

# AQUATIC & FISHERY

SCIENCES

NEWSLETTER OF THE SCHOOL OF AQUATIC & FISHERY SCIENCES UNIVERSITY OF WASHINGTON SPRING 2003

S  
P  
R  
I  
N  
G

## State of SAFS

In accord with state legislative mandate, the University undertakes a systematic review on a ten-year cycle of all degree programs. As an initial step, each department is asked to prepare a self-study report. A review committee of three faculty members from other UW departments plus two faculty members from other institutions is established. A schedule is developed by the Graduate School for the formal review, which takes place over two days and includes discussion with a broad selection of School faculty, staff, and students.

Our self-study document detailed significant developments in the School's teaching, research, and service over the last decade. In this issue, we present highlights from the study and from the review committee's site visit.

In keeping with the theme of the self-study article, we feature recent developments in our entry-level course—Fish 101:

Aquatic Environmental Conservation and Management—which exemplifies the efforts we've been making to improve the overall SAFS program. This historically popular offering has been taught most recently by SAFS faculty Bob Francis, who completely revamped the course several years ago. Bob and his teaching assistants apply "evolutionary management" to fine-tune the syllabus from year to year to provide the richest experience possible for a diverse range of students.

We conclude with a series of interviews with some of the "unsung heroes" of SAFS: scientific and administrative staff. What they may lack in visibility, compared with faculty and students, they make up for through their integral contributions to teaching, research, and outreach programs and administrative services that in turn facilitate a rich learning environment for our students, for aquatic science professionals, and for the general public.

## INSIDE

ACADEMIC REVIEW 2

FISH 101 5

FOCUS ON STAFF 6



[fish.washington.edu](http://fish.washington.edu)

# Academic Review Highlights

## Faculty

Our 26 faculty continue to pursue a mix of basic and applied science, including research in production and harvest as well as newer studies in field ecology, conservation, management, and fish production—in settings from watershed to open ocean and in arenas from local to international.

SAFS faculty conduct research to address resource allocation and policy formulation for important issues in fields such as aquaculture, conservation, ecology, fisheries management, and habitat restoration. Eight new faculty hired since 1999 allow SAFS to meet emerging needs and disciplines in aquatic sciences such as molecular genetics, conservation, and ecosystem management.

In 2001–02, our faculty generated external funding exceeding \$10 million, providing increasing opportunities for undergraduate and graduate student research.

One of the more compelling findings of the self study was that *the School's academic successes have been achieved despite the lowest faculty count for the last 30 years*. Sustaining nearly a decade of budget reductions, SAFS faculty and staff have risen to the challenge to become ever more productive.

An important measure of faculty productivity is the number of “student credit hours” (SCHs)—the number of hours of face-to-face instructional contact with students. Since the early 1990s, SCHs per faculty (full-time equivalent) have risen by a factor of two; a good fraction of this increase (25–40%) results from instruction in other programs such as Biology, Program on the Environment, and at Friday Harbor Labs (see figure, “Student credit hours per faculty”).

## Research Funding

Ongoing research and discovery supported by faculty grants and contracts (G&C) is essential to the student experience at the School. G&C funds also support faculty, staff, and students. While graduate student research support is most visible, opportunities for undergraduate research have increased thanks to greater funding via programs such as the Alaska Salmon Program, the Fish Collection, Columbia Basin Research, the Washington Cooperative Fish & Wildlife Research Unit, the Pacific Northwest Coastal Ecosystem Regional Study, and the Wetland Ecosystem Team, as well as through resource management agencies like NOAA Fisheries.

The annual level of our G&C awards is comparable or high relative to other UW science departments with more faculty. Over the past nine years, the annual new awards per faculty have been growing—from \$140,000 to \$220,000. Such awards entail collaborations with scientists and students in other fields, providing our

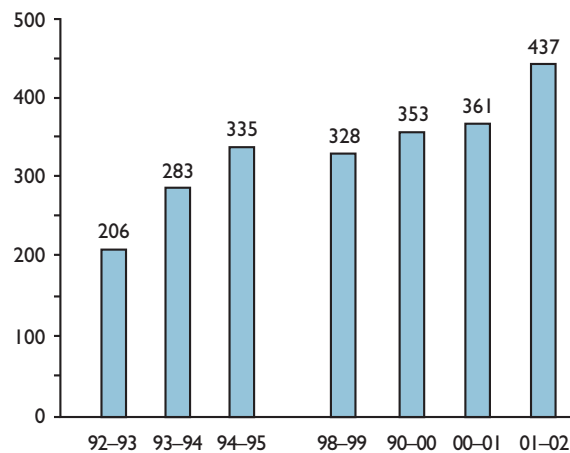
students a greater breadth and scope of learning and training, making them better prepared to apply science to human issues in their future careers.

