



JANUARY 20-24, 2014

Alaska Marine Science Symposium

HOTEL CAPTAIN COOK & EGAN CENTER • ANCHORAGE, ALASKA



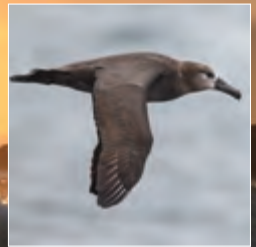
Henry Huntington



Alison Hovaco



Andrew Trites



Deean Troy

SHOWCASING OCEAN RESEARCH IN THE
ARCTIC OCEAN, BERING SEA, AND GULF OF ALASKA

Schedule

	MONDAY, JANUARY 20	TUESDAY, JANUARY 21
Morning Plenary Session 8:00am-11:30am	<p>Workshop, 8:00am-12:00pm Communicating Ocean Sciences <i>Fore Deck, Discovery Ballroom</i></p> <p>Registration Opens, 10:00am</p> <p>Coastal Gallery, 8:00am-5:00pm <i>Adventure Room</i></p>	<p>Continental Breakfast 7:30am-8:00am</p> <p>Registration Opens, 8:00am</p> <p>Coastal Gallery, 8:00am-5:00pm <i>Adventure Room</i></p> <p>Arctic Ocean Plenary</p>
Lunch 11:30am-1:00pm	Lunch on your own	<p>Lunch provided <i>in the Discovery Ballroom</i></p> <p>Workshop, 11:30am-1:00pm Circumpolar Biodiversity Monitoring Program - An introduction and an invitation to join the network! <i>Endeavor Room</i></p> <p>Workshop, 11:30am-1:00pm Geospatial Visualization and Collaboration Tools for Information Exploitation, Research, Modeling, Decision-Support, and Response Management in the Arctic Environment <i>Quadrant Room</i></p>
Afternoon Plenary Session 1:00pm-5:00pm	<p>Symposium Begins</p> <p>Opening Remarks, 1:30pm-2:10pm US Senator Mark Begich US Senator Lisa Murkowski Lt. Governor Mead Treadwell</p> <p>Keynote, 2:10pm-2:50pm Dr. Robert Spies</p> <p>Keynote, 2:50pm-3:30pm Dr. Peter Haeussler</p> <p>Keynote, 3:30pm-4:10pm John Gauvin</p> <p>Keynote, 4:10pm-4:50pm Dr. Tom Weingartner</p>	Arctic Ocean Plenary
Evening 5:00pm-9:30pm	<p>Exhibits and Poster Reception 6:00pm-8:30pm</p> <p>Arctic Ocean and Bering Sea/Aleutians</p> <ul style="list-style-type: none"> • Wave 1 – 6:00pm-7:15pm • Wave 2 – 7:15pm-8:30pm <p><i>Explorers Hall, Egan Center</i> <i>Appetizers & No-Host Bar</i></p>	<p>Exhibits and Poster Reception 6:00pm-8:30pm</p> <p>Bering Sea/Aleutians and Gulf of Alaska</p> <ul style="list-style-type: none"> • Wave 1 – 6:00pm-7:15pm • Wave 2 – 7:15pm-8:30pm <p><i>Explorers Hall, Egan Center</i> <i>Appetizers & No-Host Bar</i></p>

Posters/Exhibits & Receptions

Egan Center
555 W 5th Ave.
Shuttle Service between Egan Center and Hotel Captain Cook provided at 15 minute intervals, 5:30pm-9:00pm

All Other Events

Hotel Captain Cook
939 W. 5th Ave
Keynote, Plenary, and provided lunches in Discovery Ballroom

WEDNESDAY, JANUARY 22	THURSDAY, JANUARY 23	FRIDAY, JANUARY 24
<p>Continental Breakfast 7:30am-8:00am</p> <p>Registration Opens, 8:00am</p> <p>Coastal Gallery, 8:00am-5:00pm <i>Adventure Room</i></p> <p>Bering Sea and Aleutian Islands Plenary</p>	<p>Continental Breakfast 7:30am-8:00am</p> <p>Coastal Gallery, 8:00am-5:00pm <i>Adventure Room</i></p> <p>Gulf of Alaska Plenary</p>	<p>Workshop, 8:00am-12:00pm Introduction to Metadata Workshop <i>Quadrant Room</i></p> <p>Workshop, 8:00am-12:00pm Social Science Workshop <i>Quarter Deck</i></p> <p>Meeting, 8:00am-12:00pm Beaufort/Chukchi Meteorology <i>Whitby Room</i></p>
<p>Lunch on your own</p>	<p>Lunch provided <i>in the Discovery Ballroom</i></p>	<p>Coastal Gallery, 8:00am-5:00pm <i>Adventure Room</i></p>
<p>Workshop, 11:30am-1:00pm Help Shape Future AOOS Modeling <i>Club Room 2</i></p>	<p>Workshop, 11:30pm-1:00pm Aerial Survey Coordination <i>Library</i></p> <p>Workshop, 11:30pm-1:00pm Do Motherhood and Science Mix? <i>Whitby Room</i></p>	<p>Workshop, 9:00am-11:00am Arctic Cod Genetics for Managers and Stakeholders <i>Resolution Room</i></p> <p>Meeting, 9:00am-12:00pm Aleutian and Bering Climate Vulnerability Assessment (ABCVA) Public Meeting <i>Endeavor Room</i></p>
<p>Bering Sea and Aleutian Islands Plenary</p> <p>Student Poster Presentation Award Announcements, 5:00pm-5:30pm</p>	<p>Gulf of Alaska Plenary</p> <p>Student Oral Presentation Award Announcements and Closing Remarks, 4:45pm-5:15pm</p>	<p>Meeting, 1:30pm-5:30pm Yup'ik Environmental Knowledge: The Natural and Cultural History of the Bering Sea Coast <i>Club Room 2</i></p>
<p>Workshop, 5:00pm-8:00pm Early Career Mixer <i>Voyager Room</i></p> <p>Workshop, 5:00pm-8:00pm Career and Internship Meet and Greet: Alaska Department of Fish and Game <i>Quadrant Room</i></p> <p>Workshop, 5:00pm-8:00pm The Alaska Ocean Acidification Observing Network: Goals, Outreach, and Stakeholder Needs <i>Endeavor Room</i></p> <p>Workshop, 7:30pm-9:30pm Arctic Research Planning Session <i>Quarter Deck</i></p>	<p>Workshop, 5:00pm-8:00pm Shorezone – Fly the Coast Online <i>Quarter Deck</i></p>	

Keynote Speakers

Monday, January 20

2:10 - 2:50 pm

DR. ROBERT SPIES, FORMER CHIEF SCIENTIST OF THE *EXXON VALDEZ* OIL SPILL (EVOS) TRUSTEE COUNCIL

Looking Back 25 Years: EVOS in the Rear View Mirror



Nearly 25 years ago the *Exxon Valdez* ran up on Bligh Reef, Prince William Sound and spilled almost 12 million gallons of oil, the largest disaster in Alaska since the 1964 earthquake. This talk summarizes spill effects and the human reaction, emphasizing events before 2002. The timing of the spill in March 1989 could not have been worse for marine wildlife as it was the start of the productive season. The EVOS toll was unlike anything seen in past spills and recovery was uneven; with decreases in the salmon and herring fisheries, the outlook in 1994 was grim. That same year several large ecosystem-based studies were initiated to find out why recovery was not proceeding as expected. The

study results added immensely to current knowledge of the ecosystem and in many ways laid the foundations for subsequent studies by the Trustee Council, National Science Foundation and the North Pacific Research Board, as well as the Alaska Marine Science Symposium. The scientific knowledge and environmental protection gained during the restoration program is a lasting legacy for Alaska marine conservation and science.

