

women in **NATURAL RESOURCES**

Vol. 9, No. 4, 1988

for professionals in forestry, wildlife, range, fisheries, recreation, and related social sciences



Emphasis on Careers

Professionhood

National Marine Fisheries

Director Nancy Foster: Interview

**Australians Take Masculine Norms
as Neutral Research Shows**

Revegetation Study at 10,500 feet

Tribes' Fish Losses Enormous

Does Public Speaking Frighten You?

Peace Corps Hires Rising

formerly women in
FORESTRY

REPORT ON A QUASI-, PSEUDO-, ALMOST-SCIENTIFIC WINR SURVEY

We had a good return on the subscriber survey and the information gleaned from it will be very helpful in guiding us through the next year's planning. Remember, however, that we didn't promise a high-tech report on it, because it wasn't engineered in a very high-tech way. I won't, for example, report percentage of those who left out a category. What you are going to get are the figures for those who responded to a particular question.

OK, so here you are for the world to see. More than three-quarters of you are female, 92% of you have college degrees, and a significant number have a master's or doctorate. In fact, as Alan Witbecker commented as he was compiling some of these data, more of you have advanced degrees than those who do not. Your earnings are not spectacular, but they are solid. Ten percent make more than \$41,000, 50% make more than \$25,000. Almost 25% earn less than 20,000, but 29% of these are students: adjusting for them, only 17% earn less than \$20,000. These earnings are probably in line with the fact that you are young--75% of you are between the ages of 26 and 35, and fully 42% of you are between the ages of 31 and 40.

Some 51% of the respondents work for the Forest Service, with state agencies and universities the next largest employers. Large and small companies were equally represented, and 7% are self-employed as owners of businesses or consultants. The dominant profession was forestry (54%), next was research at 15%,—and presumably this research could be range, forestry, or any of the others— then wildlife at 9%, administration at 9%, followed by the rest of the professions.

Most of you are married (60%), 7% are now divorced and single, and 30% are single. Only 24% of you have children. A surprising number, probably far greater than the U.S. average, live in homes as opposed to apartments, 97% own cars, 24% own boats, 90% owned sports and hunting gear/equipment, 90% own cameras. Ten percent of you have businesses in your homes, and I wish I had asked you to specify what kinds. Presumably, some of you who consult would be in that category, but perhaps not all. You all travel some, and some travel a lot.

From our subscription department, we have learned that 14% of you live in Oregon, 13% in California and then, in order, the next largest numbers are in Washington, Idaho, Minnesota, Colorado, Michigan, New York, Wisconsin, Montana, Alaska, Virginia, Maryland, North Carolina, Utah, Arizona, Massachusetts, Ohio. The rest of the states flatten out to 1.5%, down to .5% each. We have *no* subscribers in Delaware, and only one in Texas! We have 53 foreign subscriptions, but the bulk of them go to Canada.

The questions we asked about the journal itself—what you liked and did not like—were fielded like this: You told us you especially liked articles about successful women, you like humor, articles about dual careers, working and children, interviews, career enhancement, field work situations, coping with discrimination. Several suggested we solicit more articles on engineering, mining/reclamation, environmental ethics, industry, and more articles on specific agencies like the forest service, BLM, Park Service, Fish & Wildlife.

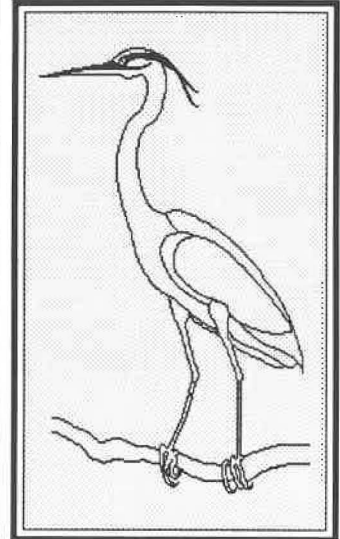
Most of you would be interested in some advertising in the

journal. Several of you mentioned items you would not like to see, but 80% of you mentioned things you would like to see, such as: Women's work clothing and boots, outdoor equipment for work and recreation, sporting goods, job listings, books, computer software, seminars, travel-for-recreation listings, educational opportunities. Almost all of you read professional journals from your own fields. The three mentioned the most often in order are the *Journal of Forestry*, *American Forests*, *Ecology*. Other magazines/journals read were, in order: *National Geographic*, *Ms.*, *Newsweek*, *Time*, *Audubon*, *Natural History*, *Smithsonian*, *Outside*, *Sierra Club*, *Savvy* and hundreds of others, including regional magazines.

All but one of you said you would recommend the journal to others, and most of you do share it with others (tell them to subscribe—we need their money!). From that, we can estimate our readership between 12-15,000, optimistically. Most of you said it was priced right and arrived in good condition.

Reading the comments you made was like having Christmas every day. I loved opening those envelopes. And 31% of you said you read the journal cover to cover, every time! That is astonishing. *You* are astonishing people in the new workforce, and I am honored to have a writing acquaintance with you.

Dixie L. Ehrenreich



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Cover photo: Nancy Foster of the National Oceanic and Atmospheric Administration and colleagues examine the anchor recovered from the wreck of the Monitor, a Civil War ironclad ship.

LETTERS

I have enclosed a newsworthy press release for the journal and have asked our state office's public affairs staff to put you on their mailing list. I am the district archaeologist here as well as EEO/FWP Coordinator so I appreciate your recent name change to more fully include those of us in "other" fields.

We are in our first year's subscription in this office (aside from several complimentary copies I have gotten at professional meetings) and I enjoy your journal very much. I am the sole woman employed in the professional series here, but hopefully consciousness-raising material such as that you publish will change that over the next few years. I do route the copies around so that my co-workers will see them.

Suzanne Crowley Thomas, Bureau of Land Management, Prineville, Oregon

Eds. Note: Thank you for the news release and the nice words. WiNR solicits newsworthy items for the departments and depends on readers for regional information. We would like to be put on every state's public affairs mailing lists for newsletters in natural resources and related social sciences.

It has been brought to my attention that you are asking for names of women who are university faculty, whose research is in natural resources, for publication in the journal (see page 38, this issue). Please remember that not all of them are in Colleges or Departments of Natural Resources and Forestry. A few of them are housed in the Colleges of Arts and Sciences, and Agriculture and Life Sciences in departments such as Botany, Environmental Sciences, Plant Pathology and other places. I am sending you two names to add to your list. I also wish to suggest that you publish a list of staff women in natural resources. Many women are technicians, technologists, post-docs and research associates, working in research in many disciplines related to natural resources and employed by universities and industries.

MariaFranca Morselli, Research Professor, Maple Research Laboratory, Department of Botany, University of Vermont.

Eds. Note: You make your case very well. Collecting these names has been a bigger job than we anticipated. Another interesting footnote comment about faculty women is that they move around a lot!

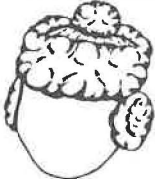
We know we have missed some in the categories you mention, and a few in natural resource departments, too. Spending another six months on it, waiting for more names to dribble in was a distinct possibility which we decided to avoid. What we will do, is print a corrected version in six months, so if names which should be on the list are not—don't get mad—get a note to us about it. Also, we have relied on women within the various departments to send us this information and many of them did include the non-faculty categories you suggest. Others have not included them. Once again, we have to leave it to the various department members to inform us

I am on your faculty list for the University of Minnesota. However, I retired as of October. I am still working part-time in natural resources research at the Quetico-Superior Wilderness Research Center in Ely, Minnesota. Data analysis is continuing here in Arizona, and I will be back at the Research Center summers, completing field and herbarium work the next few summers. I will continue to teach Elderhostels up there, too.

Some very excellent work on introduced plants and their control is being done by women working for the National Park Service. In Minnesota, at least, there are also some very active women doing fine work for the Nature Conservancy. Shouldn't they be considered for your list?

Isabel F. Ahlgren, Sun City West, Arizona

Eds. Note: We are going forward with your suggestion and begin printing (irregularly) lists of professional women in various agencies and organizations. We would appreciate suggestions and assistance from those who are in a position to organize those lists. Anne Fege organized the earlier ones we printed concerning Forest Service women and started us off on the faculty women list.



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OPINION

FIRE! Region 6 of the Forest Service started thinking about fire season long before it started. They sponsored a Women in Fire Conference with all the enthusiasm and energy we "fire bugs" put into suppressing a wildfire.

I came from R-2 and was one of some 250 participants at that January 29th conference in Portland. Every issue women in fire management positions thought important was presented in the two and a half day meeting. Speakers covered hiring, backlash, career experiences, traditional thinking, confidence building, public speaking, and many others. Managers gave their views, supported the concept of the conference, and committed to finding solutions to some of the issues raised.

Women who had had fire jobs in other than the traditional areas—as expected—related their experiences about breaking into the last male stronghold. Some of those experiences sounded very familiar to many of us who have seen the fire teams and crews change over the past 10 years. Those who had not been around that long, had their own lists of concerns and issues.

Sexual harassment is an issue that has managed to stay around. Some very surprising statistics about the '87 fire bust were highlighted by Jim Torrence, Regional Forester of Region 6. He told us unequivocally, that anyone, at any level, who was involved in—or permitted—inappropriate behavior, would be sent home and would not be allowed to return to R-6.

Torrence also made a commitment to the participants to address the issues presented to him by the work groups and pledged to consider the suggested resolutions to those problems. Al West, Deputy Chief for State and Private Forestry, Washington Office, also added that he was taking the list of issues and concerns back to Washington. To date, there have been no directives issued, but each region has been asked to work on them. I will be representing ours and look forward to the task force's solutions.

Janette Archibeque, Support Services Supervisor and Fire Business Management Officer, San Juan National Forest, Dolores, Colorado.

At a women's caucus held in conjunction with the American Fisheries Society (AFS) meeting in Winston-Salem, North Carolina, in September, 1987, the attendees discussed difficulties that we—or other women have had—with fisheries-related employment. Difficulties in obtaining jobs, lack of strong support from University Fisheries Departments, on the job problems especially in field work where women are assumed to be less capable, and inequities in pay, position, and promotion were some of the issues discussed.

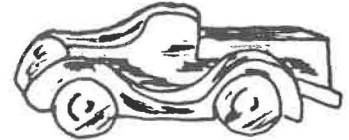
There was a general feeling that AFS as a whole did, and would in the future, do little to address these problems. This was felt especially in response to the strong outpouring by many AFS members against the J. F. Allen Scholarship being strictly for a female fisheries graduate student. Apparently a substantial number of AFS members do not recognize or agree that women have unique problems in natural resources fields.

We affirmed, as women members of AFS, to become more active by giving papers, running for offices, volunteering for committees and generally taking over control of our own fate. Everyone was pleased to have, and have had in the past, women on the Executive Committee who represent them and keep them informed of important developments.

G. Joan Holt, Research Scientist, Marine Science Institute, The University of Texas at Austin, Port Arkansas, Texas

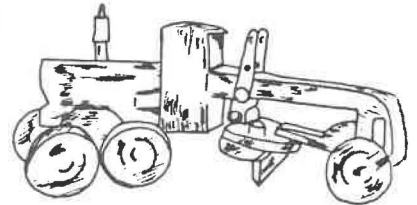
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At 10,500 feet in the Montana Wyoming Beartooth Mountains, we knelt over plexiglass tables mapping and identifying seedlings for a mine spoils revegetation study. We were fair game for the weather, bears, and tourists

High Adventure in the Alpine

Kate A. Dwire

How do you describe your job? When I told people that I worked as a biological technician on a Forest Service research project, they frequently looked puzzled or asked what I really did. My duties were varied—some fun, some tedious, some challenging. My work places also varied, and included some of the most beautiful mountain country in north America.

During the 1984, 1985, and 1986 field seasons, I worked on the Mine Spoil Reclamation Project administered by the Forestry Sciences Lab in Logan, Utah. Since 1974, scientists,

technicians, and volunteers from this project have been studying methods for revegetating high elevation mined sites. I spent most of my time assisting Jeanne Chambers, Plant Ecologist, on her Ph.D. project in the alpine tundra of the beautiful Beartooth Mountains along the Montana and Wyoming border.

Chambers' project (which still continues) is a study of the seedling establishment of six native species on two disturbed sites. The first site is located near an old gravel mine



We spent 800 women hours on our knees. Jeanne Chambers is sampling here on a clear, but cold summer day.

Photo by Ray Brown

where the research plots were installed on an undeveloped soil representative of severe disturbance. The second site is located in a naturally vegetated area adjacent to the gravel mine. The research plots were manually cleared to simulate a localized gap disturbance on an organic, well-developed soil. Although the six species selected for this study are fairly common in alpine ecosystems, little is known about their basic biology or life history characteristics. The results of Jeanne's study will provide information about plants growing above timberline, and contribute to the development of revegetation techniques for alpine environments.

The study began fall 1984, and Jeanne and I monitored seedling establishment during the 1985 and 1986 growing seasons. To do this, we kneeled over a plexiglass table and peered through a small scope with double cross-hairs to locate individual seedlings. We mapped each seedling and noted it on acetate sheets, which were overlain and taped to the plexiglass table. In 1985, we spent some 450 hours—on our knees—bent over the plexiglass. By 1986, we became proficient at species identifications, search images for seedlings, and general technique. We spent another estimated 350 hours on our knees that year.

That adds up to at least 800 woman hours (or 100 woman days) in a kneeling position. Because of this, we feel the study must be divinely blessed, at least by all female deities.

In addition to following seedling establishment, Chambers recorded daily soil temperatures and site conditions, and took soil moisture measurements over each growing season. In early fall, we harvested seedlings and recorded detailed growth data on the young plants.

The research plots are located near the top of a knoll at 10,500 feet, just north of the Wyoming/Montana state boundary, on the edge of the Beartooth-Absoraka Wilderness Area. Every day, we parked the government vehicle in a pull-out along the Beartooth Highway at the base of the knoll, arranged our gear into our packs and carry-able bundles, and hiked up to the study site. While the distance to the plots is not far, these daily upward treks, loaded with gear at that altitude were aerobic workouts. At mid-day, we'd break and come down to the vehicle for lunch, eating outside on the rocks or tundra when the sun shone, or inside the vehicle when the weather was stormy.

We were visited occasionally by people who had stopped to stretch their legs, to play in the persistent snow bank on the north face of the knoll, or by those who stopped to ask about the purpose of the GSA vehicle. "So what the hell ya doin' up here? You're a coupla liberated broads out here in de wilds, huh?" asked one winded man from the midwest. Jeanne explained that we were studying methods for revegetating disturbed areas. "Distoibed ahreas? Distoibed? I thought that was Chicagho?" was his rejoinder.

A fellow government employee from the Custer National Forest visited, looked around at our scattered gear and instruments, then at us—dressed to kill in our PVC foul-weather clothing—and said, "It looks like you've just landed from Mars."

Another time, after speaking to a family about the study, Chambers overheard a woman say to her husband, "Why

honey, she's dressed just like a man." But most people were supportive and friendly. The owners of the Top of the World, a small, family-run hotel, combination grocery store-snack bar-tourist shop on the Beartooth Highway, called us the "plant ladies" and asked advice on planting wildflowers.

From our high elevation vantage point, we could watch as storms moved over the low country of Sunlight Basin, down and through the Rock Creek drainage into Red Lodge, or rolled over the knoll and approached us head-on. We became fairly accurate at estimating how much time we had before we'd really be clobbered with rain, hail, or snow. A work day could begin sunny and clear, proceed through a torrential rain storm, and become clear again. Our homemade rain-out shelters, which fit over both the sampling frame and the person sampling, allowed us to continue working through most showers. One time we misjudged, however, and the wispy white clouds turned black within 20 minutes and pelleted us with marble-, then golf-ball sized hail. They hit the ground with such impact they bounced about like giant popcorn. During another storm, we were completely surrounded by lightening which hits hard in the high country. We retreated speedily to the vehicle.

Our field clothes exemplified the layered look. In addition to basic skivies, we nearly always wore long underwear—tops and bottoms. Over these went jeans, a flannel shirt, a sweater (or two) and a parka. Standard footgear was two pairs of socks and insulated boots. In the mornings, we usually wore wool hats and gloves, and frequently a down jacket or vest underneath our parkas. We layered and de-layered throughout the day, working with a stack of clothes nearby. If the wind started to blow, we'd step into our bright yellow and orange PVC over-alls and jackets. In this alpine attire, we resembled human-sized day-glo barrels. Anyone seeing us was hard pressed to guess our gender, perhaps even our species.