## Undergrad Program

Since 1998, refinements in the Bachelor's program have resulted in a doubling of declared majors to about 100. Some credit is due to excellent lower-division courses in aquatic biology and ecology that emphasize critical thinking and strong skill sets. Outstanding recruitment efforts have also played an important role in attracting majors. Our near-term goal is to increase enrollment to about 120 majors.

In the mid-1990s, the UW embarked on a campaign to reemphasize the undergraduate research experience—commonly described as “experiential learning.” SAFS undergraduates have many experiential learning opportunities through specialized courses, facilities, and programs, including Alaska field camps, molecular ecology labs, the research hatchery, the internationally renowned

Student credit hours per faculty (full-time equivalent)



Fish Collection, directed research through individual faculty programs, research at Friday Harbor Labs, and internships with resource management agencies.

SAFS has been very competitive in obtaining funding for new programs from internal UW sources like Tools for Transformation and the UW Honors Program. Such support enabled SAFS to start two popular undergraduate programs—the Alaska summer field camp and the Marine Biology series. The former provides “immersion” opportunities for intensive learning at remote field sites, and the latter has a high-enrollment capacity to serve broad interests in marine sciences as well as a lower enrollment honors component.

SAFS majors generally maintain high GPAs, making them more competitive for graduate school acceptance. In Fall 2002, 19 majors were named to the UW Quarterly High Scholarship List. Our graduates consistently rate our courses and instructors high in comparison to other academic units at the UW.

## Graduate Program

Our MS and PhD programs continue to attract far more applicants than we can admit. Our graduate students come from diverse backgrounds, contributing to a highly stimulating intellectual experience.

During the 2001–02 academic year, more graduate students held teaching assistant (TA) positions than any time since 1995, positions which provide invaluable teaching experience. We attribute the greater TA activity in part to the increased enrollment in our undergraduate program. In addition, MS enrollment has traditionally exceeded that of PhDs, but by Fall 2002, as a consequence of greater interest in our PhD program, enrollments in the two programs had equalized.

Thanks to our very generous donors and benefactors, we are able to provide higher levels of SAFS support in the form of longer-term fellowships to our students. This, in combination with our G&C projects, makes our graduate programs among the best-funded at the University.

Exit surveys show that, in recent years, our MS and PhD graduates have been very satisfied with their academic experience. The quality of graduate education is reflected not only in our students’ teaching experience, but also in their high rate of peer-reviewed publications (i.e., professional journal articles): Of our enrolled graduate students, roughly half of them have published a paper in each of the past two years.

## Where do they go?

One of the most important measures

of the quality and relevance of the SAFS program is post-graduate employment. Exit surveys showed that most advanced-degree students find employment in their chosen profession (see table below).

Our graduates are employed across a broad spectrum of the job market: From the business sector—for example, environmental consulting and aquaculture; to government resource management agencies—including NOAA Fisheries and the Washington State Department of Fish & Wildlife; to academia—including a large number of PhD’s in faculty positions.

Our graduates are renowned as scientists, resource managers, policy advisors, and teachers here in the Pacific Northwest, across the USA, and around the world.

## Post-graduate employment

### 124 Masters 1992-2002

Business—other	20%
NMFS	
AFSC	15%
NWFSC	4%
Other	2%
Student	13%
Staff scientist	12%
Federal	6%
Tribes	6%
Other state agency (non-WA)	6%
Washington State	5%
Research associate	3%
Unknown	3%
Faculty	2%
Other	2%
Int’l fisheries management	1%

### 206 PhDs 1992-2002

NMFS	
AFSC	17%
NWFSC	7%
Other	4%
Business—other	16%
University Faculty	15%
Staff scientist	10%
Federal	6%
Research associate	6%
Other state agency (non-WA)	6%
Washington State	5%
Int’l fisheries management	4%
Other	2%
Unknown	2%
Tribes	1%
Student	1%

# Academic Review Highlights

## Review Committee Site Visit Summary

On April 7–8, 2003, the Academic Review Committee conducted a site visit, during which numerous faculty, staff, and students were asked to comment on aspects of the SAFS program. The visit finished with committee members summarizing major conclusions for the SAFS Director, the Provost, the Dean of College of Ocean and Fishery Sciences, the Dean of the Office of Undergraduate Education, and others.

Committee members were genuinely impressed with changes we've made since our last review to improve the quality and relevance of our teaching and research missions. They commented that the ease of interaction and exchange among

students, faculty, and staff makes the School feel like a small liberal arts college.

The Committee noted the caliber and enthusiasm of undergraduates who met with them: Some members had not seen such enthusiasm for a degree program in years. They especially gave high marks to the recently redesigned Capstone Program, a required research project intended to be the culmination of the undergraduate experience in SAFS: Under the guidance of faculty mentors, students are given the opportunity to put what they've learned into practice by completing an extensive project of their own design, writing a paper, and making an oral presentation.

