

## **Pollock Depletion in Steller Sea Lion Habitat?**

Brian Battaile's Ph.D. research is on "Local depletion of walleye pollock in the eastern Bering Sea," a Sea Grant-funded project led by Terry Quinn. Battaile and Quinn are investigating whether the walleye pollock fishery depletes the fish, especially in Steller sea lion habitat, to a degree that can be statistically detectable. They are interested in Steller sea lion critical habitat because of restrictions on the fishing industry in those areas, and also because food limitation of Steller sea lions is a leading theory as a contributing mechanism to their decline.

In 1998 NMFS issued a Biological Opinion that the pollock fishery could jeopardize recovery of the Steller sea lion population in the eastern Bering Sea if it is not spread out more in time and space, based on the premise that the fishery could create local depletions of pollock in areas critical to Steller sea lions. Quinn found no published data supporting the theory that local depletions occur, so he and Battaile set out to do the analysis.

They are applying local depletion models to NMFS and Alaska Department of Fish and Game (ADFG) observer data, and ADFG fish ticket data and weekly production reports from the 1995-2000 fishery. Battaile's initial depletion estimators show promise for finding useful results. The results could shape future regulations of the pollock fishing industry and the direction of Steller sea lion research.

Battaile started as a fisheries graduate student in fall 1999, and plans to get his degree in fall 2003.

## **Bill to Reauthorize Sea Grant Act**

Representative Don Young is a cosponsor on bill H.R. 3389 to reauthorize the National Sea Grant College Program Act. Rep. Wayne Gilchrest introduced the bill in November 2001, and it is currently in committee review.

The bill amends the Sea Grant Act to include an emphasis on ocean and coastal resource conservation and management, and collaboration between academia and the scientists and programs of NOAA. It revises and expands the terms of membership for the Sea Grant review panel, and authorizes appropriations for zebra mussel, oyster, harmful algal bloom, and coastal ocean research through 2008.

## **Scientists Object to White House Plan to Move Sea Grant Program**

A February 1 story in the *Chronicle of Higher Education* reports that college lobbyists and scientists oppose the White House plan to transfer the National Sea Grant College Program to the National Science Foundation. They say Sea Grant should remain in NOAA, and they believe that moving it would change the program's mission. NSF's main focus is on fundamental research, while Sea Grant funds both basic and applied research—not only research needed by marine industries but also in response to unexpected environmental events. If Sea Grant's focus shifts solely to basic studies, some scientists fear that important work to protect the environment may be neglected.

Leading the protest are the National Association of State Universities and Land-Grant Colleges and the Consortium for Oceanographic Research and Education (CORE), an advocacy group representing universities and private laboratories. Sea Grant started out in NSF in 1966, but was moved to NOAA when NOAA was created in 1970. That move was made to link the Sea Grant program to NOAA's goals of sustaining fisheries and protecting the environment.

Subscribers to the *Chronicle* can read more about the issue at <http://chronicle.com/news/>.

## **New Book on Harmful Algal Blooms**

*Harmful Algal Blooms on the North American West Coast*, edited by Ray RaLonde, is the proceedings of a conference to organize efforts for research and monitoring harmful algal blooms (HAB), held in 1999 in Anchorage. HABs are a pervasive health and economic problem from California to Alaska. Paralytic shellfish poisoning and domoic acid are the most prominent, with levels of domoic acid spreading northward along the coast into Alaska. Eleven contributions in the book describe HAB problems and solutions, including biology and economics, funding for HAB research and monitoring,

and regional efforts. \$10.00, 73 pp., published by University of Alaska Sea Grant.

### **NOSB**

An article Kurt Byers published on the National Ocean Sciences Bowl, in the October 2001 issue of *Sea Technology Magazine*, is now on the Web at <http://seagrant.uaf.edu/nosb/sea-tech-article.html>. The title is "National Ocean Sciences Bowl piques interest: High school students around the country fascinated with marine science and technology."

The fifth annual Alaska NOSB will take place in Seward February 22-24. Ten teams, a total of 50 high school students, are scheduled to compete in the tournament-style competition on marine science topics.

Teams also will present research projects during the competition, and a juried art show is part of the event. The winning team will receive free first-year tuition at the University of Alaska Fairbanks, and will join 19 other teams from around the country to compete in the NOSB national finals April 26-29, 2002, in Providence, Rhode Island. Last year a team from Juneau-Douglas High School won the Alaska competition and competed in the national finals.

### **U.S. Coast Guard Port Workshop**

The U.S. Coast Guard Academy, Connecticut and Rhode Island Sea Grant, and others will hold a "Model Port" workshop in Bristol, Rhode Island, February 19-21, 2002, to help the U.S. Department of Transportation create a strategy for port development and management in the coming decade.

The Coast Guard is seeking state agencies, regional coalitions, and nongovernment organizations that are involved in coastal management in port and urban coastline areas, familiar with environmental sustainability and multiple-use conflict resolution. Call Connecticut Sea Grant at (860) 405-9128 or contact Pete Tebeau at [sgoadm01@uconnvm.uconn.edu](mailto:sgoadm01@uconnvm.uconn.edu).

### **Job Opening**

The Kachemak Bay Research Reserve (KBRR) will hire an education coordinator in Homer, Alaska. Application deadline is February 19, 2002. The education coordinator will deliver programs and provide leadership in development of marine education, outreach, and interpretive programs. KBRR is part of the National Estuarine Research Reserve System, a system of protected estuaries and nearshore waters for long-term research and education partly supported through NOAA. KBRR is managed by the Alaska Department of Fish and Game. For more information about KBRR, visit <http://www.state.ak.us/adfg/habitat/geninfo/nerf/>. Application is through Workplace Alaska, <http://www.state.ak.us/local/jobs.html>.

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## **New Marine Advisory Faculty**

Paula Cullenberg has been hired as coastal community development specialist and associate professor in the UAF Marine Advisory Program.

The funding for the new position is primarily from National Sea Grant, which is establishing the community development mission in all Sea Grant programs across the country. Although in more densely populated states the position will focus on "growth management" and "impacts of development," in Alaska the emphasis will be on rural economic development, community sustainability, and coastal conservation. Alaska community issues that Cullenberg will likely address include beach and riverbank erosion, aquaculture expansion, marine recreation, and economic problems caused by fluctuating fisheries. She will start the job in April 2002.

Since 1995 Cullenberg has served as director of the UAA North Pacific Fisheries Observer Training Center, which trains more than 500 observers a year. She was Alaska's Marine Advisory agent in Dillingham from 1985 to 1990, and served as extension agent at Washington Sea Grant for one year in 1990-1991.

## **UA Salmon Meeting**

In a first attempt to bring together a coordinated university effort to respond to the impacts of Alaska's salmon crisis on coastal communities, Paula Cullenberg and UAA fisheries economist Gunnar Knapp organized a meeting held last month in Anchorage. One of the outcomes of the meeting is the development of a series of workshops to provide technical tools to leadership in the salmon industry. Attending the meeting were Sea Grant director Ron Dearborn, Blanche Brunk of the UAF Rural College, Chuck Crapo of FITC, Joshua Greenberg of the UAF Resources Management Department, SFOS faculty Milo Adkison, and Pete Granger of Washington Sea Grant. For more information, contact Knapp at [afepk@uaa.alaska.edu](mailto:afepk@uaa.alaska.edu) or Cullenberg at [anpic@uaa.alaska.edu](mailto:anpic@uaa.alaska.edu).

## **New Sea Grant Publication**

*Herring: Expectations for a New Millennium*, edited by F. Funk, J. Blackburn, D. Hay, A.J. Paul, R. Stephenson, R. Toresen, and D. Witherell, has recently been published by Alaska Sea Grant. The 800 page book is available for the astoundingly low price of \$40.00, in U.S. and Canada, and \$60.00 for overseas orders.