During the summers of 1985 and 1986, our field-research lifestyle was hard-driving but immensely pleasureable at the same time. Our residence from June to September was a 21-foot trailer, hauled from Logan, parked at the edge of a meadow behind a Highway Maintenance Station some 20 miles west of Yellowstone National Park. We lived in it 7-10 days during each of the four trips per season. Our power came from a 12-volt battery recharged when needed by a small 4.5 horsepower generator. A Forest Service campground located midway between the trailer and the research site provided our water. We stopped there regularly in the evening, filled our five gallon plastic carboys, and left the bagged garbage. Our every-other-day showers were short—as was our other clean-up.

The daily commute from the trailer to the research site was a 20 mile stretch along Beartooth Highway US 212, one of the most spectacular highways in north America. On our way to work, we drove by Beartooth Butte, a sedimentary remnant and survivor of the ice ages, and serene Beartooth Lake, then climbed 3000 feet through montane and sub-alpine forest, past numerous lakes and windblown firs, and finally up onto the Beartooth Plateau. While traversing the 11,000 foot Plateau, known as the Top of the World, we could look out over the rocky, rolling stretches of alpine tundra, down into the glaciated Rock Creek Canyon, and view some of the highest peaks

in the mountainous states of Wyoming and Montana.

We grew fond of our meadow—an open swale between two large granite outcrops, carpeted with wildflowers that changed through the season. We saw Golden-mantled ground squirrels, numerous birds, a cow moose and her adolescent offspring—and a sub-adult grizzly bear who paid us a surprise visit one evening.

We had worked several long, hard, days, taking soil cores and extracting seedlings for growth measurements. The soil samples were stored in an ice chest. The seedlings, dug with large root balls and placed in plastic bags, were stored in a large, insulated box. The ice chest and box sat with other gear in an opening beside the trailer.

While settling down for the evening to read, we heard a noise. We looked through the small trailer window, and saw a bear scratching around the base of the trailer. It stood up, quite tall, and look in at us. He was a good-sized grizzly. I dashed to shut the trailer door and we watched as he moved around into the meadow, sniffing and scratching the ground. He was large, grizzled, and hump-shouldered in the dusky twilight. Jeanne yelled at him. He disappeared over the rock outcrop to the west.

We tried to settle back into our books. Jeanne mentioned that the samples were all outside and noted that sources say 80 percent of the grizzly's diet consists of succulent green vegetation. Would the bear mistake our delicate little seedlings for succulent vegetation? Or worse, did this bear recognize an ice chest when he saw one? The samples were irreplaceable, representing several days of hard labor.

We heard another noise, and peered out again. The bear was leaning on the ice chest, looking towards the box full of seedlings. Jeanne started yelling, grabbed aluminum pots and pans, and ventured out towards the bear, banging the pots. The bear stood up. Jeanne continued yelling and clanging, then threw a pot at him, which bounced off his shoulder. Slowly, he backed down, and sauntered off into the bushes. Strengthened by a super shot of adrenalin, Jeanne hurled the heavy ice chest and box into the trailer. We were extremely cautious (and noisy) whenever we went outside after this episode, but we did not see the bear again.

For researchers doing our kind of work, the winter follow-up includes processing soil and vegetation samples, data summaries and

analyses, greenhouse experimentation, and writing manuscripts. I spent nearly five weeks transcribing the coded seedling information recorded on the acetate overlays to usable data form. Chambers spent the winter writing and analyzing data, and successfully defended her thesis in June, 1987. She plans to continue a less intense monitoring schedule of the Beartooth plots for several years. The Forest Service administers many acres of land above timberline, and Jeanne's is the only study of its kind being done. Continued monitoring also offers an excellent excuse to return to the Beartooths.

Kate A. Dwire's BA is from UC Santa Barbara in Environmental Biology, and her Masters is in Plant Ecology from UC Davis. In addition to the position described above, she has worked for the BLM as a range technician, as a botanist for the Nature Conservancy, and as a research assistant at UC Davis. Currently Dwire is working on an acid rain project in the oak-hickory forests of north-central Pennsylvania for Ohio State University.



Plot installation time, 1984. Each plot was wired with instruments to measure soil temperature and moisture. (Kate Dwire shown in photo).

Photo by Jeanne Chambers

Careers in Forestry: A Video

Produced by the Forestry Media Center, College of Forestry, Oregon State University

Careers in Forestry is an 11-minute video program designed to assist high school students who face education and career decisions. Although a version of the program can be purchased with a 10-second trailer which asks viewers to contact OSU for more information, a generic version (without trailer) can also be obtained, along with a site license, allowing the buyers to add their own trailer and to distribute copies of the tape in their own regions.

The video opens with high school students asking questions and voicing concerns about career choices. These anxieties provide a jumping-off point for the body of the video which consists of interviews with forestry graduates employed in various forestry professions.

The first forestry graduate interviewed in *Careers in Forestry* is a woman who holds a supervisory position in forest management. She presents a good role model of a woman working in an upper-level professional forestry position. In another interview a quality control supervisor gives a personal account of how he came to choose forestry as a career and of the fulfilling aspects of his job. Most of these and other interviews emphasize three main points:

1. Studying forestry will give students a broad background that will prepare them for many types of careers and a choice of areas in which to specialize.

2. Forestry combines working out-of-doors with management, personal, and technical skills.

3. Forestry is a career where the student can make a difference.

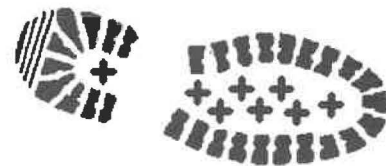
Careers is an excellent video program both in content and production quality. The program is up-beat and fun to watch. It contains impressive computer-generated graphics and captivating footage of forest management and forestry professionals in action.

The pre-production planning effort is evident because the program is well-organized and quite focused. But, the focus of *Careers in Forestry* is on just that...careers in forestry, which may limit the use of the program to give information about other disciplines in natural resources management. Although the program covers careers in forest management, forest ecology, interpretation, policy making, teaching, and wood products, it doesn't include careers in wildlife, or other natural resources such as fisheries or range management. I also felt that the program highlighted Oregon a little too much for general use. Not only is the state mentioned several times

in position titles or in interviews, much of the footage is clearly Oregon coastal forests. In addition, graduates working in Washington and Alaska are interviewed, so the program has a definite Pacific northwest look which may not be completely effective in Missoula, Syracuse, and Blacksburg. If, however, these seemingly restrictive points in an otherwise admirable production are of no concern, then an investment in the video would be sensible to motivate young people to choose forestry as a career.

Reviewer Robin L. Hartmann is the Manager of the Natural Resources Communication Laboratory, College of Forestry, Wildlife, and Range Sciences, University of Idaho. She has a B.S. in Forestry from the University of Missouri. Hartmann worked for three years in Kansas before earning her M.S. in 1987 in Wildland Recreation from the University of Idaho.

Careers in Forestry can be purchased or rented. Those requesting "preview with intent to purchase" will be sent a loan copy free of charge for one week. For more information contact the College of Forestry Media Center, Oregon State University, Corvallis, Oregon 97331 (503-754-4702).



Columbia river fish runs lost due to hydroelectric development has been very costly to the tribes of the Northwest

Goals and Losses *

As the sockeye salmon approaches the mouth of the Columbia River, it begins to swim back and forth, slowly adapting to the freshwater that will be its home for the remainder of its life. The fish had swam day and night in the ocean, sometimes thirty miles a day, to reach the river that will eventually lead—almost a thousand miles upstream—to the lake where the sockeye spent the first years of its life.

As the salmon becomes acclimated and continues its long, tortuous journey, it starts to turn red, losing the deep sea coloration that led Indians to refer to sockeyes as “bluebacks.” It will not eat again and thus has to live off stored fats, the rich oils that make the small sockeye so appealing to humans, eagles, bears, and other salmon connoisseurs.

Only a century ago, three to four million of these sockeye returned to the Columbia Basin every year. In 1986, however, only sixty thousand entered the Columbia’s mouth—and only fifteen sockeye returned to Idaho.

The biggest runs of Columbia River sockeye used to spawn in the Arrow Lakes region of Canada, but these runs were destroyed in 1941, when Grand Coulee Dam blocked their migration. There were also good sockeye runs in the Yakima Basin, but they were eliminated by irrigation dams that blocked access to the lakes needed for rearing. Most of the Columbia’s remaining sockeye spawn above lakes in the Wenatchee and Okanogan basins.

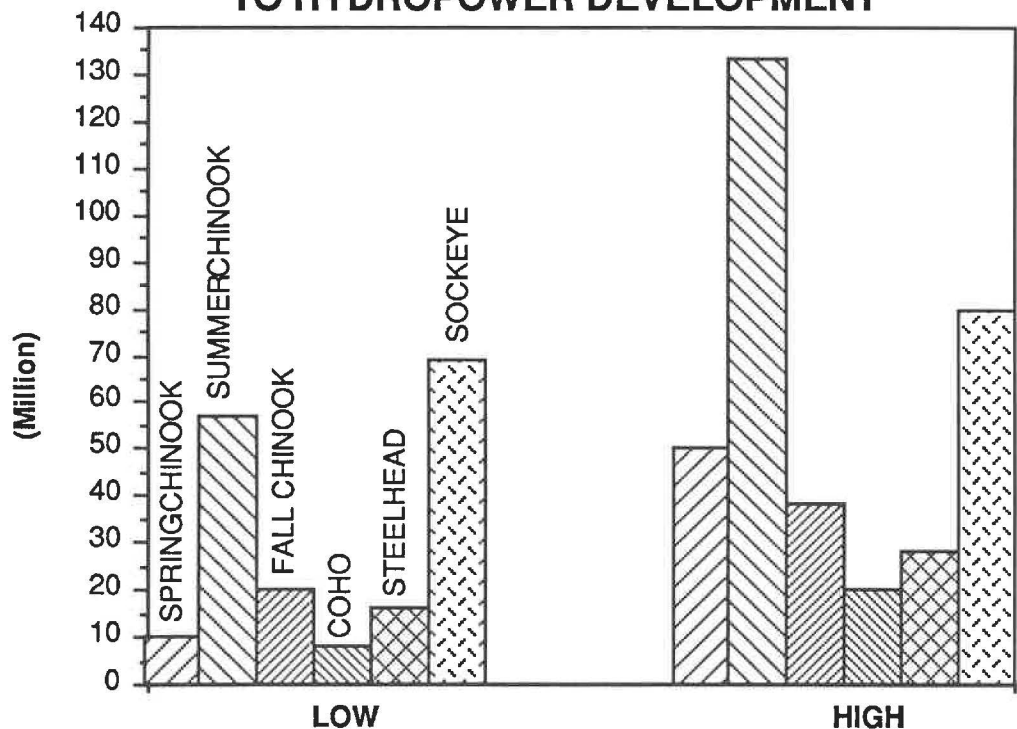
Other runs have suffered similar fates. Summer chinook, including the hundred-pound variety that once spawned above Grand Coulee, are almost gone. Ten to sixteen million salmon

and steelhead used to return to the Columbia River each year. Now, however, only about two and a half million come back. The cumulative loss due to hydroelectric development is in the hundreds of millions.

The 1980 law that established the Northwest Power Planning Council instructs government agencies to work to rebuild those fish runs decimated by hydroelectric development and operation. First, of course, the Council has to determine the size of prehistoric runs and how much of the decline has been due to the development and operation of dams. The Council’s process, generally known as “goals and losses,” is nearing completion—and is the subject of this article.

When Congress passed the Pacific Northwest Electric Power Planning and Conservation Act in 1980, Indian tribes

CUMULATIVE LOSSES OF COLUMBIA RIVER SALMON & STEELHEAD DUE TO HYDROPOWER DEVELOPMENT



and regional fisheries interests had supported and obtained amendments that made it national policy to use power revenues to restore the Columbia Basin's salmon and steelhead runs, as well as other fish and wildlife harmed by the extensive system of power-generating dams. The law states that the Bonneville Power Administration (BPA), the Northwest's main electricity marketer, "shall use the BPA fund . . . to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries."

The act established the Northwest Power Planning Council (NPPC) to implement its many directives. The eight-member council (two each from Washington, Oregon, Idaho, and Montana) developed—and is presently amending—a Fish and Wildlife Program to guide preservation and restoration efforts. Until further research on the tributaries is completed and the resulting programs are adopted, the NPPC has an interim goal of doubling existing runs of salmon and steelhead.

Determining the size of prehistoric runs has been a complicated and inexact undertaking, so the NPPC staff used numerous sources, ranging from accounts of interviews with tribal elders to actual catch records from early canneries. Various methods of estimating run sizes based on catches and habitat were developed. The results, documented in a two-volume study, are given in ranges. However, even by the lowest estimates, the anadromous fish losses have been overwhelming.

"We hope that when people understand the fisheries losses in the Columbia River Basin," says Columbia River Inter-Tribal Fish Commission (CRITFC) Commissioner Jay Minthorn (Umatilla), "they will not quarrel with NPPC's efforts to restore the salmon and steelhead runs."

Hydroelectric development adversely affects fisheries in numerous ways. The dams are barriers, impeding or blocking both upstream and downstream migrations. Spawning grounds are buried by the water behind the dams, and because of the slackwater, the journey of young fish heading for the sea takes more than twice as long as it used to when the river was free-flowing, thus exposing the juveniles to even more predation. The dams also harm fish runs by raising water temperatures.

The construction of mainstem dams began in earnest in the 1930s. Within the Columbia River Basin, there are now 58 dams constructed exclusively for hydropower, plus another 78 multipurpose dams that generate electricity. Even before the rash of dams on the Columbia, overfishing was hurting salmon runs, especially summer chinook, as were logging and mining. Many biologists, however, believe that the anadromous fish runs could have rebounded—were it not for the construction of the dams.

While it is common knowledge that hydroelectric dams have caused considerable harm to salmon runs, it is less well-known that related management decisions, especially those that determined what species were compensated for and where they were released, compounded the damage to many upriver runs, particularly to sockeye and summer chinook. As documented in previous issues of *CRITFC News*, most of the hatcheries built in the Columbia Basin were placed such that Indian fishermen would be unable to participate in the harvests of the

hatchery fish. Thus, the Indian fisheries suffered even more than indicated by the shocking numbers of total fish lost.

"Today, salmon and steelhead runs above Bonneville Dam, after ocean harvests, are less than one million fish," CRITFC Commissioner Minthorn told the Power Council. "This has been a tremendous loss for Umatilla people and for members of other Columbia River treaty tribes."

The Power Council's study, the most comprehensive ever done, estimates that prior to the beginning of development activities by white settlers in the 1800s, salmon and steelhead runs in the Columbia Basin ranged from **10 to 16 million annually**. The study also calculates that the aboriginal catch was about 42 million pounds a year, or about 5 to 6 million fish annually—more than double the current runs!

Based on catch records, dam counts, and other data, the



In the fish ladder

Power Council determined that the current runs average about 2.5 million salmon and steelhead a year. The study thus concluded that between 7 million and 14 million anadromous fish have been lost **each year** because of development activities. Much of this decline has been because almost a third of prehistoric salmon and steelhead spawning habitat has been lost, including all areas above Chief Joseph and Hells Canyon dams. The losses estimates are of special interest to the Upper Columbia United Tribes, who estimate that their economic losses because of fish runs blocked by Grand Coulee and Chief Joseph dams exceed a billion dollars.

Of the total losses, the Power Council estimates that 5 to 11 million of those fish—about three-fourths—were lost because of hydroelectric development and operation. (The remaining losses were caused by other development activities, including logging, mining, grazing, irrigation, pollution, and urbanization.)

CRITFC considers these loss figures to be 'conservative', but supports the loss estimates—as long as the NPPC acknowledges that they do not account for cumulative losses. CRITFC biologists estimate that the **cumulative loss** between 1933 and 1985 due to hydroelectric development has been **170 to 340 million salmon and steelhead**.

"We do not believe the Indian fisheries should be asked to accept these losses," CRITFC Commissioner Jeannette Lee (Yakima) told the Power Council. "Pacific Northwest utilities would not accept these losses if they were power revenues; the utilities would demand compensation—and with interest."

When the total losses and hydropower responsibility are established, the focus will shift to *subbasin planning*, looking at individual tributary basins to determine the specific restoration goals and methods for each watershed. Such tributary efforts have already begun, in cooperation with the tribes, for

the Yakima and Umatilla basins. The CRITFC tribes are working to insure that the NPPC's planning efforts are consistent with the U.S.-Canada Pacific Salmon Treaty and the forthcoming agreement in the U.S. v. Oregon (Belloni) case.

