

# COASTAL OREGON MARINE EXPERIMENT STATION

NEWSLETTER - SEPTEMBER 2000

## MESSAGE FROM THE SUPERINTENDENT

It has been a busy and exciting spring/summer for the Coastal Oregon Marine Experiment Station (COMES). A significant part of our activities has been devoted to filling three new faculty positions and the replacement of a fourth. Two of the new positions — a marine fisheries ecologist and marine fisheries geneticist — were created and funded as part of OSU's College of Agriculture's (CAS) 1999 Legislative Initiative. These positions were the culmination of a ten-year effort by COMES and the OSU Department of Fisheries and Wildlife (F&W) to expand marine ecology and genetic research. Many thanks go out to the significant effort and support of the COMES and Hermiston Experiment Station Advisory Boards, the respective Superintendents (former COMES Superintendent Lavern Weber and Gary Reed), and public supporters and legislative representatives.

[As part of this initiative, a third position for a riparian salmon ecologist located at Hermiston was also funded.]

Besides the marine ecology position in COMES, the OSU Department of Fisheries and Wildlife (F&W), through the "priority staffing" process in the College of Agriculture, received permission to create a position in marine fisheries ecology. A nine-member committee chaired by David Sampson conducted an exhaustive but highly successful search to fill both the COMES and the F&W marine ecologist positions. We are pleased to announce the hiring of Dr. Ian Fleming for the COMES research position (see accompanying article) and Dr. Selina Heppell, for the research and teaching position in F&W. The candidates will formally join our respective faculties in January 2001. Dr. Heppell will have an additional responsibility for coordinating F&W programs and classes at HMSC. The addition of these faculty will help OSU address ecological marine research and management issues for salmon and other marine species and take full advan-

tage of opportunities for collaboration with the Oregon fishing industry, Oregon Department of Fish and Wildlife, and the National Marine Fisheries Service.

Dr. Chris Langdon of COMES is now heading a search committee to fill the marine fisheries geneticist position. Four qualified candidates will be interviewing during September. Enclosed is a summary of interview schedules. We urge those of you who are interested to meet the candidates and attend their seminars.

We would also like to welcome Dr. Susan Hanna to COMES and Sea Grant (see accompanying article). Susan is an internationally recognized fisheries economist specializing in institutional economics and fishery management. She has been very involved in West coast fishery research and management, particularly groundfish. The addition of Susan to the COMES and Sea Grant programs was the result of an assertive effort to retain a productive OSU faculty member while meeting a COMES priority need for research and training in fisheries management. We look forward to Susan's involvement in the COMES program.

Through the priority staffing process, we also received permission to fill the position for a seafood biochemist at the Astoria Seafood Laboratory created upon the departure of Haejung An (see accompanying article). Michael Morrissey, Director of the Astoria Seafood Laboratory is chairing the search committee. If everything goes according to schedule we hope to have the position filled by the beginning of 2001.

The Oregon Agriculture Experiment Station will be submitting a \$6.75 million proposal to the 2001 legislature for new funding to support research and outreach in "economic and environmental sustainability in agriculture and natural resources." Contained within the proposal are a number of new "high priority" positions including three COMES

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## **MESSAGE, CONTINUED**

positions: 1) marine larval fish biologist, (1.0 COMES), 2) seafood microbiologist (.50 COMES/.50 Sea Grant), and 3) deep sea microbiologist (1.0 COMES). There is also the possibility of a fourth position in coastal recreation and tourism (.75 COMES/.25 Sea Grant). We will keep you informed of the proposal's progress as it moves forward through the 2001 legislative session.

Under the leadership of COMES Advisory Board Chair Captain Barry Fisher, and in cooperation with Oregon Sea Grant, COMES is finalizing details for development of a cooperative research venture with scientists, industry and state representatives of Far East Russian Fisheries (see accompanying article page). We have had two productive meetings with the Russians in Newport this spring/ summer. COMES steering committee members will be traveling to Sakhalin Island the last week of September to finalize a memorandum of understanding


and discuss potential programs including research projects and student exchanges. This is an exciting opportunity and we expect it to result in long-term cooperation with our Pacific Rim neighbor.

In cooperation with the NMFS's Northwest Fisheries Science Center and Office of Science and Technology, COMES also co-sponsored two sessions on fishery management and research. The first session was a day-long workshop on "Innovations in Fishery Management" held as part of the Tenth Biennial Conference of the International Institute of Fisheries Economics and Trade held in Corvallis from July 10-14. The second session was held in Newport on July 15 and focused on approaches for improving collaborative fisheries research. Each session featured speakers from various countries including the United States, New Zealand, Australia, Chile, and Canada. Both sessions were well attended, informative, and often provocative. We will be producing reports and

publications from each session and it is our hope that the ideas discussed at the workshops will lead to new approaches for addressing the research and management challenges facing the United States, particularly the West Coast.

During the next 6-9 months COMES will be updating and expanding its website and publishing the second annual report. In addition, one outgrowth of the cooperation between members of the marine fisheries ecological search committee was agreement to hold a joint OSU/HMSC marine research symposium sometime late next winter or early spring. Stay tuned for additional information once we select a date and develop a draft program.


As always, we welcome your interest and ideas. Feel free to drop by or give us a call anytime.