Herring fisheries worldwide are characterized by vast fluctuations, including collapse, even though herring research has played a key role in management over the years. To help solve the unknowns in herring fisheries, and to optimize harvest, researchers presented their work at the 18th Lowell Wakefield Fisheries Symposium—"Herring 2000: Expectations for a New Millennium," in February 2000 in Anchorage, organized by Alaska Sea Grant. The high levels of enthusiasm shared during the symposium are sustained in this prolific and thorough proceedings book, with 49 peer-reviewed research articles on herring biology and ecology worldwide, social and economic aspects of herring fisheries, and herring fisheries management.

## **Fishing Employment**

Homer MAP agent [Terry Johnson](#) spoke at a UAA job fair sponsored by the Alaska Wilderness Recreational Tourism Association (AWRTA) in February, on "Finding a Job as a Sport Fishing Guide or Charterboat Crew Member." Thirty companies were represented at the fair, recruiting people for positions such as sport fishing guide, charterboat deckhand and captain, water taxi operator, cruise ship or tour boat crew, kayaking guide, river raft guide, cook, and office worker. Johnson emphasized that the jobs all require cheerful, tireless service. Pay ranges from \$6.50 per hour for food service to \$5,000 per month as a charter operator. Johnson plans to produce a short publication on the topic in 2002.

## **Kodiak High School Wins Alaska NOSB**

Four students from Kodiak High School won the 2002 National Ocean Sciences Bowl (NOSB) Alaska regional competition. Teams competed in a round-robin quiz and also presented a research project,

evaluating an Alaska wildlife species under environmental pressure and developing a plan for its recovery.

Winning Kodiak team members received free first-year tuition at UAF, and other prizes. Kodiak will join 21 other teams from around the nation in the NOSB finals, April 26-29, 2002, in Providence, Rhode Island. Other teams were from Eagle River, Seward, Soldotna (two teams), Cordova, Anchorage, Kotzebue, and Ninilchik (two teams).

The Alaska regional competition is sponsored by UAF and SFOS, with additional support from Alaska Sea Grant. Another major sponsor is the Ocean Alaska Science Learning Center, a cooperative effort of Kenai Fjords National Park and the Alaska SeaLife Center. NOSB is sponsored by the Consortium for Oceanographic Research and Education in partnership with the National Marine Educators Association.

The *Anchorage Daily News* printed a story on the results of the Alaska NOSB after the event, and Alaska Public Radio's Alaska News Nightly also reported a story, available for listening at <http://seagrant.uaf.edu/nosb/index.html>.

### Fellowships for Researchers

The CALFED Science Program and California Sea Grant are initiating a fellows program for graduate doctoral students and postdoctoral researchers interested in a career in multidisciplinary, multi-institutional, field-based research in river and estuary systems. Fellowships will be awarded in environmental sciences—hydrology, hydrodynamics, geomorphology, fish ecology, aquatic ecology, and biogeochemistry.

The CALFED Program is a cooperative effort of state and federal agencies with management or regulatory responsibilities for the San Francisco Bay-Sacramento-San Joaquin Delta, California.

Fellows will be supported for up to three years. Application deadline is May 1, 2002. For more information go to the CALFED Science Fellows Program on the Sea Grant web site: <http://www-csgc.ucsd.edu>.

### Educator Internships

Georgia Sea Grant, in conjunction with the University of Georgia's Marine Education Center on Skidaway Island in Savannah, is accepting applications for four 1-year marine education intern positions. This successful program gives science and science education graduates an opportunity to explore career choices in teaching and applied science. Interns will teach marine science to all age students, and participate in research projects and learn about aquarium management and maintenance. The internship has led graduates into teaching and applied science and further into higher education.

Internships will begin September 2002. Applicants must have a bachelor's degree in science or science education. For more information go to Sea Grant Internships at <http://www.uga.edu/aquarium>. Applications due April 30, 2002.

### Alaska Marine Biology and Ecology Field Course

UAF SFOS is offering a marine biology and ecology field course at the Kasitsna Bay Laboratory on the Kenai Peninsula, May 24-June 21, 2002. Students will study nearshore and intertidal marine invertebrates and algae. Class size is limited to 12 students, and four hours of college credit will be earned. An undergraduate college course in biology or ecology is required background. The course will be taught by Ray Highsmith and Katrin Iken. For more information contact Katrin Iken, (907) 474-5192, [iken@ims.uaf.edu](mailto:iken@ims.uaf.edu). Registration is through summer sessions, <http://www.uaf.edu/summer/>.

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## **Russian Fisheries Update**

It's time to rethink our view of the Russian Far East fishing industry, says Terry Johnson, Marine Advisory agent in Homer. Johnson recently spent two weeks in Moscow and Vladivostok, at the request of editors of *Pacific Fishing* magazine and the online fisheries news service FIS.

Johnson visited the editor of Russia's largest fisheries journal, the chief fisheries administrator for the Primoriye Region, a government biologist, an equipment importer, a shipbuilder, a fisheries university, a fishing collective farm, and executives with several companies that operate vessels and processors and do marketing and distribution.

Johnson first worked with the Russian Far East fishing industry more than ten years ago, and he said that dramatic changes are occurring. A combination of diminished resources, escalating costs, and most recently a new quota auction system, have put the industry in a serious financial bind. Vessels are being laid up or scrapped, and many fishermen are without jobs. On the positive side, innovative managers are targeting underutilized species and are diversifying their products. Vertical integration is expanding and product quality is improving. Many talented and skilled people are working to make the industry a major player in the international seafood markets, Johnson says.

*Pacific Fishing* will publish several reports written by Johnson in an upcoming special supplement to the magazine. Johnson will publish additional reports through Sea Grant and the Marine Advisory program.

## **Hoover Studies Salmon Hybrids**

Carrie Hoover, SFOS graduate student in fisheries biology, is studying outbreeding depression in hybrids of pink salmon, on Tony Gharrett's Sea Grant project. The project is a continuation of work on laboratory hybrids of salmon from Auke Creek (Juneau) and Pillar Creek (Kodiak). Outbreeding depression is fitness loss that occurs when populations that were genetically isolated over time are brought together again.

Hoover is looking at how the effects of outbreeding depression increase after several generations, and what potential problems this causes in family size, fitness, and reproductive success, as well as the risk of losing the true genetic composition in a population of salmon if it were hybridized. Outbreeding depression is especially important in the management of fisheries and in the preservation of pure wild stocks.

Hoover came to UAF because she had an enjoyable and productive research experience during her undergraduate studies, analyzing chum salmon spawning habitat for the U.S. Fish and Wildlife Service in Kodiak. Of all the sites where she traveled and studied during her undergraduate years, including Alaska, Costa Rica, Tonga, and northern Canada, Alaska was her favorite.

Since she started graduate school last fall, Hoover's most interesting experience has been working at a salmon hatchery in Auke Bay, and sorting through the different returning fish species she collected for her project.

She hopes to get her M.S. in fisheries biology in 2004, and would eventually like to get a Ph.D. and work as a fisheries biologist. She wants to be able to apply her learning to the conservation and restoration of fish stocks. Hoover, originally from Washington, D.C., also enjoys hiking, fishing, kayaking, and reading.

## **Dearborn to Retire**

Alaska Sea Grant director Ron Dearborn will retire from UAF in June 2002. Dearborn was recruited as Sea Grant director in 1985, from University of Maine Sea Grant. He looks forward to spending a lot of time at his favorite fishing haunts in Alaska.

Dean Vera Alexander is chair of the search committee to hire a new Sea Grant director. An abbreviated description of the position follows:

**Position:** Director, Alaska Sea Grant College Program, University of Alaska Fairbanks

**Responsibilities:** This executive-level position provides leadership and program oversight for the Alaska Sea Grant College Program. Housed administratively within SFOS, Alaska Sea Grant has broad responsibilities in promoting marine research, education, and extension throughout Alaska. The Alaska Sea Grant director is in a position to make strategic investments, develop programs, and expedite solutions to today's marine and fisheries related issues.

