I am delighted to share with you highlights of work carried out over the past year by the capable, creative, and extremely dedicated staff, researchers, Marine Advisory Program faculty, and Advisory Committee members who together carry out the Alaska Sea Grant College Program enterprise. This report will give you a sense of the breadth of our program and how we make a difference to Alaskans and to people outside the state and nation. The variety, quality, and sheer volume of Alaska Sea Grant activities, both in Alaska and nationally, is incredible, providing unparalleled “bang” for your hard-earned tax “buck.” In Alaska, the “bang” is more than doubled by the strong state support we receive through the University of Alaska Fairbanks.

Despite the success of our program and its popularity among our constituents and partners, we are facing serious budget challenges. If we are to keep our program strong and effectively reach out to meet urgent new challenges associated with a changing climate, we will need to find new funds, new partners, and new ways to collaborate. We invite everyone who shares our vision for the long-term sustainability of Alaska’s coastal and marine resources to help us strengthen and expand our efforts. If you have a suggestion of partners or supporters whom we might engage to help us grow our program, and commit to working with us to explore those avenues, the results could be truly remarkable.

Thank you for your interest in the work of Alaska Sea Grant College Program.

Cordially,

David Christie, Director

Vision

Alaska Sea Grant will help Alaska have the nation’s most vibrant and productive marine and coastal watershed environments, maintained through ecosystem approaches to management, balancing wise use and conservation. Alaskan people and communities will reconcile different values about resource use and conservation by blending and applying objective, science-based, and traditional knowledge for the social and economic benefit of all Alaskans.

Mission

Alaska Sea Grant develops and supports research, education, and extension programs and partnerships to help sustain economic development, traditional cultural uses, and conservation of Alaska’s marine and coastal watershed resources.

Cover: Dall’s porpoises in Prince William Sound, photo by Thomas Kline. Dr. Kline is a research scientist at the Prince William Sound Science Center in Cordova, Alaska. He completed his doctoral dissertation, The Significance of Marine-Derived Biogenic Nitrogen in Anadromous Pacific Salmon Freshwater Food Webs, in 1991 at the UAF School of Fisheries and Ocean Sciences under the supervision of Dr. John Goering, with support, in part, from the Alaska Sea Grant College Program.
Introduction
The past year has brought extraordinary changes to Alaska Sea Grant. After more than a year of strong and forward-looking leadership, by Marine Advisory Program leader Paula Cullenberg as interim director, and David Christie as acting associate director, we selected David as Alaska Sea Grant director. David assumed the directorship in August 2009, succeeding Brian Allee who retired in May 2008.

David brings great depth of experience working with NOAA as co-director of the NOAA-UAF Kasitsna Bay Laboratory and director of the UAF/NOAA West Coast and Polar Regions Undersea Research Center. As NOAA and the National Sea Grant Office strengthen ties, David’s experience administering NOAA research efforts in Alaska, and participation on the NOAA Alaska Regional Collaboration Team, will serve ASG well in our already strong working relationship with NOAA. David retains his posts with the Kasitsna Bay Laboratory and NOAA National Undersea Research Program.

We thank the search committee members Paula Cullenberg (chair), Kurt Byers, Gordon Kruse, Jeffrey Stephan, and Arliss Sturgulewski for their thoughtful and successful work.

The roster of experts on the Alaska Sea Grant Advisory Committee changed with the addition of Fred Schlutt Jr., UAF’s recently hired vice provost for extension and outreach, and director of the Cooperative Extension Service (CES). Fred replaces interim CES director, Pete Pinney. We thank Pete for his participation on the Advisory Committee, and look forward to Fred’s contributions.

Another exciting advance in staffing was the hiring in spring 2009 of Marilyn Sigman, our first faculty level marine education specialist. Marilyn is well known in Alaska marine education circles as the long-time executive director of the Center for Alaskan Coastal Studies in Homer. She is winner of the Alaska Conservation Foundation’s Jerry S. Dixon Award for Excellence in Environmental Education, and former coordinator for the Alaska Department of Fish and Game Alaska Wildlife Curriculum program. Now at the MAP headquarters in Anchorage, Marilyn directs the National Science Foundation–funded Center for Ocean Science Education Excellence program in Alaska. COSEE connects university marine scientists with K-12 educators and students, http://www.coseealaska.net/.

Also in 2009, we hired Izetta Chambers to fill our MAP agent position in Dillingham. Izetta grew up in the Bristol Bay region, where her family owns a salmon processing business. She holds a bachelor’s degree in business management and a law degree, both from the University of Arizona. MAP agent Terry Johnson transferred from Homer to MAP headquarters in Anchorage, where he will continue work as marine recreation and tourism specialist.

MAP also landed three AmeriCorps VISTA (Volunteers in Service to America) volunteers to help carry out rural economic development assistance and education activi-
ties. Stefanie Benca, at the Anchorage office, coordinates the Alaska Marine Science and Fisheries Career Coalition and other efforts to engage more rural Alaskans in fisheries and marine science. In Bethel, Terry Reeve is working with volunteers Amanda Barker and Sabrina Woofter to help people in 56 villages market their arts and crafts and other products. Terry also arranged for Amanda to tutor students at the UAF Kuskokwim campus.

We were sad to lose our meetings coordinator Sherri Pristash from Fairbanks Education Services, and wish her well in her new endeavors in Connecticut.

LINKS STRENGTHEN BETWEEN ALASKA SEA GRANT AND NATIONAL MARINE POLICY ARENA

An ongoing development is the realignment of our ASG strategic and implementation plans with the new National Sea Grant (NSG) Strategic Plan. This nationwide realignment process will focus Sea Grant network efforts around a set of common themes. Having a more clearly defined common purpose, and an enhanced ability to recognize and publicize our achievements as part of the “big picture,” will make our program more competitive within the goal-oriented federal structure.

With the stamp of approval this fall from a national review panel, our ASG plans will guide our efforts through 2013. We thank the ASG Advisory Committee members for their diligent work articulating Alaska’s most pressing issues on marine and coastal resource use and conservation, and for working with us to update our strategic goals and objectives.

Further strengthening links to the national scene, Alaska Sea Grant Advisory Committee member Molly McCammon instituted bimonthly Alaska marine policy teleconferences, sponsored by Alaska Sea Grant and the Alaska Ocean Observing System. Alaska congressional staff and other state and federal insiders have shared the latest information about marine program funding, legislation, and state and federal marine policy issues.

Highlights of our 2008-2009 research, education, and extension work follow, organized under ASG’s new strategic focus areas. The new focus areas closely connect to our former strategic themes under which some of this work began.

Healthy Coastal Ecosystems

Goal: Sustained, well-managed, and healthy marine, coastal, and watershed ecosystems in Alaska.

International activities, publications, and research all contributed to our strategic focus area, Healthy Coastal Ecosystems. Publications on marine resources and several coastal and marine observing and monitoring activities played prominent roles in addressing this focus area.

OUTREACH

MAP agents Ray RaLonde, Gary Freitag, and Reid Brewer led monitoring programs to identify invasive species, detect harmful algal blooms that may cause paralytic shellfish poisoning, and document other potential effects of climate change. MAP worked with the Alaska Department
of Fish and Game, Smithsonian Environmental Research Center, and NOAA Office of Protected Resources to monitor for invasive European green crabs, non-native tunicates, and bryozoans near Ketchikan and Unalaska. MAP agent Heidi Herter worked with tribal representatives to develop a community water quality sampling program on the Tubutuluk River near Nome.

