about a week on the ground in each of Trading, Redoubt, and Chickaloon bays, moving on foot to map specific salt marsh plant associations. They also used a helicopter to obtain GPS data to more accurately map the data and to access parts of the marshes that were difficult to reach on foot. The final GIS maps of these sensitive salt marsh areas will provide data about a habitat for which we currently have little baseline information.



Scientist walking transect to collect Salt Marsh plant data in Upper Cook Inlet.



Photo by Susan Saupe

GIS mapper Gary Greenberg holds young Macrocystis kelp plant.

Scientists prepare to dive at *Macrocystis* survey site near Afognak Island.

ioto by Susan Sa

Macrocystis Kelp Mapping

Several years ago during our ShoreZone helicopter surveys in the Kodiak Island area, scientists discovered a bed of the canopy kelp *Macrocystis* spp. on Afognak Island outside of Foul Bay. We verified its presence in 2005 by collecting voucher samples while conducting intertidal beach surveys in the area. Last August, a Cook Inlet RCAC research team conducted a short exploration expedition to the area and included scientific divers, GIS mappers, and an algal taxonomist. During the week-long survey onboard the R/V *Norseman*, the team mapped the kelp beds; obtained species-level information for fish, invertebrates and seaweeds associated with the kelp beds; and collected tissue samples of the kelp for future DNA analyses.

Cook Inlet RCAC is collecting historical aerial photographs and interviewing local fishermen who have fished in the western Afognak Island area to determine whether this plant has recently expanded its range in the area or if it had just missed being detected until our regionwide coastal mapping efforts. Although the western geographic range of this plant historically included Kodiak, there were no documented reports of actual beds of *Macrocystis* – only reports and collections of individual plants.

Also of interest to Cook Inlet RCAC, is that the kelp is a unique habitat in an area that is downstream of the major water currents from Cook Inlet. In the Gulf of Alaska, only two other canopy kelps provide the floating kelp habitat that some fish and marine mammal species prefer. These are bull kelp (*Nereocystis luetkeana*) and dragon kelp (*Alaria fistulosa*) both of which provide habitat for hiding and feeding. In contrast to bull and dragon kelp which are annuals that can grow from the bottom to the surface in one year, *Macrocystis* is a perennial, which remains year-round. *Macrocystis* can grow in a very dense band along the shoreline, which could have impacts for shoreline access or oil spill response. In our study area, it created an almost impenetrable barrier to shoreline access and is extremely dense from the low intertidal to about 10 meters depth. By studying this kelp now, we will be able to tell if it expands along the coast and be better able to evaluate how that might affect nearshore habitat. \clubsuit

memberships & organizations

The organization of the Cook Inlet Regional Citizens Advisory Council is outlined in the Oil Pollution Act of 1990 (OPA 90). The thirteen-member Board of Directors represents various municipalities, cities, boroughs, and special interest groups to ensure broad representation of all citizens within the Cook Inlet region. The Act also calls for the inclusion of non-voting Ex-Officio members, representing various state and federal agencies.

Board of Director Seats

Municipality of Anchorage City of Homer City of Kenai City of Kenai City of Seldovia Kenai Peninsula Borough Kodiak Island Borough Alaska Native Groups Aquaculture Associations Environmental Interest Groups Commercial Fishing Groups Recreational Groups State Chamber of Commerce

Ex-Officio Members

Captain Mark DeVries ~ United States Coast Guard Gary Lehnhausen ~ U.S. Forest Service Joe Dygas ~ Bureau of Land Management John Whitney ~ National Oceanic and Atmospheric Administration Matt Carr ~ Environmental Protection Agency Richard T. Prentki ~ Minerals Management Service Michelle Heun ~ Alaska Division of Emergency Services Betty Schorr ~ Alaska Department of Environmental Conservation Tom Bucceri ~ Alaska Department of Natural Resources

Charter Funding Companies

ConocoPhillips Cook Inlet Pipeline Company Forest Oil Marathon Oil Company Tesoro Alaska Unocal XTO Energy OPA 90 requires the Council to establish committees to accomplish its mandates. To that end, Council directors and public members comprise the Environmental Monitoring Committee (EMC), the Prevention, Response, Operations, and Safety Committee (PROPS), and the Protocol Committee to assist the Council in meeting its obligations.

Environmental Monitoring Committee

Council members:

- ~ Molly McCammon, chair
- ~ Carla Stanley
- ~ Trenten Dodson
- ~ Gary Fandrei
- ~ Bob Shavelson
- ~ James Showalter

Public members:

- ~ Craig Valentine
- ~ Marilyn Sigman
- ~ Walle Koning
- ~ Steve Hackett
- ~ Steve Hunt
- ~ Elizabeth Chilton
- ~ Glen Glenzer
- ~ Vern McCorkle

Prevention, Response, Operations, & Safety Committee Council members:

- ~ Grace Merkes, chair
- ~ Rob Lindsey
- ~ Robert Peterkin, II
- ~ June Reuling
- ~ Mary Jacobs
- ~ Bob Shavelson

Public members:

- ~ Deric Marcorelle
- ~ Jerry Brookman
- ~ Barry Eldridge
- ~ Joe Gabriel
- ~ Lois Epstein
- ~ Phillip Cutler
- ~ Bill Osborn

Protocol Committee

Council members:

- ~ John Douglas, chair
- ~ Robert Peterkin, II
- ~ Trenten Dodson
- ~ Doug Jones
- ~ Rob Lindsey
- ~ Grace Merkes

board members



Doug Jones Recreational Interest Groups President



June Reuling City of Seldovia Vice-President



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Grace Merkes Kenai Peninsula Borough



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Trenten Dodson Commercial Fishing



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