**Qualifications:** Earned doctorate in marine or fisheries-related field. Experience working with or within the fishing industry. Demonstrated, successful experience working cross-culturally. Strong interest in promoting excellence in research, marine extension, and educational programs; demonstrated leadership and communication skills; extensive program management experience.

**Salary:** Competitive DOE

**Closing Date:** Review begins July 1, 2002. Open until filled.

**Application:** Applicants should send a curriculum vitae, summary of professional interests, contact information for three professional references, and a signed University of Alaska application to: Human Resources, Attn: Dr. Vera Alexander, 108 Admin. Services, Fairbanks, AK 99775. UAF employment application: <http://www.uaf.edu/uafhr/>. For additional information about Sea Grant and this position go to <http://seagrant.uaf.edu/staff/director-app.html>.



### District Science Fair

Sea Grant awarded nine prizes to deserving young scientists at the Fairbanks North Star Borough School District science fair, grades 1-8, in early April. Sea Grant coordinator Sherri Pristash gave books, games, and T-shirts to kids with projects on aging methods in arctic grayling, arctic grayling habitat, the dramatic rise in salmon sharks, a farm visit, food color preferences by fish, plant transpiration, how thick is an oil slick?, "water wars" (analysis of water), and seashore residents.



### National Network Communicators Meeting

Sea Grant Webmaster Carol Kaynor attended a recent communicators' meeting in Baton Rouge, Louisiana, where she participated in a panel presentation on "Which Medium Is Best for What Products/Audiences?" The panel included discussion of the hidden costs of web development versus print, copyright considerations, how to make print products and the web work together, and other issues. As a follow-up to the panel, Kaynor is putting together a tip sheet on print versus web for communicators.

The Webmaster group, representing fourteen Sea Grant programs, attended a presentation by Jason Taylor of UsableNet on issues of Web accessibility by the disabled, and complying with federal regulations. The Web group will promote compliance within the Sea Grant network, including the development of resources and standards to make it as easy as possible.



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## Reception

You are cordially invited to a reception honoring Ronald K. Dearborn, director, Alaska Sea Grant College Program; Donald M. Schell, director, Institute of Marine Science; and Albert V. Tyler, associate dean, School of Fisheries and Ocean Sciences, upon their retirement. The event will take place on the fifth floor of the International Arctic Research Center, UAF campus, Friday, 10 May 2002, 4:00 to 6:00 p.m. For further information contact Maggie Billington at [maggie@sfos.uaf.edu](mailto:maggie@sfos.uaf.edu).

## History of Salmon Booms in Alaska

In a study published in the April 18 issue of the journal *Nature*, SFOS associate professor [Bruce Finney](#) reported evidence that abundant sockeye salmon runs in Alaska have lasted for centuries (B.P. Finney, I. Gregory-Eaves, M.S.V. Douglas, J.P. Smol, 2002, Fisheries productivity in the northeastern Pacific Ocean over the past 2,200 years, *Nature* 416:729-733). The most recent long-term boom began in the year 1200 and lasted until 1900 when modern commercial fishing began. Finney says low salmon runs also lasted hundreds of years; one of the lowest was from 100 BC to 800 AD.

Finney's research was funded by the National Science Foundation, Alaska Sea Grant, and NOAA's Auke Bay Laboratory in Juneau.

Finney et al. studied cores of mud taken from the bottom of two lakes on Kodiak Island. The mud contained traces of the stable nitrogen isotope N15, released into the lakes by salmon that died and decayed after spawning. Diatoms took up the N15 as nutrients and eventually settled to the bottom. Researchers dated the mud layers using carbon dating and known events such as volcanic eruptions that left ash in the mud. They then analyzed the concentration of nitrogen to estimate the size of ancient salmon runs in the lakes, going back 2,000 years.

Natural climate change most likely altered salmon abundance in the centuries before commercial fishing and global industrialization, whereas salmon declines during the most recent century were caused by overfishing, pollution, and habitat destruction. Finney concludes that dramatic changes occurred in salmon populations long before humans entered the picture in any appreciable way, and that salmon runs are very sensitive to changes in their environment.

The increase in salmon abundance that began in 1200 AD was most likely caused by a change in climate that triggered glacial advance in Alaska and brought drought conditions to the Midwest, which led to more favorable conditions for salmon in the North Pacific.

The researchers found evidence that while salmon runs flourished in Alaska, other fish species declined in waters farther south. The finding lends support to the belief that fish stocks in Alaska rise and fall in trends opposite those of species along the U.S. West Coast.

Their data support the belief that salmon upswings influenced changes in Alaska's coastal Native cultures. Finney said evidence at archeological sites on Kodiak Island shows that indigenous groups further developed fishing gear and began using salmon more frequently from 800 AD through 1200 AD, a time when salmon were more abundant.

Understanding how the environment affected salmon runs of the past may help researchers predict how salmon respond to future climate shifts. "These records give us a glimpse into how salmon might do in future global warming because there are other periods in the past, at least in Alaska, that were as warm or warmer than today," said J.P. Smol, of Queen's University in Ontario, Canada.

Two years ago, this same team of researchers published in the journal *Science* the results of sediment core analysis of salmon runs going back 300 years. That work demonstrated the reliance of freshwater ecosystems on nutrients released by decomposing salmon (B.P. Finney, I. Gregory-Eaves, J. Sweetman, M.S.V. Douglas, and J.P. Smol, 2000, Impacts of climatic change and fishing on Pacific salmon abundance over the past 300 years, *Science* 290:795-799). Their next project is to reconstruct salmon runs going back to the end of the last major ice age, some 15,000 years ago, a time when salmon are thought to have colonized North Pacific watersheds as glaciers retreated.

## New Publications

*Steller Sea Lion Decline: Is It Food II*, edited by Douglas DeMaster (director, NMFS Alaska Fisheries Science Center) and Shannon Atkinson (science director, Alaska SeaLife Center), published by Alaska Sea Grant. Twenty-four scientists agree that the most likely cause of the moderate decline of western Alaska Steller sea lions in the 1990s is poor recruitment (reproduction and survival of young). Also implicated in the decline are nutritional stress due to environmental changes or competition with fisheries, predation by sharks and killer whales, and disease. In contrast, nutritional stress alone was the leading hypothesis for the cause of a steep decline in Steller sea lions in the 1980s. This book has 13 extended research abstracts, presented at the May 2001 workshop "Is it Food II." Attendees included the nation's leading authorities on Alaska's Steller sea lions. 90 pages, \$10.00, available at the Alaska Sea Grant office.

*Fishes of Alaska*, by Catherine W. Mecklenburg, T. Anthony Mecklenburg, and Lyman K. Thorsteinson, published by the American Fisheries Society. *Fishes of Alaska* is the only comprehensive guide to the marine and freshwater fishes of Alaska. Coverage extends out to the 200-mile limit and down to the abyssal plains of the Arctic Ocean, Bering Sea, Gulf of Alaska, and North Pacific Ocean with accounts of 601 species in 108 families and 36 orders.

The book presents significant information on sculpins, snailfishes, lumpsuckers, and other less-studied families of the region. Included are illustrations for all species, range maps, and synonyms. The volume also has a glossary, a bibliography, and index.

It is an essential reference for marine biologists, ichthyologists, natural resource managers, students, naturalists, and others seeking authoritative information on the fishes of Alaska and the adjacent waters of Canada and Russia. Price for AFS members is \$90.00, for others \$129.00, plus shipping and handling. To order go to <http://www.fisheries.org/publications/catbooks/x53027.shtml>.