The committee cited the reputation

of the faculty and scientific professional staff as a major attraction for the many outstanding graduate students worldwide that come to our School. All committee members were very impressed by newer faculty who have brought a diversity of backgrounds into the department, expressed excitement in their careers, and who are dedicated to student learning at all levels.

Those committee members who have participated in numerous academic reviews noted that it is rare for a department to evolve so completely in such a short time, and emerge as a vibrant, catalyzed academic unit where so much has been achieved—an accomplishment that began with past director Marsha Landolt, interim director Ken Chew, and continues with our current director, David Armstrong.

We have all worked together for the last five years to define in our Strategic Plan the goals of change and invigoration necessary to play a very central role in the University community. The School of Aquatic & Fishery Sciences is viewed by the Committee as an exciting academic unit where service, research, and teaching are mixed in a provocative, synergistic blend resulting in a high quality academic program. The Committee's views are a credit to the faculty, staff, and students of the School. ■



Rus Higley

Fish 101 students collecting samples on research cruise

## Fish 101—Scaling New Depths

Courses evolve as a matter of routine, but occasionally they undergo a major paradigm shift, as was the case for Fish 101, which is being taught by senior faculty member Bob Francis. Several years ago, Bob took on the challenge from a colleague to make Fish 101 his own: “After having taught upper-level courses for so long, I was interested in doing a 100-level course.”

To prepare the syllabus, Bob spent a lot of time observing other teachers with large classes, and credits George Bridges, who teaches a large UW sociology class, as a mentor. Bob described the course evolution: “Previously, Fish 101 abstracted from other SAFS courses, covering topics like fish physiology, biology, and ecology, with emphasis on harvesting and production.” Tests were largely multiple choice. The 5-credit course was taken as part of the science requirements for a BA/BS.

In revamping the course, Bob changed the syllabus from a “bottom-up” to a “top-down” approach, with a general education context designed to help develop critical thinking skills about natural resource conservation and harvesting. The class, still 5 credits, has three lectures and two sections weekly; it is joint listed with the Program on the Environment. The syllabus emphasizes writing, and in a final essay, each student describes his or her conservation ethic and how it relates to issues addressed in class.

The textbook, Carl Safina’s *Song of the Blue Ocean*, presents three case studies of fishery issues: conservation and management of bluefin tuna in the north Atlantic, Pacific Northwest salmon, and South Pacific coral reefs. Bob considers tuna a spectacular pelagic organism: “This fish is the ‘jaguar’ of the ocean: it can swim incredibly fast (55–70 mph), lives in a biological desert, is very

vulnerable to exploitation, and brings the highest market price of any animal on the planet.”

Bob described the Pacific Northwest salmon issue as particularly challenging, “perhaps because it’s in our backyard and there’s so much information.” Regarding coral reefs in Southeast Asia, Bob noted, “We learn about political situations and how this bears on the reefs.” Coral reefs and their aquatic environment are important for sustaining human communities, a situation that makes connections between political and resource issues critical.

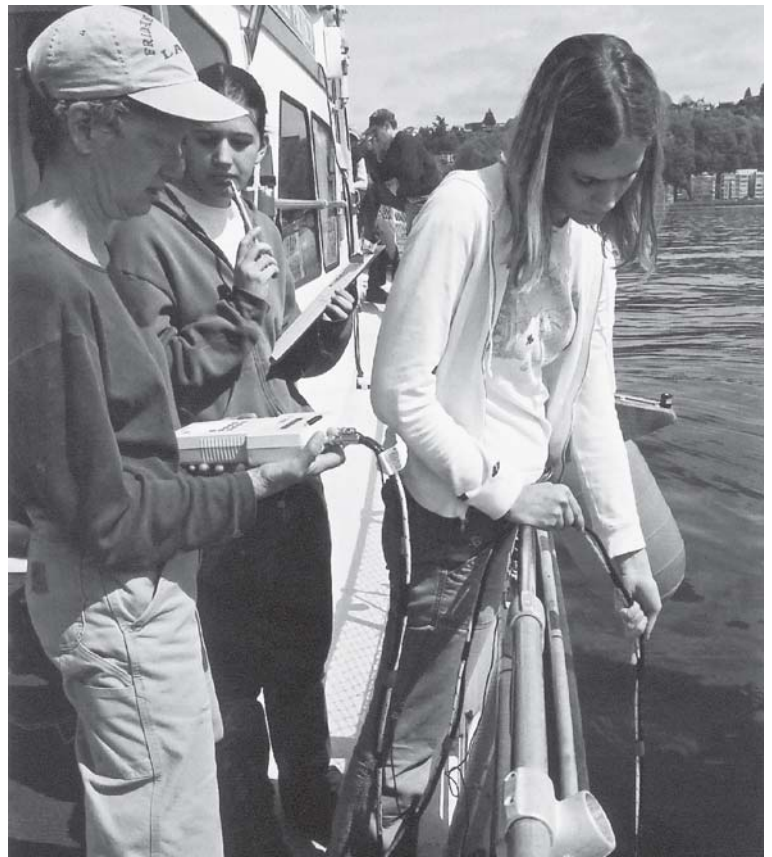
While Bob does most of the lecturing, he occasionally invites guest lecturers to talk about their perspectives on particular