Gil Sylvia  
Superintendent, Coastal Oregon  
Marine Experiment Station 

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## **BILL PINNIX WINS WALTER JONES AWARD**


Bill Pinnix, doctoral student working with Steve Berkeley, has been selected as the Jones Award recipient for 2000.

Bill is conducting research on the early life history of sablefish, one of the most valuable commercial species on the Oregon coast. Using a variety of oceanographic indices, and compiling information stored in sablefish otoliths, he hopes to significantly increase the understanding of how climatic events such as El Niño impact sablefish and the coastal ecosystem off Oregon. Survival through the juvenile phase is critical to building large stocks of commercially important fish species. He hopes to glean from the historical records stored in sablefish otoliths, information that will help understand the fluctuations caused by large oceanic-climatic events. 


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## **COLLABORATIVE MARINE FISHERIES FELLOWSHIP**

Congratulations again to Bill Pinnix, who has qualified for funding which will support his project, a pilot gillnet survey of juvenile sablefish.

Shayla Sharp is also to be congratulated. She has received funding for her project -- an "Information Toolbox" of social and economic characteristics of the fishing industry and coastal communities. She will be working in collaboration with PFMC. 

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A special thank you goes to Pam Rogers, who produces the HMSC newsletter. Many of the articles in this newsletter were imported directly from her newsletters. Look for them at the HMSC website: <http://www/hmsc.orst.edu> 

September 2000  
Who's Who at COMES

*Lavern Weber*  
Associate Director  
Agricultural Experiment  
Stations  
Director, HMSC

*Gil Sylvia*  
Superintendent, COMES

*Faculty at HMSC*  
Steve Berkeley  
Susan Hanna  
Chris Langdon  
Bruce Mate  
Bob Olson  
Paul Reno  
Anja Robinson  
Dave Sampson  
Janet Webster (adjunct)

*Faculty at Astoria*  
Michael Morrissey  
Jae Park

*Faculty at the  
Food Innovation Center*  
Ed Kolbe

*Advisory Council Members:*

Joe Easley  
John Englund  
Jeff Feldner  
Barry Fisher, Chair  
Michael Graybill  
Tom Libby  
David Nisbet  
Fred Postlewait  
Robert Schoning

*How To Reach Us*

*at HMSC*

Carol Cole  
Phone: (541) 867-0230  
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*at Astoria*

Nancy Chamberlain  
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nancy.chamberlain@.orst.edu



## HERE'S TO DR. ROBINSON

Long-time oyster aquaculture researcher Dr. Anja Robinson has made possible a special fellowship for graduate students in shellfish aquaculture research at the HMSC. This is to support either master's or doctoral students working with shellfish, who show commitment and promise to their career choice and who meet the graduate entrance requirements of the university and the department in which they will study.

To apply, students must submit a one or two-page application letter concisely proposing the research problem to be investigated and defining objectives, methods, and significance of results. The hypothesis to be tested must be clearly stated. Please include a budget, letter of recommendation by major professor, and a statement of current financial support.

A master's student is eligible for funding for a maximum of two years and a doctoral student for a maximum of three years. The award for 2000 will be \$1,000.

Congratulations to  
**EBRU ONAL**  
the first recipient of the  
Anja Robinson Fellowship.

## CAS EMPLOYEE OF THE YEAR

Nancy Chamberlain -- the administrative power behind Mike Morrissey and the OSU Sea Food Lab -- has been selected to receive the College of Agricultural Sciences' 2000 Classified Employee Award. Those of us who work with Nancy know that CAS couldn't have chosen an employee more entitled to this award -- particularly since she has managed to maintain a positive attitude and a sense of humor even when dealing with the HMSC/COMES business office, the COMES Superintendent, and the COMES coordinator!

Nancy will be honored at the CAS Faculty and Staff Day luncheon on September 18 in Corvallis. Please join us in congratulating her!

## FROM MENDEL TO MOLLUSCS

*Oregon's Agriculture Progress*, Spring/Summer 2000, features the Molluscan Broodstock Program in an article entitled, "The Breed's in the Seed." To receive a copy, or to request a subscription (no charge), please contact Jeanne Bush at OSU, Corvallis. Her number is (541) 737-3311.

## INTERNATIONALLY RECOGNIZED SCHOLAR JOINS COMES

Susan Hanna, Professor of Agricultural and Resource Economics, has joined the Coastal Oregon Marine Experiment Station (COMES) faculty. She fills a newly created COMES/Sea Grant position in Fishery Management and Policy. The position is designed to establish a nationally recognized program in marine fisheries management and policy and to contribute to improved management programs for West Coast fisheries.

Susan's research covers a range of economic aspects of fishery management and the design properties of resource management institutions. She has conducted a number of research projects supported by Oregon Sea Grant, including a project assessing the performance of two regional fishery management councils and a recent project on the economic history of Pacific and New England groundfish fisheries. A current Sea Grant project is looking at the design of incentive-based management approaches to restore productivity in West Coast groundfish fisheries. In a related effort, she has recently agreed to participate in a workgroup of the International Council for the Exploration of the Seas (ICES) on measuring the performance of fishery management.