## IDEA Fair

Alaska Sea Grant distributed about 75 publications to parents of homeschool students at the Fairbanks IDEA fair May 2-3. IDEA (Interior Distance Education of Alaska) is a homeschool organization sponsored by the Galena, Alaska, school district, <http://www.galenaalaska.org/home/>. Every spring IDEA holds fairs in several Alaska cities, where they present workshops and host vendors of educational materials to make products available. Parents took home copies of *Beach Explorations*, *Cold Can Kill*, *Discovering Alaska Salmon*, *Tlingit Moon and Tide Teaching Resource*, *Water Wise*, *Guide to Marine Mammals of Alaska*, Sea Grant *Seaweed* books, *Ocean Bounty* poster, and others.

## Nominations for Marine Life Census Committee

Nominations are invited for experts to serve on a U.S. Census of Marine Life (CoML) committee. The committee will determine U.S. research and data priorities for the CoML, build partnerships, explore and encourage national sources of funding, and strengthen the program locally. To work effectively, it must include a broad range of individuals and expertise from research institutions, government agencies, industry, resource management, non-government organizations, and other CoML stakeholders. The committee's role is fully described at <http://www.coml.org>.

To nominate someone, send their name, contact information, organization, area of expertise, and other information (2 pages or less) to Shannon Gordon ([sgordon@COREocean.org](mailto:sgordon@COREocean.org)) no later than 15 May 2002. The committee will be in place by 15 June, and they will meet twice yearly.

Contact CORE (Consortium for Oceanographic Research and Education) at (202) 332-0063 with questions about the U.S. National Committee, the nomination process, and other activities of the Census of Marine Life.

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## Approaching Marine Mammals

*Coast* magazine published an illustrated feature article in its May issue, written by Sea Grant communications manager Kurt Byers, which discussed the issue of watercraft approaching and disturbing marine mammals and seabirds. The article was based on a NOAA-sponsored workshop Byers attended last November, part of the 14th International Conference on the Biology of Marine Mammals, in Vancouver, B.C. MAP agent Terry Johnson was quoted in the article, and a sidebar focused on marine mammal specialist Kate Wynne. Johnson has funding from Sea Grant to work with Alaska charter operators to develop new, voluntary guidelines for approaching marine mammals, which will meet and exceed existing NOAA fisheries rules. Contact Kurt Byers at 474-6702 for a copy of the article.

## Interim Sea Grant Director

Susan Sugai has been named interim director of Alaska Sea Grant. Sugai will hold the position until a new director is hired to replace Ron Dearborn, who retired earlier this month. Serving on the search committee for hiring the director are SFOS Dean Vera Alexander; Chuck Crapo, MAP seafood quality specialist; Paula Cullenberg, MAP coastal community development specialist, and Gordon Kruse, UAF Juneau Center SFOS.

## International Genetics Symposium in Juneau

Alaska Sea Grant hosted the 20th Lowell Wakefield Fisheries Symposium, on Genetics of Subpolar Fish and Invertebrates, in Juneau, May 29-31. More than 100 scientists, resource managers, and students from the United States, Canada, and six other nations gathered for the symposium, where experts discussed the genetic fitness of wild and hatchery salmon in the marine environment plus new research on other fishes and invertebrates from the world's subpolar regions.

Sherri Pristash, Alaska Sea Grant, together with the organizing committee chaired by Tony Gharrett, SFOS Fisheries Division, planned and coordinated the symposium. Alaska Sea Grantsupported students Sara Gilk and Andrew Matala presented their findings, and Carrie Hoover and Ivan Wang also contributed to papers. Tony and Jessie Gharrett and friends hosted an enjoyable beach picnic (with sunshine!), and Gabrielle Hazelton and other Fisheries Division staff and faculty helped with scientific, technical, and social aspects of the symposium. A proceedings book will be published as a peer-reviewed, dedicated issue of the journal *Environmental Biology of Fishes*, by Kluwer Academic Publishers. For a program of presentations, visit the [conference Web site](#).

## Saltonstall-Kennedy Grants

\$10.3 million is available through the Saltonstall-Kennedy Grant Program for FY 2002. The Saltonstall-Kennedy Program provides financial assistance on a competitive basis. The proposals are selected based on a review for technical merit followed by a review by constituents to determine which proposals have the most potential. Proposals must address one of the following funding priorities:

- A. Atlantic salmon aquaculture development considering the endangered species status of Atlantic salmon.
- B. Fishing capacity reduction under Magnuson-Stevens Act section 312(b)-(e).
- C. Conservation engineering.
- D. Optimum utilization of harvested resources under federal or state management.
- E. Marine aquaculture.
- F. Fisheries socioeconomics.

Of the \$10.3 million available for award, \$5 million is reserved for projects dealing with priority A, with the remaining funds for priorities B-F. The deadline for submitting an application is Monday, July 15, 2002. Saltonstall-Kennedy grants are awarded for up to 18 months. For the FY 2002 solicitation, a minimum cost share of 10 percent is required, which may be in the form of cash or in-kind contributions. A copy of the solicitation notice and application materials are available at <http://www.nmfs.noaa.gov/sfweb/skhome.html> and through NOAA Fisheries regional offices.

## **Observer Training Center**

Peter Risse has been appointed director of the North Pacific Fisheries Observer Training Center in Anchorage. Risse, along with OTC lead trainer Greg Morgan, will participate in the NOAA-sponsored Alaska Sea Mount Expedition June 22-July 15. Risse and Morgan will help with fish and marine mammal species identification. (For more information on the Sea Mount Exploration see <http://oceanexplorer.noaa.gov/explorations/02alaska/welcome.html>.) The Observer Training Center also has two new trainers: Michael Todd and Amy Schmitt, both on board this spring.

## **Red Green Regatta**

Sea Grant will again collaborate with KUAC AlaskaOne to sponsor the Red Green River Regatta in Fairbanks, Sunday, July 21. The annual float down the Chena River from the University Avenue boat launch to Pike's Landing is one of many events in the annual Golden Days Celebration, sponsored by the Greater Fairbanks Chamber of Commerce. Last year, SFOS faculty member Mark Johnson entered a raft with outriggers constructed of 88 plastic milk jugs. With five high school kids as crew, his vessel was first to cross the finish line. However, the regatta is not a race, and Johnson says next time he'll build a slower craft and have more fun. Entry fee is \$20.00 and entry forms and rules are available at [www.alaskaone.org](http://www.alaskaone.org), along with photos from last year's regatta.

## **GIS in Fisheries Symposium**

The deadline for registration and abstracts for the Second International Symposium on GIS/Spatial Analyses in Fishery and Aquatic Sciences, is June 15, 2002. The meeting will be held in Brighton, U.K. For details, see the final announcement at <http://www.esl.co.jp/Sympo/sympo11.htm>, or send email to [aco20320@par.odn.ne.jp](mailto:aco20320@par.odn.ne.jp).

## **PICES Intern Program**

PICES, the North Pacific Marine Science Organization, invites applications for the PICES Intern Program. Interns will work on projects relevant to their professional interests and development needs. Internships begin on April 1 and extend up to 12 months. Applicants must be staff of the academic or government sector of PICES member-countries, have an M.S. or Ph.D. degree, the ability to read, write, and speak English, and use computers and the Internet. Interns will be paid a stipend of Canadian \$2,000 per month by the PICES Secretariat. Arrangements for travel costs to and from the place of residence to the PICES Secretariat location must be arranged by the applicant's home country/institution.

Applications may be sent to Dr. Vera Alexander, SFOS, University of Alaska Fairbanks, Fairbanks, AK 99775, [vera@sfos.uaf.edu](mailto:vera@sfos.uaf.edu); or Dr. Richard Marasco, Alaska Fisheries Science Center, NMFS, 7600 Sand Point Way NE, Seattle, WA 98115-0070, [Rich.Marasco@noaa.gov](mailto:Rich.Marasco@noaa.gov). A resume with academic background and work experience, statement of interests and qualifications, and three professional references are required. Applications must be received by October 1, 2002. .