Dr. Robert Spies has a Ph.D. in marine biology from the University of Southern California. He has more than 40 years of experience and 50 publications in marine ecology and aquatic toxicology, characterizing marine pollution and its effects in a variety of coastal environments in North America, Australia and Micronesia. Dr. Spies was Chief Scientist for the federal-state *Exxon Valdez* Oil Spill Trustee Council following the *Exxon Valdez* Oil Spill in Alaska.

2:50 - 3:30 pm

DR. PETER HAEUSSLER, CHIEF OF USGS ALASKA EARTHQUAKE HAZARDS PROJECT AND USGS ALASKA COORDINATOR FOR EARTHQUAKE HAZARDS

The 1964 Great Alaska Earthquake: Lessons Learned in the 50 Years since the Dawn of Plate Tectonics



This presentation provides a geologic overview of what happened during the 1964 earthquake. It begins with the large-scale tectonic processes operating over hundreds to millions of years that caused this massive earthquake to happen in southcentral Alaska. The 1964 earthquake affected the landscape through uplift and subsidence over large areas, with submarine landslides resurfacing the bottom of many fjords in southcentral Alaska. Studies of coastal marshes reveal the prehistoric record of these earthquakes. Glacial expansion during the Little Ice Age put more sediment at fjord margins, which resulted in particularly large and numerous tsunamis in the 1964 earthquake. The 1964

earthquake strongly influenced our understanding of these giant subduction zone earthquakes and their role at producing transoceanic tsunamis (such as Tohoku, Great Chile, Indonesia, etc).

Dr. Peter Haeussler received his Ph.D. in geology from U.C. Santa Cruz in 1991. He has worked at the U.S. Geological Survey in Anchorage for 23 years, now as chief of the USGS Alaska Earthquake Hazards Project and the coordinator for USGS earthquake hazards work in Alaska. He is an author (first author or co-author) on more than 90 publications and more than 125 abstracts. He has broad expertise in earthquake hazards, tectonics, and landscape evolution of Alaska.

3:30 - 4:10 pm

JOHN GAUVIN, FISHERIES SCIENCE DIRECTOR FOR ALASKA SEAFOOD COOPERATIVE

When the Goal is to Get the Fishing Industry NOT to Catch Fish: Industry and Government Working Together to Reduce Salmon Bycatch in the Bering Sea Pollock Fishery



The incidental catch of Chinook salmon in Alaska trawl fisheries caught the attention of industry and government scientists in 2007, with approximately 120,000 Chinooks taken in the Bering Sea pollock fishery. Multiple solutions were needed, including the possibility of modifying pollock nets to allow salmon escapement. National Oceanic and Atmospheric Administration's Alaska Fisheries Science Center scientists, pollock fishermen and gear manufacturers have collaborated to develop devices to "exclude" salmon from trawl nets without injury while maintaining pollock catches. While salmon "excluders" are just one tool in fishermen's toolbox for controlling bycatch, the vast majority of Bering Sea pollock fishermen use them today. Mr. Gauvin's talk will highlight the research and performance results of this innovative partnership. Video clips and sonar images from critical stages in the research will be shown with commentary.

John Gauvin has a Masters of Science degree in resource economics from the University of Rhode Island and is currently the Fisheries Science Director for the Alaska Seafood Cooperative. Over the last 25 years Mr. Gauvin has worked in fisheries management as a fishery economist as well as completing various consulting contracts with NOAA Fisheries, regional fishery management councils, United Nations Food and Agriculture Organization, and the Organisation for Economic Co-operation and Development. Mr. Gauvin also serves on the North Pacific Research Board and is president of the Marine Conservation Alliance.

4:10 - 4:50 pm

DR. THOMAS WEINGARTNER, WINNER OF THE 2014 OCEAN LEADERSHIP AWARD FOR ALASKA MARINE RESEARCH

Alaska's Shelf Seas: Oceanographic Habitats and Linkages



Alaska's shelf seas share an inherent commonality insofar as they are aligned along a series of advective pathways that transport water from the Pacific to the Arctic Ocean. That transport is a consequence of global-scale processes, in which Alaska's shelves play an important role. Despite this commonality, they are remarkably diverse in both their physical and biological characteristics. These differences arise largely as a consequence of how their geomorphology affects the response of oceanic responses to regional atmospheric and astronomical forcing. In aggregate these processes establish a myriad of marine habitats each having different degrees of connectivity to one another. This talk will focus on the unique role that freshwater forcing, primarily that associated with coastal discharge, has in shaping Alaska's marine ecosystems.

Dr. Tom Weingartner earned his Ph.D. in physical oceanography from North Carolina State University. He came to the University of Alaska Fairbanks (UAF), first as master's student in 1979-80, then as a postdoctoral fellow in 1988 and research associate in 1991, and has been a member of the UAF faculty since 1993. During this time he has become one of the preeminent physical oceanographers in Alaska and the United States. He is frequently tapped to participate in integrated research programs and serve on research organization advisory committees.

Arctic Ocean Plenary Session



Tuesday, January 21

7:30 8:00 CONTINENTAL BREAKFAST

CLIMATE & OCEANOGRAPHY

- 8:00-8:15 **Peter Winsor** High-Resolution Hydrography of the Northeastern Chukchi Sea from AUV Gliders and Towed CTD Surveys - A New Look at the Alaska Coastal Current, Upwelling and Fronts
- 8:15-8:30 **Claudine Hauri** A Revised View of the Magnitude and Drivers of Sea-Air CO₂ Fluxes in the Chukchi Sea
- 8:30-8:45 ***Jonathan Whitefield** An Improved High-Resolution Sub-Arctic/Arctic River Discharge Model Forcing Field
- 8:45-9:00 **John Walsh** Downscaled Climate Model Information for Alaskan Coastal and Offshore Regions

LOWER TROPHIC

- 9:00-9:15 ***Marissa Hajduk** The Importance of Arctic Meiofauna and the Effects of Environmental and Biological Variables on Their Distribution and Density in the Northeastern Chukchi Sea
- 9:15-9:30 **Arny Blanchard** An Alternate Mechanism for Macrobenthic Distributions in the Chukchi Sea
- 9:30-10:00 COFFEE BREAK
- 10:00-10:15 ***Caitlin Smoot** Toward a Contemporary Baseline for Zooplankton Communities in the American Beaufort Sea