issues. He’s also invited UW On Cue—an improvisational theater group—to do interactive performances on topical issues, something Bob felt “couldn’t be tackled otherwise.”

In the spring 2003 course, two new activities were added: a weekly film night and a research cruise. Both activities are optional and, through written reflections, provide opportunities to earn extra credit.

Bob considers Fish 101 a work in progress and hopes to improve the linkages between sections and lectures to make the course more holistic: “I’m working with the UW Center for Instructional Development and Research to see how I can improve this.” ■

Fish 101  
students  
analyzing  
samples on  
research  
cruise



Nathalie Hamel

## Focus on Staff

Rick hails from Minneapolis, Minnesota. He works with SAFS faculty member John Horne in the Fisheries Acoustics Research (FAR) program. Rick is part of the first “computer generation”—he had an Apple II when he was 11. This, along with a high level of patience, made him ideally suited for the computing environment.

One of his first jobs after college entailed computer programming at the Great Lakes Environmental Research Lab (GLERL) in Ann Arbor, Michigan. At GLERL, where he met Horne, he participated in the long-term study, “Episodic Events in the Great Lakes Ecosystem,” which looked at the impact of episodic events on the nearshore–offshore transport and transformation of biogeochemically important materials in the Great Lakes.

### *What is your role in the FAR group?*

I do computer programming, but I also help with field gear, the lab, computer networking, and even budget work.

### *What is the gist of your programming work?*

John brought me on to help visualize and present his research results. His research entails a lot of acoustics modeling. This produces copious data, which often are difficult to convey to individuals not familiar with acoustics. John had seen some pretty inspiring presentations on scientific visualizations and he knew I had an interest in this.

### *How are the results of your work applied?*

Mainly to improving the understanding of how fish reflect sound in support of fisheries stock assessment. Species identification has always been the ultimate goal. Many of our presentations are for pollock because of John’s involvement with the NMFS Alaska Fisheries Science Center research on this species. Our model is

general enough that we can work with any fish for which we can obtain a radiograph.

### *Have there been any practical results from your work yet?*

I think that along with others we have changed the way people look at fish as acoustic scatterers. Working with researchers around the world we have modeled the backscatter of over forty species of fish.

### *What is the state of your visualizations?*

The applications use available technology. We are very eager to move forward in web-based applications using virtual reality, but the technology isn’t quite there yet. Also, there’s little progress on standardization, which is very frustrating.

### *It almost seems like coming full circle, from translating visual data into numbers and graphs to now taking digital scanning data—more numbers—and translating to a visual format. Where’s the payoff?*

In the acoustics community, and the scientific community as a whole, the immediate payoff of visualization technology is in communicating to lay audiences. Even for scientists, presenting and absorbing enormous and dense amounts

of data in static images is difficult. As our ability to accurately model the real world increases, the volume of data will only become greater—computer visualizations can make interpreting and communicating these data much more efficient and effective.

### *What’s in store for FAR?*

We would like to start visualizing aggregate scattering—for example, acoustically sampled fish schools. Making a presentation on, say, schooling behavior would be very difficult using static imagery, so animation will be very helpful. We’re also working on developing a virtual ecosystem that would allow you to immerse yourself in a visualized environment.

### *You also provide support to graduate students*

I work with them on different levels, from providing simple, quick solutions to working on larger issues like data acquisition and archiving, and program design. I enjoy this aspect a lot, helping people accomplish their goals. This is another reason why I like working with John—I was never really interested in becoming a principal investigator. I very much enjoy being in a support role. ■

Rick Towler  
Research Consultant  
Fisheries Acoustics Lab

*BS, Fisheries & Wildlife  
Michigan State University, 1995*

[acoustics.washington.edu](http://acoustics.washington.edu)



R. Towler



## Jeff Cordell

Senior Research Biologist  
Wetland Ecosystem Team

*MS, Fisheries*

*University of Washington, 1986*

[fish.washington.edu/people/cordell](http://fish.washington.edu/people/cordell)

Jeff's love of marine biology started in elementary school, where he won second place in the 6th-grade science fair for his collection of marine invertebrates. A native of Seattle, he has been an avid fisher all his life. Jeff earned his BS in Environmental Studies at Western Washington University. Prior to graduate school, he took a job at the School of Fisheries' Fisheries Research Institute, which was the beginning of his long-standing collaborations with Charles "Si" Simenstad through the Wetland Ecosystem Team (WET).

