OREGON STATE UNIVERSITY

DEPARTMENT NEWS & VIEWS

Fisheries and Wildlife **December 1990**

Scientific Creditability and the Spotted Owl Conservation Plan

Editor's Note: *Following the release of the Interagency Scientific Committee's Spotted Owl Conservation Plan (Thomas Report) and the listing of the owl as Threatened under the Endangered Species Act, a number of politicians called for another review of the data. Chuck Meslow, Leader of the Oregon Cooperative Wildlife Research Unit, and a member of the Interagency Scientific Committee, discusses the scientific credibility, composition and function of the team that produced the conservation plan.* ***Dan Edge***

The Interagency Scientific Committee (ISC) to address conservation of the Northern Spotted Owl was established under the authority of an interagency agreement between U. S. Forest Service (USFS), U. S. Fish & Wildlife Service (USFWS), Bureau of Land Management (BLM), and National Park Service (NPS). The Committee was directed to develop a scientifically credible conservation strategy for the Northern Spotted Owl in the U.S. under Section 318 of Public Law 101-121 in October 1989.

The six- member ISC was chaired by Jack Ward Thomas, USFS, LaGrande, and included Jerry Verner, USFS, Fresno; Barry Noon, USFS, Arcata; Eric Forsman, USFS, Olympia; Joe Lint, BLM, Roseburg; and Charles Meslow, USFWS, Corvallis.

A team of 11 scientists representing diverse interests supplemented the ISC and participated fully in all deliberations, were equal authors of the plan, but were not responsible for signing the final document. NPS, USFS (3), USFWS, Oregon Department of Fish and Wildlife, California Department of Fish and Game, Washington Department of Wildlife, academia, timber industry (NCASI), and environmental groups were represented. Seven of the 17 members of the team that authored the ISC report had ties to Oregon State University, as graduates or faculty.

Prior to writing the report, the Committee reviewed all available literature and reports, invited presentations by any and all groups or individuals with data on the owl, visited various portions of the Northern Spotted Owl range (WA, OR, CA), and invited presentations by experts in silviculture and conservation biology. We then sequestered ourselves for two months and developed and wrote the conservation strategy.

Both the National Forest Management Act (NFMA) of 1976 and the Endangered Species Act (ESA) of 1973 require the use of the best scientific information available to evaluate status of species. NFMA requirements prescribe that the USFS maintain viable populations of all native species well-distributed on USFS lands. Really, it tells the USFS keep wildlife well-distributed on the landscape, and don't create endangered species.

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Inside...

Spotted Owl

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The ESA applies to all land ownerships with special emphasis on federal lands, BLM as well as USFS. The ESA provides real muscle and asserts the need to manage on the basis of the best scientific information available.

The ISC was fortunate in having a good data set available. Data on the Northern Spotted Owl has been accumulating since 1972. The intensity (man years devoted to data acquisition) was relatively low until about 1982. Since then the effort has intensified many fold, with much of the work being done by OSU personnel. The Fish and Wildlife Service's listing review team commented that more information was available on which to base a listing decision than for any other proposed species—ever.

You cannot provide convincing science without good empirical data and the data set for the Northern Spotted Owl was strong. We were fortunate in that past Spotted Owl research was directed at management issues—home range size, habitat use, dispersal distance, and survival and reproductive rates. Thus, the data available were pertinent to development of a conservation strategy. Scientists always lust for more data—but the set available was adequate to allow a scientifically creditable process.

The Committee used the scientific method to derive the conservation strategy. We formed hypotheses—then used the available data/information to attempt to refute them. Science doesn't prove things, it tries to disprove the current hypothesis and thereby formulate a new one to test. Where our hypotheses failed to be supported by data they were revised and retested. We used empirical data, mathematical models, and ecological theory to test, adjust, and retest our conservation strategy until the final plan conformed in all respects to our current understanding of the biology of the Northern Spotted Owl. We did not use models of population response alone—we always used them in conjunction with empirical data and ecological literature and theory.

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Creditability also results from the evaluation of the credentials, experience, and reputation of those who prepare any report. The team members were selected with these criteria in mind and each team member's credentials are available in the report for public evaluation. The composition of the team, by employing organization, was also critical to creditability. Each involved state and federal agency as well as academia, the timber industry and environmental organizations were represented. Thirteen of the 17 persons in the team had extended experience with research or management of Spotted Owls.

The process was open. Any and all sessions, including field trips, were open to attendance by anyone who cared to do so. The Committee went to considerable effort to invite formal presentations from the full spectrum of interested parties with information to contribute. Only in the last two months did the team sequester themselves and prepare the final report.

