AQUATIC & FISHERY SCIENCES NEWS

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

fish.washington.edu/newsletter

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

AUT 2013/ WIN 2014

From the Director

Dear Alumni and Many Friends:

Welcome to 2014 everyone! It is cold and wet as I write this, but the warmth is not far away now that December and a good portion of January are behind us.

In this issue, we introduce our newest faculty member, Gordon Holtgrieve, who transitioned from a UW postdoctoral appointment to an assistant professorship last September. Many of you know Gordon from when he was a graduate student studying with Daniel Schindler. Our article highlights Gordon's path from auto tech and roadie to SAFS professor.

SAFS faculty, students, postdoctoral fellows, and staff conduct cutting-edge research on critical issues such as ocean acidification, which is likely to have a profound impact on marine and freshwater ecosystems and those who depend on these systems. This area of research and policy will continue to grow as the public realizes how little is known about how ocean acidification will impact marine biota and whether ecosystems will be able to adapt.

I am delighted to announce that the 2014 Bevan Series—April 24–25—will be a symposium dedicated to the Magnusson–Stevens Act and its upcoming reauthorization. The Act has been a shining example of effective management by including the public in fisheries decision-making and implementing plans for rebuilding overfished stocks. Many UW people, past and present, have helped craft the Act and implement its provisions. SAFS Professor and Director Emeritus David Armstrong and the symposium organizing committee—comprising UW faculty, industry, and environmental community members—have identified speakers who represent the past, present, and future of fisheries management. For more information, see *fish.washington.edu/bevan2014/*.

Most of our MS and PhD graduates are employed by state, federal, and tribal agencies, where they conduct research and implement policy. A brave few join the academic community. This newsletter profiles two graduates who hold faculty positions, Kristy Forsgren (PhD 2010) and Milo Adkison (PhD 1994).

On a somber note, SAFS Professor Emeritus, Robert "Bud" Burgner, passed away on 9 January 2014. Bud was one of the pioneers of salmon fishery research in Alaska and the long-time director of the UW's Fisheries Research Institute. Although Bud retired from the

—continued on last page

Faculty Focus

Gordon Holtgrieve, Assistant Professor, Freshwater Sciences

PhD, Zoology, University of Washington, 2009
(Daniel Schindler, Faculty Adviser)

Linking species to ecosystems: effects of spawning salmon on aquatic ecosystem function in Bristol Bay, Alaska

Courtesy of Gordon Holtgrieve

To hear Gordon Holtgrieve talk about his youth, it's hard to imagine how it led him to become SAFS' newest faculty member. After finishing high school, Gordon worked at an auto body shop and then spent five years as a roadie in support of stadium shows by artists like Garth Brooks, U2, and Guns 'n Roses, and as the stage manager for the Whiskey A Go Go in Los Angeles.

Gordon eventually grew tired of the job-related traveling and—hearing "the nagging of my mother and father about college" in the back of his head—he quit the music business and attended junior college. He then transferred to Stanford University to earn his BS and Master's degrees, after which he spent several years conducting research in Hawai'i before coming to SAFS for his PhD studies.

MD: What did you study at Stanford?

GH: Earth systems, focusing on conservation biology. I studied two threatened species in the Stanford campus area—steelhead and the California red-legged frog. I did habitat assessments and tried to understand these species' contributions, and I worked with planners to help determine a logical future for these animals.

MD: Why conservation biology?

GH: I have always been interested in fish. My dad had fish tanks and now I have fish tanks. Stanford didn't have much of an aquatic program, so I mostly studied terrestrial biogeochemistry, specifically carbon–nitrogen cycling.

MD: What was your focus in Hawai'i?

GH: I studied soil nitrogen cycling in wet tropical forests on Maui, where rainfall can change within a few kilometers, from 3 meters to 6 meters annually, while elevation and temperature remain similar. We looked at how such precipitation changes can influence nitrogen cycling and nitrogen-dependent plants.

MD: What drew you to SAFS?

GH: I knew I wanted to blend biogeochemistry with fish conservation. I found that SAFS and Daniel Schindler's work in the Alaska Salmon Program provided the nexus for what I wanted to study. Specifically, I wanted to investigate how Alaskan salmon impact streams and riparian areas from a biogeochemical perspective.

While salmon contribute nutrients to streams, they also can greatly disturb the stream bottom, where most of the algae accumulate. Such disturbance actually decreases primary productivity, which is counter to the dominant paradigm.