FISHES & FISH HABITATS

- 10:15-10:30 **Leandra Sousa** Arctic Shelfz (Shelf Habitat and Ecology of Fish and Zooplankton)
- 10:30-10:45 ***Benjamin Gray** Fish Diets Across the Chukchi and Beaufort Seas
- 10:45-11:00 **Benjamin Laurel** Growth Rates of Juvenile Arctic Cod (*Boreogadus saida*) and Saffron Cod (*Eleginus gracilis*) in a Warming Ocean
- 11:00-11:15 ***Michael Courtney** Dispersal Patterns and Summer Oceanic Distribution of Adult Dolly Varden From the Wulik River, Alaska, Evaluated Using Satellite Telemetry

*Student Presentation

SEABIRDS

- 11:15-11:30 **Paul Lukacs** Broad Scale Climatic Influences are Stronger Drivers of Survival than Local Impacts for an Arctic Seabird
- 11:30-1:00 LUNCH PROVIDED
- 1:00-1:15 ***Adrian Gall** Shifts in the Seabird Community of the Chukchi Sea Over Four Decades: A Sea Change in Structure?
- 1:15-1:30 ***Roy Churchwell** Forage Quality for Pre-Migratory Semipalmated Sandpipers Using Three River Deltas on the Beaufort Sea, Alaska

MARINE MAMMALS

- 1:30-1:45 ***Frances Robertson** The Effect of Variable Detectability on Density Assessments of Bowhead Whales During Seismic Survey Operations in the Beaufort Sea, Alaska
- 1:45-2:00 **Mark Baumgartner** Real-Time Detection of Arctic Marine Mammals From Ocean Gliders: A Pilot Study
- 2:00-2:15 ***Donna Hauser** Diving Behavior and Habitat Use by Two Populations of Beluga Whales (*Delphinapterus leucas*) Across Variable Habitats of the Pacific Arctic
- 2:15-2:30 **Rebecca Taylor** Recent Trends in Pacific Walrus Demographic Rates
- 2:30-2:45 **John George** "It's a Good Time to be a Bowhead": Body Condition and Links to Summer Sea Ice and Upwelling in the Beaufort Sea

HUMANS

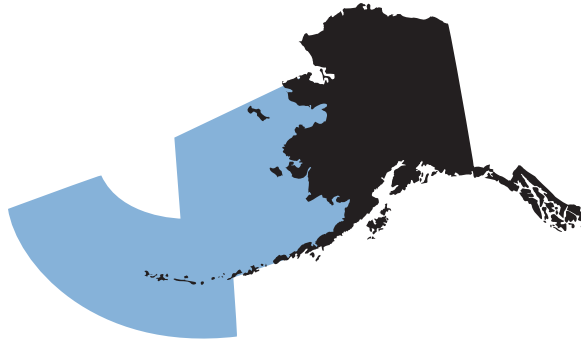
- 2:45-3:00 **Stephen Braund** COMDA: Impact Monitoring for Offshore Subsistence Hunting
- 3:00-3:15 **Molly McCammon** Expanding the Toolbox: Integrating and Visualizing Arctic Data
- 3:15-3:30 ***Lauren Frisch** Gauging Perceptions of Ocean Acidification in Alaska
- 3:30-4:00 COFFEE BREAK

ECOSYSTEM PERSPECTIVES

- 4:00-4:10 **Bodil Bluhm** The Arctic Basins: An Integrated Physical and Biological Perspective
- 4:10-4:20 **Ken Dunton** The Unique Physical Dynamics and Biological Seasonality of Lagoon Ecosystems Along the Eastern Alaska Beaufort Sea Coast: Linkages to Food Webs and Carbon Resources
- 4:20-4:30 **Kathy Kuletz** Seasonal and Spatial Patterns of Marine-Bird and -Mammal Distributions in the Pacific Arctic: A Delineation of Biologically Important Marine Areas
- 4:30-4:40 **Thomas Weingartner** The Hanna Shoal Circulation Field in the Northeastern Chukchi Sea
- 4:40-4:50 **Robert Day** The Ecological Structure of the Northeastern Chukchi Sea: CESP Studies, 2008-2012
- 4:50-5:00 **Jacqueline Grebmeier** Tracking Physical Drivers and Ecosystem Response in the Pacific Arctic Through the Distributed Biological Observatory Change Detection Array
- 5:00-5:10 **Lee Cooper** Results from the Pacific Marine Arctic Regional Synthesis (PacMARS)
- 5:10-6:00 PANEL-AUDIENCE DISCUSSION

*Student Presentation

Bering Sea & Aleutian Islands Plenary Session



Wednesday, January 22

7:30 8:00 CONTINENTAL BREAKFAST

CLIMATE & OCEANOGRAPHY

- 8:00-8:15 **Seth Danielson** Coupled Wind-Forced Controls of the Bering-Chukchi Shelf Circulation and the Bering Strait Throughflow: Ekman Transport, Continental Shelf Waves, and Variations of the Pacific-Arctic Sea Surface Height Gradient
- 8:15-8:30 **Phyllis Stabeno** Mean Currents on the Bering Sea Middle Shelf- M2, M4, M5, M8
- 8:30-8:45 **Nick Bond** Choosing and Using Climate Model Projections for an Aleutian-Bering Sea Vulnerability Assessment
- 8:45-9:00 **Jessica Cross** Acidification-Induced Carbonate Mineral Dissolution in the Eastern Bering Sea

LOWER TROPHIC LEVELS

- 9:00-9:15 **Lisa Eisner** Primary Production, Physical Drivers and Potential Impacts on Fisheries in the Eastern Bering Sea
- 9:15-9:30 **Patrick Ressler** The Spatial Distribution of Euphausiids and Walleye Pollock in the Eastern Bering Sea Does Not Imply Top-Down Control by Predation
- 9:30-10:00 COFFEE BREAK

FISHES & FISH HABITATS

- 10:00-10:15 ***Cathleen Vestfals** Spatial and Temporal Analysis of Dispersal Pathways in Slope-Spawning Flatfish in the Eastern Bering Sea
- 10:15-10:30 **Gerald Hoff** Eastern Bering Sea Canyons: Unique Habitats?
- 10:30-10:45 **William Long** Effects of Ocean Acidification on Embryo Development and Fecundity in Tanner Crab (*Chionoecetes bairdi*).
- 10:45-11:00 **Carwyn Hammond** Cooperative Research to Develop New Trawl Footrope Designs to Reduce Mortality of Tanner and Snow Crabs (*Chionoecetes bairdi* and *C. opilio*) Incidental to Bering Sea Bottom Trawl Fisheries
- 11:00-11:15 **Greg Ruggerone** Size-Selective Survival of Kvichak River, Bristol Bay, Alaska Sockeye Smolts in Relation to Smolt Characteristics, Ocean Conditions, and Sockeye Productivity