Armed with materials produced by Education Services, MAP has for years worked to educate the public, and monitor the health risks associated with harmful algal blooms and with consumption of tainted shellfish. In 2009 MAP initiated a statewide, community-based monitoring program for domoic acid, a natural toxin that can cause serious harm to humans and mammals eating contaminated shellfish.

MAP agents Kate Wynne and Sunny Rice launched a project in 2009 with commercial gillnetters and seiners in southeastern Alaska and Kodiak to reduce encounters between mariners and whales. The NOAA Office of Protected Resources is a partner, and funding is from the North Pacific Research Board.


**NOAA-ASG Partnership Yields Unique Field Guide**

The book *Field Guide to Squids and Octopods of the Eastern North Pacific and Bering Sea*, http://seagrant.uaf.edu/bookstore/pubs/SG-ED-65.html, was published in September 2009. Author Elaina Jorgensen, a biologist with the NOAA Alaska Fisheries Science Center in Seattle, secured $20,000 from NOAA Fisheries to help cover printing cost. Education Services learned of Jorgensen’s intent to create the field guide and offered to be the publisher, after she gave a talk in 2005 at MAP’s Forum of Alaska Marine Issues in Unalaska.

**SFOS Scientists and ASG Contribute to International Polar Year**

At the request of UAF/SFOS faculty members Rolf Gradinger, Bodil Bluhm, and Russell Hopcroft, we published a landmark translation of an identification key by Russian scientists, *Illustrated Key to Free-Living Invertebrates of Eurasian Arctic Seas and Adjacent Deep Waters, Vol. 1*. This book stems from an International Polar Year (IPY) proposal and is a product of the Arctic Ocean Diversity Census of Marine Life project. The sponsoring SFOS faculty members obtained $7,000 from the Sloan Foundation to help pay for printing. Education Services is working on the second volume and we expect to publish it in 2010.

**Workshop Proceedings Highlight Marine Ecosystems**

We published three workshop proceedings that address the Healthy Coastal Ecosystems focus area: *North Aleutian Basin Energy-Fisheries Workshop Proceedings* http://seagrant.uaf.edu/bookstore/pubs/AK-SG-09-03.html, *Marine Debris in Alaska: Coordinating Our Efforts*, http://seagrant.uaf.edu/bookstore/pubs/AK-SG-09-01.html, and our first digital proceedings, *Marine Habitat Mapping for Alaska*, http://seagrant.uaf.edu/bookstore/pubs/AK-SG-08-03.html, which won two national awards. Even before ASG published the habitat mapping proceedings, chapter authors said that the work was the first of its kind worldwide and was already in use as a resource by the experts. ASG cosponsored the three workshops in 2008.

**Clean and Green Boating in Alaska**

To promote clean harbors and nearshore ocean waters in Alaska, MAP specialist Terry Johnson and Education Services production staff Sue Keller and Jen Gunderson teamed with the National Park Service and the Alaska Marine Conservation Council to write and publish the free booklet, *Clean Boating for Alaskans*. NPS provided $30,000 to pay for writing and production. Over the past year we distributed more copies of this title (3,000) than any other, most to Alaska harbormasters and harbor users.

**Marine Mammal Expertise Shared Internationally**

The Division of Marine Fisheries in Ghana, Africa, and the International Commission for the Conservation of Atlantic Tuna, raised concerns about marine mammal and turtle bycatch in commercial fisheries. In response, NOAA asked MAP marine mammal specialist Kate
Wynne to train 40 fishery observers in marine mammal identification in Ghana. The U.S. Navy provided logistical support. The training helped Ghana develop a fishery observer program that now ensures the sustainability of their fishing industry. In 2009 MAP continued this international work by training fishery observers in Senegal, Africa, and in Costa Rica. A Sea Grant field guide primarily authored by Kate, Guide to Marine Mammals and Sea Turtles of the U.S. Atlantic Coast, published by Rhode Island Sea Grant and co-distributed by ASG, was a key tool in Kate’s international observer training work, http://www.sfos.uaf.edu/news/journeys/kate_wynne_dakar_senegal_0209.html.

**Funding Secured for New Books**

Three field guides, an underwater photo book, and a unique Western science–Native knowledge book are scheduled to be published in 2010:

- In May 2009, the Alaska Department of Fish and Game (ADFG) provided $40,000 to help publish Field Guide to Common Marine Fishes and Invertebrates of Alaska, by marine biologists Susie Byersdorfer and Leslie Watson. The new 360-page book will fill a void left by the out-of-print guide by NOAA biologist Doyne Kessler (1985).
- In August 2009, NOAA Fisheries provided $20,000 toward the cost of printing Field Guide to Common Seaweeds of Alaska, by Mandy Lindeberg of NOAA Fisheries at Auke Bay. In 2006 Lindeberg generated a buzz among seaweed scientists when she discovered a new genus (and species) of kelp, dubbed “Golden V,” in the Aleutian Islands, http://juneauempire.com/stories/022908/sta_252445374.shtml. This will be the only print guide to Alaska seaweeds that includes species north and south of the Alaska Peninsula.
- NPRB committed $5,000 for a field guide to Aleutian Islands sea stars, by SFOS faculty member Stephen Jewett. Reid Brewer secured funding toward the cost of publishing his book featuring photographs of underwater biota and habitat in the Aleutians, from the Alaska Department of Environmental Conservation ($5,000), City of Unalaska ($11,000), and Ounalashka Corporation ($4,000).
The Rasmuson Foundation ($19,800), University of Alaska Press ($5,000), Chugach Heritage Foundation ($2,000), and the Pratt Museum ($200) committed funds to help ASG publish the book *Imam Ciumucia (Our Changing Sea)*, by Anne Salomon. As a University of Washington doctoral student, Anne worked with Alaska Natives on the Kenai Peninsula to assess how and why the local coastal ecosystem has changed over 70 years. She now is an assistant professor and research fellow at Simon Fraser University, School of Resource and Environmental Management, British Columbia.

RESEARCH

In a pilot study funded by ASG in summer 2009, UAA chemistry professor Laura Mujica collected sediment and water samples from several freshwater lakes on the Kenai Peninsula, in the Kenai National Wildlife Refuge, Captain Cook Recreation Area, and near Ninilchik. Preliminary data show elevated methylmercury levels in 42 percent (8 of 19) of the samples. A proposal has been submitted to ASG to resample and expand the scope of this important investigation. Methylmercury from highly industrialized areas of the planet likely is transported to Alaska and deposited as atmospheric fallout.

UAF/SFOS fisheries professor Terrance Quinn and recently graduated doctoral student Kray Van Kirk developed a multispecies age-structured assessment model for arrowtooth flounder, Pacific cod, and walleye pollock. The goal of the model is to improve the assessment and understanding of complex multispecies dynamics in the Gulf of Alaska, with special focus on pollock and the predation consequences of the increased abundance of arrowtooth flounder.

UAF/SFOS marine science professor Russell Hopcroft and master’s student Jenefer Bell studied the accuracy and effectiveness of ZooImage, a new digital imaging system designed to measure the abundance, biomass, and zooplankton species in areas where newly released hatchery salmon are likely to feed. The technology may offer salmon hatcheries a real-time tool to improve the timing of juvenile salmon releases into the wild. ZooImage was found to be relatively accurate, and continued improvements will enhance automatic identification of zooplankton.