While determining the fish losses and setting the restoration goals are difficult tasks, they are easy compared to actually bringing back the once-abundant fish runs. The federal government—in addition to the restoration obligations mandated by the 1980 Northwest Power Act—has a trust responsibility to the treaty tribes to rebuild those runs fished by tribal members. During the past few years, we have seen that it is possible to make great strides toward restoring some of the runs. For example, the 1986 steelhead and bright fall chinook runs past Bonneville Dam were the largest since the dam was completed almost half a century ago.

The bigger question is whether or not the agencies and utilities primarily responsible for these tremendous losses have the commitment to rebuild this renewable resource. For example, the Pacific Northwest Utilities Conference Committee (PNUCC) does not want actual losses and hydropower responsibility set. Instead, PNUCC wants "reasonable fish production targets" set that would double some runs (with sockeye not a priority) over the next 15 years.

As the agency has done in the past, BPA has broadly construed the specific measures of the Fish and Wildlife



Commissioner Jeanette Lee

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PEOPLE

Judy Nelson is the first woman to be appointed a District Manager for the Bureau of Land Management (BLM). She is responsible for managing 3.5 million acres of public lands in south-central Oregon. Nelson earned B.A. and M.S. degrees in natural resource economics at the University of New Mexico. She joined BLM in 1975 and has worked for the agency in New Orleans, Louisiana, Reno, Nevada, and the Washington D.C. office.



Ontario Argus Photo

The first recipient of The American Fisheries Society's (AFS) J. Frances Allen Scholarship has been awarded to **Elizabeth Marschall**. Marschall is a doctoral student at North Carolina State University, pursuing a Ph.D. in zoology. Her dissertation is titled "The Early Life History of Brook Trout." This research combines field and laboratory data with modeling and will examine the effects of rainbow trout on age-0 brook trout in the Southern Appalachian Mountains.

The committee selected Marschall

from many qualified women pursuing doctoral degrees in fisheries. The consensus of the Committee was expressed by one of her references who wrote "Libby is clearly one of the most promising young fisheries students I have ever met ... I am convinced that she will continue to contribute to our profession throughout her career." Marschall has already published in *Ecology* and is a member of AFS, ESA, and Sigma Xi.

Applications are being accepted through April 30 for next year's award. The J. Frances Allen Scholarship is made possible by a grant from the Sport Fishery Research Foundation and proceeds from the 1987 AFS Raffle. Female doctoral students whose research emphasis is in the area of fisheries science are eligible for the \$2,500 award.

This award is in honor of **J. Frances Allen**, a member of AFS since 1949. Dr. Allen received her M.S. and Ph.D. degrees from the University of Maryland and was the second woman to hold elected office in the AFS. For many years she served as the AFS representative to the American Association for the Advancement of Science Council. At the time of her retirement in 1982, Dr. Allen was staff scientist-ecologist, Science Advisory Board, Environmental Protection Agency. In 1983 she received the AFS Distinguished Service Award for her work as editor of *Homopiscis rusticus*, the AFS newsletter for retirees.

Each year the Ecological Society of America (ESA) honors a student for an outstanding oral paper presented at the Society's annual meeting. **Sharon Y. Stauss** is the winner of the 1987 Buell Award for her paper, "Historical effects of herbivore on sumas fitness." Stauss received her Bachelor's from Harvard University, a Master's from the University of Minnesota, and is currently completing her doctorate in the Department of Biological Sciences at Florida State University. **Susan Mopper** of Northern Arizona University received honorable mention for her

paper, "Skewed herbivore sex ratios: A plant defence mechanism?" The award has been won by women six out of the eleven years it has been presented.

The Northern Region of the Forest Service has selected **Angela Evenden** as their Regional Botanist/Diversity Ecologist. Evenden moves to Missoula, Montana from Corvallis, Oregon where she was working on her Ph.D. in the Department of Botany and Plant Pathology at Oregon State University. Her dissertation deals with the biogeography of riparian plant communities in the remote Trout Creek Mountains of southeastern Oregon. Evenden holds a Master's degree from Oregon State in Rangeland Resources. Her new duties include coordinating and developing programs for Research Natural Areas, Sensitive Plant Species, Old Growth, and Riparian Classification.

Anne S. Fege has transferred to the Forest Service Recreation Management Staff to provide national leadership for the Wilderness and Special Areas Programs. Most recently, Fege worked as a physiologist on the Timber Management Research Staff in Washington, DC, as Assistant



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What we found in Australia was that both men and women judged themselves and their profession by masculine norms which they took to be neutral.

Review of Research on Women in Environmental Sciences. The Beginning of a Critique

Megan Lewis and Kay Schaffer

What's wrong with the research? It doesn't tell the story of what happens to women that is different from what happens to men when women enter employment fields deemed non-traditional. A non-traditional field is one in which fewer than one-third of the workers are female. Since 66% of women workers cluster into three major employment fields—clerical, sales, and service (which includes teaching and nursing as well as recreation)—a majority of employment fields in Australia are non-traditional for women.

The federal government has recognized this disparity as a serious problem facing the economy and a major obstacle to equal opportunity goals. Funds have been committed to research which seeks to promote the transition of women from traditional to non-traditional fields of education and employment.

In 1985, we received a grant from the Women's Research in Employment Initiatives (WREIP) Department of Employment and Industrial Relations, Canberra and South Australian College of Advanced Education (SACAE), to investigate "Women in the environmental sciences: Aids and barriers to success." The research aimed to document the rate of participation and progress of men and women in the courses, and to compare female and male experiences during training and when seeking employment. In particular, it intended to explore the existence of aids or barriers to success in study and ultimate employment. Further, the study aimed to document the employment destinations of graduates and examine the experiences of females in gaining positions and acceptance in non-traditional, mainly field-oriented work.

We developed a complex questionnaire which was sent to 530 students who had enrolled in the courses at Roseworthy Agricultural College and SACAE. These students were the total cohort of graduates in the first professional training program for Park Rangers as well as a range of other jobs in the applied science/natural resource management field. The questionnaire was divided into four main areas. It sought information on:

- the respondents' motivation to seek a career in the field;
- educational experience;
- employment experience;
- personal and career issues.

There were 62 questions and 480 items on the survey. We

had hoped that it would result in some concrete data which would indicate the differences experienced by male and female students in relation to their training and employment.

Although the results did indicate significant differences in a number of areas, overall, respondents tended to be more similar than different in their pattern of responses. The research data would appear to paint a rosy picture of the future possibilities for women seeking employment in the area. Yet we know from the statistical and demographic data as well as from anecdotes, informal remarks, and second and third hand reports that this is not necessarily the case. What went wrong?

One could speculate that the questionnaire itself was not sufficiently well developed to highlight the information we were seeking. Yet it was developed after a careful literature search, review of relevant research (primarily ERIC) and consultation with professional research sociologists and natural resource educators in Adelaide. If the problem were that simple it could be easily rectified. The results could have been (and may still be) modified significantly if followed up by proforma interviews with selected respondents. It is important, especially in research which seeks to detail male and female differences, that the stories behind the questionnaire responses be collected and compared. What women and men mean when they indicate, for example, that they experience positive working relationships with colleagues may be very different. That dimension of the research was not funded.

But we believe that the problem is *more* complex than this and needs to be addressed by researchers in this field of national priority. Otherwise, those of us who are endeavoring to promote research which aids the successful transition of women into non-traditional fields *run the risk of jeopardizing the very goals we hope to achieve.*

The problems are manifold. Traditional quantitative research is normative. Affirmative action based on the merit principle accepts a normative base. If one proceeds from a liberal humanist social theory which assumes that males and females are equal and equally able to attain the benefits of a democratic society, then all one has to do is insure that all students and employees are treated equally. Traditional feminist theory has assumed this perspective, although it has had a great deal to say about how equality has been defined. The feminist adage: "In order for a woman to succeed she has to be twice as good as a man. Fortunately, that isn't very

hard," is likely to get a knowing chuckle from many women who have been able to achieve the standards set for men. Unfortunately, the laughter glosses over the underlying dilemma that women succeed or fail to succeed in masculine fields at a high cost. The cost of their *difference*.

In the early days of affirmative action, many women believed that when they entered male fields they would change the nature of the fields. They would work towards an environment which was cooperative rather than competitive; caring rather than alienating; where power, responsibility and leadership were shared rather than individually owned. More often than not, it doesn't happen like that. At least not yet. Breaking in to non-traditional areas of employment, particularly in fields which have a tightly knit male ethos, where the boundaries are closed, is a very difficult task. What happens is that to succeed women have to take on the male standards. *They don't make the job. The job makes them.* When they are "good" like Prime Minister Margaret Thatcher or Ripley in *Aliens*, they become exceptional women or honorary men.

Or, they succeed by taking up the "feminine" work within the profession. In the Park Service, for example, this means that they become the ones who deal with the public. They write the reports. They do the clerical work. If they are lucky they become Interpretive Officers. The men, on the other hand, take the 4-wheel drives along the fire tracks; dig the post holes for fence repair; clear the scrub; repair the crumbling walls. Men and women enter the field with equal skills and competencies. Women expect to work along side of the men and participate equally in all the tasks. If assigned the "people work", they assume it to be of equal value. When it comes time for promotion, however, it's the "men's work" that counts. Within the profession, the work that women do is deemed to be the slack end of Park Rangering. Women assume

that they start out equal but are soon disillusioned to find that they become disadvantaged. How does this happen?

Perhaps the problem has to be conceived of differently. The problem is that the norms in a patriarchal society are not neutral, but masculine. For women to succeed they have to either assume the masculine norm and be judged accordingly (as exceptional women rather than good workers) or they find themselves doing the "feminine" work within the masculine profession. Whichever the case, the end result is that—when women succeed—they also reinforce masculinity. In the end, this may be to the detriment both to themselves and to the profession.

This dilemma plagued our research. We asked the same questions of both men and women, assuming that differences in attitudes, perception, and experience would reveal significant differences in response. What we found was that *both* men and women judged themselves and their profession by masculine norms which they took to be neutral. Further, in the few instances when we asked questions which paid attention to gender, *we were judged to be biased* in our research methodology. And that "bias" angered both male and female respondents.

Megan Lewis is Head of the Natural Resources Department, Roseworthy Agricultural College, Roseworthy, South Australia. Kay Schaffer is Senior Lecturer and Program Coordinator, Graduate Diploma in Women's Studies, South Australian College of Advanced Education.

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***The Nature of the Reserve*, a book now in progress, should generate discussion and critical thinking about what prompts reserve managers world-wide to make the decisions they do**

In 1983 and 1984, I completed a mail survey of managers of biological field stations in the United States who participated in some way in the management of reserve land areas (those not used for research, recreation, or some combination of uses). Thirty-one managers responded to the question "Which of the following is most in keeping with your philosophy of reserve land use?" Their responses were as follows: 14.5 favored maximum compatible use; 15 supported research and educational uses only; 1.5 declared such areas should be used only for research. Not one of the managers responded that such areas should be subjected to a no use/stewardship sort of management (Calabrese, unpubl.).

In my opinion, preserving land for posterity, and its floral and faunal communities for posterity, implies a plan for maximum access/maximum preservation. Without the potential for access, it seems many humans will not appreciate reserve areas as an integral part of their environment.

Under the auspices of a three-year W.K. Kellogg Foundation Fellowship (class IV 1983-1986), I was in-residence at reserves all over the world. At that time, I interviewed managers and directors whom I define as the individuals with ultimate responsibility for management (not necessarily synonymous with the person holding the title). These visits focused on the connection between reserve management and the manager's philosophy of land use. My interviewees are scientists who contribute their knowledge to the development of reserve management plans. Included in the discussion also are members of communities that encompass reserves. As a result, I am now at work on a book, *The Nature of the Reserve*, that draws heavily on these interviews. I will explore the often disparate goals of providing refuges for flora and fauna—and meeting the needs of humans.

I am currently completing a quanti-

tative study, supported by the Jessie Smith Noyes Foundation. This effort will form the basis for the last chapter of the book—the penultimate chapter, in my opinion—entitled "One Perspective on the Future." For this work, I have been using a questionnaire as a tool to learn how philosophy of land use entertained by a select group of reserve managers might have been shaped by the background of those managers (e.g., where they lived during their formative years; the academic disciplines in which they trained). I asked them about:

- demographics of the geographical area
- physical accessibility of reserve land
- economic development of surrounding areas
- political origin of the manager(s)—i.e. internal vs. external
- competition for land in the reserve areas.

I hypothesize that the above variables contributed to the development of the manager's land-use philosophy, as they are experienced during both formative and work-related adult years.

An understanding of the contribution of each of these factors to the philosophy of land use entertained by preserve managers will facilitate the development of a comprehensive management plan. This plan goes beyond the simple acknowledgement that different philosophies exist, and incorporates suggestions of how land use philosophies may be modified to accomplish the often conflicting goals of preservation and meeting human needs.

As a context for the quantitative study of the responses of reserve managers to the questionnaire about background and experiences, a profile of reserve area allocation within countries has been constructed for reserves which are sufficiently known in terms of size and date of origin. Data were recorded from the published literature on quantifiable variables (e.g., demographics of

community, size of country, activity level) that reflect social and political conditions in areas where reserves (according to the International Biosphere Reserve criteria) have been designated; data were stored on computer file, and correlation analyses were undertaken. Results of analyses completed, indicate some interesting trends. For example, when size of reserve areas designated since 1940 are considered as a dependent variable of the variable population density, a hollow curve results—i.e., beyond a certain threshold population density, designated reserve areas become very small and there are very few large reserves.

In effect, to recognize oneself as an integral part of the biosphere is to promote conservation by living it. It seems that when scientists involved in the development of reserve management plans begin to understand the ways in which their ideas about land use have been influenced by their social and political environments, they will begin to decry the loss of top soil in their own nations almost as vociferously as they do the loss of species in the tropics. So too should scientists from developed countries argue against inappropriate farming practices in their own countries as fervently as they cite the inappropriateness of agricultural techniques in the tropics. And, of course, garbage production in developed countries will become an issue of great concern to those often preoccupied with the rate of reproduction in less-developed countries.

All of these problems contribute, after all, to the loss of habitats for organisms other than humans. Just carving out reserve areas in the absence of a cross-cultural understanding of difference and similarities in land use philosophy, may contribute to the magnification of the problem of disparate goals.

I trust *The Nature of the Reserve* will generate the discussion and critical thinking that should facilitate the goals of maximum access/maximum preservation.

Diane M. Calabrese is a section editor of this journal. Her MS and Ph.D. are from the University of Connecticut. Currently, she is at the Radcliffe Research and Study Center in Cambridge, and she operates her own consulting firm, Papillons.

They always act so surprised to see you

Bears

Karen Lyman

My first clue came when I heard crackling noises in the brush some distance away. Having experience in these matters, I quickly deduced that I was being followed. We soon had a routine. I moved, he moved. I stopped, he stopped. Even so, I felt calm—this was my turf, and I knew that I would soon reach a little open meadow where

I would be afforded a clear view of my spy.

My heart sank when I reached the clearing and laid eyes on him.

The He was a bear—a big bear. I couldn't believe it—this was probably the sixth or seventh bear (you tend to lose count, they all look alike) who had tracked me in as many months.