The report was subjected to "peer review", a critical element for scientific creditability. We asked the presidents of five scientific/professional societies to each select an individual to review the report. We received critiques of our effort from The Wildlife Society, Ecological Society of America, American Ornithologists' Union, Society of American Foresters, and Society for Conservation Biology. We reviewed the critiques and incorporated modifications deemed appropriate in our final report. In general, the five peer reviews were supportive. Later, in August 1990, the Assistant Secretary of Agriculture initiated an additional set of peer reviews by members at four land grant universities; University of Maine (M. Hunter), N. Carolina State University (R. Lancia), Texas A&M (J. Teer), Virginia Polytechnical Institute and State University and (J. Carr). These reviews again were supportive but cautioned that the level of

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Message From the Chairman

The holiday season is one of promise, hope and a time to be with family and friends discussing important events in our lives and remembering the good times of the past. This year as we renew our circle of friends and colleagues, my thoughts are on foundations. It is a different topic for a holiday letter, but cracks in our 20-year-old building, and the erection of the new Agriculture II building within a few feet of our front door have focused my mind on foundations that support our buildings and our profession. If the foundations of our profession were as well understood as how to support a multi-storied building, our profession shouldn't have too many difficulties in reaching the public about our concerns for renewable resources.

The academic structures often seem rigid and inappropriate to persons in a different field of study. The structure of an academic program for an undergraduate student in Fisheries and Wildlife is not always the same, nor should students be molded like bullets. A flexible structure over a strong foundation is needed to fit different expectations and needs. Students entering Fisheries and Wildlife degree programs at Oregon State University in 1990 will work toward a degree with options for wildlife or fisheries science, marine resources, fisheries/business, public education, extension, or an individual studies option. This variety of options still has a firm foundation on which a student can grow and develop. Much planning and detail have gone into this program, but we are really just pouring the concrete walls over all of the reinforcement bars and base support that families and teachers have already given students.

The scientific foundation of our profession and department is strong and getting stronger. The faculty, students, staff and alumni of our department have always worked toward excellence in the scientific aspects of the fisheries and wildlife profession. Accepting nothing but the best has been one of our great strengths. The recent Thomas Committee reports on the Northern Spotted Owl supported the findings of Eric Forsman and the many years of investigation of the species at O.S.U. Our graduates have the necessary skills and background on which to continue their learning about natural resources. That part of our foundation seems firm, but it will need constant attention and effort. The social elements of our professional foundation need support now.

Students learn almost as much (and maybe more) from their fellow students as from the faculty. Knowing people from different backgrounds and cultures adds much to a firm foundation for a person's thoughts and actions. Talented students from over the world come to O.S.U. to study fisheries and wildlife. These are students from Germany, Japan, Rwanda, Argentina, Brazil, Chile, Mexico and Oman. Students from Oregon still comprise the majority of our students, and the competition to attend O.S.U. is increasing as the University has raised the grade point average for admittance and set a quota on the number of students who can attend. We have better students, but lacking in this mixture are representative numbers of minorities, and the number of women Ph.D. candidates in wildlife is far too low.

The lack of adequate representation of minority students from the U.S.A. in fisheries and wildlife is a national problem. This makes the social structure of our profession weak. At the March meeting of the North American Wildlife Conference, I strained to find a minority in the technical sessions and there were no women at the business meeting of The Wildlife Society. The Pittsburgh meeting of the American Fisheries Society had a few minorities present and women were on the Executive Board of the A.F.S., but the AIFRB did not have any women on its executive board. We need the reinforcement of minorities in our profession if we are to meet the conservation challenges of the next century. The minorities in the U.S.A. have only dimly heard of the way that our renewable natural resources are being spent, and if we fail to get our messages to them, we fail to educate tomorrow's majority.

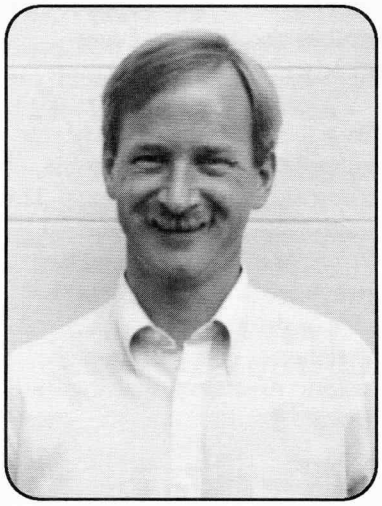
As we draw our circle of friends and colleagues closer together this year, I wish for each of you a bigger circle with more members of ethnic, racial and religious minorities. In order to accomplish this we need your help in telling women and minorities about the opportunities in the fields of fisheries and wildlife, and it won't hurt to mention O.S.U. as a good place to get an excellent educational background. The promise and the hope of a better and stronger foundation for our profession depends on all of us to widen the circle. Happy Holidays!

- Dick Tubb

Meet Your Faculty

Dave Sampson describes himself...