### *What research are you pursuing currently?*

I'm continuing my long-term work on estuarine and wetland habitat restoration and monitoring. I focus on harpacticoid copepods—a crustacean—and other small invertebrates, to measure the colonization, abundance, and distribution of organisms over time at restored sites.

### *How do copepods indicate successful habitat restoration?*

They form a primary food source for several Pacific salmon species, especially juvenile pink and chum salmon. We established how important copepods were for these species in the late '70s and early '80s. Our work helped "spawn" the regulatory use of science in our region to determine the effects of development on juvenile salmon prey resources.

### *You're also studying exotic or invasive species.*

Exotic species aren't necessarily invasive: Many of our food crops are exotic, but we don't regard them as invasive or bad. I'm looking mainly at copepods, but also other small invertebrate introductions. I first became interested when I found several copepod species introduced to the Columbia River from Asia.

We found that an Asian copepod had appeared during the 10-year gap between large studies on the Columbia River estuary. When several exotic copepods were also found in San Francisco Bay, I became interested in their distribution in other West Coast estuaries. We surveyed estuaries from central British Columbia through northern California and found one species, *Pseudodiaptomus inopinus*, to be abundant from southern Oregon through central Washington.

### *What are the consequences of such introductions?*

We studied the food web effects and biology of *P. inopinus* in the Chehalis River, Washington. One central question was whether it was a beneficial food source for juvenile salmon. We found that its reproductive bloom does not co-occur with juvenile salmon residency and it is not eaten by them. But it is preyed upon heavily by mysid shrimp, and chinook and coho salmon feed on the shrimp. So, this copepod does seem to benefit juvenile

salmon indirectly, but we don't know if it has also disturbed the food web in more subtle ways.

### *What aspects of your work do you find most rewarding?*

Working with graduate students has been gratifying professionally and personally. We've had a long series of excellent students in the WET program. Also, it is very satisfying to work on highly industrialized sites such as the Duwamish River, where I used to fish as a kid, to try to help improve the situation. An amazing diversity of invertebrates, fishes, and birds rapidly has begun using these restored sites.

### *Your dedication to local restoration extends to outreach activities.*

I regularly take groups to restoration sites. WET members respond positively when asked to do a demonstration or, if we're conducting research, to allow a K-12 or college class to participate. Almost every year, we have presence if not actual participation from schools and other groups.

### *You're an avid musician, too.*

I've been seriously playing banjo since the mid-70s. After a lapse due to professional pursuits, about three years ago I decided to re-dedicate myself to playing. I play every morning for about an hour before I go to work, and I play with my brother at least several times a month. ■



## Ron Britton

Research Scientist  
Alaska Salmon Program

*BS, Biology*  
*Wayland College, 1970*

Partly because of his father's career in the Air Force, Ron has lived on five continents. When he started diving at age 16, Ron knew he wanted to pursue marine science.

He studied marine biology for his BS degree and then biological oceanography at Texas A&M. His graduate work involved a systematics/zoogeography focus and entailed extensive ship cruises with laboratory and museum work. Coupled with his employment experience, this made Ron an excellent choice for the diverse requirements of his job with the Alaska Salmon Program (ASP).

### *You wear many hats!*

The diversity of the ASP requires it. To coordinate the field camps I spend much of the year planning for the summer season.

Around December, I start to work on ordering supplies, making travel arrangements, and carrying out basic routine tasks, like turning on the electricity and getting phones and faxes hooked up. Prior to each field season, Tom Rogers, John Wittouck, and I open up the camps. Data collection begins in June and by mid-summer, the Aquatic Ecological Research in Alaska class arrives and spends six weeks doing coursework, research, and helping with data collection.

By early September, we finish sampling and shut the camps down for winter. Back

in Seattle, we begin entering field data into the database and writing reports.

### *The program is undertaking some new outreach activities.*

A new and fairly significant expansion is our collaboration with the Bristol Bay Economic Development Corporation (BBEDC) and the local schools.

This year, our faculty and students worked with the "salmon camps," sponsored by BBEDC. The camps gave local students the opportunity to learn salmon life history, biology, and so forth. Students went out on boats and on stream walks, seeing the salmon in the field. They spent a day in our lab learning about what our researchers do, why they ask the questions they do, and how they get the answers.

### *Your last job involved oil spill response for the US Fish & Wildlife Service (USFWS).*

After graduate school, I worked in program management and field data collection at various universities. Through that experience, I connected with the USFWS, where I worked on the oil spill response team. I spent five months at the Exxon Valdez spill site, which led to a job as oil spill response coordinator for the Alaska region. I went from field response to field response planning and then to program planning at the national office. Ultimately, I helped

develop the USFWS' national contingency plan for oil spills.