In a multiyear research project to better understand the effects of interbreeding between hatchery and wild salmon, researchers and graduate students led by UAF/SFOS professor of fisheries Anthony Gharrett are examining the extent of “outbreeding depression” in hybrids between related populations of early and late run pink salmon in Auke Creek. Results are expected in 2011.

Education Services published the online publication, *What’s genetics got to do with it?* aimed at helping hatchery managers, fish culturists, fishermen, science students, and fisheries researchers better understand salmon genetics, [http://seagrant.uaf.edu/bookstore/pubs/AN-18.html](http://seagrant.uaf.edu/bookstore/pubs/AN-18.html).

UAF/SFOS fisheries professor Gordon Kruse and graduate student Bill Bechtol completed a study of the collapse of the Kodiak red king crab stock and fishery. Bechtol developed a new population dynamics model for improving stock assessment of Kodiak red king crab, and earned his doctoral degree in May 2009. The model was provided...
to the Alaska Department of Fish and Game for use in managing the crab fishery, if and when the stocks recover and the fisheries reopen. Project results were included in a proposal to the Alaska Board of Fisheries on how to improve crab harvest management. The proposal is likely to result in management changes for all red king crab fisheries in the Gulf of Alaska. After graduating, Bill formed a research consulting company in Alaska, Bechtol Research, which has brought in several research contracts.

UAF/SFOS professor of fisheries Terrance Quinn, and doctoral student Peter-John Hulson, developed tools for scientists and managers to incorporate uncertainty in integrated age-structure assessment models. ADFG and NOAA scientists use the methods; the first application was on Pacific ocean perch.

**Sustainable Coastal Development**

**Goal: Diverse and sustainable coastal communities where residents have the knowledge and skills they need to adapt to natural and man-made changes in resource use and availability.**

Training provided by MAP for new members of the marine industry workforce and for commercial fishermen and seafood processing plant managers and line workers took center stage in addressing the focus area of Sustainable Coastal Development.

**OUTREACH**

The multifaceted Alaska Fisheries Business Assistance Project (FishBiz), [http://seagrant.uaf.edu/map/fishbiz/](http://seagrant.uaf.edu/map/fishbiz/), was developed by MAP agent Glenn Haight to provide training in financial management and efficiency for commercial fishermen, and increase profits by improving product quality and marketing. In 2008-2009, Glenn taught “The Business of Fish” class via public access cable television and the Internet.

Alaska’s commercial fishermen have increased the value of their catch by producing a better product through careful handling and immediate chilling. MAP agent Torie Baker partnered with industry and the Alaska Vocational Technical Education Center to teach maintenance and repair of refrigeration systems to commercial fishermen in several fishing ports. With support from the University of Alaska Workforce Development Program, in 2009 MAP bought a portable refrigeration unit that is used in classes. Over 160 fishermen have attended the filled-to-capacity workshops in the last two years.

MAP released the DVD *Salmon Quality for Gillnet Fishermen*, produced by Deborah Mercy, [http://seagrant.uaf.edu/bookstore/pubs/MAPV-66.html](http://seagrant.uaf.edu/bookstore/pubs/MAPV-66.html), on how to handle fish to maintain high quality. SnoPac, a buyer in Bristol Bay, gave the DVD to all of their fishermen in the 2009 season. On the Kuskokwim River, MAP agent Terry Reeve helped salmon catcher-sellers direct market their catch at the local farmers markets and to Anchorage fresh food markets.
Joining with Ecotrust and the Gulf of Alaska Coastal Communities Coalition, MAP cosponsored a workshop on developing Community Quota Entity (CQE) programs, [http://seagrant.uaf.edu/map/workshops/2009/cqe/index.html](http://seagrant.uaf.edu/map/workshops/2009/cqe/index.html). CQEs allow communities to buy halibut and sablefish quota and then lease it to local residents for economic development. MAP agents Torie Baker and Sunny Rice offered workshops in their communities about how to participate in the Board of Fisheries public process. Participants immediately used skills from the workshop in the board’s meeting process.

**Growing the Shellfish Farming Industry**

Ray RaLonde, MAP aquaculture specialist, worked with leaders in the shellfish aquaculture industry to develop the Alaska Shellfish Growers Logbook, [http://seagrant.uaf.edu/map/aquaculture/shellfish/shellfishlog.pdf](http://seagrant.uaf.edu/map/aquaculture/shellfish/shellfishlog.pdf), and a Web site with guidance on taxes, finances, business management, and aquaculture techniques.

The Kachemak Shellfish Mariculture Cooperative built a shellfish refrigeration facility in Homer. Several years ago Ray helped the farmers write a business plan, apply for grants, plan construction, and develop quality standards. When legal issues later stalled the project, Ray and MAP seafood marketing specialist Quentin Fong provided the court with probable economic impacts if the project were to be scrapped. The court used this information in deciding to allow resumption of the project. The building opened in 2009, [http://www.globalfoodcollaborative.com/articles/kachemak-bay-oysters-coop-growing-and-seeking-new-partnerships-.html](http://www.globalfoodcollaborative.com/articles/kachemak-bay-oysters-coop-growing-and-seeking-new-partnerships-.html).

MAP agent Gary Freitag heads the board of the nonprofit OceansAlaska Marine Science and Mariculture Center, [http://www.oceansalaska.org/](http://www.oceansalaska.org/), in Ketchikan. The project will help diversify the local economy, which has been hit hard by the loss of timber jobs. A groundbreaking with U.S. Senator Lisa Murkowski took place in August 2009.

**Building Rural Enterprises**

After being coached by MAP agents Quentin Fong, Torie Baker, and Terry Reeve, three coastal residents won funding for their projects in the Alaska Marketplace competition. Terry Reeve is coordinator and planner for an eco-tourism/archeology project in southwestern Alaska. The project involves birding, tundra walks, village visits, and participation in archeological digs. In 2009, excavation crews produced the largest cache of Yup’ik artifacts ever collected on the Yukon-Kuskokwim Delta.
Quentin Fong facilitated the sale of at least 3,250 metric tons of Alaska seafood, with an estimated value of at least $2.5 million to Qingdao Fortune Seafoods, for export to China. Quentin and the Cooperative Extension Service facilitated a workshop—How to Start a Business in Kodiak—geared to women in the Kodiak Hispanic community.

Ray RaLonde, MAP aquaculture specialist, teamed with Chris Langdon of the Oregon Department of Fisheries and Wildlife to develop larger, faster growing lines of Pacific oysters. Their goal is to develop better brood stock for Alaska. Interim data indicate that the project is on track to success. This effort will flow into another project to compare the post-harvest quality of oysters raised in Kachemak Bay, Alaska, with those from other northwest locations.

UAF economics professors Keith Criddle and Mark Herrmann recently completed an economic analysis of the Pacific halibut commercial fishery, and results are contributing to policy debates over the design of Individual Fishery Quota programs in Bering Sea crab fisheries, Gulf of Alaska bottom trawl fisheries, and Bering Sea flatfish fisheries. The study provides a baseline for determining the value of these commercial fisheries and helps managers understand how the value of the fisheries is affected by changes in the allowable harvest.

Assistant professor Marie Lowe with the UAA Institute for Social and Economic Research is studying why young people leave Alaska rural coastal villages. She has found that young people in coastal communities feel a strong sense of place, and their aspirations tend to be lofty, but vague. Surveys show that young villagers place low value on occupations associated with industries that are expanding in their communities, such as fish processing and tourism, regarding these industries as outsider controlled and culturally beneath them.