Fortunately, this particular bear proved to be only curious. I shook so hard I could barely hang on to my compass. He trotted along behind me, however, always at a safe distance. I

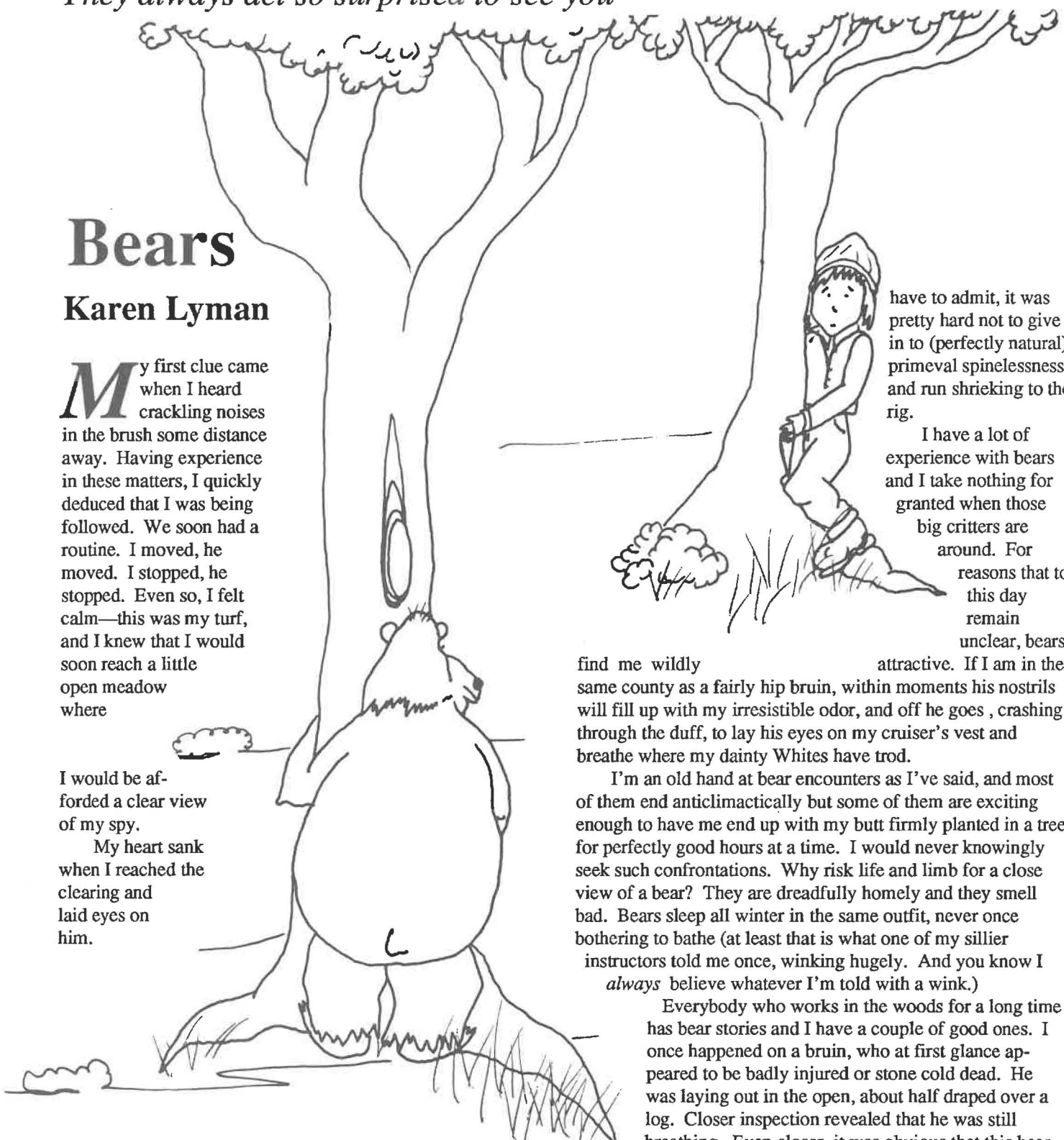
find me wildly attractive. If I am in the same county as a fairly hip bruin, within moments his nostrils will fill up with my irresistible odor, and off he goes, crashing through the duff, to lay his eyes on my cruiser's vest and breathe where my dainty Whites have trod.

I'm an old hand at bear encounters as I've said, and most of them end anticlimactically but some of them are exciting enough to have me end up with my butt firmly planted in a tree for perfectly good hours at a time. I would never knowingly seek such confrontations. Why risk life and limb for a close view of a bear? They are dreadfully homely and they smell bad. Bears sleep all winter in the same outfit, never once bothering to bathe (at least that is what one of my sillier instructors told me once, winking hugely. And you know I *always* believe whatever I'm told with a wink.)

Everybody who works in the woods for a long time has bear stories and I have a couple of good ones. I once happened on a bruin, who at first glance appeared to be badly injured or stone cold dead. He was laying out in the open, about half draped over a log. Closer inspection revealed that he was still breathing. Even closer, it was obvious that this bear didn't have so much as a hangnail (um, clawnail) wrong with him. But he was stinking drunk. The stench of alcohol hung in a cloud around him. Off to one side was an equally boozy-smelling mess (which I believe had once been fermented huckleberries, but which had since passed completely through his plumbing system). Discussing diarrhea and headache remedies

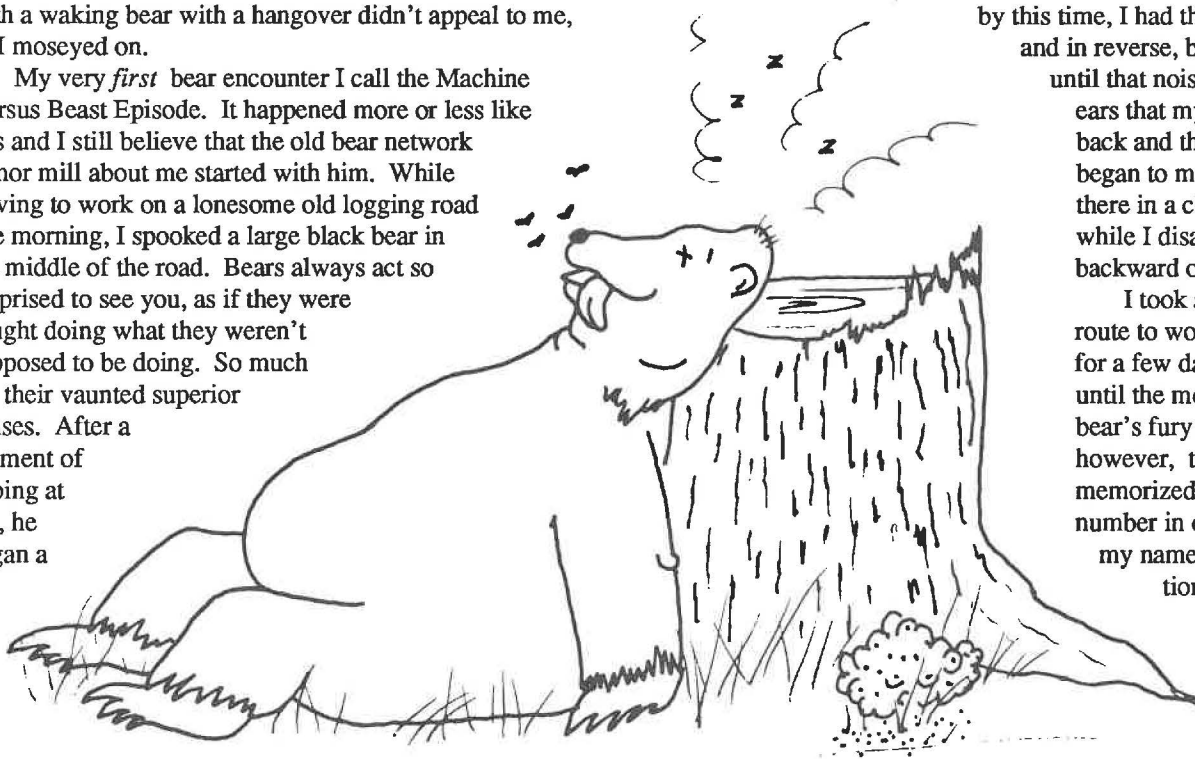
have to admit, it was pretty hard not to give in to (perfectly natural) primeval spinelessness and run shrieking to the rig.

I have a lot of experience with bears and I take nothing for granted when those big critters are around. For reasons that to this day remain unclear, bears



with a waking bear with a hangover didn't appeal to me, so I moseyed on.

My very *first* bear encounter I call the Machine Versus Beast Episode. It happened more or less like this and I still believe that the old bear network rumor mill about me started with him. While driving to work on a lonesome old logging road one morning, I spooked a large black bear in the middle of the road. Bears always act so surprised to see you, as if they were caught doing what they weren't supposed to be doing. So much for their vaunted superior senses. After a moment of gaping at me, he began a



by this time, I had the truck started and in reverse, but it wasn't until that noise reached my ears that my head snapped back and the truck actually began to move. He sat there in a cloud of dust while I disappeared backward over a rise.

I took a different route to work that day and for a few days after that, until the memory of that bear's fury faded. I knew, however, that he had memorized my license number in order to input my name and description to the old bear network.

full-tilt gallop down the road. Feeling secure in the safety of my large metal truck, I stepped on the gas, and in grand cowboy fashion, laughing loudly like the irresponsible nit that I was, I herded that loose sack of bear meat down the road. The hilarity of the situation, which had practically incapacitated me, had completely escaped the bear (who still hadn't figured out that he could get off the road and I couldn't follow). He kept looking back, increasingly shocked to still see me there, flush on his behind.

We went bouncing, squeaking (truck) rippling, humphing (bear) more than a mile before the nonsense of all this set in and he got mad. He suddenly stopped—and we both screeched to a halt. The dust sort of rolled up around us while he turned, slowly, to face the truck.

The bear was breathing hard, which made him look really furious, and he moved inch by inch into a sitting position. Then there was this terrible silence because I had killed the engine in the panic stop. We looked at each other, then finally, he leaned slightly forward and placed his paws ever so lightly on the hood of my rig. He then opened his snout and this awful noise screeched out from between his teeth. Of course

Karen E. Lyman is the Contributing Editor of Women in Natural Resources



Socially responsible investing does not necessarily equate with bashing industrial America

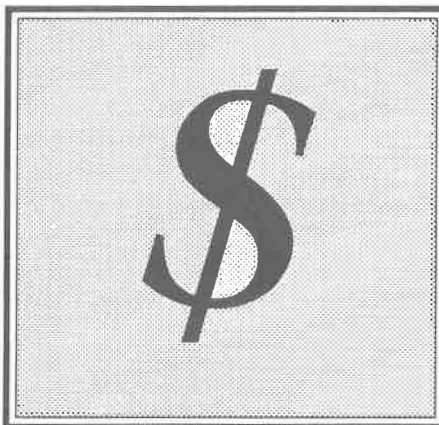
A frequently asked, but difficult question to answer, is: "Can I do well in the market while doing good?" That is, if I have money to invest, wouldn't I be smart to invest in those companies that are environmentally sensitive, socially responsible, and have fair employment practices? Many people, for example, might not want to be owners of companies that produce tobacco, firearms, or significant environmental pollution. Others might refuse to invest in companies doing business in South Africa, in gambling casinos, or who produce nuclear weapons.

There are several reasons why investing in "right-minded" companies might be both appropriate and profitable. First of all, if a company is socially responsible, its good behavior might be the source of its success in the marketplace, and therefore it will be a profitable company. Secondly, if enough investors refuse to purchase the stocks and bonds of a reprehensible company, its market level and its bond ratings will drop in relation to ethical ones. This might coerce the company into more responsible behavior. And there is, of course, the value of one's own clear conscience, the value investors enjoy just in knowing they are not investing in a company whose behavior is not in keeping with their personal philosophy.

In previous articles, I have mentioned the value of investment clubs. It has been my experience that at least one member of an investment club will always bring up the social responsibility of any stock studied. In a group of ten, there will be at least one person who has deep concerns about the abuse of alcohol or tobacco, of our ability to consume natural resources with little thought for future generations, the rights of the planet earth, or the negative consequences of nuclear production for children and other living things. Investment clubs seem to have a built-in monitor that

seems to operate, guaranteeing that socially responsible stocks will receive favorable publicity, while notorious abusers will have to fight hard for a hearing.

I mentioned in an earlier column that most investors are better off by utilizing the expertise and diversity obtained by using mutual funds. There are three mutual funds that have socially responsible investing as part of their charter. *Calvert Social Investing* has returned 91% over the past five years; *Dreyfus Third Century* has returned 76%; and *Pax World* has returned 119%. Now a compounded return of between 15 and 24% may sound very good, but the compound return of the 500 largest stocks over the past five years has been



over 32%, for a total increase of 159%!

Why don't socially responsible funds post superior performances? Perhaps the most important reason is that companies easily identified as socially responsible make up scarcely 5% of listed companies, so the action of investors choosing such stocks really makes little difference to the direction of the market. Relatively few investors include social criteria in their analysis of potentially profitable companies, so excluding such companies may actually push the prices up, since the pool of potential buyers is somewhat smaller. The result is that investors might do best by simply investing in the companies that are potentially most profitable, and contribut-

ing some of their profits to appropriate causes.

I have listened to people deeply committed to ethical investing explain why they did not invest in utilities with nuclear power plants, or why they rejected coal companies, lumber companies, or other resource-intensive corporations, and I must say the logical conclusion of their arguments often led to: Don't invest in industrial America. That is a point of view that I cannot accept. Since the time of President Teddy Roosevelt, the responsible use of natural resources has been the charter of all of us who look upon appropriate resource development as a social responsibility.

I listen more favorably to people who discuss the purchase of Maytag, for example, because of the company's commitment to making durable machinery, or who purchase Kellogg or Quaker Oats because of their success in getting us to eat lower on the food chain—to be frugifores rather than carnivores. One may utilize *Value Line* or other rating services, to identify other companies that are most environmentally sensitive, who do not produce harmful commodities, and are to be admired for their commitments to fair labor practices.

One fund I have watched for a number of years is *Pax World Fund*, mentioned earlier. It has the best performance record of the social funds, buys a number of companies most people could be comfortable with, and the company provides prompt service. For a prospectus and application, phone 603-431-8022. There is also an excellent new book (with a self explanatory title) by Domini and Kinder called *Ethical Investing* costing \$13.45 from R. M. Books, 5119A Leesburg Pike, Suite 254, Falls Church, Virginia 22041.

Perhaps people in the natural resources community have a greater responsibility than most to invest their money—as they do their time—in a manner that is both environmentally sensitive, and financially profitable.

Gene Bammel regularly presents personal finance workshops. He is a Professor and Forest Scientist in the Recreation and Parks Management Program in the Division of Forestry, West Virginia University.

No matter how proficient or committed a woman is, she still has to overcome, overcome, overcome

Attitudes are Barriers for Women

Lance Yokota

Women are flooding the job market and have seized two-thirds of the jobs created in the past decade. Today as many women in their twenties and thirties work as men in their twenties and thirties. Mothers with preschool children are the fastest growing segment of the labor force.

Our work force is undergoing enormous changes just like the rest of the country, but have our attitudes changed to keep up with the changes in the structure of the work force? Are we operating with outdated attitudes?

I have observed three attitudes that have *not* changed with the times. The effect of these attitudes on women range from causing women to work harder for the same recognition that men get; being over looked for training and other job enhancing opportunities; increasing the likelihood of failure; and reducing a woman's willingness to take risks and thus succeed.

Women are judged as groups not as individuals. To illustrate this attitude consider this example. A woman who is a member of a tree thinning crew is having trouble handling a chainsaw all day. This situation is likely to generate comments like, "she can't handle this job. I don't think *women* can do this type of work." The actions of one woman in one job task is now the burden of all women.

Consider the role-reversed situation of a man on a thinning crew having trouble with a chainsaw. Do you hear people say, "I don't think *men* can do this type of work?"

Women in many cases carry around with them the stigma of failures of their female predecessors and even failures of women in other departments or other work units. This attitude puts a tremendous pressure on women to perform well. It increases the stakes in case of a failure, because her failure may be interpreted as a sign that all women cannot do that job.

Commitment to family duties means she is less committed to her career. The labor participation rate of women entering the labor force is nearly as high as men's participation rate. However, in many cases the "choices" women face are: 1) having children and being a "superwoman," juggling work responsibilities and nearly all the family responsibilities or 2) not having a family. What kind of "choices" are these?

As Betty Friedan, one of the founders of the women's movement asks, "Can women now meet a standard of perfection in the work place set in the past by and for men who had wives to take care of *all* the details of living and—at the same

time—meet a standard of performance at home and as mothers that was set in the past by women whose sense of worth has come from being perfect all-controlling housewives and mothers?"

Child care is still mostly a "woman's responsibility." As long as this is the dominant social norm, women need more flexibility in their work schedule to accommodate both family and work responsibilities. This flexibility comes in the form of job-sharing, child care, flextime, and a variable work week.

Consider this: A woman has just returned from three months of maternity leave and she just negotiated a job-sharing arrangement that will allow her to continue her important work for her employer and care for her infant son until he is old enough to be accepted into a child care center. She couldn't ask for more, right? However, at work she is overlooked for training, job enhancing opportunities, and promotions. She is encountering the effects of the attitude: Commitment to family duties means she is less committed to her career.

Her employers are comparing her work schedule to the old male standard, when he had a full time wife and mother to care for the family. John Naisbitt, futurist and author of *Mega Trends* and *Re-inventing the Corporation* states that, "...mothers with careers are running headlong into the same problem: Work patterns and career ladders are based on male standards—since these are the only standards that have been applied until now."