After that, I wanted to get back into the field—get my feet wet—and my current job is ideal for this. This is the most challenging job I've ever had because it brings so many aspects together, like trying to get 6-8 field camps working and up to safety standards and assisting the staff and students in their research. I really enjoy working with the faculty, staff, and students and eventually I hope to be able to undertake some research myself.

### *Your previous jobs gave you skills and experience particularly appropriate for ASP.*

I spent a lot of time analyzing programmatic flow: What was the goal, how are we achieving it, and are there better ways to do this? In facilitating the field camps, I ask the same questions. I hope to standardize many functions to make operations more efficient.

Many of the mundane tasks in running the camps—food, lodging, transportation, safety, and so on—could be standardized to make them less difficult to manage and free up time for other tasks. The more I look at the timeline and organizational structure of this program, the more I think I can help with program efficiency.

*As we go to press, we learned that Ron is leaving SAFS to pursue a new career. We wish him the very best! ■*



Katherine, a Seattle native, first became interested in marine organisms at age 8 when she went to the Woods Hole Children's School of Science. After that, whenever there was an opportunity to take a marine biology class, she did so. In college, she studied invertebrates, conducting research on pelagic nemertean worms in her senior year. Her graduate studies were focused on sea anemones. After graduate school, Katherine returned to Seattle, and worked at the National Marine Fisheries Service (NMFS), as an employee of SAFS, before starting work in the Collection under Ted Pietsch's direction.

#### *What are your responsibilities?*

I am responsible for the Collection, including loans and accessioning new specimens. I supervise graduate and undergraduate students and assist with research. I also administer the Collection computer system, including managing the database, which has been the biggest part of my job. With help from undergrad research assistant Trevor Anderson (see Autumn 2001 issue), we retooled the old database into a new system designed specifically for collection management.

It used to be a text-based search engine that queried the entire database for every search. Now you can search specific fields

instead of the whole database, and you can search by almost any field, like taxa or location. The new software allowed us to find errors like duplicates and misspellings. It also helped me figure out how many specimens we had—6 million!

#### *Who uses the database?*

SAFS personnel, museums, and researchers from all over the world use it. Also, we are associated with Species Analyst, a University of Kansas program that queries fish collection databases worldwide. This is a real boost in terms of outreach. The future of museum collections is definitely in the data associated with the specimens. Obviously the jars and the voucher specimens are still needed, but the data are increasingly important for things like modeling predictions. For example, Species Analyst is part of the San Diego supercomputer site, which brings in data from many resources so that we can do predictive modeling to ask questions like what would happen to a species if global temperatures rose by 2 degrees.

#### *The Collection has strong ties with NMFS.*

NMFS funds several of our projects. We accession their samples, our graduate students train their fishing vessel observers, and several of Ted's former students work

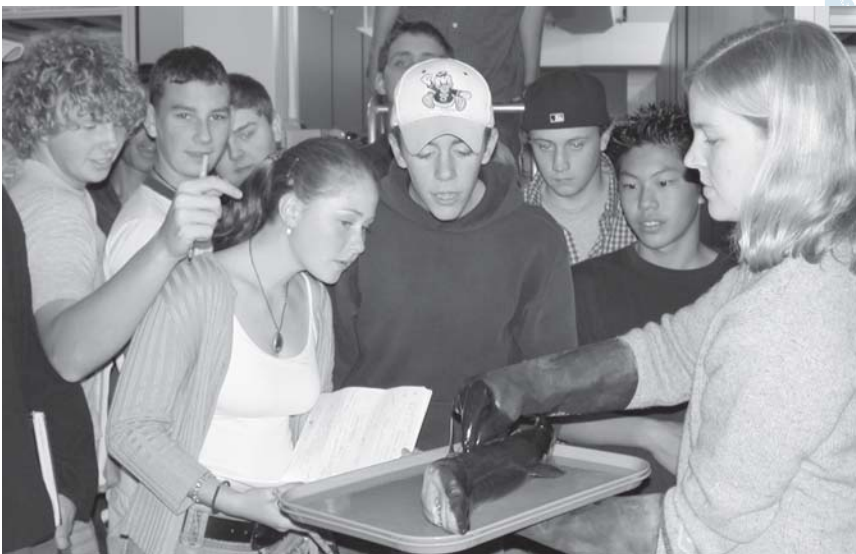
there. We also accession specimens from other organizations: For example, since an El Niño was expected this past year, the Washington Department of Fish and Wildlife requested information on unusual fish sightings, and any resulting specimens will come to us. We encourage the public to call us whenever they find something unusual.