Susan serves on a number of scientific advisory committees related to fisheries and oceans. She is a member of the NOAA Science Advisory Board, the NMFS Marine Fisheries Advisory Committee, the Pacific Fishery Management Council's Scientific and Statistical Committee, the Northwest Power Planing Council's Independent Scientific Review Panel, and the Board of Trustees of the Institute for Fishery Management and Coastal Community Development at the North Sea Centre, Denmark. Susan has been a member of the National Research Council's Ocean Studies Board and several NRC Committees, includ-

ing the current Committee to Review Individual Quotas in Fisheries and the Committee on Protection and Management of Pacific Northwest Anadromous Salmonids. She has just begun a term as President of the International Association for the Study of Common Property and is also a member of the Executive Committee of the International Institute for Fishery Economics and Trade (IIFET).

Susan recently returned from two years at the H. John Heinz Center for Science, Economics and the Environment in Washington, D.C. where she directed a research program "Managing U.S. Marine Fisheries." COMES Board Chairman Captain R. Barry Fisher served as an advisor to the program.

The program was created to develop information for the reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act in 2000. Roundtable meetings were held in each of the eight fishery management council regions to assess the implementation of the 1996 Sustainable Fisheries Act and to identify changes needed to improve the Act's effectiveness. Reports from these meetings are available on the Heinz Center's web site ([www.heinz.org](http://www.heinz.org)). In addition, interviews were conducted with fishery interests throughout the country and combined with findings of the literature to write a book on chronic problems plaguing American fishery management. This book, *Fishing Grounds: Defining a New Era for American Fisheries Management*, is now available from Island Press ([www.islandpress.org](http://www.islandpress.org)). The book highlights quotes from several fishery experts in Oregon: Neal Coenen, Barry Fisher, Rod Moore, David Sampson, Bob Schoning and Court Smith.

Below is the description of *Fishing Grounds* that appears on the Island Press website.

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*Fishing Grounds* offers a comprehensive assessment of the legal, social, economic and biological context of marine fisheries management in the United States. Drawing on interviews with stakeholders from all sides of the issue, the authors seek common ground and points of unresolved controversy — among the diversity of interests and viewpoints involved. Chapters examine: history and background; status of marine fisheries; fishery productivity from biological, social, and economic perspectives; ownership of fishery resources; management structures and incentives; the roles of science and evaluation. Each chapter begins with legal, technical, and conceptual background to help readers understand the sets of issues involved and follows that with a balanced presentation of stakeholder views.

*Fishing Grounds* presents a useful overview of fisheries management options and positions regarding those options, providing valuable insight into the opinions and concerns of stakeholders and the sets of incentives to which those stakeholders respond. It is an important work for fisheries management professionals in industry, government agencies, and nongovernmental organizations, as well as for students and researchers involved with fisheries and fisheries management.



## **MARINE FISHERIES ECOLOGY & GENETICS**

Assistant/Associate Professor (3 positions)

Oregon State University announces an expanded research and educational initiative in marine fisheries, including three new tenure-track faculty positions in marine fisheries ecology and genetics. One position will be based at the main campus in Corvallis, Department of Fisheries & Wildlife; two positions will be based at the Coastal Oregon Marine Experiment Station, at the Hatfield Marine Science Center in Newport. For complete information please see our web sites:

<http://hmsc.orst.edu/groups/comes> and [http://www.orst.edu/dept/fish\\_wild](http://www.orst.edu/dept/fish_wild)

### **Marine Fisheries Ecologist – Corvallis campus**

(Assist. Prof., 12-mo. 0.75 FTE – 35% research, 40% education & service)

<http://osu.orst.edu/admin/hr/jobs/academic/001-1863.html>

Appointee will be expected to develop strong teaching and research programs focusing on marine fisheries ecology and management. Will teach one course on campus and periodically participate in teaching programs for students at the Hatfield Marine Science Center. Will work closely with other faculty and professionals. Additional salary support may be negotiated for up to 2 years at the beginning of the appointment.

### **Marine Fisheries Ecologist – COMES, HMSC campus**

(Assist/Assoc, 12-mo 1.0 FTE – 85% research, 15% education & service)

<http://osu.orst.edu/admin/hr/jobs/academic/001-1856.html>

Candidate will be expected to develop a nationally recognized applied research program in marine fisheries ecology for economically important West Coast species, with a major focus on the marine life stage of Pacific salmon, and work closely with federal, state, and private organizations. Significant research support, including a research associate, a graduate research assistant, and ship time, will be provided during the first three years. Teaching responsibilities will include participation in appropriate upper level academic programs by the third year.

### **Marine Fisheries Geneticist – COMES, HMSC campus**

(Assist/Assoc, 12-mo 1.0 FTE – 85% research, 15% education & service)

<http://osu.orst.edu/admin/hr/jobs/academic/001-1855.html>

Candidate will be expected to develop a nationally recognized applied research program in fisheries population genetics for economically important West Coast species, including salmon, groundfish and shellfish, and apply results in evaluating and improving methods of fishery and aquaculture management. He/she will work closely with federal, state and private organizations. Responsibilities will include participation in educational programs, such as developing a course in marine population genetics.

Applications must be submitted by April 15, 2000. Candidates must have a Ph.D. in marine ecology, biology, fisheries, genetics or related field, or be expected to complete such a degree by July 2000. Please submit a letter of interest, a current resume including a list of current interests, publications and funding history, and names and addresses of at least three references to: Carol Cole, Coordinator, Coastal Oregon Marine Experiment Station, 2030 SE Marine Science Dr, Newport, OR 97365. For additional information, (541) 867-0230 or [comes@hmsc.orst.edu](mailto:comes@hmsc.orst.edu).