**Safe and Sustainable Seafood Supply**

**Goal:** Safe, sustainable, and sought-after seafood products providing stable economic returns to Alaska communities.

**Goal:** Commercial, sport, and subsistence fisheries will remain biologically and economically healthy, and remain a long-term economic force in coastal communities.

Applied research and training supported by how-to publications and videos helped strengthen Alaska’s seafood industry, addressing ASG’s focus area, Safe and Sustainable Seafood Supply.

**OUTREACH**

MAP taught courses statewide to seafood processors and commercial fishermen on seafood handling, safety, sanitation, and quality. Also, MAP seafood technology specialist Chuck Crapo runs the Better Process Control school for salmon canners, and conducts a course for processing plant workers on how to handle salmon. A list of workshops is in the appendices.

Because of the distances to market, Alaska geoducks must be sold frozen instead of live. But frozen meat is much tougher and sells for only 20 percent of the price of fresh, unfrozen meat. Ray RaLonde initiated research with the Southeast Alaska Regional Dive Fisheries Association and the UAF Fishery Industrial Technology Center to determine the cause of geoduck tissue toughening and pursue a solution. The researchers found that tough tissue

**A seafood processing plant worker in Juneau shows off a freshly caught coho (silver) salmon. MAP gives workshops that educate processing plant workers on how to best handle salmon and other fish and shellfish, to maintain highest quality.**

**A net bag of freshly caught and iced halibut being offloaded at Kodiak.**
was due to rigor mortis. Now they are developing techniques to eliminate rigor mortis and thereby increase the marketability of frozen geoducks.

Education Services in partnership with MAP published and distributed 1,060 copies of publications and videos to help strengthen and expand seafood harvest and processing businesses, especially small to medium size companies. In addition, ASG distributed 406 copies of three different fish field guides, primarily to seafood processors and marketers, and commercial and charter fishermen to improve utilization and conservation of marine fishes.

Education Services continued to provide information about ASG activities and products to Laine Welch, producer of Fish Radio in Kodiak, http://www.marineconservationalliance.org/fishradio.htm. ASG is a cosponsor of Fish Radio and Welch routinely mentions our products and activities, and refers listeners to our Web site. She also describes ASG products and services in her newspaper and Web print column, Fish Factor.

**RESEARCH**

The Alaska King Crab Research, Rehabilitation and Biology (AKCRRAB) project funded largely by NOAA Fisheries, http://seagrant.uaf.edu/research/projects/initiatives/king_crab/general, had another successful year in its effort to determine the feasibility of raising red and blue king crab in hatcheries, with a view to restoring wild stocks, such as those near Kodiak and the Pribilof Islands. Survival rates of hatched larvae in the lab increased from 10 percent in 2008 to 21 percent in 2009. The research is now in its third year of successful brood stock collection, and egg hatch and larval development at the Alutiiq Pride Shellfish Hatchery in Seward. UAF scientists in Seward and Juneau, with NOAA scientists at the Alaska Fishery Science Center in Kodiak and Oregon, are studying growth and survival, handling techniques in a hatchery setting, and predation dynamics in the laboratory.

Education Services created a new electronic newsletter, News Flash, http://seagrant.uaf.edu/research/projects/initiatives/king-crab/newsflash/, written by research biologist Ben Daly, to keep constituents abreast of AKCRRAB.

Alaska wild salmon compete in international markets with other wild and farmed salmon and rainbow trout products. Researchers Keith Criddle and Mark Herrmann are developing models to better predict the impact of competing salmonid products on the price fishermen receive for Alaska wild salmon.

Economics professor Gunnar Knapp of the UAA Institute of Social and Economic Research (ISER) is finishing his examination of the total economic impact of all Alaska commercial, sport, and subsistence fisheries. The intent is to help Alaska policy-makers and citizens make informed decisions about Alaska fisheries policy. ISER will publish a summary report for broad public distribution.

Seafood scientist Subramaniam Sathivel, formerly with the UAF Fishery Industrial Technology Center (FITC) in Kodiak and now with Louisiana State University, partnered with ASG seafood quality specialist Chuck Crapo and UAF microbiologist Brian Himelbloom, both at FITC, to develop a protein powder from arrowtooth flounder. The researchers have applied for U.S. Patent protection for the technologies and methods used to produce the protein powder.
Hazard Resilience in Coastal Communities

Goal: Healthy, safe Alaskans and resilient coastal communities in the face of marine and coastal hazards.

Programs encouraging best mariner practices aimed at improving marine safety, and a public discussion by legal experts on the status of oversight of hazardous substance shipping in Alaska waters, 20 years after the Exxon Valdez oil spill, addressed this focus area.

OUTREACH

Mariner Safety Remains Key Focus

MAP agent Torie Baker taught the annual Coast Guard–approved Drills Conductor course to an audience composed primarily of Prince William Sound fishermen. Torie also partnered with Cordova District Fishermen United to develop, print, and deliver a safety packet to 235 Prince William Sound skippers on deck winch safety and improving wheel watch communication between skippers and crew. As a result of MAP efforts, more than 70 percent of the Copper River Delta gillnet fleet now meets or exceeds USCG Fishing Vessel Safety Exam standards.

Exxon Valdez Oil Spill 20th Anniversary Highlights ASG Research

Education Services manager Kurt Byers organized a reunion of the three surviving members (Zygmunt Plater, Alison Rieser, Harry Bader) of the four-person ASG Exxon Valdez legal research team, http://seagrant.uaf.edu/conferences/2009/evos-anniversary/index.html. Soon after the March 1989 spill, ASG assembled the team from three law schools and UAF to study legal measures that Alaska could employ to improve oversight of hazardous substance transport. In March 2009, the trio, joined by former Alaska attorneys general Charlie Cole and John Havelock, current deputy attorney general Craig Tillery, former chair of the Alaska Oil Spill Commission Walter Parker, and others gave four panel discussions in Fairbanks and Anchorage on the evolution of government and citizen oversight of the marine transport industry. The legal team reunion was funded with $10,000 from the National Sea Grant Law Center, and was a cooperative effort with the Prince William Sound Regional Citizens Advisory Council.

This year Education Services also published the ASG EVOS legal research team 1989 final report, http://seagrant.uaf.edu/bookstore/pubs/AK-SG-89-02.html. Until 2009 the report was available only as appendices to the Alaska Oil Spill Commission 1990 final report to the legislature and governor. The legal team report underpinned the Alaska Oil Spill Commission’s recommendations on stronger state regulatory authority.

State Teams with ASG to Inform Coastal Residents about Tsunami Threat

The Alaska Division of Homeland Security and Emergency Management (ADHSEM) bought 1,000 copies of our national award-winning video, Ocean Fury: Tsunamis in Alaska, for free distribution to its constituents. The video describes the history of tsunamis in Alaska via historical records, eyewitness accounts, and tsunami propagation research at UAF, and provides safety advice for coastal communities. ADHSEM was one of three original funders of the project and a content consultant.

Walter Parker, former chair of the Alaska Oil Spill Commission, with Alison Rieser, Zygmunt Plater, and Harry Bader, members of the 1988-1990 Alaska Sea Grant EVOS Legal Research Team.

Several tsunamis hit the Seward waterfront after the 1964 Alaska earthquake. This photo shows damage at the site of the present SFOS Institute of Marine Science Center.
Marine Literacy and Stewardship

Goal: Alaska residents and visitors understand, appreciate, and safely and sustainably enjoy Alaska’s marine and coastal environments.

