



AQUATIC & FISHERY SCIENCES NEWS

SCHOOL OF AQUATIC & FISHERY SCIENCES COLLEGE OF THE ENVIRONMENT UNIVERSITY OF WASHINGTON

<http://fish.washington.edu/newsletter>

From the Director “A change in the air...or in the water?”

Dear Alumni and Many Friends:

I have enjoyed writing these messages over the last 14 years to say hello, give news of major events within the School, and share our sense of deep pride for numerous honors that come to faculty, staff, and students, past and present.

I also have enjoyed thanking you for your extraordinary generosity on an individual basis and as a team, contributing to major campaigns such as our highly successful “Students First” initiative, which continues to allow us to recruit top undergraduates. I am sad to say that relentless state budget cuts continue to reduce our educational financial base. Yet, I am very grateful to say that your sustained generosity endures as a major reason why we can still attract, support, and mentor the very best graduate and undergraduate students from Washington State and around the nation. Your partnership role as contributors to SAFS’ educational and research missions continues to ensure that our School remains one of the top-ranked fisheries and aquatic sciences programs in the country.

To stay competitive in recruitment, SAFS remains steadfast in our policy that all incoming graduate students are assured 1.5–2 years funding. This enables them to focus on developing their research without the additional stress of worrying about funding. While our superb international reputation is a compelling reason for prospective students to select our program, the reality of high tuition and living costs, and the lingering impact of later debt, make essential various forms of financial support, including your gifts. The scope of your giving in providing student support is captured in this newsletter’s “Degrees Awarded” column (page 8). Of the 23 people who received MS and PhD degrees, 22 benefited from significant endowment support during their careers with us.

We also continue to provide substantial funding for undergraduates. Last year, SAFS allocated nearly \$60,000 to help recruit top students and support those already here in a number of ways, with awards ranging from a few \$100s to \$7,000. This support may go to tuition, collaborative internships with the NOAA Alaska Fishery Science Center, capstone research projects required of our BS majors, and travel to national conferences to present posters and talks.

So what sense of change is in the air...or more appropriately for SAFS, “in the water?” As much as I’ve enjoyed the 14-year ride as Director, it is now time to turn leadership over to

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Photos (left to right): Jackie Carter, Jeremy Monroe, Amanda Phillips, Jonathan Moore

AUT 2011/
WIN 2012

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Faculty Focus

Kristin Laidre, Assistant Professor

PhD 2003, UW

Space use patterns of narwhals
(*Monodon monoceros*) in the high Arctic
<http://staff.washington.edu/klaidre/>



Courtesy of Kristin Laidre

Kristin Laidre is our newest faculty member and a SAFS alumna. She also works as a research scientist at the UW Applied Physics Lab (APL) in the Polar Science Center.

Her SAFS position arose from APL's efforts to foster more synergy between the lab and other UW departments. Given student interest in climate change and marine mammalogy, Kristin's focus on Arctic whales and ecology makes her a perfect fit.

MD: How did you get involved in marine mammal and Arctic research?

KL: I had no specific plans to be a scientist when I was young, but I was always interested in marine biology and mammals. I was into dance and got a scholarship to train at the Pacific Northwest Ballet after high school.

About two years into the ballet program, I injured my foot and couldn't dance any more. But I wanted to stay in Seattle, so I applied to the UW with the intention of going into biology. While I was a freshman, I conducted research as a volunteer at the National Marine Mammal Lab (NMML).

When I joined the SAFS graduate program, studying with Glenn VanBlaricom, I became involved in research on narwhals. That was the start of my high Arctic work and it became my PhD project, too.

MD: Tell us about narwhals.

KL: Narwhals are one of the deepest diving whales, diving to more than 4000 feet many times a day to feed. They live in dense Arctic ice with almost no open water.

Narwhals number about 80,000 worldwide. They're not harvested commercially, but there is a subsistence harvest in Greenland and Canada.

The narwhal is known for its "tusk"—a spiral tooth coming out of the upper left lip of the males. Theories vary about this tooth's function, but we believe it's used for establishing male dominance in hierarchies.

MD: What was the focus of your narwhal research?