Oregon State University, located in Corvallis, is one of ten American universities to hold the Land Grant, Sea Grant, and Space Grant designation and is a Carnegie Research I University. Approximately 12,000 undergraduate and 3,000 graduate students are enrolled at OSU, including 1,870 U.S. students of color, and 1,035 international students. The university has an institution-wide commitment to diversity and multiculturalism, and provides a welcoming atmosphere with unique professional opportunities for leaders who are women and people of color. All are encouraged to apply.

The Coastal Oregon Marine Experiment Station is located on the Oregon Coast at Hatfield Marine Science Center (HMSC) in Newport. Sited on Yaquina Bay, close to a variety of marine habitats, HMSC provides teaching laboratories, student housing, the Guin Library, and a public wing. HMSC also houses the Oregon Department of Fish & Wildlife Marine Resources Program, several components of the Alaska and Northwest Fisheries Centers (National Marine Fisheries Service, National Oceanic and Atmospheric Administration), the NOAA Hydrothermal Vents Program, the Environmental Protection Agency, and the U.S. Fish & Wildlife Service Oregon Islands National Wildlife Refuge Coastal Field Office. Oregon State University is an Equal Opportunity Employer and has a policy of being responsive to dual-career needs.

## INTRODUCING DR. FLEMING, MARINE FISHERIES ECOLOGIST

We're pleased to announce the selection of Dr. Ian A. Fleming for the newly created position of Marine Fisheries Ecologist. Dr. Fleming currently holds a tenured position as a Research Scientist in the Aquatic Ecology Division of the Norwegian Institute for Nature Research (NINA), an institute of applied ecology. He will join the COMES faculty at Hatfield Marine Science Center in January 2001.

Dr. Fleming brings to COMES a strong background in ecology (including ecology, evolution, animal behavior and population genetics and dynamics), conservation biology, and resource management. He has worked in both marine and freshwater environments. In research on the management and conservation of fish populations, he has addressed issues such as the effects of temporal and spatial scales in salmon management, has contributed to the design of demographic and genetic criteria for determining the status of salmon populations, and is currently participating in a multi-national research program sponsored by the European Union to develop a scientific basis for management of wild Atlantic salmon. With this effort, he is also studying marine reserves as a management tool in the sustainability of exploited nearshore fish.

The members of COMES, as well as the F&W faculty, look forward to a long and productive association with Dr. Fleming.

Dr. Fleming is the author of a long list of fisheries publications. His Masters thesis, *Evolution of breeding life history and morphology in Coho salmon*, was followed by his doctorate thesis, *Natural and sexual selection during salmonid breeding, and ramifications for artificial propagation*. A short list, titles of just a few of the publications he has co-authored, appears below:

- Selection against late emergence and small offspring in Atlantic salmon
- EMG telemetry to record the intensity of swimming- and breeding-related behavior in Atlantic salmon
- The application of science to the management of Atlantic salmon: integration across scales
- Ecological and behavioural interactions between farmed and wild Atlantic salmon: consequences for wild salmon
- Genetic divergence and interactions in the wild among native, farmed and hybrid Atlantic salmon
- Reproductive strategies of Atlantic salmon: ecology and evolution
- Breeding competition in a Pacific salmon
- Reproductive behavior of hatchery and wild coho salmon
- Effects of climate change on the life cycles of salmon
- Enhancement of wild salmon populations.



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## OSU SURIMI SCHOOL ANOTHER OUTSTANDING SUCCESS

The 8th Annual OSU Surimi Technology School was held in Astoria between April 11-13. It attracted 125 attendees -- from Oregon, Washington and Alaska, as well as from France, Ireland, Iceland, Uruguay, Denmark, Korea, Japan, Malaysia, Latvia and India. As an indicator of the School's success, more than 30 pre-registrations have already been made for next year's school.

Lectures and hands-on laboratory experiments covered the following topics: Surimi Chemistry, Surimi Microbiology, Acid-aided Surimi Manufacturing, Technology in Surimi Freezing, Rheology and Texture, Surimi Processing and Waste Management, Ingredient Technology, HACCP, Colors in Surimi and Surimi Seafood, Surimi Seafood Flavors, Surimi Seafood: Product, Market, and Manufacturing.

This year, there were 21 industry sponsors from the US, Denmark, and France, represented in the first night's presentation and display. Their generous donation plays a key role in maintaining the OSU Surimi School and related research activities successful.

Jae and Michael went to Thailand this summer to teach at the Third Annual OSU Surimi School in Bangkok (Aug 15-17), another success story with seventy attendees. Before returning home, Jae took time to give a seminar for the Surimi Seafood Industry in Seoul. He also plans to offer the Second OSU Surimi School in Paris next February.



## JAE PARK RECEIVES OSU INTERNATIONAL SERVICE AWARD

Jack Van de Water, Dean of International Programs, announced that Jae Park has been selected as one of the two 1999-00 recipients of the International Service Award. This award, sponsored by International Programs, recognizes "exemplary, on-going contributions of OSU faculty and staff to the internationalization of the university by enhancing student, faculty, and staff awareness and participation in international education, research, and related activities." The co-recipient is Marlan Carlson in the Music Department.

Jae will receive a \$1000 award and a plaque which will be presented to him during University Day on September 18, 2000.

The International Service Award committee was very impressed with the range of Jae's international work and with his continued contributions to the internationalization of OSU. They are looking forward to collaborating with him and the Department of Food Science and Technology in the future.