#### *The Collection still does tours for school kids?*

Yes. Presently, people find out about our tours through our website. I'd like to be more proactive by promoting our educational opportunities to teachers. Our tours can be customized to what teachers want their class to learn. Generally, I talk about what a fish collection is and why anyone should care about a bunch of dead fishes. I show the kids all the jars, the moving shelves, the spark-proof lights, the larvae. Then I open one of the big tanks and show them something like an anglerfish, or another specimen they won't see anywhere else. If time permits, I talk about things like the many diverse body styles of fishes, where they live, and why they behave in certain ways.

#### *What appeals to you most about your job?*

This job is a multifaceted, ongoing process. If I'm tired of computer work, I can get my hands wet working with fishes. Also, when I worked with NMFS I went to sea a lot, which I still get to do, and then I bring back the specimens I collected and accession them. ■



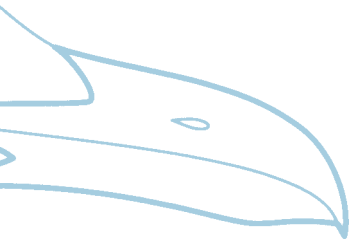
Marcus Drake

Katherine Pearson

Collections Manager  
UW Fish Collection

MA, Ecology and Evolutionary Biology  
University of Kansas, 1998

[uwfishcollection.org](http://uwfishcollection.org)



## Todd Hass

Research Scientist  
Coastal Observation and Seabird  
Survey Team

*PhD, Biology  
University of North Carolina, Chapel Hill,  
1997*

[www.coasst.org](http://www.coasst.org)



Z. Benowitz-Fredricksz

Todd became interested in birds in high school and, by freshman year in college, was hooked. A native of Seattle, he earned his BS at the UW Zoology Department. After earning his PhD at the University of North Carolina, Todd took a post-doc at UW Zoology to start the Coastal Observation and Seabird Survey Team (COASST) program, which he continues to administer, including collecting data from volunteers and translating it into a scientific format. He has a split position with SAFS and Zoology, where he still occasionally teaches a conservation biology class.

### *What is COASST?*

It is a volunteer-based, citizen science program that routinely monitors for birds that wash up on the seashore. COASST is the largest program of its kind in the USA if not worldwide.

We record which species are dying, and note where, when, and how many. This results in a baseline against which to measure changes: For example, we can compare oil spill mortalities with the baseline to determine the severity of change. We hope to use this program to inventory populations, including several

sensitive seabird species in the Pacific Northwest.

### *COASST has strong outreach components, including a field guide, newsletter, and website.*

The major undertaking was the dead bird field guide. We designed this so that no prior experience with birds or science was required—it's for beachcombers who want to do something useful during their stroll. To simplify identification, we chose to group birds by foot type; while not necessarily based on a taxonomic relationship, it enables distinguishing species by their feet. If no feet are present, we show how to measure the wing cord to distinguish birds by size. The book is free to COASST volunteers and is available to others for purchase (see website).

### *How many volunteers do you have and how do you become one?*

We have about 150 volunteers that contribute on a monthly basis. Over the last year, we had 220 people contribute at least once. Last year, we conducted over 750 surveys.

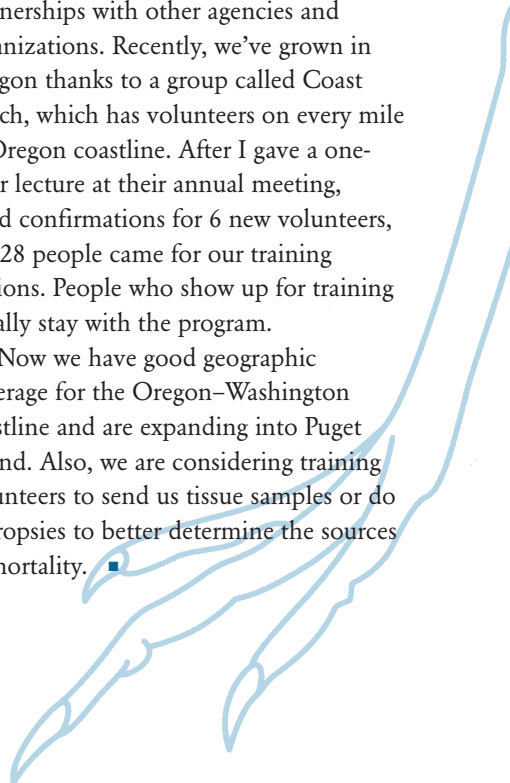
You have to sign up to become a volunteer. We provide training and a

20-page protocol that describes what we want volunteers to do. Volunteers get a data sheet that solicits information like oil presence and weather conditions. This information can be submitted online.