*Student Presentation

SEABIRDS

- 11:15-11:30 **William Sydeman** Seabird Indicators of Alaskan Ecosystems: Regionalization and the use of Reverse Inference to Predict Forage Fish Abundance
- 11:30-1:00 LUNCH ON YOUR OWN
- 1:15-1:30 ***Carley Schacter** Preliminary Results of an Experimental Study of Geolocation Tag-Effects on Parakeet and Whiskered Auklets
- 1:30-1:45 **Martin Renner** Overlapping Shipping Traffic and Seabirds in the Aleutian Archipelago: A Seasonal Risk Analysis

MARINE MAMMALS

- 1:45-2:00 **Michael Cameron** Bering-Okhotsk Seal Surveys (BOSS): Joint US-Russian Aerial Surveys for Ice-Associated Seals, Spring 2012 and 2013
- 2:00-2:15 ***Tiphaine Jeanniard Du Dot** Cost-Benefit Ratios of Foraging Trips for Northern Fur Seals
- 2:15-2:30 **Geoffrey Cook** A Little SNP of This, a Little SNP of That: Development of SNP Chip Array to Enable Rapid Identification of Individual Pacific Walrus
- 2:30-3:00 COFFEE BREAK

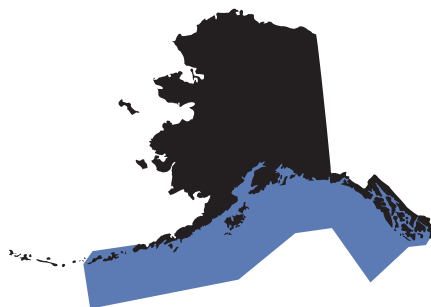
HUMANS

- 3:00-3:15 **Olivia Lee** Combining Community-Based Observations and Satellite Imagery to Describe the Local and Regional-Scale Sea Ice Conditions Relevant to Bearded Seals and Walrus in the Bering and Chukchi Seas
- 3:15-3:30 ***Megan Peterson** Costs Incurred by Alaskan Sablefish, Pacific Halibut and Greenland Turbot Longliners Due to Killer Whale Depredation
- 3:30-3:45 ***Jordan Watson** Using Vessel Monitoring System (VMS) Data to Estimate Spatial Effort in Bering Sea Fisheries for Unobserved Trips

ECOSYSTEM PERSPECTIVES

- 3:45-4:00 **Jeremy Mathis** Ocean Acidification: Perceptions, Risks and Uncertainties
- 4:00-4:15 **Elizabeth Siddon** Spatial Match-Mismatch Explains Walleye Pollock Recruitment Variability Across Contrasting Climate Conditions in the Eastern Bering Sea
- 4:15-4:30 **Andrew Trites** Top Predators Partition the Bering Sea
- 4:30-5:00 **Mike Sigler** What Controls Trophic Interconnectivity in the Eastern Bering Sea?
- 5:00-5:30 STUDENT POSTER PRESENTATION AWARD ANNOUNCEMENTS

Gulf of Alaska Plenary Session



Thursday, January 23

7:30-8:00 CONTINENTAL BREAKFAST

CLIMATE & OCEANOGRAPHY

- 8:15-8:30 **David Hill** Freshwater Discharge into the Gulf of Alaska - High Resolution Modeling and Practical Tools
- 8:30-8:45 **Russell Hopcroft** Measuring the Pulse of the Gulf of Alaska: 16 Years of Oceanographic Observations Along Seward Line, and Within Prince William Sound

LOWER TROPHIC LEVELS

- 8:45-9:00 **Kirsten Simonsen** Spatio-Temporal Distribution of Euphausiids in the Gulf of Alaska: A Key Component to Understanding Ecosystem Processes
- 9:00-9:15 **Miriam Doyle** Early Life History Phenology Among Gulf of Alaska Fish Species: Ecological Patterns and Implications for Environmental Impacts During Early Ontogeny

FISHES & FISH HABITATS

- 9:15-9:30 **Thomas Hurst** Responses of Alaskan Groundfishes to Ocean Acidification
- 9:30-10:00 COFFEE BREAK
- 10:00-10:15 **David Welch** Movement and Survival of Cook Inlet Sockeye and Chinook Salmon Measured Using a Marine Telemetry Array
- 10:15-10:30 ***Joseph Bizzaro** Spatial Associations and Trophic Relationships of Skates in the Western Gulf of Alaska
- 10:30-10:45 ***Thomas Farrugia** Nutritional and Contaminant Analysis of Skates in the Gulf of Alaska: Shaping Future Skate Demand
- 10:45-11:00 **Adam Summers** Burrowing Behavior, Morphology, and Habitat of the Pacific Sand Lance (*Ammodytes personatus*)
- 11:00-11:15 **Jodi Pirtle** Seafloor Characterization for Trawlability Using Simrad ME70 Multibeam Acoustic Data Collected Opportunistically in the Gulf Of Alaska
- 11:15-11:30 ***Jessica Glass** Spatiotemporal Variation in Benthic Community Composition on Weathervane Scallop Beds in Shelikof Strait

*Student Presentation

11:30-1:00 LUNCH PROVIDED

SEABIRDS

- 1:00-1:15 **Mayumi Arimitsu** Geographic Structure of Ocean Food Webs Along 4000 km of Alaskan Coast: Implications for Marine Predators
- 1:15-1:30 ***Alexis Will** Linking Seabird Parental Foraging and Offspring Condition to Environmental Variability in the Gulf of Alaska.

MARINE MAMMALS

- 1:30-1:45 **Mark Nelson** Cook Inlet Beluga Whale Diet using $\Delta^{13}C$ and $\Delta^{15}N$ Values of Bone and Teeth
- 1:45-2:00 **Gregory O'Corry-Crowe** Viability and Resilience of Small Populations: Genetic Studies of Cook Inlet and Yakutat Bay Beluga Whales and Lake Iliamna Seals
- 2:00-2:15 **David Rosen** Baby It's Cold Outside: The Effect of Water Temperature on Nutritionally Stressed Northern Fur Seals and Steller Sea Lions

HUMANS

- 2:15-2:30 **Hannah Harrison** Understanding Conflict in the Context of Sustainability in Cook Inlet Salmon Fisheries
- 2:30-2:45 **Glenn Seaman** A Tribal Initiative to Promote Collaborative Research and Restore Marine Invertebrates in Port Graham Bay, Alaska
- 2:45-3:15 COFFEE BREAK