KL: Little is known about narwhals, so this was a great opportunity for a graduate student. I looked at behavior, including feeding ecology, movements and diving patterns, and population dynamics. Several times a year, I made month-long trips to the Arctic, off Greenland and Baffin Island, capturing and putting transmitters on narwhals to support population census studies. Narwhals are very elusive, so I made good use of extensive historical data as well.

After earning my PhD, I got postdoc funding from the National Science Foundation's International



Research Fellowship program to look at the other two Arctic whale species—bowhead and beluga whales. I spent two years doing this research in Denmark and Greenland.

MD: What sets these whales apart from other species?

KL: They're very well adapted to life in the ice and the Arctic. Morphologically, Arctic whales don't have a dorsal fin, which is a good adaptation for ice.

From a behavioral perspective, these whales seem to have adjusted their seasonal cycle to feed in late winter and spring—a very productive time in the Arctic. As the ice disappears, the whales move north and don't feed much—a reverse pattern to the migratory whales.

MD: How is climate change affecting these whales?

KL: Bowhead whales feed on small copepods in the spring. Earlier ice breakup enables them to feed for longer time periods, so things are going well for this species now—their numbers are increasing.

Narwhals don't need ice specifically, but indirect aspects of ice loss—like warming sea temperatures and current and salinity changes—might affect the availability of their prey.

MD: You have continued this line of research at APL.

KL: I work mostly with physical scientists (e.g., physical oceanographer) who study the Arctic. I'm the only critter biologist. Because ecology is such an integrated, interdisciplinary field, I wanted to work with experts on physical parameters in the Arctic and incorporate environmental data into my studies. I also collect biological data for making environmental assessments or management decisions about setting harvest quotas, as well as for oil exploration interests.

MD: What are your plans at SAFS?

KL: I hope to work with students interested in marine mammals and Arctic ecology. Next year, I will teach a class on Arctic marine ecology. I already have a PhD student, Donna Hauser, who contacted me about being her adviser just as I was joining the SAFS faculty. So we stayed in touch and once my position was confirmed, she was a natural choice. I also have a Capstone student, Jackie Schwarzstein, who is studying gray whales through NMML. ■

Stay in Touch

We would like to hear from you. Please use our SAFS Alumni Update form to tell us about your activities, recent and past. In addition, by providing us your current email address, you will continue receiving our spring–summer issues, which are published via electronic media only (email, web).

Please be assured that your information will be used to update your UW Alumni Association record but otherwise will remain confidential.

<http://fish.washington.edu/update>



Left to right: Courtesy of SAFS, Jonny Armstrong

Consider a Gift inspire *new* ideas

support the **School of Aquatic and Fishery Sciences** and the **University of Washington** with a gift in your will

<http://giving.uw.edu/planned-giving>

Alumni Features

Patricia Livingston

MS, College of Fisheries, UW 1980

The bulk biomass model: a stock assessment tool?

Pat Livingston is the director of the Resource Ecology and Fisheries Management Division (REFM) at NOAA Fisheries' Alaska Fisheries Science Center (AFSC). She originally hails from Michigan, where early on she developed an interest in the life aquatic. Pat credits daily fishing trips during summer vacations in the upper peninsula, as well as an ecology course taught by a high school teacher as early inspirations for her pursuit of aquatic science.

As an undergraduate at Michigan State University's Fisheries and Wildlife Department, Pat majored in fisheries. Realizing that a quantitative background was very important, she took computer programming, calculus, linear algebra, statistics, and ecosystem modeling courses in addition to the standard fisheries and wildlife courses.

As a graduate student at SAFS, Pat studied with faculty member Steve Mathews. She credits Steve for "encouraging me to take quantitative population dynamics and statistics classes and helping me get my first job at the National Marine Fisheries Service (NMFS; now NOAA Fisheries)." Her MS research, conducted at NMFS, focused on the construction, validation, and sensitivity analysis of a mass-balance ecosystem model of the Gulf of Alaska.

After completing her MS, Pat continued working at AFSC on various multispecies and ecosystem modeling projects. Eventually, she moved up the ranks from staff researcher to manager of the Resource Ecology and Ecosystem Modeling Program and ultimately to her current position, where she focuses on advancing ecosystem approaches to management.