Men are asking, "Just because a woman is committed to her family duties does this mean she is less committed to her career?" Consider the question with the roles reversed: "Just because a man works forty hours a week does this mean he is less committed to being a good parent?"

Women are not taken seriously in the work place. When I called members of a professional forestry organization about a meeting featuring a video about women in natural resources, a male forest manager remarked, "Women in natural resources? Lance, what are you going to talk about, Girl Scouts?" He and many other natural resource professionals don't take women seriously.

This attitude is often the result of our social conditioning. We have lived in a society which said a woman's place is in the home taking care of the family. The dual career family, in which the woman works, had not become prevalent until about fifteen years ago.

Most of us grew up in traditional nuclear families—the husband works and the wife stays home with the kids. Even though traditional families now make up only 11 percent of the households in this country, we have been conditioned most of our lives to believe that men do the (paid) work that is valued by society and women do the (nonpaid) work at home. Seeing women perform in nontraditional roles contrasts highly with the role we have been socialized to believe her in. To be accepted as a colleague women often must perform at a higher level than their male counterparts because they must overcome the barrier created by the attitude that women are not taken seriously in the work place.

Remedies. The obvious remedy to many of these questions is to increase the numbers of women in the natural resource field. The first attitude—women are judged as groups not as individuals—is an attitude encountered by any minority group. The activities of individual members of the minority are generalized to the group but would be difficult to do if women are equal in numbers. Active affirmative action programs that raise the numbers of women in our work force rather than just pay lip service to efforts being made to achieve affirmative action goals are needed. Greater numbers of women in the work place at all levels of the organization in significant numbers will also break the deeply ingrained social conditioning which taught us that a woman's place is in the home taking care of the family.

Flexible job schedules assisted by job-sharing, flextime, a variable work week, and quality, affordable child care is needed to help families balance their work duties and family duties.

Some women drop out of the labor force temporarily during the first few years of her child's life. Some quit because flexible job schedules are not available. How many times have you heard, "She's pregnant. She'll probably have her kid and quit work." Yes, she may quit if she has to work 70 to 80 hours per week doing her full time work duties and "her" family duties. This lack of flexibility gives rise to the attitude: Commitment to family duties means she is less committed to her career. The real question should be — should we penalize women in the work place because men do not equally share family duties at home?

The typical family structure includes two working parents. There is no longer one bread-winner spouse and one house-working spouse. There is no longer a distinct dichotomy between income producing work and family work. We need to change our work patterns and the

standards we use to judge progress up the career ladder.

Exposing attitudes that are outdated and that act as barriers is another effective remedy. Attitudes are strange things. You cannot touch them or see them. You may not even realize how they affect your own thoughts or actions. Share your view of outdated attitudes with your friends and colleagues, expose their falseness, and their damaging effects.

Most of these attitudes go unnoticed by most men because they don't affect us personally. The changing structure of our work force however, and the differing needs of dual career families are demanding new attitudes towards women.

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Lance Yokota is a timber sale preparation forester on the Oak Knoll Ranger District on the Klamath National forest. He is also the Assistant Federal Women's Program Manager for the Klamath National Forest.



INTERVIEW

National Marine Fisheries' Nancy Foster

A little perversity pays off for this Texan whose home is on the sea

Chris Paxon

WINR: *Would you tell us generally about your work with the National Marine Fisheries Service?*

Foster: I am currently the director of the Office of Protected Resources and Habitat Programs of the National Marine Fisheries Service, a division of the National Oceanic and Atmospheric

Administration (NOAA). I have held this position for the past year. In this position I am responsible for the conservation of all marine mammals and endangered species under the jurisdiction of the Department of Commerce, and for the preservation of United States coastal and estuarine fishery habitat.

WINR: *And more specifically...?*

Foster: I am responsible for administering four wildlife conservation laws: the Marine Mammal Protection Act, the Endangered Species Act, the Fur Seal Act, and the Whaling Convention Act. This responsibility often takes me to international meetings where treaties are worked out to protect endangered species. It is my job to issue regulations to minimize injury or death of whales,

porpoises, seals, and sea lions, and to permit the capture, under special conditions, of these animals for exhibit by zoos and aquaria or for research.

My conservation work involves problems as diverse as investigating reports of porpoises caught in tuna nets, seals and whales harvested by Eskimos for food, and disturbances of sea turtle nests on Mexican beaches. Federal agencies must consult with the director's office before taking any action that might jeopardize protected marine animals.

WINR: *Do you have jurisdiction over corporations, recreationists, and fishing industries who depend on the seas for their livelihood?*

Foster: Yes. All offshore oil and gas exploration projects must be cleared through our office. It is also part of my job to develop plans to help the recovery of populations that are endangered or threatened with extinction. Sea turtles, for example, are protected by encouraging Gulf of Mexico fishermen to use "turtle-excluder" devices on their shrimp nets. More efficient weapons are being devised for Eskimo whalers to minimize the number of endangered whales injured but not recovered for food. The office also sponsors research on the effects of whale-watching boats on humpback behavior—and, we have a "head-start" program for Hawaiian monk seal pups.

Since most species of marine fish and invertebrates breed in coastal areas, they are affected by ever increasing human incursion and pollution. Billion-dollar fishing industries depend on annual recruitment of young fish that can be poisoned or suffocated by dredging or dumping of materials into their breeding habitats.

So I consult daily with federal, regional, and state agencies to make sure that the needs of U.S. commercial and recreational marine fisheries are considered in any decisions on development of important coastal areas.



WiNR: How did you become interested in marine-life conservation? Did you grow up on the coast?

Foster: Hardly. I was born and raised in a small Texas town, Electra, population about 3500 including coyotes, oil wells, longhorn cattle, and tumbleweeds (at least in my day—now not so many). But I have always been interested in biology and my first two degrees are in that. My work as a marine biologist really began when I completed a doctorate in Marine Biology in 1969 from George Washington University. I began my professional career in 1970 as chairperson of the Biology Department at a small liberal arts college for women—Dunbarton College in Washington, D.C., which was run by wonderful, open-minded nuns of the Order of Holy Cross. I'm a firm believer that at least in the '50s and '60s and even the '70s, Margaret Mead was so right when she said that a woman's college is where women discover they have brains. I saw it as an undergraduate, and I saw it at Dunbarton.

WiNR: Is Dunbarton still doing good work educating women?

Foster: After nearly 100 years of business the Sisters had to close the doors in the mid-seventies.

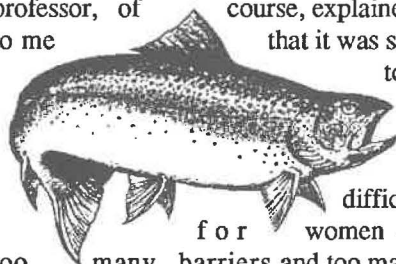
WiNR: What happened to you then?

Foster: By that time, I was already being lured by a unique opportunity. The myriad conservation laws passed in the early 1970s created a need for natural resources policy specialists, so I went to work for the U.S. Fish and Wildlife Service. A short time later, I moved to the Office of the Secretary of the Department of the Interior where I stayed until 1978. I was there at the right time to be part of the original Alaska d-2 process, the setting aside of Alaska lands as national parks, refuges, wild and scenic rivers, and public lands. The startup of the environmental studies program associated with offshore oil and gas leasing provided another unique opportunity. I then moved to NOAA,

where I remain. Again, I was at the right place at the right time. I was involved in the development of an innovative program of marine protected area management, the U.S. National Marine Sanctuary Program, and, until last January, was privileged to serve as its Director.

WiNR: It was still unusual for women to be marine biologists back in the 60s and early 70s wasn't it? What made you want to do something so different?

Foster: Originally, I think perversity had a little to do with my choice of the marine sciences. Back then, if a woman wanted to study biology, she was nudged toward microbiology, physiology, botany—havens where women had been accepted for years. I was not interested in these subjects, or in being safe. My professor, of course, explained to me that it was still



too difficult for women—too many barriers and too many prejudices in marine biology. That conversation firmed up my decision, and I've never regretted it.

WiNR: Would you say that your management style is entrepreneurial?

Foster: I believe that my management style is a combination of intuitive and scientific. I'm lucky enough to have a fairly good feel for how far to push, when to fight, what to fight for, and how to make things happen. Needless to say, all of this works better if it's based on sound information. When data and intuition conflict, I usually listen to the scientist part of me and I'm invariably wrong! I'm slowly retraining myself to trust my intuitiveness.

In any job, of course, there is a certain amount of crisis coping, but you must always try to ensure that you're at least slightly ahead of that curve. In order to do that, you must have long-range objectives—a point toward which

to move your programs. Having goals ensures that you keep going in generally the right direction and don't get sidetracked for long on crises. You must also have a vision of what Congress and the public intended a program to be. Without that, you and your program are likely to move every direction except forward. In most cases, the broader based a decision, the better the quality. However, you have to be careful not to cross the fine line that leads to management by consensus because the final decision and responsibility are yours.

WiNR: Have you also carefully planned for your own career?

Foster: Well, yes. I began as a staff analyst. There you work on reasonably focused issues and learn to work within the system. From there, I moved to the office of the Secretary for broader experience, where issues cross bureau lines and departmental jurisdictions and often involve conflicting public interests. Then I moved to NOAA for experience in management-related research. There I learned how to design and implement programs to generate information on which to base sound decisions. These were different issues, a different constituency. Next was a move to a position where I could mix research planning and implementation with decision making and management. This position—Director, National Marine Sanctuary Program—offered all of the above plus supervisory responsibility. I loved that program, my staff, the wonderful people I was privileged to work with, and the chance to plan and develop the program itself.

The nine years I spent in the marine protected area community were probably the happiest of my career up to that time. If happiness were my principal career goal, I would still be there. But I believe that you have to keep moving ahead and in the Federal Service that usually means a different position and sometimes different programs. So last January I moved to my current one. It's an older, and much more established organization. This work affords me broader responsibility, involving more complex, highly controversial decisions that affect a broader range of public issues and concerns.

WINR: With such a demanding job, do you find time for other interests?

Foster: I believe it's important to have at least some interests that are different from what we do as a career, even if we have only a little time to devote to them. Not only are you never bored, but I think you like yourself a little more. Unfortunately, there isn't enough time to do all the exciting things available.

WINR: What are some of your non-career interests?

Foster: First and foremost, I love to read. In my for-fun reading, I average about 130 pages per hour. I read British and American history and biographies, World War II non-fiction, and I love books about the supernatural. Vampires are my favorite non-people. Stephan

King is my favorite writer in this genre.

WINR: Do you have any other hobbies or interests?

Foster: I have a ceramic studio in my home, and I teach aerobic dancing—allowing the mind to relax and putting the body to work. I also am trained by the American Red Cross in emergency first responder techniques and volunteer with the Alexandria, Virginia, First Aid Corps.

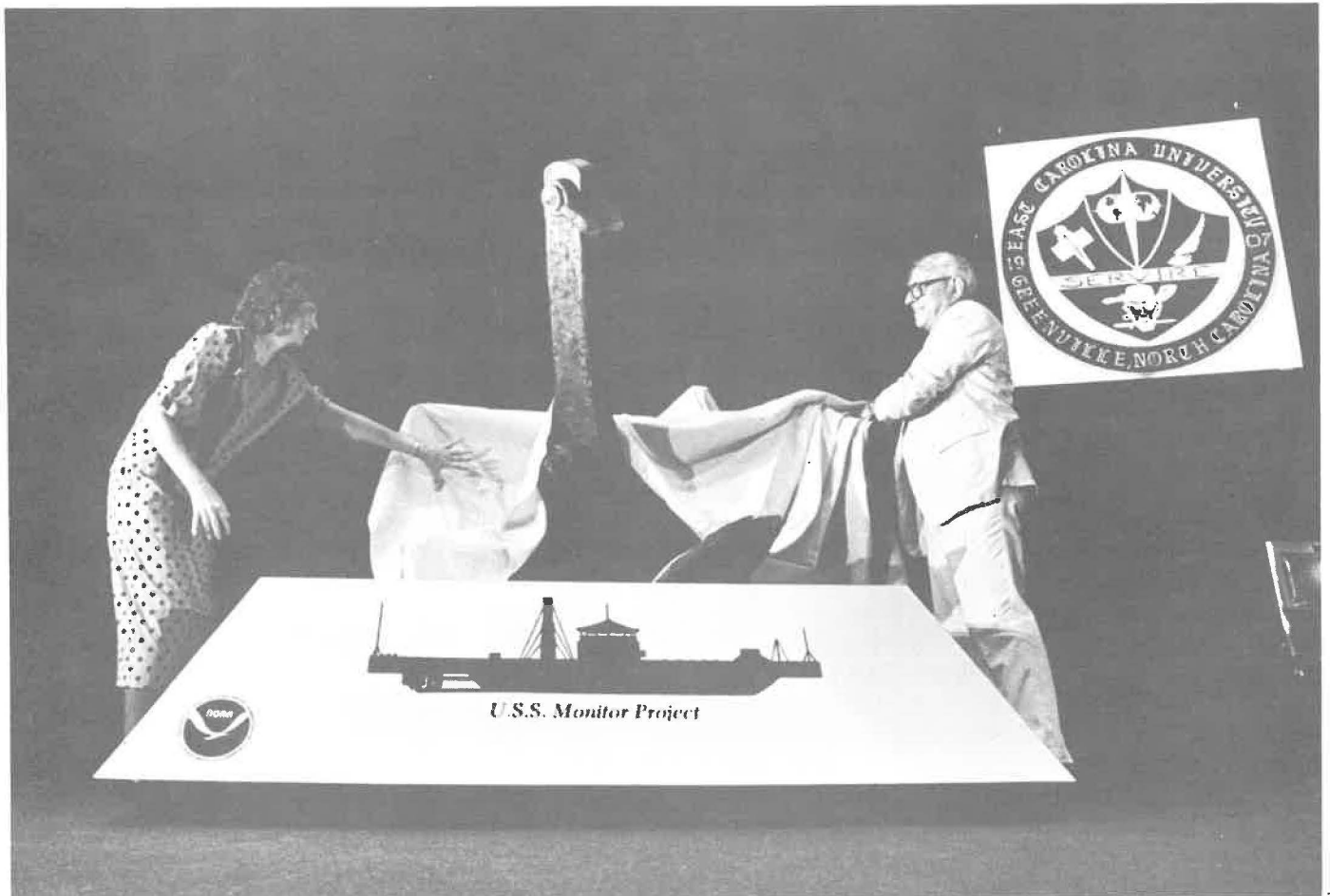
WINR: How does all this affect your home life?

Foster: Well, I'm a single person—having been divorced in 1975—so my life is my own.

WINR: I have another career-related question for you. Every step up the ladder requires (usually) the adding of a new skill or

expertise. Do you lack any particular types of experience at this point in your career?

Foster: I see myself lacking in two areas, which my current position should help me fill. First, I am uncomfortable making decisions in areas outside of my training and experience—the areas where I am not the most knowledgeable person. Perhaps that's related to the old idea that often nags at us as scientists—you have to know everything about everything before you draw a conclusion or make a decision. Second, I need to delegate more. In my previous position, I knew all of the details. After all, I had developed those programs. I probably knew more about them than anyone else. I delegated responsibility, but it didn't really mean much because I always knew exactly what was going on. The operation was small enough that I could maintain control of all facets of it. That has changed and I need to change.



WINR: What about women colleagues? Have you had a chance to work with talented women in your profession?

Foster: I began my Federal Service as the only woman professional in the Washington office of the U.S. Fish and Wildlife Service. In those early years I seldom saw a woman colleague. In the late 70s this began to change slowly. In the past 10-12 years I have been involved primarily in marine parks so I have had opportunities to work with more and more women. In addition, over the years I have hired several. As I looked around, I began to think that the odds were evening. Then I moved into fisheries management where I was quickly whisked back to reality. I was the first and only female member of my agency's Senior Executive Service. Generally, there are few women managers in research-related management, even fewer among Capital Hill staff.

WINR: It is every interviewer's duty to ask about those who have influenced them. In your case, to follow up the preceding question, which women stand out as mentors?

Foster: The remarkable, then 72-year-old chair of my undergraduate biology department stands out as one of the stronger influences in my life. She once told me that her best advice was that I never learn to type (or that I never admit that I could). Women in my generation will remember that men believed women were born typing and therefore were automatically suited to be secretaries. Dr. Marian Pettibone, the grand lady of polychaete worms, who was, incidentally, a riveter during World War II, helped me survive my doctoral thesis. And there were others like Dr. Usha Varanasi, and of course the Sisters of the Holy Cross. All are women who never accepted the idea that being a woman could keep you from accomplishing what you wanted. It never occurred to them not to do something, that they were less than equal.