ECOSYSTEM PERSPECTIVES

- 3:15-3:30 **Alan Mearns** Volunteers Complete 24th Year of Rocky Intertidal Photo Time Series in Western Prince William Sound
- 3:30-3:45 **Dan Esler** 25 Years after the *Exxon Valdez* Oil Spill: Recovery Timelines of Harlequin Duck and Sea Otter Populations
- 3:45-4:00 **Ginny Eckert** Sea Otters and Shellfisheries in Southern Southeast Alaska
- 4:00-4:15 ***Szymon Surma** Ecological Interactions Between Forage Fish, Rorquals, and Fisheries in a Northeast Pacific Ecosystem
- 4:15-4:30 **Olav Ormseth** GOAIERP: Broad-Scale Investigations of the Gulf of Alaska Ecosystem
- 4:30-4:45 **Kris Holderied** Gulf Watch Alaska - Ecosystem Monitoring Highlights From the 2013 Season
- 4:45-5:00 STUDENT ORAL PRESENTATION AWARD ANNOUNCEMENTS
- 5:00-5:15 CLOSING REMARKS

*Student Presentation

Workshops

Workshops held at Hotel Captain Cook

Monday, January 20

Translating Science: Taking the Message Home Communicating Ocean Sciences Workshop

CONVENER: ROBIN DUBLIN (COSEE), MARILYN SIGMAN (COSEE), DARCY DUGAN (AOOS),
ABIGAIL ENGHIRST (NPRB)

8am-12:00pm, Foredeck

You've toiled over a video, PowerPoint or an article for a general audience but what did they take home? In this workshop, we will cover specific ways to improve your outreach/broader impact efforts to ensure that audiences take home your key message.

We will begin with four presentations followed by facilitated, active breakout sessions. After you register, you will receive information on how to prepare and what to bring so that you make the most out of this workshop.

The Communicating Ocean Science Workshop is in its eight year and is sponsored by the North Pacific Research Board (NPRB), Centers for Ocean Sciences Education Excellence Alaska (COSEE Alaska), Alaska Sea Grant, Alaska Ocean Observing System (AOOS) and the Alaska Chapter of the Northwest Aquatic and Marine Educators Association (NAME).

Coastal Gallery

CONVENER: CATHY COON, BOEM

8:00-5:00pm Every Day, Adventure Room

During your time at the symposium please come by and view the exhibit 'Coastal Impressions: A Photographic Journey Along Alaska's Arctic Coast'. This exhibit depicts vivid large-format images from Alaska's Arctic coast spanning the Beaufort Sea all the way down to St. Lawrence island. This collection will leave you with unforgettable impressions about the stunning beauty of our dynamic and changing Arctic Coast. Images were selected from thousands of digital photos obtained by ShoreZone coastal imaging surveys during 2012-2013.

Tuesday, January 21

Circumpolar Biodiversity Monitoring Program—An Introduction and an Invitation to Join the Network!

CONVENER: ROSA MEEHAN, ARCTIC TURN

11:30am-1:00pm, Endeavor Room

The Circumpolar Biodiversity Monitoring Program needs you! Grab your lunch and join us for an informational session about this international network that is focused on bringing together scientists, governments, indigenous organizations and conservation groups monitoring efforts in the Arctic. Endorsed by the Arctic Council, the CBMP is the biodiversity component of the Sustaining Arctic Observing Networks (SAON). Don't get lost in the acronyms – come learn about the program components (from plankton to marine mammals) and who is involved. The program goal is to facilitate rapid detection, communication and response to the biodiversity trends and pressures in the circumpolar Arctic. Come learn about the coordinated and integrated marine monitoring plan under development. Share your thoughts on data and reporting; coordination and outreach; capacity building – help further our understanding and tracking of the rapidly changing Arctic. (see CAFF website for additional program information <http://www.caff.is/monitoring>)

Geospatial Visualization and Collaboration Tools for Information Exploitation, Research, Modeling, Decision-Support, and Response Management in the Arctic Environment

CONVENER: AMY MERTEN, NOAA AND STEPHEN SPEHN, EUCOM

11:30am-1:00pm, Quadrant Room

This workshop will focus on “Arctic Visualization” and will highlight two systems that enable and encourage a shared awareness and knowledge of the Arctic environment, while also providing the structure for responding to Arctic events. These two systems are the Arctic Collaborative Environment (ACE) Joint Capability Technology Demonstration (JCTD) and the Arctic Environmental Response Management Application (ERMA®).

Coastal Gallery

CONVENER: CATHY COON, BOEM

8:00-5:00pm Every Day, Adventure Room

See description under Monday, January 19.

Wednesday, January 22

Help Shape Future AOOS Modeling

CONVENER: ELLEN TYLER, AOOS

11:30am-1:00pm, Club Room 2

A workshop for AMSS attendees to help identify a strategy for the Alaska Ocean Observing System (AOOS) to best support regional modeling efforts in Alaska, with an initial focus on physical models (circulation, weather, atmospheric, inundation).

Early Career Mixer

CONVENER: GINNY ECKERT, UAF FISHERIES DIVISION

5:00-8:00pm, Voyager Room

A “meet and mix” reception for early career scientists (undergraduates, graduate students, post-docs) providing an opportunity to discuss concerns or expectations as an early career member and learn about funding and fellowship opportunities. This is a social gathering for all early career members to get to know each other and to network. Refreshments and appetizers will be available.

Career and Internship Meet and Greet: Alaska Department of Fish and Game

CONVENER: SHEILA CAMERON, ADF&G

5:00-8:00pm, Quadrant Room

Whether you are an experienced professional or an aspiring student, there is a place for you with the Alaska Department of Fish and Game! As a student, explore your interests with hands-on experience through an internship. As a professional, join experts in your field working for a world renowned fish and wildlife management agency. Take the next step toward your future and come talk to ADF&G staff about how to get started.

Workshops

The Alaska Ocean Acidification Observing Network: Goals, Outreach, and Stakeholder Needs

CONVENER: JEREMY MATHIS, NOAA

5:00-8:00pm, Endeavor Room

Ocean acidification could pose numerous challenges in Alaska through disruptions of marine ecosystems. In this session, we will discuss the current state of the Alaska Ocean Acidification Observing Network and the ways that the Ocean Acidification Research Center at the University of Alaska Fairbanks is working to provide information to communities and stakeholders. We will have an open question and comment period to allow public feedback.

Arctic Research Planning session

CONVENER: SHEYNA WISDOM, OLGOONIK FAIRWEATHER

7:30-9:30pm Quarter Deck

The purpose of this open, informational session is to provide the opportunity for Arctic researchers, agencies, and interested stakeholders to share information about planned research, areas of planned operations, and identification of potential collaboration in both field work and analyses. Researchers should prepare a few slides with map, vessel, general timing and mission of the cruises. Slides will be included in meeting notes distributed to all interested parties. This informal session will be facilitated by Olgoonik Fairweather. Drinks and appetizers will be provided. Anyone interested in Arctic research is welcome.

Coastal Gallery

CONVENER: CATHY COON, BOEM

8:00-5:00pm Every Day, Adventure Room

See description under Monday, January 19.

Thursday, January 23

Aerial Survey Coordination

CONVENER: SHAWNNA BRAGG, OLGOONIK FAIRWEATHER

11:30am-1:00pm, Library

There is increasing interest in un-manned aerial systems (UAS) for research purposes in the Arctic. The use of UAS will require coordination with manned aerial programs. Please join us for an informal discussion on coordination of aerial (manned & un-manned) programs in the Arctic for future operations. Olgoonik Fairweather will be facilitating this workshop.