When I'm asked to describe what I do for a living, I usually say that I'm a "fisheries scientist". But, after a pause to let the interested party ponder my reply, I qualify my statement and explain that I've been involved in research on marine worms, shrimp, and whales. Then, just to add to their puzzlement, I tell them that most of what I do is applied mathematics and statistics.



I don't remember ever having a burning desire to be a fisheries scientist but I suppose I've always had a predilection for fish and fishing. My career in fisheries has always been marine oriented but I also have an affinity for freshwater. At an early age I developed a keen interest in fly-tying and fly-fishing for trout. This was in spite of the fact that no one else in my family was (or is) a fly-fisherman and that the nearest trout streams were several hours inland. Perhaps my parents were over-indulgent to take me on trout fishing expeditions. Certainly they were very tolerant of and patient with my futile attempts at fly fishing. It took several years of flailing the water before I was able to present them with a legal trout as compensation for all their time and efforts.

I also seem to have a tendency to turn up on the Pacific Coast. This is my third trip west. As an undergraduate I spent four years at Stanford University and graduated in 1975 with a degree in Human Biology. I went home to Maine and, after working for a summer in a restaurant (preparing fish and seafood, of course), I returned to the Department of Marine Resources. But this time around I worked in the research division as a technician, first for the alewife and northern shrimp projects, and then for the marine worm project. After a few years at those tasks I decided that I needed and wanted to learn more about these strange mathematical models and statistical procedures which I was being

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Department Staff Received Awards from CAS

Department of Fisheries and Wildlife staff received two awards during the College of Agricultural Sciences Faculty/ Staff Day. The "Stream Team" was first to receive this newly established award which recognizes "superior and distinguished interdisciplinary team achievements in teaching, research, international or extension activities of faculty and staff."

The Stream Team, established in 1971, conducts research on numerous aspects of stream ecology, incorporating several disciplines. The team's research was important in developing new rules for the Oregon Forest Practices Act, especially retaining riparian vegetation and large woody debris. The Stream Team's research has also focused on the use of organic material as it passes from headwaters into major tributaries, and stream recovery following the Mount St. Helens eruption.

The award included individual plaques for each team member and $1,000 for use by the team. The team is headed by Stan Gregory; other members from the Department of Fisheries and Wildlife include Jim Hall, Linda Ashkenas, Judy Li, and Randy Wildman. The team also includes David McIntire (Botany), Arthur McKee (Forest Science), Norman Anderson (Entomology), and Jim Sedell, Fred Everst, Gordon Reeves and Frederick Swanson from the U.S. Forest Service.

William Liss was placed on the Registry of Distinguished Teachers in recognition of his outstanding and consistent efforts in teaching.

Congratulations to the recipients of both awards!!

Dave Sampson

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asked to use. In the autumn of 1979 I headed west for a second time, to the University of Washington for intensive courses in statistics, population dynamics, and ecosystem modeling.

It was at UW that my eyes were opened to the tremendous power and utility of applied mathematics. Suddenly I could see that there was real use for all those weird symbols and notation.

After three quarters at UW, I returned to Maine and to the Department and served as the statistical and computer consultant for a variety of different programs: stock assess ments of the Gulf of Maine northern shrimp resource; the design and implementation of a computerized licensing system for the Department's commercial fishing licenses; the design and implementation of a port sampling program for groundfish landed at the smaller Maine ports; and the development of fish traps for the capture of juvenile groundfish for tagging experiments.

In addition to doing my job for the Department and working on (and eventually completing) my Master's research and thesis, I also sang with several amateur choruses, played trombone with the town band, and was involved, on stage and off, with the productions of our local theater group. For me music is a fan- tastic release from tension or frustration.

In the summer of 1984, having just successfully defended my Master's thesis, I was suddenly offered a chance to study at the Imperial College of Science and Technology, a part of the University of London. This seemed too good and unusual an opportunity to let pass. So, after several frantic months of finishing up projects for the Department, I arrived in Britain on New Years' Eve and began the next phase of my career as a fisheries scientist. I had come to Imperial College with the expectation of doing two years of research on Antarctic krill, but I ended up spending four years examining and analyzing the International Whaling Commission's extensive data base on the catches of baleen whales from the southern hemisphere.

I am very grateful that I had the opportunity to live in London for almost four years. London is a vibrant city with an incredible variety of sights and sounds to offer. But my best experience happened during my first year there; I met my wife, Nicky, while on a weekend retreat with the Imperial College choir. Life in a big city in a foreign country is much nicer when you have a local guide to show you around.