When Pat returned to graduate school for the second time, she chose a fairly untraditional route: "I got another MS degree, this time in public administration, with an emphasis in natural resource policy. This was in part spurred by my working with our policy and programming officer at AFSC."

Early in Pat's AFSC career, she initiated a program to better quantify the food habits of groundfish, which was included in multispecies and ecosystem predator-prey models. She said,



Courtesy of Pat Livingston

"SAFS professors Bob Francis, Robert 'Bud' Burgner, and Bruce Miller supported this program. Bud and Bruce enabled me to use SAFS students to do the lab analyses, and several students completed master's projects based on this work."

In 1989, Pat became an affiliate professor at SAFS and since then has mentored a number of our students and served on several dissertation committees.

Now, Pat supports SAFS students primarily by finding space and resources for them when they are working with REFM staff. She added, "I also enjoy being contacted to discuss career options with students interested in working for NOAA Fisheries." In addition, she recently served on the SAFS search committee for the quantitative marine ecology and population faculty position, which is supported partially by AFSC. She said, "I am pleased that Trevor Branch was selected and is becoming internationally known for his work."

Pat readily credits her SAFS education in getting her where she is today: "The strong quantitative emphasis of SAFS and the internationally renowned faculty mean that students are well-prepared for jobs at NOAA Fisheries and wherever employers are seeking people with strong analytical skills. I continue to emphasize the importance of a quantitative background to students who contact me for career advice."

Pat's AFSC work during her SAFS education provided her critical financial support and research experience. She and other AFSC and Northwest Fisheries Science Center staff have enabled many SAFS students to follow in their footsteps over the years. We thank Pat and her colleagues for their longstanding support of SAFS, and we look forward to many more years of collaboration. ■

Sage Chaiyapechara

MS, UW 2002; PhD, UW 2008

Bacteria associated with the gastrointestinal tract of rockfish (*Sebastes* spp.) larvae reared in aquaculture settings

Sage Chaiyapechara was born in Bangkok, Thailand. He followed in his father's footsteps in education and career path: Both received Royal Thai Government scholarships to attend college in the USA, and both obtained government jobs in Thailand focused on resource management—his father with the Forestry Department (now retired) and Sage with the National Center for Biotechnology and Genetic Engineering (BIOTEC), <http://www.biotec.or.th/>.

Sage did his undergraduate studies at Cornell University. For his honor's thesis, he conducted a feeding trial and product-quality analysis with tilapia in an engineering class focused on recirculating aquaculture systems. He said, "This was relevant to my homeland, where there were strong concerns over the environmental impact of aquaculture—a major industry—particularly shrimp in mangrove areas."

Sage's Cornell experiences made him realize that culture practices could be greatly improved; his search for a graduate program that would enable him to gain the knowledge and skills needed to achieve such improvements led him to SAFS. At SAFS, Sage studied with Faye Dong for his MS degree. Funded through the School's Western Regional Aquaculture Center (WRAC), his research focused on the growth and product quality (yield, taste, and appearance) of rainbow trout fed high-lipid diets supplemented with vitamin E. He elaborated: "I became well known for running the 'taste testing' sensory panel to quantify the taste of fish fillet from the experiment."

Sage trained 15 people to recognize flavor attributes of fish, and then had them taste the trout and score the taste. He quipped, "I'm not sure if I've ruined or enhanced the panel members' enjoyment of fish for life. Recently, a panel member told me he can still detect one of the 'tainted' flavors I trained him to recognize almost 10 years ago!"

For his PhD study, Sage worked with Russ Herwig to investigate the bacterial community associated with the intestinal tract of larval rockfish. He chose this subject because "I was interested in disease management in aquaculture, which also is very important in Thailand."

After graduating, Sage returned to Thailand to work at



Courtesy of Sage Chaiyapechara

BIOTEC's Aquatic Molecular Genetics and Biotechnology Laboratory (<http://www.biotec.or.th/amgb/>). The Lab focuses largely on shrimp aquaculture, especially on broodstock improvement and disease prevention. Sage noted, "I was lucky because I joined BIOTEC when they were seeking someone to do a detailed characterization of the intestinal bacteria of shrimp. Thanks to my SAFS education, I was able to get started on this right away."