MD: In what way do bears impact ecosystems?

GH: Where bears intensively fed on salmon and left the carcasses on the forest floor, nitrogen cycling increased by orders of magnitude. But it was very localized; move away even just a little and cycling levels returned to baseline. Also, bear-associated increases don't carry over to the next year. At larger spatial scales, like the watershed, it's unclear what, if any, impacts such localized increases have.

Editor's note: For the complete interview, see fish.washington.edu/news/newsletter/autwin_2013-14/holtgrieve.html

MD: You are also pursuing studies in Cambodia.

GH: Tonle Sap, a large lake in the Mekong basin, supports many commercial and subsistence fisheries; it may be the most productive inland fishery in the world (estimated up to 400,000 tons yearly). At low water, this lake is about 2,500 square kilometers, but at high water, it can cover 15,000 square kilometers.

I was particularly interested in the origins of the nutrients and organic matter that ultimately end up in the food web. The lake expands and covers leaves that fall on the forest floor. All that organic matter becomes anoxic, producing methane, which gets oxidized and turns into microbes, which are eaten, and so on up the food web. This carbon pathway potentially explains why this ecosystem is so productive.

MD: You're also studying local rivers.

GH: We're determining the sources of nitrogen in rivers. Nitrates in Puget Sound have increased steadily over the last several decades. The Washington State Department of Ecology has been monitoring the amount of nitrogen, but the question of origin remains. One way to determine nitrogen sources is by using nitrate isotopes, which can help distinguish between soil and fertilizer, or even agricultural sources like dairy farms.

MD: What other activities do you plan to pursue at SAFS?

GH: While Professor Julian Olden is on sabbatical this year, I'll teach his Fish 101 course, Water and Society. I hope to begin mentoring graduate students in autumn 2014. I'm also busy setting up my lab.

MD: You were hired through the UW Freshwater Initiative. What is that about?

GH: This new program is a collaboration of the College of the Environment and the College of Engineering. By being more centrally organized, we can better focus on the important questions. I hope to see the Initiative develop individual programs that together influence how we approach freshwater resources on this planet. We hope to make the UW a go-to place for freshwater research.

I want the freshwater fisheries and the developing world to be a big part of what I do. At SAFS, I want to balance my research between international and local issues. ■

Alumni Update

Update your record and sign up for the newsletter by email.

Our spring–summer issues are distributed online only (email, website), but for the near term, the fall–winter issues will be both printed and online.

If you are still receiving printed newsletters, please consider switching to email/web. If you would like to do so or if you need to update your contact information (or both!), go to the following UW Alumni Subscription Center and/or SAFS Alumni Update webpages (applies to alumni and friends):

- Update your contact information
  www.washington.edu/alumni/subscribe/address-change.html?src=coe
- Change newsletter subscription format
  depts.washington.edu/safs/alumni/update.php

Left to right: Sean Luis, Amanda Phillips

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The Next Challenge for Sustainable Fisheries and Aquaculture

Ocean Acidification Research at SAFS

Photo: Carolyn Friedman

The world's oceans are rapidly changing in response to human activities. Carbon emissions are causing the warming of oceans, loss of sea ice, and what is now a hot topic—***ocean acidification***. About one-third of carbon emitted into the atmosphere is absorbed by ocean water. This ultimately results in increasing acidity and decreasing availability of calcium carbonate, the chemical that many organisms use to build their shells.

These changes pose a potential risk to numerous marine species. Eggs and larvae of most organisms are sensitive to environmental change, and oyster farms in Washington state have already felt the effect of ocean acidification, which has killed larvae in hatcheries.

Ocean acidification can potentially affect species further up the food chain. As a result, consequences may multiply. While some clear threats are evident, a number of unknowns remain.

At SAFS, ocean acidification has come under increasing scrutiny in recent years. For example, in 2011, it was the focus of the Bevan Series on Sustainable Fisheries. To better understand this problem, SAFS researchers, including Carolyn Friedman (CF), André Punt (AP), and graduate student Emma Hodgson (EH, Tim Essington, advising professor), are focusing on ocean acidification from different perspectives.

MD: How might ocean acidification impact different species and their ecosystems?

CF: We are examining the influence of ocean acidification on the life history and transgenerational effects of key local species such as the Pacific oyster and two native Species of Concern: the pinto abalone and Olympia oyster.