In the autumn of 1988, my research and Ph.D. thesis more or less finished and my money from Imperial College at an end, we moved to Portsmouth, on the south coast of England, and I started a job as a research associate with the Marine Resources Research Unit at Portsmouth Polytechnic's School of Economics. I worked with a research team that was studying the effects of technological change on fishery systems. It was very instructive to work with economists and learn their view of the problems of fisheries. My current research interest in fishermen's choice of fishing location and fishing technology stems directly from my work and experiences at the Polytechnic.

My wife and I are pleased to be in Oregon. We have a whole new world to explore and enjoy, a new family to raise (daughter Jessica Rose was born in England in early September), and new friends to meet.

PUBLICATIONS

Your department is one of the most productive units in the College of Agriculture Sciences both from the standpoint of undergraduate teaching and research grants. Faculty and graduate students in the department are currently involved in over 60 research projects ranging from community structure and function to contaminant toxicity. Results from these and other studies are reported in a number of international scientific journals. The following is a partial list of the more than 80 publications by faculty and staff from your department in 1990. Reprints of most of these articles are available on request from the senior author.

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Publications *(continued from page 5)*

Avella, M., C. B. Schreck, and P. Prunet. Plasma prolactin and cortisol concentrations of stressed coho salmon, Oncorhynchus kisutch, in freshwater or saltwater. Gen. Comp. Endocrinol. In press.

Bartholomew, J. L., T. Yamamoto, J. S. Rohovec, and J. L. Fryer. 1990. Immunohistochemical characterization of a monoclonal antibody against Ceratomyxa shasta. Aquatic Animal Health 2(1):68-71.

Blakely, K. L., J. A. Crawford, R. S. Lutz, and K. M. Kilbride. 1990. Response of key foods of California quail to habitat manipulations. Wildl. Soc. Bull. 18:240-245.

Burnett, K. M., and W. J. Liss. 1990. Multisteady-state toxicant fate and effect in laboratory aquatic ecosystems. Environmental Toxicology and Chemistry 9:637-647.

Cai, Z. W., and L. R. Curtis. 1990. Effects of diet and temperature on consumption, growth and tissue fatty acid composition of triploid grass carp. Aquaculture. 88:313-327.

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Coblentz, B. E. 1990. Exotic organisms: a dilemma for conservation biology. Conserv. Biol. 4:261-265.

Crosby, M. P., R. I. E. Newell, and C. J. Landon. 1990. Bacterial mediation in the utilization of carbon and nitrogen from detrial complexes by Crassotrea virginica. Limnology and Oceanography 35:625-639.

Curtis, L. R., N. I. Kerkvliet, L. Baecher-Steppan, and H. M. Carpenter. 1990. 2,3,7,7-Tetrachlorodibenzo-p-dioxin pretreatment of mice altered tissue distribution but not hepatic metabolism of a subsequent dose. Fund. Appl. Pharmacol. 14:523-531.

Dauble, D. D., and L. R. Curtis. 1990. Effects of digestive processes on fate of (14C) quinoline ingested by rainbow trout. Environ. Toxicol. Chem. 9:505-512.

DeNicola, D. M., C. D. McIntire, G. A. Lamberti, S. V. Gregory, and L. R. Ashkenas. 1990. Temporal patterns of grazer-periphyton interactions in laboratory streams. Freshwater Biology 23:475-489.

Edge, W. D., and S. L. Olson-Edge. 1990. Population characteristics and group composition of Capra aegagrus in Kirthar National Park, Pakistan. J. Mammal. 71:158-160.

Feist, G., and C. B. Schreck. 1990. Hormonal content of commercial fish diets of young coho salmon, Oncorhynchus kisutch, fed these diets. Aquaculture 86:63-75.

Gut, L. J., W. J. Liss, and P. H. Westigard. 1990. Arthropod community organization and development in pear. Environmental Management, Vol. 15.

Langton, C. J., and A. E. DeBevoise. 1990. Effect of microcapsule type on delivery of dietary protein to a marine suspension-feeder, the oyster Crassostrea gigas. Mar. Biol. 105:437-443.

Main, M. B., and B. E. Coblentz. 1990. Sexual segregation among unglates: a critique. Wildl. Soc. Bull. 18:204-210.

Markle, D. F., and J. E. Olney. 1990. Systematics of pearlfishes (Pisces: Carapidae). Bull. Mar. Sci. 47(2).

Maule, A. G., and C. B. Schreck. 1990. Glucocorticoid receptors in leukocytes and gill of coho salmon. Gen. and Comp. Endocrinology 77:448-455.

Miles, A. K., and E. C. Meslow. 1990. Effects of experimental overgrowth on survival and change in the turf assemblage of a giant kelp forest. J. Mar. Biol. Ecol. 135:229-242.

Mullican, T. R., and L. N. Carraway. 1990. Shrew remains from Moonshiner and Middle Butte caves, Idaho. J. Mammal., 71:351-356.