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## **Sea Grant Book Is Key Training Tool**

[Water Wise](#), Alaska Sea Grant's book on recreational boating safety, is the primary training text for the recently established Alaska State Office of Boating Safety (ASOBS). The Alaska Marine Safety Education Association (AMSEA) uses the book for its recreational and subsistence boating safety instructor training, under contract with ASOBS.

To date in 2002, AMSEA has trained 50 instructors from around the state in this entry level program, which is approved by the National Association of Safe Boating Law Administrators. Students include park rangers, school teachers, law enforcement officers, Coast Guard personnel, and people from the private sector.

The *Water Wise* book was developed in partnership with sixteen Sea Grant programs, and nearly 5,000 copies have been distributed nationwide.

## **Scuba Attracts Student to UAF**

Alaska Sea Grant-funded graduate student Judy Hamilton is pursuing her master's degree in marine biology at SFOS in Fairbanks. The primary focus of her research is to look for correlations between algae and fish species in Kachemak Bay kelp forests, with seasonal variability in the experimental design. She is also looking at territoriality in greenling fish species inhabiting the kelp forests in southcentral Alaska. Brenda Konar is her major professor.

Hamilton is from Shelbyville, Kentucky. She chose UAF for her graduate studies mainly because of the Scientific Diving Program, which increases opportunities for field research. According to Hamilton her most interesting educational experience at UAF so far was the opportunity to serve as a scuba diving technician on a research cruise in the Bering Sea. Hamilton expects to finish her master's in 2004.

Hamilton's favorite pastimes and hobbies include extended wilderness kayak trips. She has circumnavigated Revillagigedo Island in southeast Alaska by kayak. She also enjoys her dog companions.

## **Communications Award**

Alaska Sea Grant communications staff received an Apex 2002 Award for Publication Excellence for publications supporting the Herring 2000 symposium, in the Conference and Meetings Campaigns and Programs category. The winning suite of publications includes the Herring 2000 call for papers brochure, registration brochure, abstract book, program, and proceedings book [Herring: Expectations for a New Millennium](#).

Apex awards are based on excellence in graphic design, editorial content, and ability to achieve overall communications excellence. Awards of Excellence recognize exceptional entries. The Apex awards are administered by Communications Concepts, Inc., Springfield, Virginia.

## **Alaska Magazine Highlights SFOS Research**

The July 2002 issue of *Alaska* magazine features a cover story about the decline of Alaska's Steller sea lions and researchers' efforts to understand and reverse the decline. The article mentions several SFOS scientists including Kate Wynne, Mike Castellini, Amy Hiron, Brenda Konar, Bob Foy, Loren Buck, and Alan Springer, plus researchers from Alaska Department of Fish and Game and National Marine Fisheries Service.

The article, "Hard Times on the Haulout," was written by Alaska Sea Grant science writer Doug Schneider. This is his second feature story in *Alaska* magazine. An article on how climate change impacts Alaska appeared in the October 2001 issue.

## **Red Green Regatta On Tap**

For the second year, Alaska Sea Grant is working with KUAC AlaskaOne to sponsor the sixth annual Red Green River Regatta, Sunday, July 21. The event is one of many on the agenda for the Fairbanks

Golden Days festivities run by the Greater Fairbanks Chamber of Commerce. Sea Grant encourages SFOS faculty, students, and staff to show Fairbanks the SFOS colors and build a raft and join the flotilla of makeshift vessels. The fleet floats down the Chena from the University Avenue boat launch to Pike's Landing deck, where the event will conclude with an awards ceremony and live music by the bluegrass band, Louisiana. An article and photos by communications manager Kurt Byers about the regatta will appear in *Coast* magazine this month. Further information and a registration form are available at <http://www.alaskaone.org/>.

### **Castellini Takes Helm at IMS**

Michael Castellini assumed duties as director of the UAF Institute of Marine Science on July 2. Castellini will retain his research laboratory and some involvement in teaching. "I am confident that, under his leadership, the Institute of Marine Science will prosper," says SFOS Dean Vera Alexander. Castellini joined the UAF SFOS faculty in 1989, and served as science director of the Alaska SeaLife Center from 1996 to 1999.

### **Northeast Aquaculture Conference**

The Northeast Aquaculture Conference and Expo will be held in Warwick, Rhode Island, November 15-16, 2002 (<http://www.Northeastaquaculture.com/index.htm>). One of the events at the conference will be the Sea Grant National Urban Aquaculture Symposium (<http://seagrant.gso.uri.edu/director/nuas.html>).

The Urban Aquaculture Symposium is sponsored by the National Sea Grant Office, NOAA's Office of Sustainable Development, and Sea Grant College Programs in Florida, Louisiana, Maryland, New York, Rhode Island, and South Carolina. Contributions from international presenters will be published in a book titled *Urban Aquaculture* by CABI Press, Wallingford, U.K. The *Urban Aquaculture* book will complement CABI's recent *Rural Aquaculture* volume.

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## Graduate Student Funding

Alaska Sea Grant is pleased to announce that the following students are receiving Sea Grant funding during fall semester 2002. Eight are receiving tuition and stipend support:

- **Brian Battaile**, Generalized Models of Local Depletion for Walleye Pollock with Reference to Steller Sea Lion Critical Habitat, Ph.D., principal investigator Terry Quinn
- **Judy Hamilton**, Utilization of Alaska Kelp Beds by Commercially Important Fish, M.S., P.I. Brenda Konar
- **Dana Hanselman**, NMFS–Sea Grant Population Dynamics Fellowship, Ph.D., advisor Terry Quinn
- **Corinne Hicken**, A Model System to Examine Delayed Effects of Pollution Exposure, M.S., P.I. Michael Stekoll
- **Susan Inglis**, Seasonal and Biochemical Nutritional Variance in Pollock as a Food for Marine Mammals, Ph.D., P.I. Michael Castellini
- **Brian Pyper**, Setting Escapement Goals to Account for Climatic Fluctuations and Uncertainty, Ph.D., P.I. Milo Adkison
- **Colin Schmitz**, Statistical Design and Simulation Experiment for Tagging Walleye Pollock in the Eastern Bering Sea (National Fisheries Institute–Alaska Sea Grant Scholarship), M.S., advisor Terry Quinn
- **Naoki Tojo**, Environmental Cues for Herring Spawning and Inseason Fishery Management, M.S., P.I. Gordon Kruse

Each year the Alaska Sea Grant director participates on the review panel to select graduate student projects for UAF Center for Global Change fellowships. Sea Grant also helps fund two of the projects that align with Sea Grant's strategic plan. Four students are receiving research funding on their Center for Global Change fellowships in fall 2002:

- **Kevin Budsberg**, Temperature and Salinity Tolerance and Sequencing of LuxRI of the Luminous *Photobacterium phosphoreum* Isolated from Yukon River Salmon, M.S., P.I. Joan Braddock
- **Hector Douglas**, Planktivorous Auklets as Biomonitors of Environmental Change in Marine Food Webs, Ph.D., P.I. Alan Springer
- **Dmitry Dukhovskoy**, Study of Decadal Variability of the Freshwater Flux in the Arctic Basin–North Atlantic System, Ph.D., P.I.s Andrey Proshutinsky and Mark Johnson
- **Olav Ormseth**, Influence of Ocean Temperature on the Biology and Ecology of Pacific Cod in Alaskan Waters, Ph.D., P.I. Brenda Norcross

## MAP Agent Johnson

MAP agent [Terry Johnson](#) spent a few months this summer conducting walrus viewing trips in southwestern Alaska. In addition he did some writing—look for new topics in the *BoatKeeper* series to be published in *Pacific Fishing* magazine and on the Web at <http://seagrant.uaf.edu/boatkeeper/index.html>.