EH: We are addressing how the California Current ecosystem may change in response to ocean acidification. I am using a risk framework to better understand which key ecological or fishery species might be most susceptible to ocean acidification.

AP: Dusanka Poljak (MS, 2013) developed population models for red king crab in Bristol Bay, and I am extending these models to other crab stocks in the Bering Sea.

MD: What have you learned so far?

CF: The bacterial pathogen *Vibrio tubiashii* has caused losses in local bivalve hatcheries for the last eight years. It first re-emerged in association with upwelling off the Oregon coast and low pH waters. Elene Dorfmeier (MS student) found that this bacterium's ability to cause disease in larval oysters did not change with pH, but its growth was enhanced by declining pH due to increased CO_2.

We observed increased mortality and reduced growth in all species we examined. Pinto abalone and Pacific oyster larvae survival was most affected when the parents matured under current conditions but the larvae experienced an ocean acidification event. On the other hand, Olympia oyster larvae held under constant, very high CO_2 conditions showed no visible ill effects, suggesting greater resilience than other

Editor's note: For more information, go to fish.washington.edu/news/newsletter/autwin_2013-14/ocean-acidification.html

tested species. Even so, under ocean acidification conditions, fewer larvae were released, and those releases were delayed.

EH: When risk analyses are conducted for a species, they often consider only one life history stage, such as adults. In our work, we are looking at each life history stage (eggs, larvae, juveniles, and adults) separately. This can help us to get a better idea of how risk might change for a species over the course of its life. For example, adult Dungeness crab are at lower risk than their eggs.

AP: Ocean acidification may profoundly impact the North Pacific crab fishery. The high mortality rates for juvenile red king crab associated with ocean acidification mean that harvests may decrease, with potentially enormous economic consequences. However, those impacts won't be evident for at least 20 years, so we have time to plan.

MD: Your projects are interdisciplinary. Can you explain?

CF: We are investigating host susceptibility to disease and parasite responses to changing ocean pH and carbonate chemistry in collaboration with Assistant Professor Steven Roberts and partnering with Joth Davis (SAFS affiliate Associate Professor) and Emily Carrington (Biology Professor, Friday Harbor Marine Labs).

EH: Much of the research on ocean acidification focuses on the direct response of potentially sensitive species, but does not make the link to how this might affect the whole ecosystem. Tim and I are working with partners at the NOAA Northwest Fishery Science Center to use an ecosystem model to investigate what changes might occur throughout the food web as different organisms respond to ocean acidification. Ultimately, we plan to bring this to the port level and hence to fishing communities.