Highlights of ASG work to address Marine Literacy and Stewardship centered on full implementation of the new Alaska Seas and Rivers K-8 curriculum, formation of a Center for Ocean Science Education Excellence (COSEE) partnership, and placement of three UAF graduate students in Washington, D.C., as Sea Grant Knauss Fellows, a national competitive fellowship program.

K-12 Education

Led by education specialist Marla Brownlee, ASG workshops in 2009 trained eight curriculum leaders who are now qualified to conduct teacher workshops on how to most effectively use our new online Alaska Seas and Rivers K-8 Curriculum. One hundred seventy teachers participated in teacher workshops in the final year of the project. After a training workshop, a third grade teacher from Kodiak said, “I am impressed with the format of the Alaska Seas and Rivers curriculum. It is very informative, user friendly, well written, age appropriate for all grades with science Grade Level Expectations and Standards, and packed with engaging investigations for teachers and students.”

Rural Alaskans and Alaska Natives are underrepresented in the marine resource and fisheries science and management professions. MAP agents worked with K-12 students to inspire them and expose them to marine science opportunities. MAP agent Reid Brewer taught pre-kindergarten through third grade children in summer camps in Unalaska. As a result, Unalaska MAP received a $54,750 grant from the Qawalangin Native Tribe to continue education activities.

MAP agents coached local high school teams in the Alaska regional competition of the National Ocean Sciences Bowl (NOSB). Four former members of the Unalaska High School NOSB team have gone on to pursue science degrees in college, and in 2008 four alumni of other Alaska NOSB teams enrolled in the UAF undergraduate fisheries program.

College and Post Graduate Education

MAP faculty taught university courses via distance technology: The Oceans, Fishes of Southeast Alaska, Introduction to Oceanography, and Introduction to Aquaculture. One result is that six students took jobs in fisheries-related fields.

Three 2009 ASG Knauss fellows from UAF started work in Washington, D.C., in early February. Mary Bozza joined NOAA Program Planning and Integration, where she provides in-depth strategic analyses and assessments to NOAA senior management, among other tasks. She also serves on internal NOAA committees and is involved in interagency efforts related to climate and ocean policy.

Celeste Leroux helps represent the NOAA National Ocean Services National Marine Sanctuaries program to
Congress, the White House, the public, and fishermen and locals. She works with Matt Stout, chief of the communication, outreach, and education division of the National Marine Sanctuaries program. In addition she has worked as a liaison with Sea Grant international programs.

Erin Steiner works for the NOAA Fisheries Office of Science and Technology as the scientific advisory coordinator, with NOAA marine biologist Laura Oremland and fishery biologist David Detlor.

Seanbob Kelly, 2008 Alaska Sea Grant Knauss fellow, landed a job with NOAA Fisheries Sustainable Fisheries Division in Juneau and began work in February 2009. His job focuses on fisheries management projects under program manager Sally Bibb.

In July 2009, President Obama named former ASG-funded graduate student and Knauss Fellow, Dana Hanselman, one of six scientists from the U.S. Department of Commerce to be recognized with the Presidential Early Career Award for Scientists and Engineers. Dana studied marine fisheries population dynamics under ASG researcher Terrance Quinn, and he now works for NOAA Fisheries in Juneau.

**Public Education**
Coastal residents often have no access to the scientists who visit their communities and may learn little about the goals or results of their research. MAP bridges the gap to link scientists with local residents. In 2009 Heidi Herter coordinated the second annual Western Alaska Interdisciplinary Science Conference and Forum in Nome. In 2010 Reid Brewer will coordinate the meeting in Unalaska. The intent of this program is to bring together scientists, educators, rural leaders, community members, and subsistence hunters and gatherers to discuss science and issues relevant to western Alaska.

Reid also maintains the Forum of Alaska Marine Issues (FOAMI) lecture series, which features talks at the Museum of the Aleutians by scientists who visit Unalaska, [http://www.faculty.uaaf.edu/ffrsb/outreach/foami.html](http://www.faculty.uaaf.edu/ffrsb/outreach/foami.html). Heidi organized a similar lecture series in the Bering Strait region, in partnership with International Polar Year participants. The Nome-based lecture series had more than 1,350 attendees over two years.

After a several year hiatus, 2009 marked ASG’s return to the radio airwaves with the debut of a new radio news
New Research Projects

Six new research projects have been selected for funding for 2010-2014. ASG issued a request for proposals in December 2008, and received 33 preproposals and subsequently 16 full proposals. Final selection was based on proposal review by science peers and an advisory panel. Funding for the six projects for two years totals approximately $1,000,232.

Pending receipt of federal funds from the National Sea Grant Office in February 2010, these six research projects will be pursued, along with previously funded continuing projects, in 2010-2014.

Terrance Quinn
UAF School of Fisheries and Ocean Sciences

_Parsimony in integrated age-structured assessment models: modeling of time-dependent parameters and uncertainty in a changing environment_

Milo Adkison
UAF School of Fisheries and Ocean Sciences

_Low intensity, low cost management of salmon fisheries_

David Tallmon
UAF School of Fisheries and Ocean Sciences

_Identifying red and blue king crab stocks for sustainable harvest and sustainable coastal alaskan communities_

Michael Litzow and Franz Mueter
The Farallon Institute and UAF School of Fisheries and Ocean Sciences

_Increased variance as a leading indicator of reorganization in alaskan marine ecosystems: an empirical test_

Russell Hopcroft
UAF School of Fisheries and Ocean Sciences

_The seasonal and interannual patterns of larvaceans and pteropods in the coastal gulf of Alaska, and their relationship to pink salmon survival_

Ginny Eckert and Allison Rice
UAF School of Fisheries and Ocean Sciences

_Ecological, economic and social changes as a result of sea otter recolonization in southern Southeast, Alaska_
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<td>Iditarod Talk, Climate Change and Bering Sea Animals</td>
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### Conferences and Workshops (continued)

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<td>Herter</td>
<td>Nome</td>
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<td>2009</td>
<td>March</td>
<td>International Polar Year Seminar, Inspiration for the Iditarod, Gay Salisbury, Leonhard Seppala</td>
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<td>Survival Swimming</td>
<td>Herter</td>
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<td>March</td>
<td>Shrimp Fishermen Exchange</td>
<td>Rice, Haight, Greg Fisk</td>
<td>Juneau, Petersburg</td>
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<td>2009</td>
<td>April</td>
<td>Alaska Seas and Rivers Teacher Workshop</td>
<td>Pam Garcia</td>
<td>Sitka</td>
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<td>Paula Savikko</td>
<td>Petersburg</td>
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<td>Paula Savikko</td>
<td>Haines</td>
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<td>2009</td>
<td>April</td>
<td>University of Alaska TV FishBiz Workshop Series, Tracking Shellfish Farm Products and Production</td>
<td>Haight, RaLonde</td>
<td>Juneau</td>
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<td>University of Alaska TV FishBiz Workshop Series, Risk Management for a Fishing Operation</td>
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<td>Juneau</td>
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<td>Marine Refrigeration: Troubleshooting, Maintenance and Safety</td>
<td>Wynne</td>
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<td>Juneau</td>
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<td>2009</td>
<td>May</td>
<td>Alaska Seas and Rivers Teacher Workshop</td>
<td>Katie Villano</td>
<td>Homer</td>
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<td>2009</td>
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<td>Observer Training Center, Marine Mammal Training</td>
<td>Wynne</td>
<td>Anchorage</td>
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<td>2009</td>
<td>May</td>
<td>Hazard Analysis Critical Control Points</td>
<td>Crapo</td>
<td>Anchorage</td>
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<td>2009</td>
<td>May</td>
<td>North Pacific Research Board, Whale Interactions with Kodiak Salmon Gillnets</td>
<td>Wynne</td>
<td>Kodiak</td>
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<tr>
<td>2009</td>
<td>May</td>
<td>North Pacific Research Board, Whale Interactions with Kodiak Salmon Seiners</td>
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<td>Kodiak</td>
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<tr>
<td>2009</td>
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<td>Sanitation</td>
<td>Crapo</td>
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<tr>
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<tr>
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<td>Anchorage</td>
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<td>2009</td>
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<td>Alaska Salmon Hatchery Managers Workshop, Research and Development for the Alaska PNP Hatchery Program</td>
<td>RaLonde</td>
<td>Juneau</td>
<td>51</td>
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</table>
Alaska Sea Grant Publications and Media Placement
November 2008–November 2009