*Surimi and Surimi Seafood* (edited by Jae Park) was published this year and used as a textbook during the 8th annual OSU Surimi Technology School. COMES faculty members Jae Park, Michael Morrissey, and Ed Kolbe participated in writing book chapters related to surimi/surimi seafood processing and freezing technology.

## MARINE FISHERIES POPULATION GENETICIST SEMINARS

The Coastal Oregon Marine Experiment Station and the Department of Fisheries & Wildlife invite you to join us for a series of seminars presented by candidates for the position of Marine Fisheries Population Geneticist.

SEMINARS AT OSU WILL BE IN ALS 4000

Friday, September 8th, 11:00 am –12:00 noon

Dr. Oscar Gaggiotti

Dept of Zoology, Cambridge University, U.K.

Innovative methods for the study of natural populations using microsatellites

Monday, September 11th, 11:00 am – 12:00 noon

Dr. Mike Banks, Bodega Marine Laboratory,  
University of California, Davis

Emerging Molecular and Statistical Techniques: Do they have the Power to Protect Native Fisheries?

Friday, September 15th, 11:00 am – 12:00 noon

Dr. Joe Quattro, Department of Biological Science,  
University of South Carolina

Molecular Studies of Convergent (Parallel) Evolution in Fishes: Fish Eyes and Negative Charges, Bay-Lakes and Shrunken Heads

Tuesday Sept 19th, 11am - 12 noon

Dr. Vince Buonaccorsi

Southwest Fisheries Science Center, San Diego.  
Reconciling patterns of inter-ocean molecular variance from four classes of molecular markers within Blue Marlin (*Makaira nigricans*)

SEMINARS AT HMSC WILL BE IN THE LIBRARY SEMINAR ROOM -- GUIN LIBRARY

Thursday 7<sup>th</sup>, 2000, 10 am -11 am

Dr. Oscar Gaggiotti

Dept of Zoology, Cambridge University, U.K.  
The effect of life history strategy, environmental variability and overexploitation on the genetic diversity of pelagic fish populations

Wednesday Sept 13th. 9 am -10 am

Dr. Mike Banks, Bodega Marine Laboratory,  
University of California, Davis  
Emerging Molecular and Statistical Techniques: Do they have the Power to Protect Native Fisheries?

Thursday Sept 14th, 4 pm - 5 pm

Dr. Joe Quattro, Department of Biological Science,  
University of South Carolina  
Conservation Genetics of Southeastern Endangered Fishes with an Emphasis on Shortnose Sturgeon

Monday Sept 18th, 10 am -11am

Dr. Vince Buonaccorsi

Southwest Fisheries Science Center, San Diego  
A genetic investigation of speciation and dispersal within rockfishes (*Sebastes* spp.)



## HMSC AWARDS \$90,000 TO STUDENTS

On June 2, the annual Markham Research Symposium showcased the research being done by the recipients of all the HMSC/COAS scholarships and fellowships, to the tune of approximately \$90,000. The Markham Award recipients received \$60,000; the Holt Award \$7,500; the Jones Award \$1,000; the Robinson Award \$1,000; the Wiancko Tuition Scholarships \$8,300; and the Wick Awards \$10,000. Not included in this total are the Cobler and Burt Awards given out by the College of Oceanic and Atmospheric Sciences. Markham Recipients for 2000

- Jae Park** and **Jirawat Yongsawatdigul** - Biochemical and physical properties of alkaline and acid soluble fish myofibrillar proteins
- Chris Langdon** and **Carl Demetropoulos** - Commercialization of Pacific dulse
- Chris Langdon** and **Ebru Onal** - Evaluation of spray-dried algae as a food for Manila clams
- Chris Langdon** and **Blaine Griffen** - Interactions between burrowing shrimp and commercially-grown oysters
- Bruce Menge and Christopher Krenz - Role of recruitment of barnacles and mussels in determining the structure of rocky intertidal communities
- Steve Berkeley** and **Bill Pinnix** - Relationship between early larval and juvenile growth rate
- Steve Berkeley** and **Colin Chapman** - Effects of material age on offspring survival in black rockfish
- Paul Jepson and Scott Hecht - Uptake and accumulation of nonlyphenol through algal and sediment food chains to salmon fry

Other Recipients for 2000

- William Pinnix** - Walter Jones Fisheries Development Memorial
- Steve Tolzman - Curtis and Isabella Holt Education Fund

- Okan Esturk and Justine Hoffman - William Wick Marine Fisheries Award
- Ebru Onal** - Anja Robinson Fellowship
- Daniel Palacios** - Richard Cobler Award
- Ivana Cerovecki - Wayne Burt Memorial



## Upcoming Events

Sept 21-22 -- Copenhagen  
Salmon Summit 2000

Sept 23-29 - Sakhalin Island  
OSU/Russian Conference

Sept 24-26 -- Los Angeles  
NFI Convention and West Coast  
Seafood Show

Oct 6-8 -- Tasmania  
Aquafest Australia 2000

Oct 31 - Nov 3 -- Beijing  
Third World Fisheries Congress

2001  
Jan 21 - 25 -- Orlando  
World Aquaculture 2001

Feb 2-5 -- New Orleans  
Aquaculture America 2000

Feb 6-11 -- Cape Town  
International Abalone Symposium

## FEDERAL GRANT BRINGS NEW TECHNOLOGY TO WILLAPA BAY

Dave and Maureen Nisbet, owners of Goose Point Oysters, in cooperation with a number of local groups and the federal government, are going to change the way oysters have been processed for the past 150 years. Beginning this fall, Goose Point will use high hydrostatic pressure (HHP) technology as well as an oyster knife to separate oysters from their shells. "High pressure is proven technology in the food industry for pasteurization purposes and its application for seafood processing including oysters is relatively new..." said Dave Nisbet. Nisbet credited the Oregon State Seafood Lab in Astoria, and its director, Michael Morrissey, for their role in doing

the research and testing of HHP and oysters. "The seafood lab is an incredible and unique resource for our region, and we would not have gotten this far beyond business-as-usual without Michael and the lab."