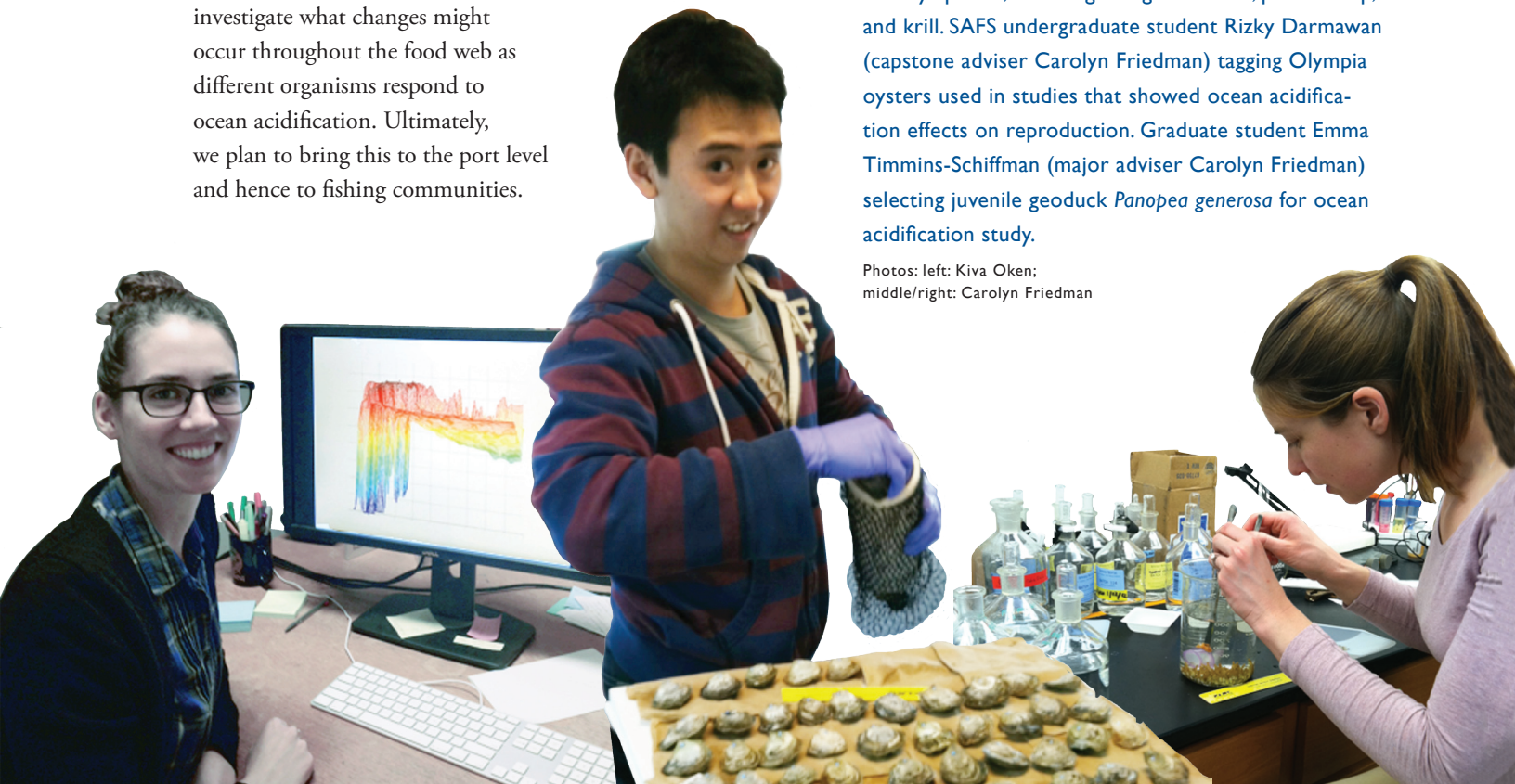
AP: We are exploring the impact of ocean acidification all the way from the larval stage to fishery impacts. This involves collaboration with ecologists and economists at NOAA.

MD: What will you focus on next?

CF: Our data suggest that some shellfish species appear to be in peril as a result of ocean acidification. Tested shellfish were negatively impacted, but some species appear more resilient than others. We need more cross-generational studies to understand the effects of acidification at the population level.

EH: We will use the risk analysis to develop different scenarios for an ecosystem model. For example, if we find one species to be at high risk, we would use the ecosystem model to simulate low survival for that species, which would enable us to look at how declines in one species might impact other parts of the food chain.

AP: I am working with my NOAA partners to develop models for Bering Sea snow crab and Tanner crab because much of the catch of Tanner crab is due to the fishery for snow crab. I am interested in determining the cumulative effects of ocean acidification and bycatch on the profitability of the fishery. ■



l to r: Emma Hodgson examining model predictions of ocean chemistry to determine future pH exposure for key species, including Dungeness crab, pink shrimp, and krill. SAFS undergraduate student Rizky Darmawan (capstone adviser Carolyn Friedman) tagging Olympia oysters used in studies that showed ocean acidification effects on reproduction. Graduate student Emma Timmins-Schiffman (major adviser Carolyn Friedman) selecting juvenile geoduck *Panopea generosa* for ocean acidification study.

Photos: left: Kiva Oken; middle/right: Carolyn Friedman

Alumni Features

Milo Adkison

PhD, UW, Aquatic and Fishery Sciences, 1994
Application of mathematical modeling to problems in salmon biology and management
(Ray Hilborn and Tom Quinn, Faculty Advisers)

www.sfos.uaf.edu/directory/faculty/adkison

Courtesy of Milo Adkison

Milo Adkison is a native Alaskan from Bristol Bay. He seems to have been destined for a career involving fish and fisheries. His grandfather was the winter watchman and a scow captain for a local cannery, and his father and uncles were commercial salmon fishermen. Milo spent some seven years crewing on a Bristol Bay driftnet vessel. Ultimately, his career path took him into academia, where he still focuses on fish and fisheries.

Milo earned an MS in Biology from Montana State University (1990), where he became interested in quantitative methods and statistics. For his thesis, he evaluated the statistical power of studies demonstrating smelter-derived acid rain in Colorado.