Nichols, J. W., and L. J. Weber. 1990. Lack of myoglobin function in the isolated perfushed buffalo sculpin (Enophys bison) heart. Can. J. Zool., 68:825-829.

Noss, R. F. 1990. Can we maintain biological and ecological integrity? Conserv. Biol. 4:241-243.

Sampson, D. B. 1990. A length-structured population model for southern fin whales and a test for density dependence. J. Cons. Int. Explor. Men., 46:249-268.

Schreck, C. B., M. F. Solazzi, S. L. Johnson, and T. E. Nickelson. 1989. Transportation affects performance of coho salmon. Aquaculture 8:15-20.

Spotted Owl

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protection afforded the owl was at the minimal end of acceptability.

The scientific credibility of the report was thus bolstered by use of the scientific method, the credentials of team members, quality and quantity of data available, open process, and peer review.

We have also had the rich emotional experience of presenting our report to several subcommittees of Congress and discussing the report at length with the Interagency Task Force's working group chaired by Assistant Secretary of Agriculture James Mosley. Each of these opportunities further "tested" the substance and scientific creditability of the plan.

The involvement of science in the management of natural resources in such a formal fashion is a product of the law — the ESA — providing the language and access to courts by persons/groups who perceive the law is not being followed.

To summarize, these statements from the ISC report serve well: 1) Our assignment was to develop a scientifically creditable conservation strategy for the Northern Spotted Owl. 2) We recognize that the impacts of the strategy we propose will be analyzed by others. 3) The immediate response, we expect, will be to focus almost solely on the short-term economic and social impacts of implementing the strategy as it affects the availability of timber. 4) This evaluation is critically important. Adoption of the conservation strategy, however, has significant ramifications for other natural resources, including water quality, fisheries, soils, streamflows, wildlife, biodiversity and outdoor recreation. All these aspects must be considered when evaluating the conservation strategy. The issue is more complex than spotted owls and timber supply — it always has been.

"We have proposed. It is for others — agency administrations, elected officials, and the people whom they serve — to dispose. That is the system prescribed in law. It seems to us a good one. We can live with that."

Copies of the ISC report "A Conservation Strategy for the Northern Spotted Owl", Report of the Interagency Scientific Committee to address the Conservation of the Northern Spotted Owl and maps depicting the Habitat Conservation Areas are available upon request from: BLM - Portland, Oregon State Office, P.O. Box 2965, Portland, OR 97208.

The Mystery of the Marbled Murrelet Unfolds

The Marbled Murrelet (Brachyramphus marmoratus) is a robin-sized seabird that belongs to the Auk or Alcid family. The nesting habits and behavior of this species have long been a mystery. The secretive and elusive nature, cryptic plumage, and rapid flight (>50 mph) of the murrelet have posed difficulties in discovering the secrets of its life history. Indian legends have spoken of a crude nest on a redwood bough deep in the coastal forests of the Pacific Northwest. A very chubby bird with an uplifted bill perched nearby. Other Indian stories depicted murrelets nesting high on mountains in hollow trees. However, ornithologists have searched for nests of the murrelet both offshore and inland since the early 1900's only to come up empty handed. Early published papers exemplified their curiosity and frustration: 'Does the Marbled Murrelet nest inland?', and 'The mystery of the Marbled Murrelet deepens'. Only now, in the late 20th century, has the mystery of this unique seabird begun to unfold.

The first nest of the Marbled Murrelet was discovered in Siberia in 1963. Currently 19 nests of this species have been located throughout its range, along the Pacific Rim from Japan to central California. In the summer of 1990 while conducting a research project funded by the Oregon Department of Fish and Wildlife in cooperation with the U.S. Forest Service, Bureau of Land Management, and the Oregon Cooperative Wildlife Research Unit at Oregon State University, my field crew and I discovered the first known Marbled Murrelet nests in the state of Oregon by using a ground search technique. The murrelet is known to use flight corridors, such as rivers and ridges, during dawn (and dusk) trips in summer from nest sites to feeding areas just offshore. While flying over forested areas they can be detected by their frequent and loud vocalizations - -"Keer, Keer." The nests were discovered by watching and listening for incoming murrelets, and thus witnessing the dawn exchange of the adults at the nest. Both nests were located in old-growth trees in mature or old-growth forests, 12-16 miles inland. We were able to observe 3 weeks of incubation activities at each nest, but only 6

days of chick rearing. Unfortunately, the chick at the first nest fell to its death during a wind storm. The second hatchling was eaten by a nocturnal predator; a Great-Horned Owl was suspected to be the culprit.