Do Motherhood and Science Mix?

CHERYL ROSA, U.S. ARCTIC RESEARCH COMMISSION

11:30am-1:00pm, Whitby Room

Can you be a mom and have a successful career in science? How are women scientists evaluated and what impact does motherhood have on their careers? Recently, much media attention has been focused on this topic. During this workshop, we will review current literature in this subject area and discuss the challenges, obstacles and successes related to women "trying to do it all" in the field of science. This workshop is open to all! Please come and be part of the discourse.

ShoreZone - Fly The Coast Online

CONVENER: DARREN STEWART, THE NATURE CONSERVANCY

5:00-8:00pm, Quarter Deck

ShoreZone uses oblique aerial photography and high-definition videography as the basis for a coastal habitat classification, inventory and mapping system. Developed over 30 years ago, it is a powerful dataset now applied to over 100,000 km of the coastline from the Oregon coast to the North Slope of Alaska, the most recent imagery from remote St. Lawrence Island in Alaska. This workshop will focus on describing the ShoreZone coastal habitat mapping project and its many uses. Highlights will include oil spill response planning, habitat capability modeling for use in research, essential fish habitat identification, and recent updates to the ShoreZone protocol and new data layers such as coastal vulnerability, Shore Stations and Fish Atlas. After this workshop, you will be familiar with mapped attributes available, how to download high resolution photos from the ShoreZone website and how to create simple queries.

Coastal Gallery

CONVENER: CATHY COON, BOEM

8:00-5:00pm Every Day, Adventure Room

See description under Monday, January 19.

Friday, January 24

Introduction to Metadata Workshop

CONVENER: VIV HUTCHISON, USGS

8:00am-12:00pm, Quadrant Room

This workshop will provide an introduction to metadata for documenting scientific data. The presentation will define the value of metadata, why federal agencies are required to create it, describe the role of metadata in data management and distribution, briefly explain the origin of the Federal Geographic Data Committee (FGDC) metadata standard and the Biological Data Profile, give an update on the status of the suite of ISO standards (19115, etc), illustrate ways in which a metadata program can be implemented, and how to search and submit records using the US Geological Survey's Core Science Metadata Clearinghouse (<http://mercury.ornl.gov/clearinghouse>) as an example. The workshop will cover various tools available for metadata creation, look at the elements of the FGDC standard and some best practices in creating an FGDC-compliant metadata record. FGDC – www.fgdc.gov USGS Core Science Metadata Clearinghouse -- <http://mercury.ornl.gov/clearinghouse>

Arctic Cod Genetics for Managers and Stakeholders

CONVENER: JOHN NELSON, UNIVERSITY OF VICTORIA

9:00-11:00am, Resolution Room

There is still much to be learned about the biology of Arctic cod (*Boreogadus saida*); molecular biology provides a cost effective approach to filling some of the critical knowledge gaps. Like any type of data, a handle on the strengths and limitations of genetic data is critical to its appropriate use. This workshop aims to equip managers and stakeholders with the background needed to interpret and apply genetic data. We will start with a general introduction to molecular approaches followed by a status update regarding our current understanding of the genetics of Arctic cod. With this introductory material on the table, we will then focus on the relevance of the current Arctic cod genetics data to the management and conservation of Arctic cod. It is hoped that this workshop will result in a two way exchange. Managers and stakeholders will become more comfortable regarding the use of genetic data and researchers will learn how to make genetic data more accessible and useful. All those interested in Arctic cod should be welcome to attend, but please keep in mind that the workshop will be focused on the practical application of genetic data.

Aleutian and Bering Climate Vulnerability Assessment (ABCVA) Public Meeting

Friday 9:00am-12:00pm, Endeavor Room

Join a select team of resource and process specialists as they share important physical and biological thresholds to be considered when examining climate downscale outputs recently generated from the North Pacific Research Board- and National Science Foundation-sponsored Bering Sea Project and Alaska Ocean Observing System-sponsored Spatial Tools for Arctic Mapping and Planning project. This professionally facilitated workshop will provide the greater AMSS community of researchers and managers an opportunity for input into a vulnerability assessment of key resources and ecosystem services within the Aleutian and Bering Sea Islands. This assessment is being developed by the Aleutian and Bering Sea Islands LCC (ABSILCC), the Alaska Climate Science Center (AK CSC) and the Alaska Ocean Observing System (AOOS). More at: <https://absilcc.org/science/sitepages/abcva.aspx>

Social Science Workshop

CONVENER: NPRB AND PACMARA

8:00am-12:00pm, Quarter Deck

The half- day social science workshop will have several overlapping goals: 1) continue the two-way conversation between the North Pacific Research Board (NPRB) and the social science community that was launched at the 2012 AMSS social science workshop, 2) provide an opportunity for the social science community to respond to approaches, challenges and opportunities raised in the NPRB-commissioned report, 3) discuss best practices/approaches for social science research that can help elevate quality and advance the science, and 4) discuss promising research directions, addressing issues raised in the report or other priority social science topics falling within the NPRB mission. The workshop will be structured with a prospective outlook assessing the appropriate role for social science at NPRB; the main product will be recommendations for how NPRB should proceed in the social science realm. *Participation in the workshop is by invitation-only; however, observers are welcome in the gallery and will have designated opportunities to comment/ask questions.*

Yup'ik Environmental Knowledge: The Natural and Cultural History of the Bering Sea Coast

CONVENER: ANN RIORDAN, CALISTA ELDERS COUNCIL

1:30-5:30pm, Club Room 2

The Yup'ik Environmental Knowledge Project is a major effort in indigenous observation and knowledge documentation initiated by Bering Sea coastal communities in collaboration with the Calista Elders Council. The workshop will introduce conference participants to the project, including an opportunity to meet some of the elders and community members involved. A major project goal is to integrate Yup'ik environmental knowledge with scientific observations to produce a holistic documentation of the unique natural history and cultural geography of the Bering Sea coast. If you have an interest in Yup'ik views of the Bering Sea coastal environment, we welcome your input and participation.

Coastal Gallery

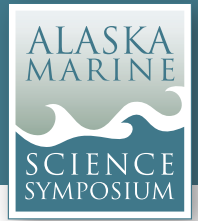
CONVENER: CATHY COON, BOEM

8:00-5:00pm Every Day, Adventure Room

See description under Monday, January 19.