The equipment purchase is made possible in part with a \$200,000 grant from the U.S. Department of Agriculture sought by Shorebank Enterprise Pacific with support from the Pacific County Economic Development Council. Farm Credit Services provided the financing for the building expansion as well as the balance of the equipment costs. (excerpted from *Chinook Observer*)



# SALMONID DISEASE WORKSHOP 2000

Every two years the HMSC Fish Disease group under Dr. Paul Reno and Dr. Bob Olson orchestrates an intensive ten-day workshop on recent advances and developments in the understanding of salmonid diseases. The workshop is limited to twenty participants (technicians and professionals in the field), many of whom travel across the country to attend. This year is no exception, with participants from two provinces in Canada, Rhode Island, California, Oregon, and Montana.

Topics for the workshop include current immunological and molecular techniques for detection and identification of salmonid pathogens; new and emerging fish pathogens; cell culture techniques, including maintenance of cultures, mycoplasma detection, and viral identification; histopathology associated with salmonid diseases; the current status of important viral, bacterial and parasitic pathogens; and salmonid disease treatment practices used in Pacific Northwest hatcheries.

One of the draws of the workshop is the top-notch instructors, who are experts in the field. A number of OSU faculty (John Fryer, Jo-Ann Leong, Paul Reno, Linda Bruslind, Dan Rockey, Bob Olson, Jerri Batholomew, Chris Bayne, Jerry Heidel, and Prudy Caswell-Reno) are in the team. Guest instructors from a variety of agencies complete the roster: Marcia House (NW Biological Science Center), Scott La Patra (Clear Springs Foods), James Winton (NW Biological Science Center), Richard Holt (ODFW), Ronald Hedrick (UC Davis), Stephen Kaattari (VIMS), Anthony Amandi (ODFW), Craig Banner (ODFW) and John Morrison (US Fish & Wildlife Service).

Although the class ran from 8:30-5 just about every day, there was time for a trip to the PCR/Immunology Lab and Salmon Disease Lab in Corvallis, complete with BBQ, and free time on Sunday to relax and explore the coast.

The next workshop will be scheduled for the summer of 2002, as it continues to fill a need for keeping up with changes in this complex and intriguing field.

## *Personnel Notes*

*Congratulations to **Bob Olson**, whose winged heels brought him into first place in the 60-64 year-old category for the recent Newport Marathon. Bob clocked in at 4.00.59 for the 26 miles. Bob had shaved quite a bit off his time last year, though he was hoping to break 4 hours this year—only 59 seconds long!*

## HAEJUNG AN LEAVES FOR AUBURN UNIVERSITY

Dr. Haejung An, Associate Professor in Food Science and Technology and a faculty member of COMES, left in February for a new position at Auburn University. Haejung joined the OSU Seafood Laboratory and COMES in the summer of 1991 and got busy right away determining the protease enzymes that are important for the decomposition of Pacific whiting. During her 8 years in Astoria she published 21 journal articles, 3 book chapters and had 7 graduate students receive their M.S. and Ph.D. degrees.

Dr. An's research interests were in the isolation and characterization of protease enzymes, especially the cathepsins in Pacific whiting. She was part of the whiting research team that was recognized for team research with the Jackman-Oldfield award in the College of Agriculture. Recently, she has ventured more into seafood safety, publishing several articles on histamines in tuna and has begun work with *Vibrio parahaemolyticus* in oysters. "She'll be greatly missed," said Lab Director Michael Morrissey, "not only for her solid basic research in seafood biochemistry and safety, but also for the energy she brought to the lab. She was always very devoted to her students and they have all greatly appreciated her guidance."

# GENESIS OF THE OSU/RUSSIAN FAR EAST EFFORTS

The confluence of fishery organizations of Sakhalin Island in the Russian Far East and Oregon State University joining together for mutual purposes ensued from a couple of chance comments between Tony Allison, CEO of Marine Resources International (MRCI) and me, Barry Fisher.

Tony had been asked by a Seattle entrepreneur if something couldn't be done for people of the Russian Far East, who are probably worse off than people in European Russia. The conversation developed around providing direct aid in the form of food, medical supplies, bedding, etc..

Tony relayed this to me and after some thought I responded that we should be doing something that will be of permanent and lasting value to the Russian people. I quoted to him the old Chinese proverb, "Give me a fish and I eat today, teach me to fish and I eat for a lifetime."

I next mentioned there were probably not too many more fisheries that could be developed on a large scale and in Russia based on my knowledge and impressions of the Far East that Oregon State University had certain skills that could be readily used to distinct advantage. In turn I believed that the Russians could contribute some knowledge on stock assessment techniques that would be of value to us. Finally, I believed that both sides could profit mightily by exchanging graduate students in various specialties with marine resource economics probably being the most important graduate training.