TECHNICAL REPORTS


PROCEEDINGS, SYMPOSIA


BROCHURES, FACT SHEETS
Alaska Seas and Rivers Informational Flyer.
Alaska Seas and Rivers Teacher Workshop Flyer.
Northern Fishing Communities Wakefield Symposium Flyer (2011).
King Crab General Information.
Knauss and NOAA Fellowsheep Flyer.
MAP Highlights Statewide.
MAP Regional Highlights Bristol Bay.
MAP Regional Highlights Kodiak/Kenai.
MAP Regional Highlights Prince William Sound.
MAP Regional Highlights Southeast Alaska.

PEER-REVIEWED JOURNAL ARTICLES, BOOK CHAPTERS


CDS, DVDS


MANUALS, GUIDES


**ELECTRONIC PUBLICATIONS**


**THESES, DISSERTATIONS**


**NEWSLETTERS**

Daly, B. 2009. News Flash. 7 issues


**PROGRAM REPORTS**


**DIRECTORY**


**RADIO SCRIPTS, OTHER**


School of Fisheries and Ocean Sciences. 2009. Pollock Conservation Cooperative Research Center: Research Summaries 2009. School of Fisheries and Ocean Sciences, University of Alaska Fairbanks, M-93, Fairbanks.

Alaska Sea Grant Coastwise Radio Scripts

Alaska Stranding Network

Bristol Bay Local Hired as New MAP Agent

Caring for Your Catch

Cutting Fuel Costs

FishBiz: One-Stop Training for Alaska Fishermen

Invasive Species

Net Recycling

Rats!

Rebuilding King Crab

Responsible Wildlife Viewing
MEDIA PLACEMENT

Alaska Sea Grant in the news

MAP Vessel Fuel Survey Results
  Sustainable Shipping News 11/19/08
  Petersburg Pilot 11/27/08
  Tundra Drums 12/2/08

Facing hard times, South Carolina shrimpers look to Alaska for help
  IntraFish 3/6/09
  Anchorage Daily News 3/6/09
  SitNews 3/9/09
  HaulingGearBlog 3/10/09
  KFSK Sitka 3/20/09

Sea Grant publishes proceedings of Aleutian Energy-Fisheries Workshop
  Bristol Bay Times 4/2/09
  Commercial Fishing.org 5/25/09

Christie to lead Alaska Sea Grant
  Fairbanks Daily News-Miner 7/25/09
  FishRadio, 27 commercial and public radio stations 8/09
  FishFactor newspaper column in 20 newspapers 8/09

Bristol Bay region welcomes local as new Marine Advisory Program agent
  Bristol Bay Times 9/17/09 and other Alaska Newspapers Inc. editions
  FishRadio, 27 commercial and public radio stations 9/09
  FishFactor newspaper column in 20 newspapers 9/09

Wakefield Fisheries Symposium, Ecosystems 2010
  Oncorhynchus (Newsletter of the Alaska Chapter, AFS) Fall 2009

UAF seafood scientist receives international acclaim
  FishRadio, 27 commercial and public radio stations 10/09
  FishFactor newspaper column in 20 newspapers 10/09

CoastWise Alaska Radio: Net Recycling
  SitNews 10/20/09
  Alaska Newspapers, six community papers across the state 10/09

ASG News Release: Alaska’s young fishermen to gather to become savvy businessmen, chart industry future
  FishNewsEU 10/29/09
  Alaska Newspapers, six community papers across the state 10/09
Alaska Sea Grant Awards and Honors
November 2008-November 2009

RESEARCH
Stevan Phelps Memorial Award, American Fisheries Society, for 2007 published paper synthesizing several Alaska Sea Grant–funded projects: Harold Geiger, Ivan Wang, Pat Malecha, Kyle Hebert, William Smoker, and Anthony Gharrett.

EXTENSION
2009 Earl P. McFee award, Atlantic Fisheries Technology Conference, for outstanding achievements in seafood technology: Chuck Crapo.

International Association of Fish Inspectors Award, for exceptional outreach and service to the seafood industry: Chuck Crapo.

PUBLICATIONS
Outstanding Professional Skills Award in Graphic Design, Association for Communication Excellence, for cover design on Rat Control for Alaska Waterfront Facilities: Jen Gunderson.

Gold Award, Association for Communication Excellence, graphic design book cover category: Rat Control for Alaska Waterfront Facilities.

Bronze Award, Association for Communication Excellence, 1-3 color popular publication category: Rat Control for Alaska Waterfront Facilities.

Silver Award, Association for Communication Excellence, 4-color popular publication category: 2009 Alaska Coastal Calendar.

First Place, 2009 National Association of Government Communicators, calendar category: 2009 Alaska Coastal Calendar.

APEX 2009 Award of Excellence: Marine Habitat Mapping Technology for Alaska.


PHOTOGRAPH
Honorable Mention, 2008 Rarefied Light juried fine art photographic exhibit in Alaska, for photograph “Fishing for Blue Crab”: Deborah Mercy.
Alaska Sea Grant Collaborative Partners
November 2008-November 2009

FEDERAL PARTNERS
AmeriCorps

LOCAL, STATE, AND TRIBAL PARTNERS


NGO PARTNERS
Alaska Fisheries Development Foundation
Alaska Forum for Environmental Responsibility
Alaska Geographic Association
Alaska Groundfish Data Bank
Alaska Library Association
Alaska Marine Conservation Council
Alaska Marine Mammal Stranding Network
Alaska Marine Safety Education Association
Alaska Natural Resource and Outdoor Education Association
Alaska Oceans Network
Alaska Oceans Program
Alaska Science Consortium
Alaska SeaLife Center
Alaska Small Business Development Center
Alaska Underwater Science Foundation
Alaska Wildlife Alliance
Arctic Yukon Kuskokwim Sustainable Salmon Initiative
Association for Communication Excellence
Barrow Arctic Science Consortium
Bristol Bay Native Association
Bristol Bay Science and Research Institute
Center for Alaskan Coastal Studies
Center for Marine Conservation
Central Bering Sea Fishermen’s Association
Coastal Observation and Seabird Survey Team (COASST)
Cook Inletkeeper
Discovery Southeast
Ecotrust
Gulf of Alaska Coastal Communities Coalition
Kawarek
Kodiak Whalefest 2009
Marian Center (Kodiak)
Marine Conservation Alliance Foundation
National Association of Government Communicators
Northern Southeast Regional Aquaculture Association
Ocean Advocates
Oceanova
Oceans Blue Program
OceansAlaska
Pacific Environment
Pacific Fisheries Technology
Petersburg Economic Development Council
Petersburg Marine Mammal Center
Pribilof Island Collaborative
Prince William Soundkeeper
Prince William Sound Regional Citizens Advisory Council
Providence Kodiak Island Counseling Center
Salmon Nation
Shipping Safety Partnership
Southeast Alaska Conservation Council
Southeast Alaska Inter-Tribal Fish and Wildlife Commission
Southeast Alaska Regional Dive Fisheries Association
Southwest Alaska Municipal Conference
The Alaska Sea Otter and Steller Sea Lion Commission
The Nature Conservancy
U.S. Wildlife Foundation
Wild Food Development Center (Cordova)
World Wildlife Fund (U.S. and Costa Rica)