Next, Sage will be studying the role of shrimp intestinal bacteria in disease resistance and nutrition; he said, "Our goal is to make shrimp aquaculture more sustainable by reducing antibiotic use and minimizing the negative impact on the environment."

At BIOTEC, Sage also works with students from Chulalongkorn University. "I advise a master's student, who is doing his thesis research at the lab," he said, adding that "the lab's research atmosphere and facilities appeal to many students."

Reflecting on his SAFS education, Sage emphasized the diverse research pursued by the faculty and students: "The perspectives I gained from fisheries, aquaculture, and aquatic ecology helped me think about my research questions more deeply than I would have done otherwise. This was so valuable because at BIOTEC, we focus on so many different topics, making it critical to think about the bigger picture, look for ways to connect the dots, and find some common ground with people in other fields."

Sage acknowledged the financial support he received from SAFS, including two research grants and a John Halver Fellowship: "I'm very grateful as it allowed me to continue my work after the funding from the Thai Government ended. Without the Halver Fellowship, I would have taken much more time to finish my PhD." ■



Charlie Starr, Terry Pyles, Ray Troll

SAFS Welcomes New Mural by Ray Troll

“Fishes of the Salish Sea”

How many of you are familiar with the “Spawn ‘til you die” t-shirt? This is the work of artist Ray Troll, who creates unique blends of art and science that have graced books, magazines, museums, and other venues across the nation. His creations focus on ichthyology and paleontology with a “street smart sensibility” that has engaged and entertained audiences for decades. Ray is also a musician, having recorded several CDs, typically accompanied by his band, the Ratfish Wranglers.

Ray first came to SAFS some 25 years ago, meeting with faculty member Ted Pietsch. Ray noted, “I met Ted at Archie McPhees, a famous novelty store in Seattle, when Brad Matsen and I were working on our first book together called *Shocking Fish Tales*. Ted kindly invited us to see the Fish Collection, and from there I tumbled ever deeper into the wonders of ichthyology as he and other faculty took me under their wings (which are really only modified pectoral fins in the big evolutionary scheme of things!).”

Over the years, Ray maintained his SAFS connection, modeling his subjects on Collection specimens, and interacting with school members through venues such as the Seattle Aquarium and Burke Museum.

As Ray expanded his scope from t-shirts to large murals, Ted

got the idea to ask him to do a mural for the school. With Ray’s blessing, Ted, along with faculty member Ray Hilborn, started a fund in 2006. Along with donations from SAFS faculty and staff, a number of friends of SAFS contributed funds.

Ted initially suggested the theme be Puget Sound fishes. But given that aquatic organisms don’t recognize borders—and with the formalization in early 2011 of the “Salish Sea,” covering Puget Sound, the Strait of Georgia, and the Strait of Juan de Fuca—it only seemed natural that the mural would be named “Fishes of the Salish Sea.”

On November 2nd, SAFS celebrated the installation of the mural. The well-attended event was replete with food—including a roast pig courtesy of Ray Hilborn—and musical performances by Troll and a backup band comprising Director David Armstrong and several other UW denizens.

The mural, which is 15’ by 7’, graces the SAFS lobby. Among other attributes, it includes several 3D fishes and some features glow in the dark. We invite you to view this wonderful addition to our school!

See our online newsletter to view color versions of the images, as well as a key for the mural fish species: fish.washington.edu/newsletter. ■



Hall Anderson

Ray Troll in his Ketchikan, Alaska, studio.



Mary Levin, University Photographers

SAFS staff Chris Yoder takes in the mural with 3D glasses. You can pick up 3D glasses from our administrative office to enjoy the enhanced features of the mural.



Mary Levin, University Photographers

SAFS faculty member Ted Pietsch.



Mary Levin, University Photographers

SAFS faculty member Ray Hilborn.



Jan Armstrong

The celebration was attended by several hundred members, alumni, and friends of SAFS.



Neil Johannsen

David Armstrong and Ray Troll.