### *How do you recruit volunteers?*

We advertise in local papers and through partnerships with other agencies and organizations. Recently, we've grown in Oregon thanks to a group called Coast Watch, which has volunteers on every mile of Oregon coastline. After I gave a one-hour lecture at their annual meeting, I had confirmations for 6 new volunteers, but 28 people came for our training sessions. People who show up for training usually stay with the program.

Now we have good geographic coverage for the Oregon-Washington coastline and are expanding into Puget Sound. Also, we are considering training volunteers to send us tissue samples or do necropsies to better determine the sources of mortality. ■



## Don't Touch That Bird!

### *Bird Collection Do's and Don'ts*

Did you know that collecting native birds or any part of them is against state and federal law unless you have the appropriate salvaging permits (e.g., for museum collection)? Without a permit, you can be fined by the US Fish and Wildlife Service if caught. COASST director Todd Hass elaborated: "This law came about through the Lacey Act, which was passed in the early 1900s to stop people from killing birds for the millinery trade. The act prevented interstate transfer of bird parts, which eliminated the trade."

If you find a dead native bird in the wild, you should leave it as is. But what about when a bird dies on your property? Todd suggested several options: "You can ignore it, you can move it to someplace less conspicuous, or you can bring it to the UW Burke Museum, which receives fresh bird kills routinely." To avoid risking a fine, he recommended putting a note in with the bird you're salvaging indicating you are en route to a repository. Also, the Washington Ornithological Society, which meets monthly on the first Monday at the UW Center for Urban Horticulture, collects dead birds from its members. The Burke gets a substantial number of specimens through the Society.

For more information, contact:  
Washington Ornithological Society  
<http://www.wos.org> or  
Robert C. Faucett  
Collections Manager  
Ornithology  
UW Burke Museum  
206-543-1668  
[rfaucett@u.washington.edu](mailto:rfaucett@u.washington.edu)  
[www.washington.edu/burkemuseum](http://www.washington.edu/burkemuseum)

## Nichole Byrne Lau

### Graduate Program & Student Services Assistant

Nichole is from Long Island, New York, where she attended Hofstra University. Her first undergraduate major was in film, and recently had been pursuing a second BA in English. Nichole describes herself as the SAFS graduate program's "gatekeeper": She's the first stop for any inquiries about graduate admissions. Nichole is also dedicated to volunteerism.

#### *You do a little bit of everything.*

I do! I assist Graduate Program Coordinator, Loveday Conquest, and Student Services Coordinator, Lin Murdock. I help students achieve their milestones.

I'm the "repository" for all graduate program paperwork. I process and submit paperwork to the Recruitment, Admissions, and Scholarship Committee and subsequently process their feedback into reports on who has been admitted. And much more....

#### *You work with the public a lot.*

I go to college fairs and tell them about our program. I advise high school and community college students about things like recommended and prerequisite classes for applying to SAFS. I try to bring a human face to the School.

#### *What appeals to you most about working here?*

SAFS uses a lot more of my people skills than other jobs did. People here know how to recognize your strengths and make use of them. I enjoy working with individuals and solving problems of all kinds.



#### *Tell us about your volunteer work.*

I volunteered at Bellevue High School for three years, working with students who were at risk of dropping out. I was a mentor—I would sit with a student during lunch time because this can be such an intimidating experience for them. I work with the University Friends Meeting House, where I'm an adviser to a youth group.

I work at the Orion Center, a drop-in facility for homeless youth. I also work with Arab-American youth. There's a lot of misunderstanding about Arab culture, so I try to help. Ever since I was a kid, I've wanted to help people and groups that needed that extra recognition, that extra push.

My dream is to eventually become a high school English teacher. Even better would be to do this in New Zealand; I'm a major Kiwi fan!

#### *You're a film and literary buff.*

My first degree was in film and I'm into the French new wave films of the 1960s and Swedish films. I like writing about female persona in literature; recently, I wrote about the anarchic females of Strindberg and Ibsen. Maybe next, I'll do a comparison paper on the anarchic female of Bergman and Eminem! Can you imagine that?

*We recently learned that Nichole has been accepted to graduate school and is leaving SAFS. Good luck, Nichole! ■*

# AQUATIC & FISHERY

S C I E N C E S

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

Comments are welcome

Writer & Production Editor *Marcus Duke*

Design, Illustration *Cathy Schwartz*

Please call Marcus Duke at 206-543-4678 or  
e-mail [mduke@u.washington.edu](mailto:mduke@u.washington.edu)

- I wish to discontinue receiving this publication
- My address has changed and I have made corrections to the label. (Please mail this to the return address provided below.)

School of Aquatic & Fishery Sciences  
1122 Boat Street NE  
Box 355020  
University of Washington  
Seattle, WA 98195-5020  
<http://fish.washington.edu>

Bulk Rate  
U.S. Postage  
PAID  
Seattle, WA  
Permit No. 62