WINR: Do you see any prob-

lems—at least ones you can give a name to—for women in your field?

Foster: I believe that real barriers are, for the most part, gone, or disappearing. Many of the old rules are no longer enforced such as: Keeping women scientists off oceanographic ships; requiring that they go in pairs. Sometimes, however, the intangible barriers can be just as formidable, certainly as painful or as infuriating. I still find these in the male bastions of government. The innuendos, the "what's the matter, can't you take a joke" remarks are similar to the most common problem of the man who can't look you in the eyes when he has to talk to you—the project manager. If there's any other male in the room (a janitor or mechanic would do) this man looks at and speaks to him making everyone in the room uncomfortable. I used to get the urge to look in the mirror to see if I'd suddenly disappeared or I'd want to shout, Hey, I'm over here. Now, I remind myself that he does have a problem or ignore it altogether. To be fair, those types are much fewer and easier to forget than in the past, and those of us who came up through the male system should remember that it was men who opened doors and supported us.

Having said that, I have to add that I do feel that to some degree the old rule still applies that women, unlike men, have to be better than mediocre to survive. I also confess to still feeling some pressure to do more and to try to do it better than necessary, since my success or failure could affect the chances of women who come after me. Perhaps that one is my problem.

WINR: Are universities doing a good job of preparing students eventually to come to work for you?

Foster: Yes, I think so today more than ever. Some of the options being offered give students a much broader understanding of the complex decisions facing us now and in the future in marine conservation. These decisions involve a delicate balance between public policy, marine affairs, and economics. The recent report of the World Commission on Environment and Development

highlights the fact that many critical decisions no longer can be made within a single discipline.

WINR: How do political swings affect your office?

Foster: Of course political swings affect programs, but primarily in terms of emphasis. The days when such swings could totally destroy conservation programs are gone. These programs are no longer luxuries, but are recognized as necessary for long-term, sustained development. Our budgets fluctuate and organizational structures come and go, but the programs stay basically intact. Perhaps a lot of their stability can be attributed to openness in government and the sophistication and commitment of non-government organizations. We keep each other honest.

WINR: How do you handle all of the federal regulations and the myriad laws that affect your work?

Foster: Dealing with our laws and jurisdictions is not so different from the way in which a doctor deals with a myriad of symptoms, diseases, and medications. You find out if you have a problem—then evaluate your options.

WINR: On a scale of one to ten, how would you rate your performance in the public policy spotlight?

Foster: I would rate myself about an eight or so. It's probably one of my strongest points. Perhaps that's where the intuitive management style helps out. Anyone can figure out the intent of the law. The hard part is sifting through the special interests to determine where the public benefit lies. Once I discover it—and this is often the balancing act—I pursue the public interest in marine conservation with vigor, savvy, and cheerful determination.

WINR: Are there some agencies—governmental or non-governmental—that you admire more than others?

Foster: Among U.S. agencies, I think the Department of the Interior has

the best class act. It performs a monumental balancing act building dams, developing mineral resources, and, at the same time, managing protected areas and living resources. Our National Park Service is world renowned. It has probably done more to make us aware of our cultural heritage than any other institution. Though the Department often slips off its balance, it has managed over the years to retain an overall professionalism and dedication to public service.

In addition, I'm particularly impressed with the conservation community in this country. Over the years, I've seen an evolution from an emotional approach—often without facts and consequently little credibility—to a sophisticated professional approach. They now do their homework, often knowing as much about your program as your own staff. Most groups cover a wide range of issues with a handful of staff. They've learned to use the system, and we have all learned that whenever possible, it is better to work cooperatively rather than antagonistically.

Inevitably, we cause each other difficulties—they sue us quite often—but so far the conflict has produced better programs.

WINR: Successful women are often asked to offer advice to other aspiring women, but I'll be a little perverse, too, and ask instead if there is anything that you would do differently?

Foster: Well, as I look back, I would first recognize much earlier that it is okay to say no. I would recognize sooner that you can't be all things to all people, can't and shouldn't have to know everything, and that you don't have to agonize so much over every honest mistake. I would recognize that it's okay not to be perfect. Second, I would find more time to help women who are trying to move up through the system.

WINR: Do you think mentoring, if I understand your last comment correctly, is the key to getting

more women into the natural resources profession?

Foster: No, the schools and families are still the greatest influences on career choice, in my opinion. But women professionals can help other women advance. You see, in the late 70s, the Carter administration brought many women into federal service—more than any other administration to date. But they placed women in lower-level positions only. Without women at middle management levels, progress for women stalled. It takes senior women promoting other women for there to be significant change.

Interviewer Chris Paxon is an Instructor with the Department of Management and Systems and the Department of Women's Studies at Washington State University, Pullman. She teaches and conducts research on women managers and personnel/human resources management. By training, she is a social psychologist. She developed an interest in management issues, however, during hiatus from graduate school when she worked for AT&T in Seattle, 1979-1981.

CONSERVATION LAW ENFORCEMENT

ASSISTANT PROFESSOR UNITY COLLEGE, UNITY MAINE

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Deadline: June 3rd, or until position is filled.

Unity College is a small, liberal arts institution in rural Maine emphasizing natural resources management and wilderness-based recreation.

Goals and Losses from page 10

Program so as to avoid actual Power Council directives. In this case, BPA has given a Washington, D.C., think tank, Resources For the Future, a half-million-dollar, sole-source contract to do yet another losses compilation.

"The fish agencies and the tribes are emphasizing establishing hydro losses because the Bonneville Power Administration has frequently stalled, put up roadblocks, and often been reluctant to implement the Power Council's Fish and Wildlife Program," says CRITFC Executive Director Tim Wapato. "BPA has worried that it might be overcompensating. The magnitude of the loss, as indicated in the NPPC staff study and in our cumulative loss analysis, shows that BPA's anxieties are ill-founded. The Fish and Wildlife Program has only begun to make up for the hydro damage."

**The above article was written by the editors of the Columbia River Inter-Tribal Fish Commission News from which this article is reprinted (Vol 9, Number 2). The commission's headquarters are in Portland, Oregon.*

EVENTS

June

History and Ecology of Salt Marshes in the Gulf of Maine, June 1988, University of Maine. Topics include marsh formation, changes, farming of salt hay, and current regulations of marshes. Field trips to eastern Maine and Nova Scotia are included. Contact Becky Grant, Canadian-American Center, University of Maine, 154 College Avenue, Orono, Maine 04469.

History of the USDA, 15-18 June 1988, Ames, Iowa. Sponsored by the Agricultural History Society and the Center for Historical Studies of Technology and Science at Iowa State University (ISU). Several sessions will deal with USDA scientific, technological efforts, and others will mark the centennial of the USDA to cabinet rank. Contact Alan I. Marcus, 635 Ross Hall, ISU, Ames, Iowa 50011.

Leadership and Power: Women's Alliances for Social Change, 22-26 June 1988, University of Minnesota. The National Women's Studies Association and the University of Minnesota are co-sponsors of the conference whose theme is how women of various backgrounds can work together. For more information contact Lori Graven, 217 Nolte Center, 315 Pillsbury Drive SE, Minneapolis, Minnesota 5545-0139 (612-625-9023).

Society of Range Management, Pacific Northwest Section Summer Tour, 22-25 June 1988, Antelope Refuge, Oregon. For information contact Marv Kaschke, Refuge Manager, Lakeview, Oregon 97630 (503-947-3315).

First International Meeting on Fish Tagging, 27 June-1 July 1988, Seattle, Washington. For information write Nick C. Parker, SE Fish Culture Lab, Route 3, Box 86, Marion, Alabama 36756 (205-683-6175).

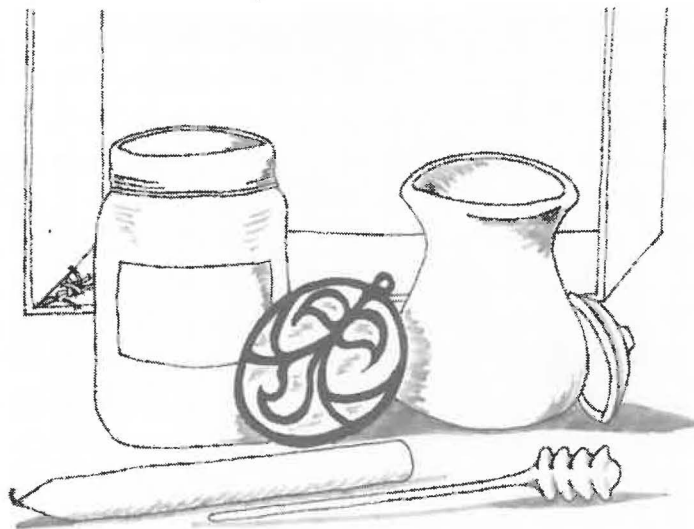
July

Western Division of American

Fisheries Society, 10-13 July 1988, Albuquerque, New Mexico. Contact Nancy MacHugh, 303 Extension Hall, Oregon State University, Corvallis, Oregon, 97331 (503-754-4431). This meeting is being held in conjunction with the Annual

Meeting of the Western Association of Fish and Wildlife Agencies. For information contact Scott Brown, Department of Fish and Game, 3700 Asuna NE, Suite 611, Albuquerque, New Mexico 87109 (505-841-8881). *Continued on page 44*

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An Invitation to Speak

Enid Portnoy and Sharon Santos

You have been asked to give a speech to a local civic organization about some aspect of your job. You hesitate about accepting the invitation, knowing that public speaking is not a comfortable experience for you. In fact, the very thought of standing in front of a group sends shock waves throughout your nervous system. However, you begin an earnest dialogue with yourself, attempting to analyze why it is that speech making is so frightening.

The answer probably is that you are unfamiliar with public speaking and do not spend much time doing it. If that is indeed the case, is it "normal" to feel apprehensive about speaking publicly? The answer is a resounding "yes." Within the last ten years, surveys conducted to discover people's major fears reveal most often the number one fear to be public speaking.

In spite of this common apprehension, the most effective speakers insist that the heightened awareness they feel before addressing an audience actually helps them to make a more dynamic presentation. Experiencing those bursts of energy, a speaker is assured that the body is "toned up" for oral communication.

There are things that help which are easy to learn and do. In general, exercising the body before speaking helps to disperse the extra energy present during the moments before public communication occurs. Walking, flexing the limbs, practicing large gestures, or changing body positions can usually be done outside the audience's view. Many speakers complain of tense facial muscles which can restrict the comfortable production of sound. Jiggling the jaw muscles from side to side, for example, can release such tension. An expansive yawn is another excellent device to open up the facial area and to decrease the extra tension felt in the musculature.

Obviously, however, using any of the above movements can be more difficult when the speaker is directly in front of the audience. In that situation, large movements must be curtailed. For instance, the speaker's walk toward the speaking area may be the only opportunity to get the body moving. Small activities such as taking the time to arrange papers on the stand, adjusting the microphone, or moving to one side of the lectern can be used as settling devices, giving the speaker time to adjust the breathing mechanism. These movements can also provide a few moments of orientation to the audience and the physical environment.

Many public speaking teachers advise speakers to "take a few deep breaths." The advice is simple but incomplete

because breathing must be controlled in order for a smooth flow of sound to be created. We speak on the outgoing air column which is regulated by the breathing muscle. The muscle, called the diaphragm, forms the floor of the rib cage where the lungs are housed. When a person becomes tense, the diaphragm muscle produces irregular movements. Rather than a smooth, sustained flow of outgoing air to carry the sound, the tone produced is a shakey one.

How, then, can the air be controlled so that a stronger tone quality can be created? Speakers should be advised to take several deep breaths in a slow, controlled manner, allowing enough time between each inhalation to exert restraint over the outgoing breath stream. One way to do this is to silently count the number of seconds it takes to expel the exhaled air. Each time the air is emitted, the duration of time should increase. If the exhalation can be successfully monitored in this manner, the tone will reflect more strength and steadiness. The stream of air necessary to produce tone will be under the speaker's control and can be safely depended upon. Because nervousness raises the energy level, an inexperienced speaker must carefully plan how to redirect excess physical excitement into meaningful activity.

In spite of this good advice, some individuals still want to grip themselves—parts of their body—in order to suppress the tension they feel. The speaker who crosses her legs while seated, clasps her hands together on her lap, or clenches her jaw may do so in an unconscious attempt to decrease the amount of tension being experienced. The body is sending these nonverbal messages which reflect general discomfort in the situation. Some teachers have resorted to placing objects in students' hands in order to have them avoid body touching while they are speaking. Furthermore, to avoid adding to the discomfort, you should keep your posture as relaxed as possible, with both feet planted firmly on the floor, a little apart to allow you to shift positions easily. And, finally, a tip on how to avoid the "rocking" syndrome. Sneak a glance at yourself in a mirror or have an observer check to see that you are not favoring one leg more than another or assuming a constant bent knee position.

One of the most "telling" areas of the body to observe for expressed discomfort is that of the legs and feet. As Freud said, "The body does not lie," which may be especially true in speechmaking. Restless movement of the lower torso suggests that the speaker feels imbalanced. The lower trunk area is not

carefully monitored by others since we expect observers to look first at the face for any negative cues. The second area where leakage and deception cues may be found is in the arms and hands, and thirdly, in the face and eyes. Knowing how sensitive these areas are in revealing tension, students are advised to monitor the physical impressions of others. Is what is seen an accurate reflection of the body's message?

By far the best antidote for nervousness is sufficient advanced preparation. The more thorough and organized the presentation is, the more likely the speaker is to feel confident. The first step in organizing a speech is to decide what is to be the specific *intention* of your speech. Generally, you have three choices: To inform your audience, to entertain your audience, or to persuade your audience. That is not to say that you cannot develop ideas to convey all three purposes, but the major thrust of your speech must have one specific intent. This intent, then, becomes the central focus for the material. All the evidence you gather will serve to reinforce your chosen intent. You should be able to complete the following phrase: "I want my listeners to ..." In a recent speech on the importance of conservation in a specific area, one student used this wording for her intent: "I want to explain the difference between the conservation plan in effect here up to 1985 and the plan which is currently in use." The speaker found statistics and citations from authorities to reinforce the practices which were employed during the two different periods. Her purpose was to bring the facts to her audience in order to inform them. The text became the vehicle for satisfying this intent through the sharing of significant ideas.

A speaker's sole responsibility is to communicate a clear message with a potentially interested group of listeners. Therefore, it is often recommended that inexperienced speakers memorize the major headings of a speech outline. In this way you have the arrangement of the material firmly in mind. The more control you can exert over the material the more likely you are to feel confident about communicating. It is a comforting thought to remember that only you know exactly *what* you want to say and *how* you mean to say it. If, for some reason, you decide to deviate from the outline, you should feel free to do so, knowing that you can always find your way back to the original order of the ideas. In addition, memorizing both the introductory comments and the closing comments present a well-prepared frame around which a speaker can navigate.

The moment you begin to think of public speaking as a solo performance, the more alone and uncomfortable you feel. In truth, sharing ideas with others is an *interactive* condition, not a solo one. Although the speaker does most of the communicating with verbal messages, listeners are also responding with nonverbal message cues to which a good speaker should adjust. The listeners' silent cues (sometimes not so silent!) are usually made in direct response to the cues they receive from you, the speaker. If you are enthusiastic and direct, the audience will reflect similar behaviors. Facial expressiveness, posture changes to aid transitions in thought, gestures added for message clarity or emphasis—all suggest ways in which the speaker is projecting thoughts to the audience.

For no other reason than to receive positive reinforcement, the speaker should reflect a high degree of energy and commitment to the subject being discussed. Gazing on rows of dull faces provides a chilling lesson if those faces are the direct consequence of a speaker's own disinterested approach to the

topic. Instead, many speakers look forward to scanning the audience for "kind eyeballs," as the popular author and lecturer, Leo Buscaglia, describes them.