Johnson observed temperatures in the 80s (° F) on some days, the warmest weather he has seen in southwestern Alaska in 25 years while fishing and touring area waters.

Johnson's casual observations included slightly lower walrus counts, widespread relocation of cormorant nesting sites from previous years, good kittiwake recruitment, minimal murre nesting success, continued abundance of bears, increasing caribou along the coast of the Togiak National Wildlife Refuge, and increasing prevalence of three types of jellyfish, especially the stinging sea nettle.

Johnson, along with Don Kramer, Paula Cullenberg, Brian Paust, and Dolly Garza, participated in the West Coast Sea Grant fisheries extension planning conference in Davis, California.

## Coastal Alaska Observing System

The University of Alaska is seeking input on the development of the Coastal Alaska Observing System

(CAOS). The inaugural meeting of the CAOS executive committee, and a general session, is Saturday, September 21, in Fairbanks at the 53rd AAAS Arctic Science Conference. If you want to attend the CAOS meeting or make nominations for the executive committee, go to [http://halibut.ims.uaf.edu:8000/~salmon/caos\\_signup.php](http://halibut.ims.uaf.edu:8000/~salmon/caos_signup.php).

CAOS is part of a nationwide program. [Ocean.US](#) has spearheaded the effort to develop a nationwide backbone for an integrated, sustained ocean observing system. Ocean.US is working with Congress and the White House to develop the system, and is seeking funding. The ocean observing system would coordinate some elements of federal and state agencies and others who collect environmental information, to minimize redundancy, provide more timely and cheaper access to data, and satisfy the information needs of more user groups. The effort would help protect, restore, and sustain coastal ecosystems.

Attendees of national coastal observing system meetings agree that Alaska needs to develop CAOS, involving academic institutions, government, nongovernment, and private industry. For more information contact Dave Musgrave, 474-7837.



### **Environmental Education Conference**

Alaska environmental educators, teachers, students, and tribal coordinators are invited to attend the environmental education conference "Discovering and Defining Environmental Education in Alaska" at Alaska Pacific University in Anchorage, November 7-9, 2002. Help plan the future of environmental education in our state while gaining inspiration and tools to enhance your own work. For more information go to <http://www.anroe.org/2002conference.htm>.



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## **Glowing Salmon Research**

Kevin Budsberg, master's graduate student in biology, is funded on the Sea Grant/Center for Global Change fellowship project "Temperature and Salinity Tolerance and Sequencing of LuxRI of the Luminous *Photobacterium phosphoreum* Isolated from Yukon River Salmon." Budsberg is studying a set of bioluminescent bacteria found on chum and coho salmon caught 2,000 kilometers upriver. Over the past several years Native Yukon River fishermen have reported that their rack-drying salmon glows in the dark.

Budsberg got hold of some of the glowing fish and identified the bacteria. Using traditional biochemical tests and molecular techniques, he will characterize the genotypes and phenotypes of the bacterium and find out more about the mechanism that has led to its widespread growth on the fish. This is the first reported occurrence of the marine bacterium *P. phosphoreum* in a freshwater habitat.

Because there have been no reports of glowing fish by Native fishermen until recently, the possibility exists that the temperature of the river has changed, or the weather conditions during the drying time have favored the growth of the bacteria. *P. phosphoreum* previously has been involved in the spoilage of cold smoked salmon. Joan Braddock, Institute of Arctic Biology professor, is Budsberg's major professor.

Budsberg has a bachelor's degree from the University of Wisconsin Milwaukee, and enjoys hiking and snowshoeing. He plans to get his master's in 2004. He would like to work as a docent in a natural history museum sometime in the future.

## **Feedback Invited by Alaska Sea Grant**

In an effort to seek input from the varied marine resource users in Alaska, Alaska Sea Grant is requesting public comments and suggestions as we begin planning for our next five years. We welcome your input by mail, [email](mailto:), or online response at <http://seagrant.uaf.edu/strategic-plan-feedback.html>.

In addition to making recommendations on strategic planning you have the opportunity to comment on any aspect of Alaska Sea Grant research, education, or outreach programs (both positive and negative). Interim director Susan Sugai will acknowledge receipt of your comments.

## **Comanagement Seminar**

[Paula Cullenberg](#), MAP coastal community specialist, will co-teach a seminar "Traditional Knowledge and Comanagement of the Natural Resources of the Kuskokwim Region" for the UAF Department of Alaska Native and Rural Development, in Bethel the weekend of October 5. They expect about 18 students to attend from the Rural Development Department in the College of Rural Alaska. This seminar, and a similar 2001 seminar held in Dillingham, are funded by the Coastal Ocean Program at NOAA.

Cullenberg will lead a session on waterfowl comanagement in the Yukon-Kuskokwim drainage. Speakers at the seminar will represent UAF SFOS and DANRD, U.S. Fish and Wildlife Service, Alaska Department of Fish and Game, Regional Subsistence Advisory Committee, Kuskokwim River Fishermen's Management Working Group, Association of Village Council Presidents, and community elders.

## **University Initiative to Assist Salmon Industry**

"Options for Restructuring Alaska's Salmon Industry," a 2-day workshop scheduled for October 28-29 at UAA, is part of a new Alaska Sea Grant and Washington Sea Grant initiative to address the salmon crisis felt across Alaska's coastal communities. Three statewide workshops will be held during the year to address restructuring, marketing and quality, and the overall health of the salmon resource. In addition, a number of regional workshops will be held by request in smaller communities. University of

Alaska partners include Alaska Sea Grant, MAP, the Fishery Industrial Technology Center, Division of Fisheries in SFOS, College of Rural Alaska, and the Institute of Social and Economic Research at UAA. The October workshop is free and open to the public. For more information, contact Paula Cullenberg at the Marine Advisory Program, [anpic@uaa.alaska.edu](mailto:anpic@uaa.alaska.edu).

### **RaLonde Helps Set up Aquaculture Venture**

Marine Advisory aquaculture specialist [Ray RaLonde](#) is working with the Metlakatla Indian Community, in the Annette Island Reserve, on an aquaculture development project. Because the southeastern Alaska island is experiencing 85% unemployment, the tribal council authorized the Annette Island Indian Reserve's Department of Natural Resources to develop a shellfish aquaculture program as soon as possible. At the council's request, RaLonde traveled to the island two times to help with site identification, collect site data, survey the clam populations on beaches, and work on a design to develop a shellfish farming industry on the reserve.

For the first time in Alaska, an experimental plot of geoduck clam seed was planted in the low intertidal zone. If the seed can survive the winter, geoduck farming may have a potential for the island. On October 6, RaLonde will return to the island to plant 100,000 littleneck clam seed at three promising locations. He also will survey the island for sites to farm oysters and scallops. The island is not subject to state jurisdiction, so residents are free to pursue clam farming with no need to meet Alaska state government requirements. The Annette Island Indian Reserve is the only federal reservation for indigenous people of Alaska. This is an exciting project and could provide the island with significant economic benefits.

In another project, RaLonde is helping with the Nushagak/Mulchatna water quality survey, initiated at the request of the Bristol Bay Native Association. RaLonde, primary trainer in the Native American Fish and Wildlife Society water quality training program, accompanied several technicians trained by the program to help with their sampling, evaluate monitoring design, and provide technical assistance to improve the monitoring program. For three days they traveled the Nushagak River by boat from the mouth of the Nuyakuk River north of Koliganek down to Portage Creek near where it enters Bristol Bay. Nineteen sites were tested for water quality and macroinvertebrate bioassessment.

### **NOSB Web Chats**

On October 1, the National Ocean Sciences Bowl (NOSB) joined with the Pew Oceans Commission to host the first of a series of Web chats for NOSB teachers and students. Designed to increase the resources available to NOSB participants, the Web chats provide teams and their coaches the opportunity to ask questions of ocean scientists and policymakers as they prepare for the 2003 regional competitions in February. Chat experts are commissioners of the PEW Ocean Commission.