Ulrike Hilborn

Numerous faculty, staff and students participated in a day-long vigil to tend the pig roast and celebrate the mural. Left to right: Chris Boatright, Curry Cunningham, Jim Seeb, David Armstrong, Melissa Haltuch, Juan Valero, Ray Hilborn, and Alan Hicks.

You can see additional images at the UW News & Information website: <http://fish.washington.edu/troll>

Degrees Awarded, Autumn 2010–Summer 2011

Our student research encompasses numerous and diverse disciplines, including aquaculture, biology, ecology, disease, toxicology, genetics, statistics, and physiology—as well as interdisciplinary subjects—in pursuit of improving our understanding of the interactions between humans, our environment, and the resources upon which we rely. (Advising professors in parentheses.)

BS Degrees

Sonia Albin
Sarah Elizabeth Anderson
Annemarie Kaza Ansley
Sarah Jean Apsens
Katherine Josie Armintrout
Valeriy P Babchanik
Hannah Sorensen Barrett
Samantha Margaret Brombacker
Lauren Ashley Colpo
Kristin Alice Connelly
Herschel Daniel Cox
Brittany Michelle Cummings
Hannah M Darrin, *SAFS*
departmental honors
Lee Harrison Duckwall
Todd Charles Durboraw

Julia Jennette Eggers
Oisin Manus Gunning
Courtney Anne Hageman
Juliana Houghton, *SAFS departmental*
honors; magna cum laude; double
degree with Biology (cum laude)
Sarah Kathryn Hu
Hans Isaak Hurn
Louis Truong Kao
Ke’Ale William Louie
Sean Michael Luis
Isabella Rose Marill, *SAFS*
departmental honors
Jeanelle Christine Miller
Joseph Robert Petersen
Amanda Marie Phillips

Paul William Pratt
Michelle Nicole Ruge
Walter Murray Rung
Alexander Fenner Rutherford
Brian Shane Simpson
Mark Henry Sorel
Hannah Kirkland Stapleton
Marshall David Stephens, *cum laude*
Josh W Stewart, *summa cum laude*
Jason Gonzales Tayag
Miguel Enrique West
Ross Douglas Whippo, *SAFS*
departmental honors; cum laude
Kimberly Anne Wood

MS Degrees

Anne Baxter, (Herwig) *Vibrio parahaemolyticus* ecology at two oyster harvesting bays in Puget Sound
Thomas Buehrens (Quinn) Growth, movement, survival and spawning habitat of coastal cutthroat trout
Lisa Crosson (Friedman) Development and application of a qPCR assay to assess the impact of hematodinium, a parasitic dinoflagellate, on Tanner crab populations in Alaska
Wyatt Fournier (Mantua) Seasonal and interannual variation in food habits and growth of Chinook salmon (*Oncorhynchus tshawytscha*) in the Bering Sea
Maureen Hess (Hauser) Dispersal patterns from genetic parentage analysis in Puget Sound brown rockfish (*Sebastes auriculatus*)
Troy Jaecks (Quinn) Population dynamics and trophic ecology of Dolly Varden in the Iliamna River, Alaska: Life history of freshwater fish relying on marine food subsidies

Meryl Mims (Olden) Life history strategies of North American freshwater fishes and their relationships with flow
Benjamin Nelson (Conquest) Integration of two visual survey methods for estimating escapement of Pacific salmon (*Oncorhynchus* spp.) using a Bayesian modeling approach
Jennifer O’Brien (Gallucci) Demography and ecological role of North Pacific sharks: Perspectives from analyses of DNA, fisheries bycatch, and stable isotopes
Jenny Price (VanBlaricom) Quantifying the ecological impacts of geoduck (*Panopea generosa*) aquaculture harvest practices on benthic infauna
Michael Schrimpf (Parrish) Trade-offs in prey quality and quantity revealed through the behavioral compensation of breeding seabirds
Stevick, Bethany (Friedman) Experimental rearing methods of pinto abalone (*Haliotis kamtschatkana*) and their effect on outplant survival in Washington State
Wetzel, Chantell (Punt) Challenges of data-limited stock assessments: Simple vs. complex stock assessment techniques and the influence of data