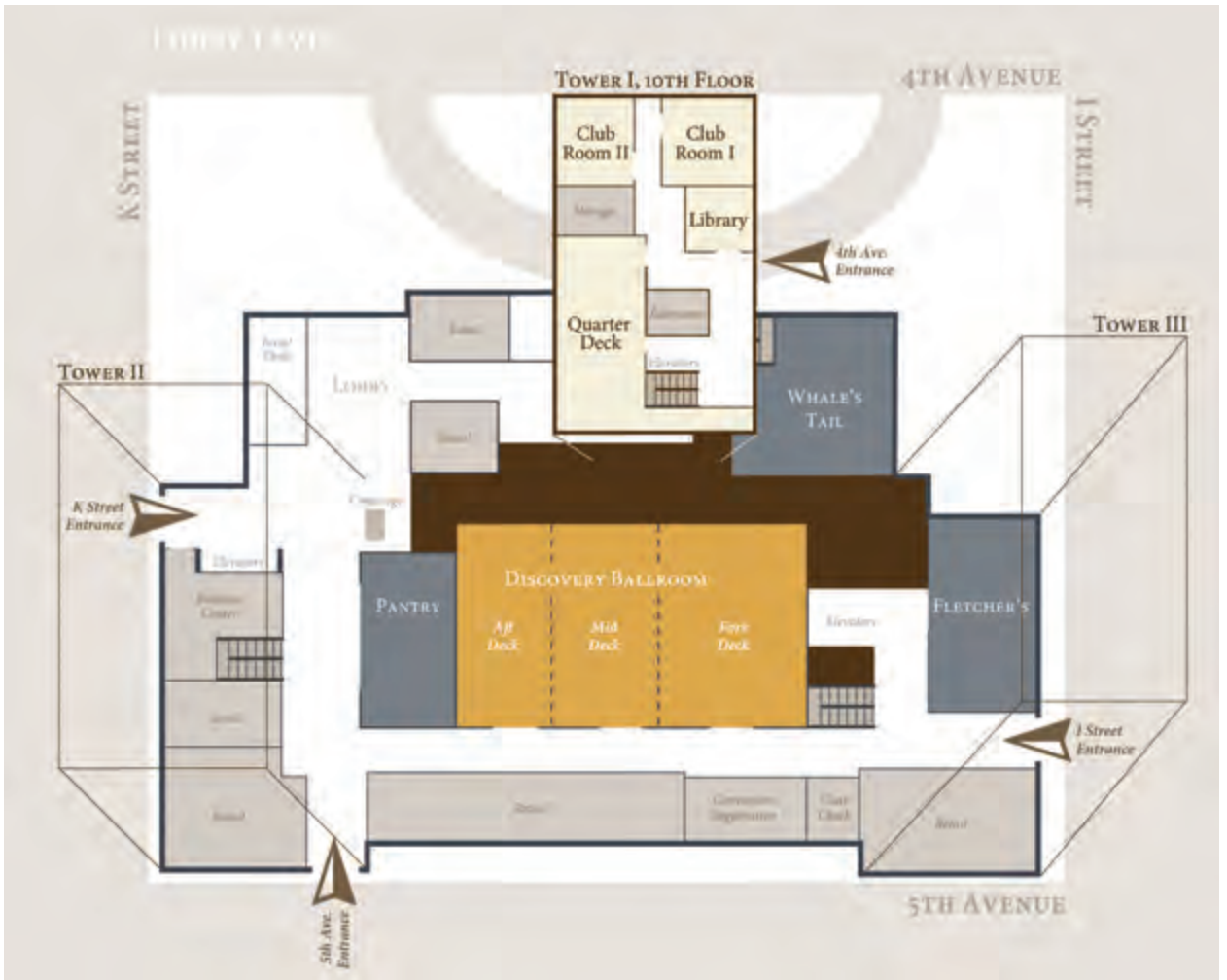
Notes

alaskamarinescience.org



Venue Maps

Hotel Captain Cook, 939 W. 5th Ave Lobby Level and Tower



Shuttle service is provided between the Hotel Captain Cook (939 W. 5th Ave) and the Egan Center (555 W 5th Ave.) from 5:30 to 9:00pm to assist those needing transportation to and from the poster sessions.