Milo then enrolled in the SAFS PhD program, with Ray Hilborn as his adviser. About a year into the program, Tom Quinn invited Milo to get involved in field studies at the Fisheries Research Institute camp at Iliamna, Alaska, and he became Milo's co-adviser.

For his PhD research, Milo continued his quantitative focus, developing a mathematical model to show the limits on the ability of salmon populations to adapt to their local environment. He described the model as "useful for determining when we might expect populations to have important local adaptations and be vulnerable to genetic pollution from planted fish or hatchery strays."

At Iliamna Lake, Milo also studied sockeye salmon spawning: "We looked at the tradeoffs between selecting a great nest site and the higher degree of territorial defense required in these areas."

Milo reflected on his SAFS education: "When I finished my master's degree, I thought I had a handle on fish and wildlife science. At SAFS, everyone was doing something I'd never seen before; it was exciting and useful. I learned humility and the value of seeking out people working from different paradigms. I also tried to adopt the openness and collegiality of the SAFS faculty and students—they shared their ideas and were genuinely invested in other people's success." He added that the reputation of SAFS opened a lot of doors for him and his peers, who have prominent positions with universities, management agencies, and other public and private entities world-wide.

Milo credits the financial support from two SAFS endowments—the H. Mason Keeler and Roy Jensen fellowships—for helping him finish his dissertation work after his research assistantship expired. He also credits his teaching assistantship for Ellen Pikitch: "She allowed me significant opportunities to teach, which really gave me a head start when I started my faculty position."

After SAFS, Milo spent several years as a postdoc in Canada, working with Randall Peterman at Simon Fraser University, and he worked for the federal government in Anchorage. He joined the University of Alaska, Fairbanks faculty (School of Fisheries & Ocean Sciences) in 1997.

Milo talked about his career choice: "In graduate school, I realized that I liked academics, and that I wanted to contribute to Alaskan fisheries. Fortunately, a University of Alaska faculty position in my specialty became available not long after I graduated." At UAF, Milo has focused on Alaska's salmon fisheries from varied perspectives, including management and biology.

When asked about highlights in his academic career, Milo said, "One of my biggest thrills is seeing how many of the scientists and managers at the Alaska Department of Fish & Game and NOAA were students I taught or advised as a member of their graduate committees."

Milo offered advice to students: "If you don't love teaching and advising, then academia is not for you. If you love the science, you can do good research elsewhere, and maybe even have more time to do it than in academia." ■

Editor's note: Read the full alumni interviews at fish.washington.edu/news/newsletter/autwin_2013-14/alumni-feature.html

Courtesy of Kristy Forsgren

Kristy Forsgren

PhD, UW, Aquatic and Fishery Sciences, 2010
*Regulation of development of primary and early secondary ovarian follicles of coho salmon (*Oncorhynchus kisutch*) by sex steroids*
(Graham Young, Faculty Adviser)

fresca.calstate.edu/faculty/2457#featured

Kristy Forsgren is a first-generation college student who knew she wanted to become a professor as soon as she started college. Just a couple of years after earning her PhD in 2010, she joined the faculty at California State University, Fullerton.

Born and raised in Utah, Kristy first encountered the marine environment when she was 18, and fell in love with it. She pursued her passion, majoring in Marine Biology, followed by an MS degree in Biology, both at California State University (CSU), Long Beach.

At CSU Long Beach, Kristy became interested in fishes and fish reproduction, which led her to SAFS. Her PhD adviser was Graham Young—"a truly supportive and very knowledgeable professor"—with whom she conducted basic research on the roles of sex steroids in early ovarian development in coho salmon. She expanded: "Little is known about early ovarian development in fishes and this research provided important information on sex steroid regulation of the ovary in prepubescent fish."

During her PhD studies, Kristy was a teaching assistant for Graham's Aquatic Animal Physiology course: "I helped develop the laboratory portion of the course and guest lectured on animal reproduction." Through a National Science Foundation East Asia Pacific Summer Institute award, Kristy spent a summer in Japan at the Funakoshi Marine Station working with two top fish reproductive endocrinologists.

After earning her PhD, Kristy took a postdoctoral position at the University of California, Riverside, where she investigated the impact of endocrine-disrupting compounds (chemicals that "act" like naturally produced hormones) on the gonadal development of fishes. With her goal of a faculty position, she taught courses on human physiology (Long Beach City College) and comparative animal physiology (CSU, Fullerton).