But knowing the audience's visual responses is only a small part of understanding an audience. The more known about the age, gender, occupations, and backgrounds of your listeners, the more exact can be the link between the topic and your audience. In order to insure a "tight fit" between speaker and audience, you can carefully construct an attention-getting introduction. During opening remarks, you can, for example, refer to the specific occasion, the environment, and your specific audience in order to relax everyone concerned. Such direct references suggest that you took the extra time to discover something about this occasion for speaking. Making use of opening lines like these might reinforce your concern for your listeners: "When Mary Jones told me this was the twenty-fifth anniversary of your organization ..." or, "In the drive over the mountains to your city, I was particularly struck by ..." The mention of specific people, places, or local events may be used to compliment the audience. Whenever listeners feel a sense of personal involvement or identification with a speaker, they are more likely to have an initial positive perception of their experience. *Your* acceptance of an invitation to speak implies that you will strive to create personal connections between yourself and the audience.

When members of an audience appear especially polarized about your topic, you can encourage a respect for different points of view by presenting each side of the issue before revealing your speech intent. The more concrete your examples are in support of your viewpoint, the easier the task of accomplishing your intent. Many inexperienced speakers decide on a persuasive intent for a speech and expect the audience to immediately embrace a specific goal or plan of action. This is usually one of the most *difficult* goals to accomplish in persuasion so it is far better for you to aim toward an audience recognition of your point of view rather than expecting them to jump to an immediate action. To be convincing, one must be convinced! Therefore, an invitation to speak also means that long before you make that speech you will have researched the attitudes of your listeners so that you can decide how best to approach them.

To reinforce the initial favorable associations you made with the audience, you may want to return to the same theme or references in your conclusion which you made in your opening comments. As part of the summary, experienced speakers will often repeat ideas and themes which appear in the body of the speech. Repetition and summaries, therefore, also serve as unifying threads to help pull the major ideas into focus to support your intent.

Effective speakers usually have this thought in the front of their minds as they prepare, as they invite control and energy, and as they speak: "I have something so interesting to share with you that I can hardly wait to tell you about it." Focusing on the anticipated interest of the listeners, you can concentrate on direct and meaningful sharing of the material. It is an essential fact that the audience must always come first.

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The employment curve continues to rise for natural resource managers who work for developing country projects

Women Professionals in the Peace Corps Address Deforestation Crisis

Mai Nguyen

Teresa Lewis walked five miles through mud to toil alongside farmers when she was a Peace Corps volunteer in the Philippines. Carol Jo Rushin-Bell, who lived in a tiny mud hut without amenities, taught forest conservation techniques in West Africa. They served in a vanguard of women who work to improve forestry and farming practices which threaten land and natural resources in the developing world. They believe that over-population and inadequate conservation techniques spell disaster for millions of people who rely on forest and farm resources.

More than 700 Peace Corps volunteers have served in agroforestry projects in Africa, Asia, the Pacific and Inter-America. Women foresters find their assignments particularly challenging. They are called on to reverse damaging environmental practices and encourage new ways of doing things, and to do so while dealing with cultural attitudes towards women that can limit their effectiveness.

Former Peace Corps volunteer Teresa Lewis of Vashon Island, Washington, worked in a remote village on the island of Luzon, Philippines. She was a 1983 forestry graduate of the



Volunteer Sophia Sanchez, who works in the Conservation of Natural Resources Program, promotes reforestation with school children. Sanchez is from Houston and earned a BSF in Forestry and Geology from Stephen F. Austin University.

University of Montana. "It was a unique experience," she said. "I wasn't just a forester teaching new techniques in a less developed country, I was an individual who had to deal with all aspects of the culture, especially my role as a woman. The men in the Bureau of Forestry Development had preconceived ideas of what an American woman was like," she remembered. "I was first assigned to work in an office in the town of Cordon. The men wanted to treat me as an American show-piece—something they could show off—not as a forestry specialist who could help them with their forestry project."

Lewis insisted on moving out to a rural location where she could live with the farmers, doing field work everyday. "It was a five-mile hike in from town and they couldn't believe I really wanted to live out there. I think it made them realize that I was serious about working and they respected me more for it." She went to town every week for an office visit to keep communication with the Bureau of Forestry Development open. "I felt it was important not to totally reject the rapport with the government office. I spent some time with the officials—we'd go bowling or eat out, but I didn't mix my personal life with my

AFSI Peace Corps Volunteer Laura Ewing from Houston, works with a USAID-funded central nursery in Djenne, Mali. Ewing plants trees with school boys in a garden of the Franco-Arab Primary School in Djenne. She will oversee the creation of a well for the school garden to be funded by the Ambassador's Self-Help Fund. One of her responsibilities is to establish mini-nurseries at area schools so that children may learn from an early age, the importance of and care for trees. Working from the USAID-funded nursery of Djenne, Ewing plans to organize the transplanting of 50,000 trees (some 25 varieties) this year. Her BS degree is in Geology from the University of Texas.



role as a forester. I think other women forestry volunteers who decided to limit their interaction with the male foresters suffered from the lack of communication and rapport. It was difficult, though. I had to swallow hard and accept the cultural differences, but the mutual respect and friendship I finally gained made it worthwhile," she said.

Lewis worked in the field every day. "It was often easier to approach the women and to help them begin better ways to farm on hilly slopes. The men were more reluctant to listen to a female...even if I did have the credentials to be a forester, I wasn't a farmer. I felt so much personal satisfaction when some of the farmers began to plow on the contour or plant trees between their crops to prevent soil erosion." The project Lewis began on Luzon is being continued by two new Peace Corps volunteers, Katy and James Boyd of Stillwater, Maine. They both hold graduate degrees in international forestry from Yale.

International forestry experience is invaluable for career development. Peace Corps is recognized as the entry point to a career assignment by development agencies, host country governments, and international corporations. Eighty percent of all Agency for International Development foresters are former Peace Corps volunteers. Lewis, currently a recruiter for the

Peace Corps in Seattle, noted "If you ever want to work in international forestry, it's almost a given to have had our kind of overseas experience."

Foresters with bachelor's degrees are especially in demand for assignments in Africa and Asia. This year, Peace Corps needs 172 foresters and 1,162 agriculturalists to respond to specific requests from developing countries. The numbers will grow because Congress has mandated that the Peace Corps increase the number in the field to 10,000 by 1992. Currently, there are 5,200 working in 64 countries. Examples of volunteer assignments include forestry planning and management in Liberia, forestry and conservation in the Dominican Republic, agroforestry in Kenya, secondary agricultural education in Tanzania, and agriculture vocational education in Western Samoa.

To qualify for a Peace Corps agriforestry assignment, an applicant must have a bachelor's degree in forestry, natural resources, or environmental science—or a bachelor's degree in another discipline with 15 semester or 22 quarter credits in one of the above subjects. Those invited to become forestry volunteers are usually trained overseas in the country in which they will be working. They learn about forestry techniques

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Margaret Kaii of Sepulveda, California talks with a farmer in a Chinese cabbage garden. They are examining insect infestations. The garden is part of an income-raising project which Kaii helped start. A conservation of natural resources volunteer, she has a BS in landscape architecture from California Polytechnic.

Gradually working her way to the top is the Forest Services' ranking women scientist

Profile of Jacqueline Robertson

Vincent Y. Dong

When Jacqueline L. Robertson recently received her promotion to the Civil Service grade of GS-15, she achieved a number of firsts: First woman bench scientist active in research, and first woman project leader in the USDA Forest Service to achieve that grade. She shares with Anne E. Carey of the agency's Washington, D.C. staff, the distinction of being one of the two women employees in the research branch to reach that grade.

If that elevation to high rank—the grade structure for Civil Service employees tops out at GS-18—were not enough, Robertson won additional laurels in 1986 when she received an IUFRO Scientific Achievement Award consisting of \$1000, a gold medal, and certificate. The occasion was the opening of the 18th World Congress of the International Union of Forestry Research Organizations, held in Ljubljana, Yugoslavia, and attended by scientists from throughout the world. She was cited for her outstanding research achievements, particularly her work on the statistical analysis of bioassays for evaluating the effectiveness of insecticides applied to forest insect pests. The IUFRO Gold Medal rests next to a plaque she received from the Secretary of Agriculture in 1981 for “significant improvements” in doing the same work.

In 1966, Robertson started work as a part-time biological aid at the Forest Service's Pacific Southwest Forest and Range

Experiment Station, headquartered in Berkeley, California. Three years later, upon receiving her B.S. degree in zoology from UC Berkeley, she became a full-time biological technician with the Station's Insecticide Evaluation Research Unit. By 1971, Robertson had advanced to research entomologist. She served in that capacity until she was promoted in 1982 to research project leader, making her one of the few women in the Forest Service to have achieved that position. She received her doctorate in entomology at Berkeley in 1973.

Since 1982, she has led a unit with the title *Improved Technology for Integrated Management of Western Forest Insects*. The unit's mission is to develop the technology needed to safely and efficiently reduce selected insect-caused losses affecting forest resources. She directs a team consisting of entomologists, a mathematical statistician, a biologist, and supporting staff. They work on host plant-pest-insecticide interactions, the role of terpenes in the distribution of western pine beetle, the interactions of mountain pine beetles with five pine species, and statistical methods for evaluating ways insects respond to chemicals. More recently, the unit has researched an expert system for identifying the safest chemicals to use on defoliators of North American trees.

Her transition from a researcher to a team leader was, says Robertson, “very gradual—and I am still learning. It is easier to do everything yourself, and with rare exceptions—one being a technician with whom I was associated for 18 years—I have found it difficult to depend on other people.” For those contemplating a change from team member to administrator she advises: “Be patient. Don't expect everyone to do things the way you would do them.” As to how to motivate scientists from diverse disciplines to work harmoniously, she says: “I try to set an example, but I must admit I don't always succeed in getting all member of the unit to work harmoniously. Given the different personalities in the group, harmony is difficult to achieve.”

When asked if her latest promotion made her the ranking Forest Service woman scientist, she answered: “Maybe so, but I'm also the shortest. Perhaps the promotion proves that the Forest Service doesn't discriminate against short people.” Humor aside, her rise to public status of senior scientist was built solidly on scientific and technical publications (more than 100) and presentations (more than 30) of papers delivered to scientific societies and conferences.



Besides her accomplishments as a prolific author, in her spare time Robertson writes mystery novels and designs rugs in a form called "punching." She also finds time to edit the *Journal of Economic Entomology*, a bi-monthly, peer-reviewed periodical published by the Entomological Society of America. She's been the Journal's editor for seven years and devotes "all of my spare moments to the job. I took the position because I thought I could change the quality of the journal. I thought its statistical quality could be improved. I believe that we have made a good start. We have achieved a greater consistency and quality—especially since Paula Mitchell became my co-editor. Paula is an expert in the subject matter in which I am not, and vice versa." To summarize her attitude about editing, Jackie often quotes Abraham Lincoln: "He has the right to criticize who has the heart to help."

With so many activities, Robertson notes that she finds it necessary to "set extremely high goals, and try to attain them as quickly as possible." She admits, however, that the result is "chronic fatigue, stress, overwork, and —sometimes— satisfaction."

Robertson was born in Petaluma, California, where she now resides, and she considers herself a native of the north San Francisco Bay. She attended high school, however, in Lansdowne, Pennsylvania. While attending UC Berkeley, she worked as a teaching assistant and later as a research assistant in the Department of Entomology and Parasitology.

Robertson's personal research with the Forest Service has centered on defining the variables that affect the response of western forest insects, particularly defoliators, to chemical insecticides, and on improving statistical techniques used to analyze data developed from bioassays of insect pests. She is now winding up this work which has occupied her for the last 20 years. Next will be more research aimed at answering the question of why forest insects seem to be winning all the battles. Perhaps they always will says Jackie because they are "part of the continuing evolutionary process."

Although the Forest Service has relatively few women employees in the upper grades, "the situation is a definite improvement from the time I started in the agency. There's definitely a place for women. Shrinking budgets have narrowed the opportunities in entomological research, but molecular biology and computer sciences—to give two examples—are definitely growth areas." Despite her achievements, Robertson does not consider herself a role model. "I have tried to be a good scientist, but I do not feel comfortable in being so conspicuous." Her latest promotion, awards, recent appearance at a worldwide forestry conference in Yugoslavia, and her journal work have hardly done much to reduce her visibility to the public and scientific community.

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useful in their specific working environment. They also receive intense language and cross-cultural training. Local customs and lifestyles, such as marketplace bartering, festivals and religious ceremonies, are discussed. "My group studied tropical forestry, reforestation, and agroforestry," Lewis said. "We also learned how to run projects such as setting up demonstrations of agrotechnology, community development techniques, and how to organize and motivate others. In any other technical-level job, it takes years to learn these kinds of skills."

Carol Jo Rushin-Bell of Virginia Beach, Virginia, has served *three* two-year Peace Corps assignments. She has an MS in forestry from the University of Montana and a BS in Biology from Radford College. She recently returned from her latest assignment in The Gambia, Africa, where she worked with the Forestry Department as a forestry advisor. She helped manage a regional nursery and taught forest conservation techniques in village schools while living in a one-room, thatched-roof mud hut with no electricity or running water. During the wet season, she caught rainwater in barrels, during the dry season, she hauled water from a well. On a typical day, she spent several hours at the nursery monitoring seedlings and checking a "living fence" project before teaching tree-planting techniques at a nearby primary school. Before her day was over, she also taught English classes to nursery attendants and

women in her village. "The rewards more than made up for the frustrations," she said. "They included seeing the chiefs take positive actions on forestry conservation suggestions, trees growing where there were none the previous year, people burning their fields early to prevent bush-fires, the school kids' eagerness to learn, watching people spell their names for the first time, and just being appreciated for the fact that you came."

She did, however, find the role the women in rural villages played to be grueling. "On a typical day a woman would rise before dawn to haul water and pound rice and millet for meals. She might then forage for firewood before doing the daily cooking, dishes, laundry, child-rearing, house and compound cleaning, most of the farming, and all of the gardening and selling of produce in the market." Village men often worked away from home at commercial farms, in cities, or even in different countries. "Women provide up to 90 percent of the rural food supply in some parts of Africa. This makes it important that women, the primary food and plant growers, are educated about agroforestry techniques that can ease their workload as well as protect the land for the future," said Rushin-Bell.

Mai Nguyen is a Public Affairs Specialist with the Peace Corps. She currently works out of the Washington D.C. office.

Other professionals protect themselves and their professions with power enhancing strategies which can be easily understood and adapted. There is no reason women in this business can't do the same

Professionhood For Women in Natural Resources

Sheila Helgath

Too often women working in natural resource fields assume the issues involving their work and lives are unique. Other women professionals, however, have similar problems and have developed successful strategies which female natural resource professionals should examine. Rather than "reinventing the wheel" natural resource women may be able to adapt these strategies to their own specific situations and "roll along" on them. To give you an idea of what I mean, consider the following:

- When I was satisfied with my job, money seemed less important. Now it's the only positive reward I get.
- Forestry is a love/hate thing with me.
- I spend half my time defending the wildlife profession and the other half rewriting it.
- Biology is the most incredibly rich profession I know of. Would I do it again? Anytime.
- Forestry is next to my god and my husband.
- My biggest frustration was that, because of the attitudes of the male managers at the office, I couldn't practice land management the way it should be practiced.
- I usually take the authority and do what I feel is right. My decisions have never been questioned, but my authority to make the decision has.
- I love fisheries, but not the conditions under which you have to practice it. And what I want above all—more than anything that would benefit me personally—is the chance to be a better manager.

Actually, the above statements were made by nurses and can be found in the 1982 book by Margaretta M. Styles, *On Nursing Toward a New Endowment*. The word "nursing" in this exercise was replaced with natural resource terms in order to make my point.

In recent years nurses have made significant advances in influence and power within the health professions. The intent of this discussion, therefore, is to share some of the strategies these women have developed and to discuss the possibility of applying them to resource-based professions. By reconceptualizing the issues, as nurses have done, individual women will gain perspectives on *why* they are doing the various isolated activities so popular in feminist literature for success. Net-

working, being a mentor, joining professional societies, and satisfying competing role obligations such as motherhood and employment are some of them.

Nursing, until recently, has embodied one of the most stereotypic images of working women in our society. Nurses receive relatively low pay and are viewed as the nurturers in a male dominated, "fix it" profession—medicine. They have a relatively low status, yet tremendous responsibilities and training requirements. Nurses represent the stereotype most female resource managers thought they were avoiding by entering into a male dominated field. Yet, there are many similarities between nurses and natural resource women professionals:

1) Both natural resource managers and nurses have a basic biological training that is applied to problems of human/environmental conditions—ideally for the improvement of human conditions. Many women in resource management and nursing get advanced training presumably as a way to improve their status in the profession.

2) Disillusionment with the profession and a relatively high dropout rate occurs for both groups.