INTERNATIONAL PARTNERS
Dr. Abdoulaye DJiba, Dakar, Senegal
Fisheries and Oceans Canada
Food and Agriculture Organization (United Nations)
International Pacific Halibut Commission (U.S.)
Marine Research Institute (Norway)
North Pacific Groundfish Observer Program (Russia)
North Pacific Marine Science Organization (PICES)
Northwest Atlantic Fisheries Centre (Canada)
Pacific Fisheries Research Center (Russia)
Pacific Salmon Commission
Senegal Minister of Fisheries

INDUSTRY/BUSINESS PARTNERS
Al-Lou’s Fish
Alaska Aqua Farms
Alaska Blue Harvest Seafoods
Alaska Charter Association
Alaska Crab Coalition
Alaska Draggers Association
Alaska Fresh
Alaska Independent Tenderman’s Association
Alaska Shellfish Growers Association
Alaska Tide Book Company
Aleut Corporation
Aleutian Pribilof Island Association
Aleutian Pribilof Island Community Development Association
Alutiq Pride Shellfish Hatchery
Amazon booksellers
American Fisheries Society
At-sea Processors Association
Barnes and Noble booksellers
Bering Sea Fishermen’s Association
Blue Starr Oyster Co
Boat U.S.
BP
Bristol Bay Economic Development Corporation
Bristol Bay Regional Seafood Development Association
Calendar Club, LLC
Calista Corporation
Coastal Cold Storage, Inc.
Coastal Villages Region Fund (Western Alaska CDQ)
Consortium for Ocean Leadership
Cook Inlet Aquaculture Association
Cook Inlet Books
Cook Inlet Salmon Branding
Copper River Fine Seafoods
Cordova District Fishermen United
Cross Sound Marketing Association
Dancing Salmon Fisheries
Digital Observer, Inc.
Diversified Communications
Douglas Island Pink and Chum Inc.
EDAW Inc.
Englund Marine Supply Fish Expo Inc.
Enviro-Pak Smoking Ovens
Favco Seafood
Fleet Refrigeration
Gastineau Guiding Service
Graystar Pacific Seafood Ltd.
Great Alaskan Seafood Company
Hearthside Books
Hydroacoustic Technology, Inc.
Iceberg Seafood Company
Icicle Seafoods Inc.
Indian Valley Meats
Integrated Marine Systems
International Seafood of Alaska Inc.
Joma Wild Seafoods
Joycraft Marine Safety Equipment
Kachemak Bay Gear Shed
Kachemak Shellfish Mariculture Association
Kanektok River Adventures
Kenai River Professional Guide Association
Kenai River Sportfishing Association
Kenai Wild
Kodiak ComFish Alaska
Kodiak Fish Company
Kruzof Fisheries LLC
Laine Welch, Alaska Fisheries Report
LGL Limited
Lofoten Fish Company
Made in Alaska
McDowell Group
Mikunda, Cottrell & Co.
National Fishermen Magazine
National Food Products Association
National Shellfisheries Association
New Bedford Seafood Consulting
New England Trawl Systems
North Pacific Processors Inc.
Northern Economics Inc.
Northern Southeast Salmon Regional Aquaculture Association
Norton Sound Economic Development Corporation
Ocean Beauty Seafoods Inc.
Olga-Moser Bay Seafood Producers Alliance
Orca Book and Sound
Pacific Seafood Processors Association
Pacific Star Seafoods
Petersburg Vessel Owners Association
Polaris Strategic Consulting (M. Matthews)
Prince of Wales Island Community Holding Corporation
Prince William Sound Aquaculture Corporation
Prince William Sound Marketing Association
Prince William Sound Regional Seafood Development Association
Princess Tours
PURAC America Inc.
Resource Analysts International
Resource Decision Support (M. Merritt)
Royal Dutch Shell Oil Co.
Sea Crest Seafood Market Developers
SeaFisk Consulting
Seafood Business Magazine
Seafood HACCP Alliance
Silver Lining Seafood
Sitka Sound Seafoods
Sloth Boatworks
SnoPac
Solomon Gulch Hatchery
Sound Metrics Corp.
Southeast Alaska Fishermen’s Alliance (SEFA)
Southeast Alaska Seiners Association
Stellar Financial Services, Juneau
Taku Smokeries

TDX Corporation
Trident Seafoods
Trillium Technology Solutions, LLC
Unalaska Native Fisherman Association
UniSea Inc.
United Catcher Boats
United Fishermen of Alaska
United Fishermen’s Marketing Association
United Southeast Alaska Gillnetters Association
West Marine
Westward Seafoods
Wild Salmon Direct
Wrangell Insurance Center
Yukon Delta Fisheries Development Association
Yukon River Drainage Fisheries Association

ACADEMIC INSTITUTION PARTNERS
Alaska Vocational Technical Education Center
Bodø University (Norway)
California State University
Clatsop Community College
Clemson University
Colegio de Biologos de Costa Rica
Hatfield Marine Science Center
Hiram College, Ohio
Iowa State University, Farmers Transition Center
Kenai Peninsula College
Louisiana State University
Monterey Bay Aquarium
Northwestern Alaska Career and Technical Center
Oregon Coast Aquarium
Oregon State University
Prince William Sound Community College
Prince William Sound Science Center
Russian Academy of Sciences, Zoological Institute (Russia)
Scripps Institution of Oceanography
Seattle Aquarium
UAF Pollock Conservation Cooperative Research Center
University of Alaska Anchorage
University of Alaska Fairbanks
University of Alaska Press
University of Alaska Southeast
University of Hawaii
University of Massachusetts
University of Minnesota
University of Puget Sound
University of Washington
Utah State University
Virginia Institute of Marine Science
Washington State University Extension
Western Washington University
Woods Hole Oceanographic Institution

SG PROGRAM PARTNERS
California Sea Grant
Hawaii Sea Grant
National Sea Grant Law Center
Oregon Sea Grant
Rhode Island Sea Grant
Texas A&M Sea Grant
South Carolina Sea Grant
Washington Sea Grant
Virginia Sea Grant
## Alaska Sea Grant Directory

### ADMINISTRATION
- **David Christie**  Director, Fairbanks
- **Adie Callahan**  Program Coordinator, Fairbanks
- **Michele Frandsen**  Program Manager, Fairbanks
- **Gayle Hutson**  Administrative Coordinator, Fairbanks