Unlike other alcids, the Marbled Murrelet does not nest in colonies on isolated rocky islands. Instead, these birds nest in scattered pairs or small aggregations on the mainland or large-treed islands. In northern Alaska and Japan, it is known to nest on the ground on steep slopes in tundra or alpine habitat. Six murrelet nests have been located in these areas, including one in a rocky cavity. From southeast Alaska south, where a well-developed coniferous forest abuts the ocean, the murrelet has been found to nest only in large conifers, making it unique among alcids. Thirteen tree nests have been located: 3 in Siberia, 1 in British Columbia, 1 in southeast Alaska, 3 in Big Basin State Park in northern California, 3 in Washington and 2 in Oregon. All of the tree nests consisted of a depression in moss or needles on branches of old-growth conifers, and were located in older-aged forests.

As the story of the Marbled Murrelet has begun to unfold, it has become evident that there are many pressures that may affect its long-term viability,

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FROM THE MAILBAG

by Lee Kuhn

Three OSU faculty members visited the Soviet Union during the first two weeks of June as part of an Oregon trade mission. Bill Wick ('50, MS '52), Director of Oregon Sea Grant, Bill McNeil ('52, MS '56), Director of the Cooperative Institute for Marine Resources Studies, and Kenneth Hilderbrand, a seafood specialist with Extension Sea Grant, joined several others visiting Khabarovsk and Vladivostok, two cities in the southeastern corner of the Soviet Union. Other meetings were held on Sakhalin Island, north of Japan. I specifically instructed Wick to come home with one of those fine-looking fur hats but Bill said they were a bit "spendy" even for his group. Bill took several packages of assorted "goodies" with him to give to cooperating Russians during their travels. One item included the medallion/key chain we used in 1985 to commemorate the 50th anniversary of the OSU Department F/W; it turned out to be a highly prized item. So...should you happen to run into Mr. Gorbachev during any of your world travels please observe carefully...who knows, even now his personal keys may be attached to one of our little medallions. Interesting thought!

Jack Adkins ('49) reports from Spokane, WA where he has lived since retiring from the Washington Department of Wildlife in 1982. Jack recently lost his wife who suffered for many years with multiple sclerosis. Jack's hoping to catch up on hunting, fishing, and traveling in the west.

It's very hard to lose a close friend...a former college roommate, hunting partner, fishing companion, fellow traveler to many a wildlife meeting and an all around "good guy". It does happen, and on September 27 Don Dickey ('42), my old mole-stomping buddy for more than 40 years passed away after losing a tough battle with cancer. I'll miss him!

Jack Hemphill ('50) made it back for his 40th class reunion as promised but we missed connections. Sorry Jack, but hope you made it to Parker Stadium to see the Beavers wax Arizona.

The December '88 News & Views featured an article "Mole Busters to the Rescue" by Bill Wick and included a photo of Dick Giger ('62, MS '65) giving careful scrutiny to a bunch of flood-drowned moles...part of his excellent research project. Of course this was too good an opportunity for Roger Vorderstrasse ('53, MS '55) and Dick's cohorts in the FWS to pass up. The picture, accompanied by many choice comments and suggestions soon appeared on their bulletin board. Fortunately, our limited space won't permit reprinting any of these pithy comments, but knowing Dick, we suspect he took it all in the spirit of fun as intended.

And speaking of moles, a recent Trail Talk of ODFW featured a picture of Doug Cottam (MS '85, Ph.D. Penn State) the first and only Urban Wildlife Biologist with ODFW. Doug was discussing a 'mole problem' with one of the Portland golf course grounds keepers. However, to the best of my knowledge, Doug had never applied for a mole hunting license and could be in deep trouble should this discrepancy come to light. Since I happen to have the only known supply of this particular license I'm sending one to Doug. Any of the rest of you mole hunters who wish to obtain said license and become "legal" can obtain same by sending $1.00 to me c/o Department of Fisheries and Wildlife, OSU. All such monies of course go to the News & Views expense account.

Welcome back to Robert Malouf (MS '71, Ph.D. '77) who has been selected as Director of Oregon Sea Grant effective January. Malouf, currently the Director of the New York Sea Grant Institute based at the State University of New York at Stony Brook, will replace Bill Wick who is retiring in December. How nice to have a nation-wide search turn up one of our own. Too often such searches seem to result in some pretty unsatisfactory appointments.

A fine gathering of the clan on our deck in late September when Jay Long and wife Jean, Woody Holderman and wife Bernie, Francis Ives ('49), and John Adair

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Mailbag

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('50) joined the Kuhn's for cider and conversation. Jay looked great though he reported taking a bad fall off the deck of their mobile home in Yuma last year. Jay spent several days in the hospital and required several stitches to repair the damage. Still bothered with failing eyesight, Jay no longer drives a car or goes hunting but I think he can still tell an ace from a duece so maybe all is not lost.