When asked why she was so interested in a faculty career, Kristy responded, "I love learning, and teaching was a natural position for me. Also, several of my professors had a very positive influence on me and I wanted to be just like them. I hope I am able to inspire the next generation of marine scientists in the same manner."

In July 2012, Kristy achieved her goal, becoming an assistant professor at CSU Fullerton, where she teaches animal physiology. She said: "I enjoy working with undergraduates and try to provide them with interesting and relevant information while challenging them to apply their scientific knowledge in class and in their research. The opportunity to work with both undergraduate and graduate students is what drew me to this position—it's a perfect fit for me and my academic goals."

Kristy is continuing her research in fish physiology, focusing on basic research into proteins involved in embryonic and gonadal development and her studies on endocrine-disrupting compounds.

Kristy reflected on her SAFS experience: "I received an excellent education. Interacting with great faculty and researchers at SAFS and NOAA Northwest Fisheries Science Center was invaluable. Also, a SAFS degree has had its advantages, as most people in the marine sciences are familiar with the School."

Like so many of our alumni, Kristy benefited from the generosity of our donors. Support from the Walter Yonker Memorial Scholarship enabled her to purchase necessary supplies to conduct her PhD research.

From her perspective as a young faculty member, Kristy offered some advice to students thinking about an academic career: "Make sure a faculty career is something you truly want to do. It's not a back-up career plan! Also, there are different types of faculty positions (research, teaching, both), so be sure to choose the one that's right for you." ■

Degrees Awarded, Autumn 2012–Summer 2013

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.
h(Advising professors in parentheses.)

BS Degrees

Becherer, Kate Elizabeth
Chi, Bradley
Clark, Sydney Claire
Darmawan, Rizky
Dill, Kathryn Caroline
Ellsworth, Branden Albert
Fuchs, Nate Thomas
Hale, Jessica Rhian
Harmon, Brian Schell
Harper, Hannah Rebecca (SAFS/Environmental Science and Resource Management), *cum laude*
Hennessey, Shannon M, *magna cum laude*
Herlambang, Katrina Jane
Huang, Tiffany
Huang, Tzu-Chuan
Kinard, Sean Kelly
Kulesza, Katie Madison
Le, Lynda Hong-Van
Mayfield, Robyn Lanette
Newman, Elliot Lee
Nordstrom, Jessica Rose
Oyafuso, Zack Suriya, *cum laude*
Randall, Jessica Rae
Robbins, Ellie Christine
Soto, Kaitlin Alexandra
Wang, Anne Shouling

MS Degrees

Blaud, Brianna Marie (VanBlaricom) Spatial and temporal patterns of fertilization in black abalone (*Haliotis cracherodii* Leach, 1814): analysis of surrogate gamete spawning experiments with application towards populations on San Nicolas Island, CA

Peterson, Daniel A (Hauser) Local adaptation, dispersal and gene flow in a metapopulation of sockeye salmon

Petrou, Eleni L (Seeb, L) Genetic differentiation of chum salmon (*Oncorhynchus keta*) in Alaska influenced by glacial history

Poljak, Dusanka (Punt) Impact of ocean acidification on recruitment and yield of Bristol Bay red king crab

Rohde, Jessica Anne (Quinn) Partial migration of Puget Sound coho salmon (*Oncorhynchus kisutch*) individual and population level patterns

Sadorus, Lauri Loraine (Mantua) Exploring the role of oceanographic features in the spatial distribution of Pacific halibut and other longline-caught fishes off the west coast from southern Oregon to Queen Charlotte Sound, British Columbia

Sosik, Elizabeth (Simenstad) Isotopic evidence of microbial pathways in macroalgal detritus-based coastal food webs

Stachura, Megan Marie (Mantua/Hilborn) Environmental influences on North Pacific salmon abundance and marine fish recruitment

Thompson, Jamie Nicholas (Beauchamp) Influence of early life growth and precipitation zone on survival to adulthood in wild steelhead trout (*Oncorhynchus mykiss*) in the Skagit River basin, WA

Vert-Pre, Katyana Aurore Angie (Hilborn) Overfishing or environmental change: Establishing the frequency of changes in productivity of marine fish stocks

Illustrations: this page, top: Dorling Kindersley/Thinkstock; middle and bottom: andyKrakovski/iStock/Thinkstock; opposite page: Ruslan Olinchuk/iStock/Thinkstock