Hotel Captain Cook, Lower Lobby Level

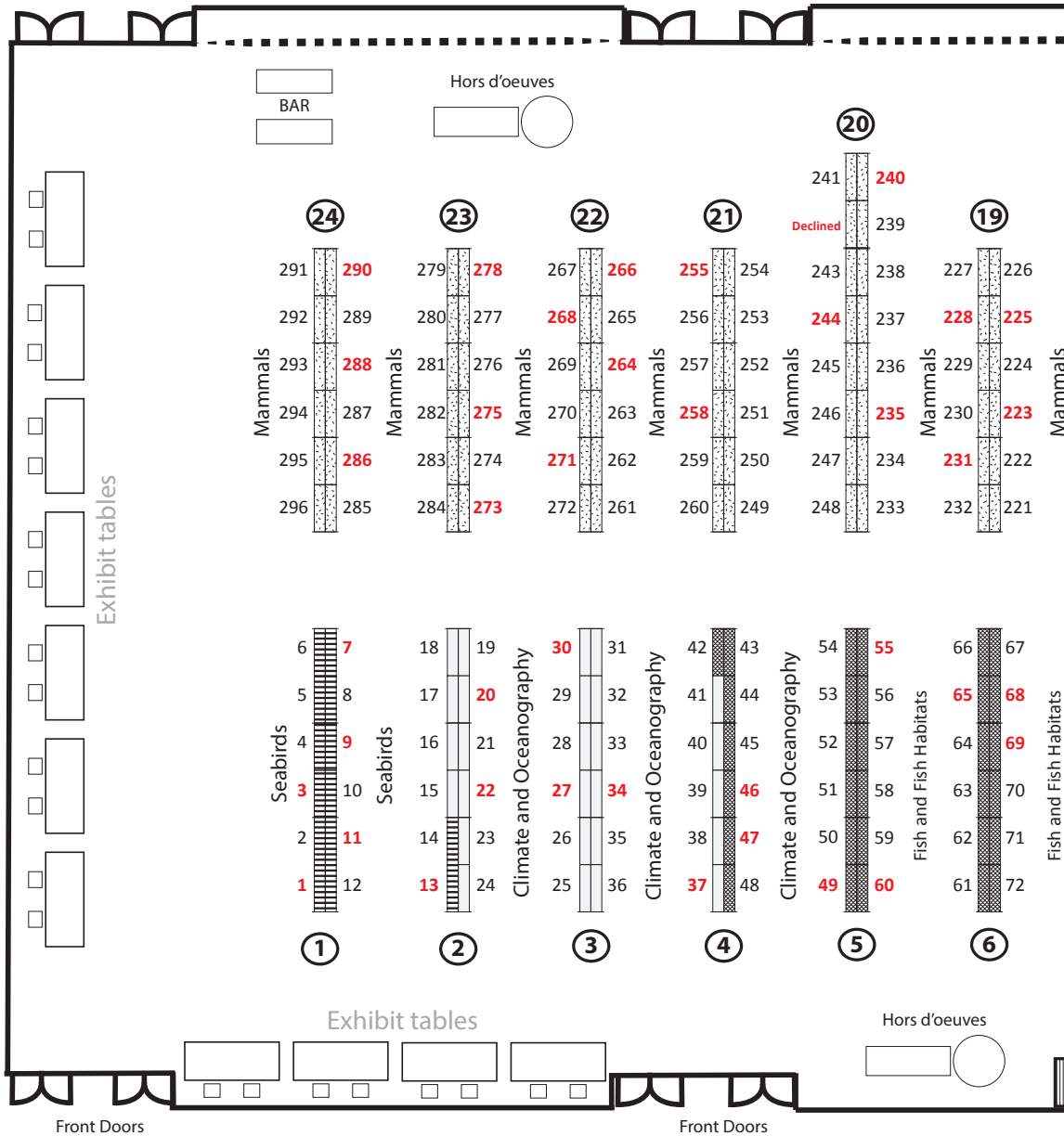


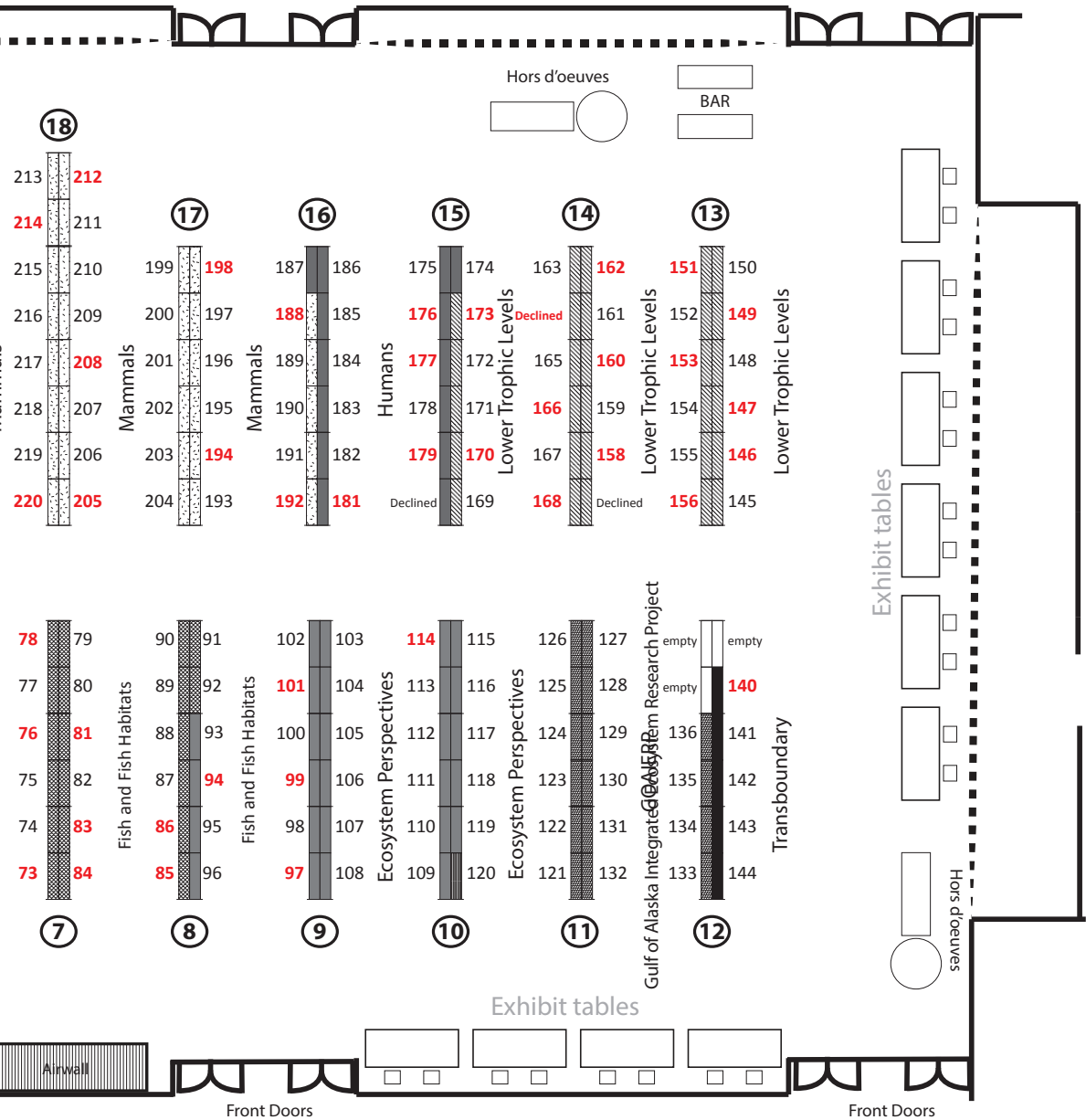
Shuttle service is provided between the Hotel Captain Cook (939 W. 5th Ave) and the Egan Center (555 W 5th Ave.) from 5:30 to 9:00pm to assist those needing transportation to and from the poster sessions.

Venue Maps

Egan Civic & Convention Center, 555 W 5th Ave Explorers Hall

Shuttle service is provided between the Hotel Captain Cook (939 W. 5th Ave) and the Egan Center (555 W 5th Ave.) from 5:30 to 9:00pm to assist those needing transportation to and from the poster sessions.





U.S. Canada Transboundary
Gulf of Alaska Integrated Ecosystem Research Program

Thank You!

The symposium would not have been possible without the help of many volunteers!

Thank you to the AMSS Organizing Committee. A special thanks to the following people for coordinating key aspects of the symposium.

Organizing Committee Chair:
Crystal Benson-Carlough, NPRB

Poster Session Coordinator
Mary Whalen, USGS

Abstract Review Committee Co-chairs
Carrie Eischens & Danielle Dickson, NPRB

Abstract Book Production
Crystal Benson-Carlough, NPRB

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Terry Thompson, ADF&G

Keynote Speakers Chair
Molly McCammon, AOOS

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Non-Plenary Sessions and Workshops Coordinator
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Registration, Time Keeping, Student Judging, and Poster Volunteers
We Cannot Thank You Enough for Donating Your Time!

Thank You Sponsors!



Alaska Bering Sea Crabbers



Alaska Department of Fish and Game



Alaska Ocean Observing System



Cook Inlet Regional Citizens Advisory Council



Alaska Sea Grant



Alaska SeaLife Center



Aleutian and Bering Sea Islands LCC



Centers for Ocean Sciences Education Excellence



International Pacific Halibut Commission



Kachemak Bay Research Reserve



National Park Service



Navy Region Northwest



**NOAA Alaska Fisheries Science Center
NOAA Alaska Regional Collaboration Team**



North Pacific Fishery Management Council



North Pacific Research Board



North Slope Science Initiative



Northwest Aquatic & Marine Educators - Alaska



Oil Spill Recovery Institute



Pollock Conservation Cooperative Research Center



Prince William Sound Science Center



University of Alaska Fairbanks, School of Fisheries and Ocean Sciences



United States Arctic Research Commission



United States Fish and Wildlife Service



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**U.S. Geological Survey Alaska Science Center
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