On May 17, 1988 Henry "Hank" Mastin ('42) passed away in Lakeview, Oregon. As a part of his legacy he willed a generous portion of his estate to the OSU Foundation to help students continue their studies in the Department of Fisheries and Wildlife. The Department has chosen to use the earnings from this fund to establish scholarships for incoming students majoring in fisheries or wildlife with any additional earnings going to aid graduate students. This year's recipients of the $1,000 Mastin awards are Chris Smalling of Turlock, CA, Shawn Smith of Ontario, OR, and Craig Wilder of Klamath Falls, OR. Congratulations to these fine students.

Another student scholarship has been established at Sheldon Jackson College, Sitka, AK in memory of Dennis Lund ('67, MS '72) who died of cancer in January 1989. Dennis was a fine young man...creative, energetic and an excellent biologist. I'm sure Dennis would be pleased to have some worthy student receive funds in his name to continue the study of aquaculture and marine sciences at Sheldon Jackson. Further information regarding the scholarship can be obtained from Dr. Michael Kaelke, President, Sheldon Jackson College, P.O. Box 479, Sitka, AK 99835.

By all reports the 25th anniversary meeting of the Oregon Chapter of the Wildlife Society held at Rippling River was a huge success. At least 3,670 people attended, the largest meeting yet. The R.E. Dimick Award was given to Robin Brown, ODFW for his presentation "Northern Sea Lion in Oregon and Washington". This was the 21st time this award has been given and is presented at each annual meeting to recognize excellence in communication and outstanding wildlife work. Other awards included the Achievement Award given to Vic Coggins ('67) for 23 years of outstanding service with ODFW, and the Oregon Chapter Wildlife Society Award to Donavin Leckenby ('62) for his many years of research with mule deer and elk in eastern Oregon. The Wildlife Achievement Award was also presented to Lt. Gerald Del Fatti ('59) recently retired after 27 years of service in the Oregon State Police in wildlife law enforcement.

If you've visited the campus recently you have noticed the huge crater out in front of Nash Hall where the old Ag. Utilities building used to be. No, it wasn't a bomb nor is it the site of a new lake for the fisheries people. It's the location of the new AG Sciences II complex. With a $25 million price tag, and major funding from both state and federal sources, it is well started and will eventually house much of the University's research in genetics, biotechnology and molecular biology. Also of interest to F/W grads is the 21,000 ft. expansion of the library at the Hatfield Marine Science Center which was completed at a cost of $2 million, funded by EPA and private donations. Also complete earlier this year was a $1.57 million fish research laboratory to study the diseases that can attack Columbia River salmon during stages of their development.

Dr. German Pequeno (Ph.D. '84) has written to friends from Valdivia, Chile where he is currently Professor and Director of the Institute of Zoology at Universidad Austral de Chile. Dr. Pequeno is also serving as President of the Chilean Ichthyological Association. He sends best regards to his many friends at OSU.

After 32 years and a wide variety of jobs with the Hawaii Division of Forestry and Wildlife, Ron Walker ('57) is beginning to think retirement. Ron says, "Retirement pending...losing interest in challenges. You guys forgot to warn me of bio-politics, socio-economics and threats of law suits!" For the past 10 years Ron's title has been "Wildlife Program Manager" where he is responsible for coordinating a statewide program of wildlife research, management, operations, development,

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maintenance, capital improvements, and endangered species restoration. As he says, "I'm busy with captive propagation of endangered species, protection of wetlands, first spring turkey hunting season, primitive firearm experimental hunt, and expansion of natural area reserves system." This is losing interest!

A great letter from Dave Narver ('56, MS, Ph.D. Washington) who writes, "As Director of Fisheries for the province of British Columbia, I have what must be the best job in the field. Over 70% of our sport catch of trout and salmon is composed of wild fish. We use some 30 different stocks of wild trout as the source of 95% of our annual 24 M egg take. Over the last couple of years, we have implemented a major policy of demand management on many of our world-famous steelhead streams to avoid the "tragedy of the commons", i.e. overcrowding. We use limited entry, license fees, and controlled length of stay to achieve our goal of maintaining quality angling experiences in uncrowded, wild settings." Dave asks, "has it really been 5 years since that super-fun reunion?" I think he'd come for another one!

Thanks to Audrey Schneider for sending along the new address for son Phillip, Jr. ('66, Ph.D. '75). After an assignment as Fisheries Toxicologist for DuPont in Paris, France, Phil Jr. is now at 13 Stoney Ridge Rd., Landenberg, PA 19350. That must have been "tough duty" in gay Paree...eh Phil?