Registered NOSB teachers and students are invited to participate in the one-hour Web chats which will take place every other Tuesday at 1 pm EDT. Students and teachers who cannot participate live are invited to email questions prior to the date of the chat. For more information and to participate in the chats contact Amy Lorenzen at [alorenzen@COREocean.org](mailto:alorenzen@COREocean.org). See also <http://www.coreocean.org/Dev2Go.web?id=241617&rnd=24404>.

### **Position Announcement**

UAF School of Fisheries and Ocean Sciences, Marine Advisory Program, will hire an assistant professor/Marine Advisory agent in Dillingham, Alaska. This position provides marine extension services to 33 rural communities in the Bristol Bay region of southwestern Alaska. It is part of a statewide system of Marine Advisory specialists and agents who provide information and technical assistance to the public relating to coastal economic development, commercial fisheries development, and marine resource education. The position requires public speaking and writing skills, and a master's degree. For more information go to <http://www.uaf.edu/uafhr/jobs/Job0902-396.html>.

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## Recently Published Research

Researchers funded by Alaska Sea Grant have published the following papers. Reprints are available from the Sea Grant office; contact [seagrant.bookstore@alaska.edu](mailto:seagrant.bookstore@alaska.edu).

- A.J. Paul and J.M. Paul. 2001. [Intermolt Durations of Captive Juvenile and Adolescent Male Tanner Crabs \*Chionoecetes bairdi\*](#). Journal of Shellfish Research 20(1):373-376. RP-02-01.
- A.J. Paul and J. M. Paul. 2001. [The Reproductive Cycle of Golden King Crab \*Lithodes aequispinus\* \(Anomura: Lithodidae\)](#). Journal of Shellfish Research 20(1):369-371. RP-02-02.
- F.G. Plumley. 2001. [Purification of an Enzyme Involved in Saxitoxin Synthesis](#). Journal of Phycology 37:926-931. RP-02-03.
- M. Herrmann, S.T. Lee, K.R. Criddle, and C. Hamel. 2001. [A Survey of Participants in the Lower and Central Cook Inlet Halibut and Salmon Sport Fisheries](#). Alaska Fishery Research Bulletin 8(2):107-117. RP-02-04. [http://www.state.ak.us/adfg/geninfo/pubs/afrb/vol8\\_n2/herrv8n2.pdf](http://www.state.ak.us/adfg/geninfo/pubs/afrb/vol8_n2/herrv8n2.pdf)
- C. Fu, T.J. Quinn II, and G.H. Kruse. 2000. [Analyses of Harvest Strategies for Pandalid Shrimp Populations](#). Journal of Northwest Atlantic Fishery Science 27:247-260. RP-02-05. <http://www.nafo.ca/publications/journal/j27/Session3/Fu.pdf>
- A.J. Gharrett, S. Lane, A.J. McGregor, and S.G. Taylor. 2001. [Use of a Genetic Marker to Examine Genetic Interaction among Subpopulations of Pink Salmon \(\*Oncorhynchus gorbuscha\*\)](#). Genetica 111:259-267. RP-02-06.
- P.A. McLaughlin and J.M. Paul. 2002. [Abdominal Tergite and Pleopod Changes in \*Lithodes aequispinus\* Benedict, 1895 \(Crustacea: Decapoda: Anomura: Lithodidae\) from Megalopa to Juvenile](#). Proceedings of the Biological Society of Washington 115(1):138-147. RP-02-07.
- B.P. Finney, I. Gregory-Eaves, M.S.V. Douglas, and J.P. Smol. 2002. [Fisheries Productivity in the Northeastern Pacific Ocean over the Past 2,200 Years](#). Nature 416:729-733. RP-02-08.
- C. Hamel, M. Herrmann, S.T. Lee, K.R. Criddle, and H.T. Geier. 2002. [Linking Sportfishing Trip Attributes, Participation Decisions, and Regional Economic Impacts in Lower and Central Cook Inlet, Alaska](#). The Annals of Regional Science 36:247-264. RP-02-09.

## Johnson Advises PSMFC

[Terry Johnson](#), Marine Advisory agent in Homer, served as an advisor to Alaska commissioners of the Pacific States Marine Fisheries Commission in Santa Barbara, California, in September. At the annual meeting, commissioners also voted on resolutions for Magnuson Act reauthorization, processor quotas, the Marine Mammal Protection Act, aquaculture development in the EEZ, vessel monitoring systems, and other issues. The PSMFC administers a research budget of nearly \$32 million, supporting work on invasive species, bycatch reduction, and other matters that concern five Pacific states (including Idaho). It also supports interstate fisheries data acquisition. Johnson has served as an advisor to the three Alaska commissioners for three years.

## Schneider to Write Pacific Fishing Column

*Pacific Fishing* editor Brad Warren has talked Sea Grant information officer Doug Schneider into writing a column for the magazine every month. Schneider will answer fishermen's science questions. The column, a sort of "Dear Abby of science," will debut in the January 2003 issue. Schneider will interview scientists as information sources.

## Crab Symposium Proceedings

[Crabs in Cold Water Regions: Biology, Management, and Economics](#), edited by A.J. Paul, E.G. Dawe, R. Elner, G.S. Jamieson, G.H. Kruse, R.S. Otto, B. Sainte-Marie, T.C. Shirley, and D. Woodby, 876 pp.,

was recently published by Alaska Sea Grant. The proceedings of the symposium "Crabs in Cold Water Regions," held in January 2001, in Anchorage, presents 53 papers on research advances. This book brings researchers and managers up to date on biology, distribution, life history, ecology, and recruitment of cold water crabs. While the past decade has seen significant research progress on crabs from the world's cold water regions, fisheries continue to be developed targeting species whose biology needs further study. To order the book contact [seagrant.bookstore@alaska.edu](mailto:seagrant.bookstore@alaska.edu).

### **Surviving Outdoor Adventures Books**

Published by Alaska Sea Grant, [Surviving Outdoor Adventures](#) is a 4-volume curriculum for training young people to be safe in the outdoors and near cold water. The series provides all the materials needed to give K-12 kids lifelong good habits in outdoor safety. The books can be used to teach one lesson, a semester, or a yearlong program. Each volume sells for \$20.00. Titles are [Survivor!](#), Grades K-2; [Cold Water Safety and Survival](#), grades 3-12; [Land Safety and Survival](#), grades 3-12, and [Small Boat Safety and Survival](#), grades 3-12. Number of pages per volume ranges from 260 to 340.

- Written by Alaska Marine Safety Education Association staff, and educators from Alaska and nationwide
- Has in-depth background for teachers
- Curriculum includes worksheets, handouts, stories, and templates
- Based on Alaska content standards
- Shrinkwrapped looseleaf pages suitable for 3-ring binder

Alaska Marine Safety Education Association provides continuing assistance for outdoor safety teachers:

- Books, videos, and teaching kits are available for loan.
- Participants in AMSEA teacher workshops can borrow PFDs (personal flotation devices), immersion suits, and other safety gear.

To order Surviving Outdoor Adventures contact [seagrant.bookstore@alaska.edu](mailto:seagrant.bookstore@alaska.edu).

### **New Book on Fisheries in a Changing Climate**

The American Fisheries Society has released the book *Fisheries in a Changing Climate*, edited by N.A. McGinn. The symposium by the same name was held at the 2001 AFS meeting. The book represents the culmination of a multiagency effort organized by AFS, Sea Grant, and others to bring together scientists from the United States and Canada. The scientists, faced with the release of the third global climate change assessment by the Intergovernmental Panel on Climate Change and the continued debate over the Kyoto Protocol, presented reviews and new research on impacts of climate change and variability on fisheries. The papers cover oceanic fisheries in the northwest Atlantic and northeast Pacific as well as inland fisheries in the Great Lakes and western U.S. rivers and streams. To order go to <http://www.fisheries.org/publications/catbooks/x54032.shtml>.