Tony agreed that we should hold a preliminary meeting of Russians and Americans at OSU on April 10, 2000.

The meeting was held with Alexander Popov, managing director of Binom, a highly successful company that catches, processes, packs and freezes several varieties of crab and large northern shrimp, and Tony Allison of MRCI. Also in attendance was Dr. Felix Rukhlov, director of the Sakhalin Institute of Oceanography and Fisheries. Many interested Americans attended. Bob Malouf of Sea Grant, Michael Morrissey of the Seafood Lab, Susan Hannah of OSU, Hal Weeks of OSU Extension Service, Ken Hilderbrand of Extension Sea Grant, Gil Sylvia of COMES, Jay Rasmussen of Sea Grant, Bill McNeil (who had been involved in earlier projects with the Russians), and John Winskie. I also was in attendance and chaired the meeting.

The group met at the OSU Hatfield Marine

Science Center and after many hard but stimulating hours of exchange it was decided that there definitely was an agreement by all sides that the Russian-OSU connection should be pursued and broadened by expanding on both sides the circle of planners.

A meeting was held June 29<sup>th</sup> through June 30<sup>th</sup> in Newport to startup and commence work on specific prospects. These planners/attendees included: Gil Sylvia, Susan Hannah, Jay Rasmussen, Ken Hilderbrand, Tom Libby, Tony Allison, Hal Weeks, Michael Morrissey, Felix Rukhlov, Victor Bessarab, Alexander Versechak, Victor Zerkov, Galina Schukina, John Winskie, James Good, Carol Cole, and yours truly, Barry Fisher. The group was able to meet because of seed capital to the amounts of \$40,000 plus dollars had been donated by OSU Sea Grant, COMES, Barry Fisher, the Russian fishing industry, MRCI, and Binom.

A great variety of potential projects were suggested in the first day, but by the end of the second day the group reached consensus on six potential projects:

1. A bioeconomic analysis of the Pacific Shrimp Fishery in the Russian Far East.
2. Graduate student exchange with emphasis to be placed upon Marine Resource management and resource economics.
3. A joint review of Russian tax structure and policy measures which have proven to be injurious and detrimental to the Russian fishing industry. It was agreed that both the Americans and the Russians would work upon suggested tax schedules and application and policy recommendations that would allow long term profitability for the industry and hence greater socio-economic benefits to the people of Sakhalin. It is hoped that this work might become a model for the Federal Duma to consider.
4. The optimal design and operation of shore based processing plants serving a fleet of small boats.
5. Designing/implementing of aquaculture and fisheries supplementation of research and development projects for the Far East Russian Fishing Industry.
6. Evaluating oil/gas and fisheries conflict by prescribed series of resolution methods.

Steering committees were appointed consisting of OSU and Russian "personalities" and specific individuals were named as responsible for work on

## GENESIS, CONTINUED

the above projects. It is hoped there will be a great deal in “hard copy” writing for the next meeting in Sakhalin.

The meetings were graced by a reception for the out-of-towners at my house; Carol had prepared good seafood hors d’oeuvres and the vodka flowed freely. It was followed by “a dinner that was not a dinner” at Canyon Way. Everybody ordered everything; the vodka continued to flow, the wine made its insidious intrusion and entrees were ordered even after desert, soup and salad had been consumed. It was a most convivial affair. Gil Sylvania had to be forcibly restrained from doing Russian Cossack dances on the table. We finished up business the next day, and then the Northern Contingent took off from Newport International Airport.

There will be another meeting held between September 24<sup>th</sup> and September 30<sup>th</sup> in Yuzhnov Sakhalinsk. I would expect that great progress will be made. I have already contacted the Colonel commanding the militia (police) and informed him it will be okay to hold the Americans overnight if they have committed mischief and crimes against society, but to make sure that they are delivered sober and ready to resume work the following day.

The Colonel is a great personal friend of Alexander Popov and myself. The last time I was in Sakhalin Carol and I went to the Militia’s shooting ranges. We were treated to a no-holds demonstration of hand-to-hand combat tactics and invited to fire several weapons on the shooting range. Carol fired a Kalishnikov (AK-47) with a sniper’s scope and then she then fired the Markarov nine millimeter pistol. I fired two different models of the AK-47 and the Colonel asked me if I had been a military man. I answered in the affirmative and he then ordered me to go fire a light machine gun. I laid down and started to fire from a prone position with the Colonel spotting for me. I had fired one belt of 250 rounds. He said fire another. I did so, choosing targets at random. When I was finished the Colonel kissed me on both cheeks and immediately enrolled me as a Sakhalin militia man since I had over 80% hits with 500 rounds. 70% is considered as an expert marksman.

We all then proceeded to a magnificent Shashlik, or shishkabob, feed with lots of shrimp and king crab as well as grilled pork and loads of vegetables and salad. For every salad there were two

bottles of vodka. The Colonel remarked that the women had put too damn much vegetables and salad on the table instead of saving space for the Vodka he had brought. We sang songs, told jokes, and at sunset went home. The next morning before breakfast a big box arrived containing a field uniform of a militia man complete with badges and insignia. It was for me.