A 3-page letter from Chris Wille ('71) who used to spend his spare time helping Paul Peloquin ('66, MS '69) and me chase nutrias around the Willamette Valley. After spending some time as one of those "few good men" the Marines are always looking for, Chris eventually wound up as one of the editor/writer/photographers with Audubon magazine in New York City. Although our space doesn't permit all of his most interesting letter I have lifted a few tidbits. Chris says, "...did you know I quit my job with Audubon, got married, and moved here (Costa Rica)? We came here with the idea of establishing a Tropical Conservation News Bureau, an agency that will feed the North American and world press a steady diet of stories and pictures about what we believe is the most important science story of our era—perhaps of all time." Chris and wife Diane are finding life in Costa Rica a shocking change from that in New York City. "It's frustrating..we fight the grinding slowness of the place and remember when we had staff, budget, clout, UPS, an organization to support us, other people to blame for our failures, a car, the New York Times, bagels, pockets full of money. Now all we need is funding...we have received two grants and if we can double that money we'll be ready to roll!" I'm betting on Chris! If Columbus had asked for volunteers to sail out onto that broad unknown ocean, Chris would have been first in line!

A most interesting letter from Shawn Sandoval regarding husband Will Sandoval (MS '80) and after reading of his busy schedule I can certainly understand why he couldn't find time to write it himself. For the past 10 years Will has been busy managing commercial salmon fisheries for Indian treaty tribes in Washington State. The last six seasons have been spent managing commercial fisheries for the Muckleshoot tribe, whose treaty area covers most of Puget Sound, the rivers, waterways and tributaries of present day Seattle and its suburbs; Lake Washington, Lake Union, and Lake Sammamish. He has actively participated in US-Canada treaty negotiations, inter-tribal allocation agreements, Pacific fisheries management council negotiations and even in trying to protect the Cedar River winter steelhead run from "Herschel" and his sea lion buddies. Since the first of the year he's been in Canada where he's developing a fisheries co-management program for three native bands on the coast of British Columbia. The first tribal biologist to work for a coastal band, he's responsible for an area comparable in size to all the waterways of Puget Sound, the Straits of Juan de Fuca, and then some. This area is extremely rich in shellfish and fishes including halibut, herring, steelhead and salmon. An area where a 65 lb. chinook is considered puny! Meanwhile, Will thinks maybe he should learn to dive and also to fly. Sure hope he's not planning to take on Herschel hand-to-hand! As Shawn says, "...a career in fisheries

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Marbled Murrelet

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including habitat loss, predation, and food availability. Loss of habitat is the most important and timely concern. All evidence from nest sites, locations of chicks and eggs on the ground, and basic distribution information to date, demonstrate that the murrelet prefers old-growth forests for nesting and roosting, and is not found in any stands without an old-growth component. In addition, murrelets appear to be particular in their choice of nest branches, and aspects of their social behavior, which we do not yet fully understand, point to the need for large stands. Preferred habitat such as this is disappearing at a rapid rate throughout the Pacific Northwest.

Because of the numerous concerns about this species, in January of 1988 the National Audubon Society, along with many Oregon chapters, the National Wildlife Federation, and the Oregon Natural Resources Council, petitioned the U.S. Fish and Wildlife Service (USFWS) to list the Marbled Murrelet as a threatened species in California, Oregon and Washington. In January 1989, the USFWS gave the murrelet a Category 2 designation, which essentially is a waiting list for further consideration under the Endangered Species Act. The USFWS is 2 years overdue in making a final decision, although they are currently writing a Species Status Review.

Land management agencies, such as the Forest Service, consider the murrelet a sensitive species because of the USFWS Category 2 listing. Agency policy suggests that surveys should be conducted to determine the distribution of the birds in relation to timber sales in order to evaluate the impacts of habitat modification on their populations. Surveys are planned for summer of 1991. However, it has also been suggested that providing habitat for the Northern Spotted Owl (Strix occidentalis) will suffice for the murrelet. This idea would work if spotted owls and murrelets were equally distributed across the landscape, had the same habitat preferences, and responded similarly to habitat perturbations. However, there is enough data to show that murrelet habitat does not always overlap with that of the Northern Spotted Owl. The current landscape pattern in the Oregon Coast Ranges (i.e. small patches of old-growth forests within a sea of clear-cuts and young forests) has confined the murrelet population to the central coast where mature and old-growth forests still exist close to the ocean. The viability of the murrelet will depend on the preservation of this habitat along the central coast, as well as managing forests on longer rotations in other areas of the Coast Ranges. The habitat preferences of each species should be handled individually, especially when dealing with an anomaly like the Marbled Murrelet.

Perhaps the murrelet will be listed, or management guidelines to preserve habitat will be implemented before vast areas of murrelet habitat meet the saw in 1991.

S. Kim Nelson, Research Wildlife Biologist, Oregon Cooperative Wildlife Research Unit, Oregon State University

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management can bring fame, fortune, and travel. A minor in political science certainly won't hurt and good negotiating and communications skills are a must!" Will can be reached c/o OKNTC, P.O. Box 760, Bella Coola, British Columbia, Canada VOTICO.

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