### **Conservation Intern Program**

The Alaska Conservation Foundation sponsors an intern program for undergraduates and graduate students, to develop and nurture conservation-minded professionals for the next generation. Interns will be placed with organizations such as nonprofits and Alaska Native groups. Internships are from 10 weeks to 6 months duration. Assignments are in resource management, habitat protection, advocacy, policy implementation, marine conservation, and other areas. Intern assignments are paid positions, funded by the Richard and Rhoda Goldman Fund. For an application and more information see <http://www.akcf.org>.

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## **Seafood Byproduct Conference**

The seafood byproducts industry will grow in the area of nutraceuticals, reports Jerry Babbitt, conference chair for the [2nd International Seafood Byproduct Conference](#) held in November in Anchorage. The nutraceutical focus will most likely be on the production of high quality fish oil with omega-3 fatty acids, and the fish oil will be derived from the liver of whitefish (cod and pollock) and from fatty fish (salmon) species.

The greatest changes in the Alaska industry since the 1990 International Conference on Fish Byproducts are (1) Alaska's whitefish industry has matured, harvesting nearly 4 billion pounds of fish from the Bering Sea and Gulf of Alaska last year, and nearly 85,000 tons of fish meal was produced; and (2) research has demonstrated that the fish meal produced by Alaska processors is of the highest quality. This is reflected by high prices paid for the fish meal, especially by markets such as eel farmers. However, the seafood industry has a long way to go to more fully utilize the harvested marine resources.

Topics discussed at the 2002 conference include world markets; innovative technology; problem solving; and products—animal feeds, plant fertilizers, alternative energy, human food, supplements, and pharmaceuticals. There were 125 participants from 17 countries and 15 U.S. states at the meeting. Alaska Sea Grant will publish a proceedings book for the conference in 2003.

## **National Ocean Sciences Bowl**

Alaska Sea Grant has started a fund-raising drive to help transport students to the Alaska Region National Ocean Sciences Bowl. The quiz competition and research presentation will be held February 21–23, 2003, in Seward. The winning team will compete in the National Ocean Sciences Bowl finals April 25–28 in La Jolla, California. The Alaska Region NOSB has attracted 20 teams from 15 high schools across the state for the 2003 competition, nearly twice as many as last year. Half the schools registered are not on the road system, and some students must travel by air as far as 800 miles. A few of the teams have a major sponsor, while others rely solely on smaller donations. For more information about the bowl or about making a donation, see <http://seagrant.uaf.edu/nosb/sponsors/index.html>.

## **MAP Hosted Training Sessions**

Alaska MAP hosted training and development workshops in Anchorage, November 18-21. Topics included "Public Issues and Conflict Management" and "How to Conduct a Training Needs Assessment." Instructors were Lynne Hinckey, Laura Engleby, and Karen Guglielmone from the NOAA Coastal Services Center in Charleston, South Carolina. Twelve people participated, from MAP in Anchorage, Kodiak, and Petersburg, Sea Grant in Fairbanks, the Department of Alaska Native and Rural Development in Anchorage, and other agency staff in Anchorage and Cordova. The workshops were well received by attendees.

## **Highly Lauded Seafood HACCP Is Model for Medical Industry**

The U.S. medical device industry has adopted and implemented, over a five year period, a quality-assurance regulatory program modeled after the seafood industry's award winning HACCP program (hazard analysis and critical control points).

In the 1990s Sea Grant Marine Advisory experts across the nation, including Alaska MAP faculty [Don Kramer](#), joined the National Seafood HACCP Alliance to develop HACCP curriculum and teaching materials for the seafood industry. The medical industry, after witnessing the success of the seafood program, enlisted the help of Virginia Sea Grant's George Flick to help get the medical HACCP program started. Now under the auspices of the [Medical HACCP Alliance](#), the medical industry HACCP program is expanding their focus to include chemotherapeutics, blood, and tissues.

HACCP involves studying the processes involved in making a product, determining the points within that project where product safety hazards are likely to be introduced, and developing a plan to prevent the hazards from having any effect on product quality. Kramer continues to give seafood HACCP training in Alaska; see <http://www.uaf.edu/map/haccp.html> for training schedule.

## ASJ Radio

Discovery Channel Radio is now an official affiliate of Alaska Sea Grant's Arctic Science Journeys Radio. Discovery Channel Radio delivers radio content through several satellite subscription services. In addition, Arctic Science Journeys radio is a featured link from the NOAA Arctic Theme Page, <http://www.arctic.noaa.gov/news.html>.

## Sea Grant Authorization Signed into Law

On November 26 President Bush signed into law H.R. 3389, the National Sea Grant College Program Act Amendments of 2002. This law authorizes \$60 million for the Sea Grant program in FY 2003, increasing to \$85 million by 2008. In addition, the law authorizes an additional \$5 million for zebra mussels, \$5 million for oyster disease, \$5 million for algal blooms, and \$3 million for fishery extension each year. The law also requires Sea Grant programs to be evaluated to determine which programs are best managed and carry out the highest quality research, education, extension, and training. Funding increases above the appropriated amount for FY 2003 will, in part, be allocated based on the review. The National Academy of Sciences will evaluate the rating process within three years, to consider its effectiveness and make recommendations for changes.

## New Sea Grant Panel Members

Secretary of Commerce Donald Evans has appointed three new members to the National Sea Grant Review Panel. The new members are Elbert "Joe" W. Friday, Board on Atmospheric Science and Climate, National Research Council; John A. Knauss, former NOAA administrator and a founder of the National Sea Grant College Program; and John T. Woeste, dean and professor emeritus, University of Florida Cooperative Extension. The 15-member Sea Grant Review Panel was established in 1976 to advise the Secretary of Commerce, the Under Secretary for Oceans and Atmosphere, and the National Sea Grant Director on the direction, operations, and performance of the National Sea Grant College Program.

## Marine Science in the Northeast Pacific Workshop

The annual workshop on Marine Science in the Northeast Pacific: Science for Resource Dependent Communities will be held January 13-17, 2003, in Anchorage, sponsored by the Exxon Valdez Oil Spill Trustee Council. The expected audience is principal investigators of EVOS/GEM (Gulf of Alaska Ecosystem Monitoring and Research), GLOBEC (Global Ocean Ecosystems Dynamics), SSLI (Steller Sea Lion Investigations), NPRB (North Pacific Research Board), NPRMI (North Pacific Marine Research Institute), PCCRC (Pollock Conservation Cooperative Research Center), subsistence users, recreational and commercial harvesters, commercial processors, educators, naturalists, environmentalists, and coastal community residents. Presentation topics by SFOS faculty include Gulf of Alaska shelf/slope ecosystem (Tom Weingartner), outreach (Kate Wynne), and fish stock fluctuation (Bruce Finney). Planktonic processes, pink salmon ecology in Prince William Sound, and the global climate connection to the Gulf of Alaska will also be addressed. For more information see <http://www.oilspill.state.ak.us/events/Sympos.html>.

## Electronic Newsletter

Would you like to change from a paper subscription of *Fishlines* to electronic only? Please contact Sue Keller at [fnsk@uaf.edu](mailto:fnsk@uaf.edu). Each month we will send you an email linked to the electronic copy on the Sea Grant Web site.

*Fishlines* is a monthly in-house newsletter reporting Alaska Sea Grant activities to staff, students, and principal investigators of Alaska Sea Grant and the Marine Advisory Program, and staff of the School of Fisheries and Ocean Sciences. For more information contact Sue Keller, (907) 474-6703, [FNSK@uaf.edu](mailto:FNSK@uaf.edu).

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