I later asked the Colonel when he was swearing me in why he had not sent the dress uniform that could be worn in town. He remarked, looking severely at Alexander Popov, “Already there are too many of you fishermen bastards running around in the streets. Don’t misunderstand me, it’s nothing personal. But I think you fishermen should be exiled to the forest and the mountains where you can howl with the other animals. Therefore you have a field uniform.”

I expect the Oregon delegation going to the Far East in September will continue to uphold the images of Oregon so painfully obtained by one of her leading sons.

Seriously, I believe that we can do a great deal of permanent good in helping the Russians. I also feel that Russians have capabilities in stock assessments that are far better than ours. I don’t think that we absolutely need each other, we are both alive and kicking and we continue to be able to eat. However, I devoutly believe that we can help each other and in our own way make our passage during our time as residents of the Pacific Rim a little bit better place for our having passed through it.

**Capt R. Barry Fisher**  
Chairman  
Advisory Board



*[Note: Gil Sylvania, Michael Morrissey, Susan Hanna, Ralph Brown, and Jim Good will be making the trip in September.]*



# RESTORING OREGON'S RED ABALONE!

They once grew by the thousands along parts of Oregon's southern coast. The red abalone (*Haliotis rufescens*) is the largest abalone species in the world. This tasty shellfish was a valuable food for native Americans, who harvested them from boats using poles with hooks. By the late 1960's, after severe storms and a lack of adequate management, the species was rarely encountered by divers. Now over three decades later, the red abalone may be making a comeback thanks to the work of Oregon Department of Fish & Wildlife field biologists and OSU researchers.

Along with other herbivores, (termed grazers by biologists) abalone play a vital role in coastal ecosystems. Not only do they consume large amounts of drift algae, but also help to maintain algal diversity by consuming rapidly proliferating species. A combination of severe flooding from the legendary 1964 storm that caused record freshwater run-off, sedimentation, and a lot of woody debris along the coast in conjunction with over-harvesting in some areas reduced red abalone populations to the point where they are unlikely to sustain themselves.

But today, red abalone are making the first steps toward returning to the coastal waters of Oregon. The work is being conducted by a joint ODF&W / OSU team at the Hatfield Marine Science Center (HMSC). With the help of ODFW biologists and commercial divers, 24 wild Oregon red abalone were removed from the wild and sent to Dr. Chris Langdon's "Ab Lab" in Newport. There the animals were placed in tanks that mimic the natural habitat of the red abalone. The work at HMSC involves the first and probably the most critical phase of the project — to ensure genetic conservation of the remaining Oregon reds. A minimum of 20 adults may be needed to ensure genetic diversity of the native parent stock, said Dr. Langdon.

From 1995 to 1997, under controlled conditions, the abalone (some measuring 12" in length) were started on the process of reproductive conditioning and spawning. The plan was to feed the abalone brown algae (kelps) until they were reproductively ripe. However, it was clear after several months that a major problem faced the researchers. The abalone ate very little of the food being offered and appeared to be losing weight. Eventually, the abalone began to eat more of the kelp, but their appetite was never sufficient for reproductive development and two attempted spawns were unsuccessful.

"At the time we felt the problem could be two-fold," said Carl Demetropoulos, project manager for the Abalone Brood Stock Program at HMSC. "The abalone were very old and could have been past their prime. Or, it could simply have been that we were not

providing the right algal food to support good reproductive development." So, in 1998 the researchers decided to begin feeding the abalone a diet made up exclusively of the red algae Pacific dulse (*Palmaria mollis*). This algal food was known to produce good growth and gonad development in cultured Red abalone, but had the drawback of probably being unfamiliar to the wild abalone. After several months of near starvation, the abalone finally began to actively feed on the Pacific dulse and put on shell growth. More importantly, and much to the researchers satisfaction, the abalone began to ripen reproductively and were eventually ready to spawn.

On Aug 11, 2000, after three years of effort, researchers finally had the first of three planned spawns of the Oregon abalone brood stock. The spawn produced an estimated 14,000 settled abalone.

Abalone reproduce by releasing millions of eggs and sperm into the seawater, where fertilization occurs by chance. Once the eggs are fertilized and hatch, the larvae (smaller than a grain of sand) swim for about 6 to 10 days before settling and starting to feed on microalgae. Declines in the Oregon abalone population during the 50' and 60's thinned the density of spawning adults to the point where it was difficult for eggs and sperm to make contact.

"This is considered a major milestone in the progress of the enhancement trial. I'm real pleased we can carry out efforts initiated in part by Neil Richmond," said Jim Golden of ODF&W. (The late Neil Richmond was ODF&W's lead shellfish biologist who helped located red abalone and potential outplant sites.)

The plan is to release 15,000 to 20,000 abalone per year in suitable rocky habitats between central and southern Oregon, over several years. The team will then track survival and determine whether the populations can support themselves.

The researchers will also evaluate other enhancement techniques, such as releasing viable larvae into good abalone habitat and bringing adults in the wild closer together so they can reproduce, said Dr. Langdon. "If large abalone can be brought together, say within a meter in protected areas, they should be able to develop small populations on their own." While it may take many years to bring the population back, the team feels its efforts are necessary if Oregon is to restore this valuable resource. As we learn more about abalone through this project, we can better evaluate future management strategies for this valuable Oregon resource.

Thanks also to Ford Evans, Talia Sanfillipio, Umur Onal, Ebru Onal for their help and expertise on this project.