### RESEARCH
- **Ben Daly**  Research Biologist, Seward

### EDUCATION SERVICES
- **Kurt Byers**  Education Services Manager, Fairbanks
- **Jen Gunderson**  Publications Coordinator, Fairbanks
- **Carol Kaynor**  Web and Database Coordinator, Fairbanks
- **Sue Keller**  Publications Manager/Editor, Fairbanks
- **Kathy Kurtenbach**  Sales and Marketing Coordinator, Fairbanks
- **Dawn Montano**  Distribution Assistant, Fairbanks
- **Dave Partee**  Communications Designer, Fairbanks
- **Doug Schneider**  Information Officer, Fairbanks

### MARINE ADVISORY PROGRAM
- **Torie Baker**  Marine Advisory Agent, Cordova
- **Amanda Barker**  Vista Volunteer, Bethel
- **Stefanie Benca**  Vista Volunteer, Anchorage
- **Beverly Bradley**  Program Coordinator, Anchorage
- **Reid Brewer**  Marine Advisory Agent, Unalaska
- **Julie Carpenter**  Administrative Coordinator/Fiscal Officer, Anchorage
- **Izetta Chambers**  Marine Advisory Agent, Dillingham
- **Chuck Crapo**  Seafood Quality Specialist, Kodiak
- **Paula Cullenberg**  Associate Director/MAP Leader/Coastal Community Development Specialist, Anchorage
- **Jerry Dzugan**  MAP Affiliate Faculty, Sitka
- **Quentin Fong**  Seafood Marketing Specialist, Kodiak
- **Gary Freitag**  Marine Advisory Agent, Ketchikan
- **Glenn Haigh**  Fisheries Business Specialist, Juneau
- **Heidi Herter**  Marine Advisory Agent, Nome
- **Terry Johnson**  Marine Recreation and Tourism Specialist, Anchorage
- **Kristy McGinnis**  ITA Assistant, Cordova
- **Deborah Mercy**  Program Development Media Specialist, Anchorage
- **Ray RaLonde**  Associate Leader/Aquaculture Specialist, Anchorage
- **Terry Reeve**  Marine Advisory Agent, Bethel
- **Sunny Rice**  Marine Advisory Agent, Petersburg
- **Marilyn Sigman**  Marine Education Specialist, Anchorage
- **Rick Steiner**  Conservation Specialist, Anchorage
- **Cynthia Wallesz**  ITA Assistant, Petersburg
- **Briana Witteveen**  Marine Mammal Research Technician, Kodiak
- **Sabrina Woofier**  Vista Volunteer, Bethel
- **Kate Wynne**  Marine Mammal Specialist, Kodiak
## Alaska Sea Grant and Marine Advisory Program
### Annual Budget 2009

### Income accounts

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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<td>Sea Grant core funding</td>
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<td>National Sea Grant initiatives</td>
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<td>Outside funding</td>
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<td>State funding</td>
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<td>Federal agencies</td>
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<td>State and local governments</td>
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<td>Industry and business</td>
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<td>Research organizations</td>
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<td>Non-governmental agencies</td>
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<td>Nongovernmental agencies</td>
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<td>Workshops Income</td>
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<td>Publication Income</td>
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### Base program funding

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<td>School of Fisheries and Ocean Sciences/UAF State operating and match funds</td>
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### National Sea Grant

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<td>NOAA/NSGO Fisheries Extension Enhancement</td>
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<td>NOAA/NSGO Alaska Regional Marine Research Plan</td>
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<td>NOAA/NSGO Knauss Fellowship for Maryann Bozza</td>
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<td>NOAA/NSGO Knauss Fellowship for Celeste Leroux</td>
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<td>NOAA/NSGO Knauss Fellowship for Erin Steiner</td>
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### Federal agencies

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<tr>
<td>Alaska Ocean Observing System</td>
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<td>NOAA Prey Use and Foraging Patterns of Kodiak’s Sympathetic Marine Mammals: GAP 2008</td>
<td>296,825</td>
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<tr>
<td>National Science Foundation COSEE Alaska: People in a Changing Climate</td>
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<tr>
<td>NOAA Social Vulnerability to Climate Change in the Alaskan Coastal Zone</td>
<td>49,618</td>
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<tr>
<td>NOAA Field Guide to Squids and Octopods of the North Pacific and Bering Sea, by Elaina Jorgensen</td>
<td>20,000</td>
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<tr>
<td>NOAA/NSGO Field Guide to Seaweeds of Alaska, by Mandy Lindeberg and Sandra Lindstrom</td>
<td>20,000</td>
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<td>Alaska Department of Fish and Game Rat Prevention and Eradication Outreach for Waterfront Operators in Coastal Alaska</td>
<td>81,967</td>
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<td>Alaska Department of Education</td>
<td>335,875</td>
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<tr>
<td>Alaska Department of Fish and Game Field Guide to Common Marine Fishes and Invertebrates of Alaska, by S.C. Byersdorfer and L.J. Watson</td>
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<tr>
<td>Alaska Department of Environmental Conservation Guide to Making Alaska Harbors Green (Clean Harbors Guidebook)</td>
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<tr>
<td>Qawalangin Tribe of Unalaska</td>
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<tr>
<td>Washington State University USDA Trade Adjustment Assistance Intensive Technical Assistance (TAA-ITA) Program for Alaska Resident Salmon Permit Holders and Crewmembers</td>
<td>250,000</td>
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<td>Washington State University Financial Planning for Alaskan Shellfish Farmers</td>
<td>35,832</td>
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<tr>
<td>Norton Sound Economic Development Corporation Support for Nome Marine Advisory Agent, to Serve the Bering Strait Region</td>
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<td>National Park Foundation Best Practices in Marine Wildlife Viewing</td>
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<td>Alaska Marine Conservation Council Promoting Ocean Stewardship for Coastal Marine Operators</td>
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<td>BP Exploration (Alaska) Inc. Sea Grant Sedge Seeding Study</td>
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<tr>
<td>Princess Cruises MAP Agent Support</td>
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### Non-governmental agencies

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<tr>
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<tr>
<td>Alaska Marine Safety Education Association AMSEA Production of Two Training Videos for Alaska Marine Safety Education Association</td>
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<tr>
<td>National Park Foundation Best Practices in Marine Wildlife Viewing</td>
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<td>Alaska Marine Conservation Council Promoting Ocean Stewardship for Coastal Marine Operators</td>
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### Industry and business

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<tr>
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<tr>
<td>Bering Strait Region Avoiding and Responding to Humpback Whale Bycatch in Coastal Alaskan Fisheries: A Cooperative Approach, Phase I</td>
<td>150,000</td>
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<td>Bering Strait Region Using Blue Mussels as an Indicator Species for Testing Domoic Acid Toxicity in Subsistence Bivalve Harvest</td>
<td>62,750</td>
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<td>Bering Strait Region Field Studies in Support of Stock Assessment for the Giant Pacific Octopus Enteroctopus dofleini</td>
<td>63,823</td>
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### Research organizations

<table>
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<tr>
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<td>Alaska Marine Safety Education Association AMSEA Production of Two Training Videos for Alaska Marine Safety Education Association</td>
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<tbody>
<tr>
<td>Publication Income</td>
<td>96,719</td>
</tr>
<tr>
<td>Workshops Income</td>
<td>60,335</td>
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</tbody>
</table>
Alaska Sea Grant Advisory Committee Members 2009

James Balsiger
Director
NOAA Fisheries
Washington, DC

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Anchorage, AK

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Alternate for: Denby Lloyd

Dan Hull
Leader
Cordova Fishermen United
Anchorage, AK

Denby Lloyd
Commissioner
Alaska Department of Fish and Game
Juneau, AK
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