Awards, Honors & Events

PhD Degrees

- Anderson, Joseph (Quinn) Dispersal and reproductive success of Chinook (*Oncorhynchus tshawytscha*) and coho (*O. kisutch*) salmon colonizing newly accessible habitat
- Bradford, Amanda (VanBlaricom) Population characteristics of the critically endangered western gray whale
- Johnson, Susan (Schindler) An evaluation of the marine feeding ecology of Pacific salmon using stable isotopes
- Kenaley, Christopher (Pietsch) Evolutionary biology of loosejaw dragonfishes (*Teleostei: Stomiidae*): Biodiversity, phylogenetic relationships, ecology, feeding biomechanics, and far-red visual systems
- King, Kerensa (Grue) Survival and reproduction of coho salmon exposed to pesticides within urban streams in western Washington
- McIntyre, Jenifer (Beauchamp) Linking sublethal copper neurotoxicity to population abundance in coho salmon (*Oncorhynchus kisutch*)
- Orr, Anthony (VanBlaricom) Foraging ecology of the immature California sea lion (*Zalophus californianus*): Determinants of behavior from physiological constraints to habitat selection
- Lauren Rogers (Schindler) Population diversity and the effects of climate on Bristol Bay salmon and Norwegian coastal cod
- Suresh Sethi (Hilborn) Fisheries management with people in mind: Assessing and managing risk
- Kristina Straus (Friedman) Shellfish aquaculture and conservation of two Puget Sound molluscs: The pinto abalone (*Haliotis kamtschatkana kamtschatkana*) and the Pacific geoduck

Students

Degree track and faculty advisers in parentheses.

In 2011, the National Science Foundation awarded the UW an Integrative Graduate Education and Research Traineeship (IGERT) grant to establish an interdisciplinary PhD Program on Ocean Change. Donna Hauser (Laidre) is in the first cohort of students to receive an IGERT award, which will support her investigations of the current and predicted habitat of Alaskan Arctic cetaceans.

At the Annual Shellfish Conference in Salem, Oregon, last September, Elene Dorfmeier (MS, Friedman), was awarded Best Student Presentation by the National Shellfisheries Association–Pacific Coast Section. Her presentation focused on “Ocean acidification and disease: How will a changing climate impact *Vibrio tubiashii* growth and pathogenicity?”

Two of our graduate students, Jennifer Griffiths and Jessica Rohde, will be presenting talks at Engage: The Science Speaker Series, a collaboration of the UW, Pacific Science Center, and the University Book Store. Jenn’s talk will be “Fish out of water? Salmon and rapid environmental change” and Jessica will present on “Should I stay or should I go? Diverse migration patterns of Puget Sound coho salmon.” For more info, see the website: <http://engage-science.com/speaker-series/2012-speaker-series/>.

Dave Lawrence (PhD, Olden) was the recipient of the Society for Conservation Biology’s 2011 Spotlight on Student Research award (North America region). The award was based on his research into the role of national parks in supporting freshwater fish diversity. Dave is helping the National Park Service to understand each park’s contribution to the broader fish diversity puzzle, prioritize allocation of scarce funding, and develop a comprehensive, network-based conservation strategy.

—continued on page 10

Awards, Honors & Events

continued

2nd Graduate Student Symposium

Each year, our graduate students present their research at the Graduate Student Symposium. Part of the event includes awards, voted on by the attendees, for presentations and posters:

Best MS Oral Presentation
Andy Whitehouse (Essington)

Best PhD Oral Presentation
Dan Drinan (Naish)

People's Choice Award for Oral Presentation
Laura Kuehne (Olden)

Best Poster Presentation
Meryl Mims (Olden)

Faculty & Staff

Last October, SAFS Associate Professor Julian Olden was the guest speaker for the College of the Environment Annual Dean's Lecture. He talked about the various ways that freshwater ecosystems respond to biological invasions and the world views and myths that underlie them, including ecologists' tendency to use militaristic terms such as "battle," "harm," "destroy," and "meltdown" when communicating about invasive species. A link to the video of the lecture will be available later in 2012 at http://fish.washington.edu/olden_lecture.