PhD Degrees

Armstrong, Jonathan B (Schindler) How fish cope in a world of feast and famine: behavioral and physiological adaptations to ecological heterogeneity

Bond, Morgan H (Quinn) Diversity in migration, habitat use, and growth of Dolly Varden char in Chignik Lakes, Alaska

Brieuc, Marine S (Naish) An evaluation of the role of adaptation in salmon evolution using genome based approaches

Galloway, Aaron W (Sebens) Trophic transfer of nearshore basal resources: interpreting fatty acid and stable isotope biomarkers

Griffiths, Jennifer Rhiannon (Schindler) Climate change and geomorphic evolution in an Alaskan watershed and implications for salmon production

Hicks, Allan C (Hilborn) The utility of catch-per-unit-effort when assessing and managing long-lived fish stocks

Howe, Emily Russell (Simenstad) Detrital shadows: evaluating landscape and species effects on detritus-based food web connectivity in Pacific Northwest estuaries

Lawrence, David J (Olden) Contemporary controls and future predictions of non-native smallmouth bass range expansion into salmon-rearing habitat

Timm, Raymond Karl II (Wissmar) Changes in fluvial habitat conditions across a disturbance continuum: implications for salmon restoration

Williams, Kresimir (Horne) Evaluation of mid-water trawl selectivity and its influence on acoustic-based fish population surveys ■

Awards & Honors

Students

Degree track and faculty advisers in parentheses

Nicolas Guiterrez (PhD, Hilborn) won the W. F. Thompson Award for Best Student Paper for his paper, "Leadership, social capital and incentives promote successful fisheries."

Daniel Hernandez (MS, Mantua/Quinn) netted the Outstanding Graduate Student Presentation award from the 54th Joint Western Fish Disease Workshop and AFS Fish Health Section Meeting for his talk, "The role of Chinook salmon in the ecology of infectious hematopoietic necrosis virus (IHNV) in the Columbia River Basin."

Eleni Petrou (PhD, Hauser), Merrill Rudd (PhD, Branch), and Michael Tillotson (PhD, Quinn) all obtained IGERT (Integrative Graduate Education and Research Traineeship) Program on Sea Change Research Fellowships.

Miate Pons (PhD, Hilborn) was awarded a Fulbright Scholarship. Miate intends to study assessment and management of fisheries that are often described as "data poor" and will likely use small-scale tuna fisheries as a primary example.

Meryl Mims (PhD, Olden) won the Exceptional Promise in Graduate Research Award from the Ecological Society of America for her paper, "Life history theory predicts streamflow effects on fish assemblage response to hydrologic regimes."

Margaret Siple (PhD, Beauchamp) obtained a Science Writing Fellowship from Washington Sea Grant. This fellowship is designed to connect budding young science writers with professional science writers, researchers, and educators.

Faculty

John Horne was a member of the National Oceanographic Partnership Program collaboration for Developing Environmental Protocols and Monitoring to Support Ocean Renewable Energy and Stewardship, which received a Department of the Interior Partners in Conservation Award. This award recognizes public/private partnerships that promote conservation, protect natural and cultural resources, use innovative approaches for resource management, and engage youth and diverse communities in accomplishing the department's mission. ■

Gifts, Autumn 2012–Summer 2013

SAFS alumni, faculty, and friends have a long history of generous giving. They continued this tradition during 2012–2013, providing critical financial support for our students, faculty, and programs. We acknowledge and thank you for your sustained support.

More than $10,000

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UW in 1984, he remained active and involved in the School, working with the Alaska Salmon Research Program and the High Seas Salmon Research Program until the very end. To learn more about Bud's remarkable life and career, please read his memoirs (*fish.washington.edu/burgner*). We plan to have a full article on Bud in the next issue of the newsletter.

We continue to receive your wonderful gifts. Support from alumni, friends, and colleagues is essential, and your generosity is breathtaking at times. Your help allows us to achieve our research and teaching missions. You will recall, Dr. Dayton Lee Alverson passed away in January 2013. I am pleased to announce that an endowment is being established in Lee's memory. We already have several substantial contributions to the endowment, which will support graduate students in SAFS and the School of Marine and Environmental Affairs.

Please see *http://www.uw.edu/giving/alverson* to contribute to this endowment. As always, I hope you enjoy the remainder of winter and spring, and I look forward to seeing you at workshops, symposia, seminars, and social events over the next months.

—André Punt, Director

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

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