Affiliate faculty member Ed Melvin and Troy Guy (both Washington Sea Grant researcher staff) focus on helping commercial fisheries reduce seabird bycatch. Their research triggered an innovation used on a Japanese high-seas tuna vessel—the Yamazaki double-weight branchline—that won both the Grand Prize and the Tuna Prize of the 2011 World Wildlife Fund Smart Gear competition. This device helped reduce seabird bycatch with no effect on fish catch, and it has proved safe and practical for the crew to use. More info: http://www.smartgear.org/smartgear_winners/2011/grand_prize.

Ken Sebens, who joined the SAFS faculty in 2010 and is director of the Friday Harbor Labs (FHL), was recently named the inaugural Dennis Willows Director's Endowed Professor. This endowment was established in honor of former FHL Director and Biology Professor Emeritus Dennis Willows. ■

Gifts 2010–2011

During 2010–2011, SAFS alumni, faculty, and friends continued their longstanding tradition of supporting our students, faculty, and programs with generous financial gifts. We acknowledge and thank you for your sustained support.

Over \$10,000

Alaska General Seafoods
Aquatic Ecosystem Restoration Foundation
Mrs. Joy Ellis
Mr. Nicholas & Mrs. Mary Graves
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Leader Creek Fisheries, Inc.
Ocean Beauty Seafoods, Inc.
Dr. Walter Pereyra
Trident Seafoods Corporation
Yardarm Knot, Inc.

Up to \$10,000

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Dr. Loveday Conquest & Mr. Fred Von Kleinschmidt
Ms. Jane Dolliver
Double E Foods, LLC
Anonymous
Fisheries Council of Canada
Dr. Carolyn Friedman
Ms. Yasuko Fukano
Dr. Vincent & Professor Betty Gallucci
Dr. Ray & Ms. Ulrike Hilborn
Ms. Shereen Morse & Dr. Tim Essington
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Dr. Barbee Tucker-Pigott
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Dr. Donald & Mrs. Sharon Weitkamp
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Up to \$1,000

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—*From the Director, continued from page 1*

someone with a fresh perspective and unlimited stamina. We are fortunate to have found the perfect person...André Punt! I am pleased that André has agreed to serve as Interim Director for the next academic year while he and the faculty consider who will be the person recommended to Dean Lisa Graumlich for a longer appointment. André has already racked up experience as an administrator, having served as Associate Director since last April. During that time, he has been essential in efforts to balance budgets and plan for strategic initiatives that will keep SAFS at the forefront of emerging fields. André is known the world over for his contributions to fishery management and stock assessment, from key roles with the local NMFS Fisheries Science Centers to membership on international committees. Please join me in welcoming him to this vital leadership role. I can tell you, André, that 14 years pass faster than you imagine.

And please join me in wishing Marcus Duke good fortune in his new position. Marcus has been the composer and editor of this newsletter for many years as well as a core member of the SAFS staff. He has served the School in many different roles over the years, including technical editor, web developer, and information specialist. We have read his name as “MD” in the many interviews with faculty and alumni, and he has been the catalyst who compiles the stories about the School. I suspect after 32 years on the staff, Marcus is as much an institution in SAFS as the veteran faculty. We will miss him, but are glad he moves only a short distance away to expand his career with Washington Sea Grant. Have fun, Marcus, and thanks for the writing, music, and wry humor along the way.

If there is any take-home message in this report to you, it is this: Despite numerous personnel changes in various positions and punishing impacts of state budget cuts, SAFS is still the best academic home in the world for learning, interaction, collaboration, solutions, and stimulation tied to aquatic science and resource management.

—*David Armstrong, Director*

AQUATIC & FISHERY SCIENCES NEWS

The *Aquatic & Fishery Sciences Newsletter* provides current information on teaching, research, and service.

Comments are welcome.

Director	<i>David Armstrong</i>
Associate Director	<i>André Punt</i>
Writer & Editor	<i>Marcus Duke</i>
Graphic Designer	<i>Cathy Schwartz</i>

Please call Marcus Duke at 206-543-4678
or email mduke@u.washington.edu

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