3) Varied and complex responsibilities are given individuals while on the job; these responsibilities require tremendous



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judgment yet seldom are female members of these professions in the position of being the final decision makers.

4) Career pathways for both groups of women professionals are limited to non-existent. Usually women enter natural resource professions in staff related fields, for example, as economists, biometricians, interpreters, geneticists, and recreation specialists, not in direct line or authority positions. The feminization of certain specialty natural resource job classifications has serious implications for those involved unless individuals, alone and collectively, develop effective strategies to enhance their power within the field.

5) Both receive relatively low pay which many would argue reflects on the non-professional character of the occupations.

Differences exist as well. Nurses have been a recognizable body of female employees for nearly a century. Female resource managers have only recently entered the field in sizable numbers. Nurses work within a feminine context or with other females who support them and give them a sense of identity, while resources women are often isolated from other women. For example, they may be the only professional women on the district, the only female technician, or the only female expert in that area. Natural resource women, in essence, exist in an all-male environment, which may make using the strategies that other women's professions have developed even more important.

Professions: The Traditional Way to Power

Ultimately nurses have begun to achieve power by understanding power and how it is achieved. When I say power, I mean it as a sociological concept. It is the ability of an individual or a group of individuals to control resources, in particular social resources such as status, social standing, economic factors, and employment conditions. Lack of power can be identified in many ways. Two examples of the lack of power among natural resource women are: the need to reestablish credibility each time a woman resource manager meets with a new group of male managers, and the lack of involvement of female resource professionals in activities which define and influence the profession.

Lawyers and medical doctors have become powerful through professional behaviors and attitudes. These professions have distinctive characteristics and unless we understand how these characteristics interact to provide a basis of power for the predominately male professions, women can never achieve the credibility or power which will make them effective managers. These characteristics include:

- 1) A theoretical base and a conceptual process which provides the basis for decision making.
- 2) Participants who receive rigorous and long term training. In sociological terms they participate in adult socialization activities which include a systematic approach to learning, apprenticeship, and entrance into the workforce.
- 3) An ethical framework with a well defined client-professional relationship. Those of the lawyer or doctor are the most obvious, but others such as anthropologists and sociologists also have well developed concepts about their responsibility for the peoples they study or with whom they work.

4) Judgments based upon the integration of the theoretical concepts of the profession. Professional activity goes beyond simple predetermined answers. It requires a higher level of responsibility.

5) A sense of collegiality and support for the decisions of other professionals in the area.

6) A belief that they have a responsibility to serve a larger good and to give a degree of service to their communities no matter the type of reimbursement they receive.

7) Legislative initiatives taken by the professional which affect their business, control who is entering the profession, and enforce behavioral sanctions against those who do not comply with professional behaviors.

8) A well defined code of ethics.

Professionhood: A Feminine Reconceptualization

How well do women in the resource workplace fit into the above criteria and/or participate in the above activities? Not very well, in most cases. Yet it is this professionally guided behavior that has been the traditional way to power in the workplace. More important how well do you personally fit into the criteria? Perhaps a reconceptualization of these criteria into a more feminine perspective will help. Margretta M. Styles, Professor and Livingston Chair in Nursing at the University of California at San Francisco, wrote eloquently that power will be achieved in the nursing profession through professionalization as well. The difference in her conceptualization of nursing as a profession goes beyond the traditional definitions of profession and embodies the perspective of the nurse as a "female professional." She recognizes the multiplicity of roles women have in our society as a wife, mother, caretaker, and career women.

Styles has taken the above criteria of a professional and reconceptualized the issues. She argues that women will gain power through developing a sense of professionhood—that is, recognizing a group of individuals who are sharing a specific state or character and through that, empowering the occupation and the female members of the occupation. Styles defines a profession as an imbedded series of concentric rings which are centered first upon the relationship of the individual practitioner towards the profession, next the relationship of the individual towards others, specifically other women, in her profession, and finally her relationship as a professional to the larger society.

Three Axioms Emerge

Acting upon this concept, women should then be able to develop strategies which will make them more powerful. Three guiding axioms emerge from this analysis.

- 1) Believe in the social significance of your work.
- 2) Obtain ultimacy in your work.
- 3) Recognize the necessity for collegiality and collectivity.

Styles argues that only through specific steps which begin with the individual, will the power of professional status be conferred. However, blindly following the traditional criteria of professions stated above will be ultimately unfulfilling to female professionals. Instead a "deep and abiding awareness

These cloisonné bracelets are classic Chinese elegance. They are one and one half inches wide and have a good solid weight to them. The colors are radiant peacock blue, white, red, green--with other rich enamels in the flowers and designs. The inside is contrasting enamel. When I was picking these out in a Chinese warehouse in Beijing, I was struck by the fact that each was beautiful enough to be displayed as an art object. Fits small to medium hands. \$70.00 each postpaid.



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of purpose and direction" must be adopted by the professional woman "in place of a specific set of objectives or standards which is inherently limited by today's vision."

The First Step: A Belief System

The first step in formulating this vision is to develop a belief system about your occupation and about its purpose. Have you a declaration of belief about resource management, fisheries, or wildlife management? Can you say, as Margaretta Styles has said about nursing—I believe:

That resource management provides a unique and special service to the betterment of humankind and the environment which I manage; That it provides a distinct and unique perspective; That resource management requires a sound and thorough education? That the maximum contribution that environmental management can make is dependent upon the well developed expertise of individuals within the field and dependent upon recognition of that expertise by the public; That resource management requires legal, political, and sociological arrangements which allow the full expression of the expertise and values of natural resource managers...and so forth.

By developing a set of beliefs about your profession, you can respond to the temporary situations with equilibrium and perspective. For example, at a recent board meeting I was challenged by another forester, a male, as to whether I was a "real" forester and had done field work. It was easy to respond to the challenge both from a personal perspective and from a more work oriented perspective because I can comfortably say and believe that I have the integrative abilities, background, and the values that a professional resource manager should have. A few years ago, I would have furiously jumped to defend my fieldwork ability. Now I expend my energy on more productive matters.

The Next Step: A Sense of Ultimacy

Once a set of beliefs are developed then the next step is to develop a sense of ultimacy. Sartre defined ultimacy in his epitaph "I have produced my works with as much care as I could." Ultimacy is not competition but a striving to do the best that is possible within yourself. You don't have to run the fastest time but you must run your best personal race. Ultimacy demands that we seek out and use the best available knowledge in our decision making process. Professionals who practice ultimacy go beyond themselves to seek the best social and political climates and to participate actively in the formulation of those climates. Ultimacy requires us to be able to say we have provided the best service possible to our clients, the environment and community in which we practice as well as to our agency or business.

Practically, ultimacy requires us not to have a job orientation but rather a career plan. Decisions about employment and education have to be made with long term perspectives not short term payoffs. A career plan gives a person powerful perspectives; interruptions due to layoffs, motherhood, or relocation are not as adverse. Women who practice professionalism have an identity and vision of themselves that transcends immediate employment. Ultimacy requires that we look at the

context in which we work to actively achieve and develop not only career plans for ourselves but career paths within our professions. This aspect of ultimacy is very important to resource occupations; women are entering newer fields with undefined career paths in disproportionately greater numbers.

Ultimacy is hard to achieve when a woman is balancing a complex multirole life of a professional, spouse, mother. To avoid burnout, Styles suggests that ultimacy "dictates that in the midst of these immediate, crushing responsibilities, we maintain an objective long-range perspective, that we seek and cherish personal support systems, and that we periodically pull back for refreshment and objectivity to assure forward movement." Ultimacy brings about purposeful progression versus reacting to immediate current events.

The Final Step: Collegiality and Collectivity

The final dimension of professionhood is the movement towards collegiality and collectivity. Professionhood is like sisterhood or brotherhood, it demands special relationships with those you work alongside. The "co" words—coalition, cooperation, collaboration, coherence, cohesion, community—have special significance. Collegiality is shared responsibilities. Collectively is the quality of wholeness. Both are essential in the empowerment of women in the workforce.

Nurses have taken the advice we all hear about networking and put it into a context. Sharing information, giving support, and helping colleagues not only empowers the individual but advances the profession as a whole. It implies the responsibility of mentorship towards other female professionals and support of women in decision making roles. Collectivity strives to stimulate, enhance, challenge, balance, and validate the work of other women in natural resources.

Essential in collectivity is participation in professional societies and organizations. Without participation women lose the ability to represent their profession to the external parts of society and therefore lose any chance of having credibility bestowed upon them by those segments. Professional societies take individualized activity and participation and enhance them through collective action.

Collegiality is about our relationships with each other, how we go about working together. Collegiality recognizes that we are bonded together, have a commonality of experience, and that as each woman achieves, others advance with that achievement. Attitudes and actions which promote collegiality include: (1) de-emphasizing status differences between women and organizing tasks functionally, (2) promoting information sharing, (3) taking seriously the opinions of other women, (4) valuing peer review and offering constructive input, (5) encouraging risk-taking through joint problem solving and mutual support, and (6) stressing remediation and avoiding blamesetting.

Without these three axioms: Belief in the social significance of our work—a sense of mission and importance; Ultimacy—the striving to do the very best possible; and Collegiality and Collectivity—which recognizes that power is shared and preserved in the wholeness of the profession, striving for professional success becomes frustrating and pointless for most women.

Powerful Natural Resource Women are Using these Axioms

Can these concepts be put into practice? YES! A good example is a group of female forest geneticists and orchardists who are empowering themselves through professionhood. They have been in their profession for about ten years. Each is quite different, they are from the West and East coast of the U.S. and from foreign countries, they are single, married, and some are mothers. Ten years ago the jobs these women hold did not exist in their agency.

The first thing these women did was to educate themselves. But they haven't stopped there, they are all going back to school for either advanced degrees or special education in specific areas. They share information with each other on a regular basis. They discuss their career and education goals in terms of ten to twenty years. Decisions are not based upon their immediate needs but in the perspective of a career. They are continually trying to do a better job, acting out Margareta Styles' concept of ultimacy.

The second thing these women have done is to decide to meet at least once a year to discuss issues, share information, and support each other. Sometimes they are able to piggyback this onto a professional meeting, other times to help each other out with a particular problem. The commitment to this has meant that at times they have taken time off work and met at their own expense in order to maintain their interaction. They have made collegiality a priority and have not waited for the agency or others in the profession to facilitate their behaviors.

They take an active role in working with personnel professionals to establish a career ladder by which they can move up and obtain programmatic control at the highest levels of the agency. They are equally concerned that the technicians who work for them also have a chance to advance. This emphasis involved working with people who were setting the standards for their professional evaluations thereby establishing the socio-political climates in which they operate. Finally their involvement in professional societies allows them the opportunity to organize meetings, develop standards of behavior at meetings, and to selectively support other professionals who are advancing their profession and gender.

These women believe in the social significance of their work. While actively involved in the forestry community, they go beyond it by presenting programs, slide shows, talks, and respond to the news media, and to the general public. In these forums women are presented as a part of the team whether in the field or in the office. They are establishing credibility for women who work in natural resources in the larger community. It is the outer circle that Styles argues ultimately gives all professionals their power. Each has a strong ethical basis upon which they make decisions in their relationships to others and to the community they serve.

Mentorship and support of other women is very important to them. They work towards greater female hire; they take the opportunity to hire both professional and non-professional women. They are involved with training and advancement of the women they hire. This active promotion enhances the institutional climate and the opportunities of the women around

them.

Active discussions of strategies and professional decisions each individual makes often times leads to quite different solutions to similar problems. For example, some chose to set up very large scale seed orchards and others many small orchards. But, once a professional decision is made the other women in this group confer and help each other achieve the best possible results. They provide each other with technical and emotional support whether it be on the job or on a more personal basis.

These are powerful women who control their destinies. Starting out as technicians they are well on their way to senior professional status. Their budgets are growing at a time when most are declining, they are being supported in their quest for advanced degrees, they have been requested to expand their programs. They are powerful—in control of their lives—because they understand and use the principles of professionhood developed by other women. They believe in the significance of their work, in ultimacy, and collectivity and collegiality.

Sheila F. Helgath is a legislative analyst for the Alaska State Senate Advisory Council where she works on a variety of issues including those of natural resources. She has worked as the socio-economic impact advisor for the Office of Federal Inspector on the Alaska Natural Gas Transportation System, as a policy analyst for the Forest Service, and as a research associate with the University of Alaska's Institutes of Agricultural Sciences and Social and Economic Research. Her BS and MS are from Washington State University in Forestry, Soils, and Botany, and her Ph.D. is from the University of Washington in Forest Management. Helgath was assisted in writing this article by Mary Siedel, a nurse sociologist, Gayle Coryell, a sociologist who has expertise in nursing and professionalization literature, and Juella Sparks, editing.

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NETWORKS

Last year, Anne Fege of the USDA Forest Service (Washington D.C.) compiled a list of women faculty in natural resource colleges or departments. She sent the faculty list to us and in turn, we sent the list to the faculty members for revision, additions, updating. This is Anne's second list—her first was of women in management positions in the forest service. We are happy to give recognition to those universities and women faculty who give their students a balanced, more realistic view of the new workforce in natural resources.

Clemson University

Dr. Jacqueline Haymond
Assistant Professor
Applied Silviculture, Technology
Transfer (1986)

Cornell University

Dr. Barbara Knuth
Assistant Professor
Department of Natural Resources

Duke University

Dr. Lynn A. Maguire
Assistant Professor
Forest Ecology, Quant. Studies, Conser-
vation, Biology, Wildlife Ecology
(1982)

Humboldt State University

Dr. Susan Bicknell
Professor
Forest Ecology (1978)

Kansas State University

Dr. Reinee Hildebrandt
Assistant Professor
Forest Recreation and Park Administra-
tion (1987)

Louisiana State University

Dr. Margaret M. Moore
Assistant Professor
Plant Community Ecology, Range
Management, Remote Sensing (1986)

Michigan State University

Dr. Maureen McDonald
Forest Recreation

Dr. Karen Potter-Witter
Assistant Professor
Natural Resource Economics (1983)

Marjam Sticklen
Assistant Professor
Stomatic Cell Genetics

North Carolina State University

Heather M. Cheshire
Research Assistant/Teaching Aid
Remote Sensing (1982)

Dr. Awatif E. Hassan
Professor
Forest Engineering (1975)

Dr. Leslie T. Hunter
Assistant Professor
Forest Physiology (1987)

Adriana G. Kirkman
Instructor
Computer Simulation in Pulp and Paper
(1984)

Sondra L. Kirsch
Associate Professor
Recreation Resources Management
(1977)

Dr. Carolyn S. Love
Assistant Professor
Recreation Resources Management
(1984)

Dr. Anne-Marie Stomp
Assistant Professor
Forestry (1986)

Dr. Elisabeth A. Wheeler
Professor
Wood Anatomy and Paleobotany (1976)

Dr. Beth Wilson
Assistant Professor
Recreation Resources Management
(1983)

Ohio State University

Dr. Judith A. Maxwell
Assistant Professor
Natural Resources and Environmental
Economics (1986)

Oregon State University

Dr. Rebecca L. Johnson
Assistant Professor
Economics (1984)

Dr. Mary Edwards
Forest Ecosystems, Geography (1988)

Purdue University

Dr. Anne Spacie
Associate Professor
Aquatic Ecology, Fish Populations
(1975)

San Diego State University

Dr. Edith B. Allen
Biology (1988)

State University of New York Syracuse

Cheryl Doble
Visiting Appt.
Landscape Architecture (1987)

Dr. Renata Marton
Emeritus Research Professor (1980)
Paper Science and Engineering, Me-
chanical and High Yield Pulping
(1957)

Margaret Shannon
Asst. Professor
Forestry, Forest Policy, Natural Re-
sources Sociology
(1986)

Kathleen Stribley
Assoc. Professor
Urban Design, Parks and Recreation,
Behavior, Public Participation
(1981)

Dr. Chun-Juan Wang
Professor
Botany, Plant Classification, Mycology
(1959)

University of California

Dr. Barbara H. Allen
Assistant Professor
Range Management (1986)

Dr. Sally Fairfax
Professor
Natural Resource Law and Policy

Dr. Louise P. Fortmann
Assistant Professor
Natural Resource Sociology (1984)
Constance Miller
Research Associate

University of Florida

Dr. Mary L. Duryea
Assistant Professor
Tree Physiology/Reforestation (1985)

Dr. Katherine C. Ewel
Professor
Systems Ecology (1973)

Dr. Nancy A. Pywell
Assistant Professor
Natural Res. Ed., Extension (1984)

Dr. Susan Kossuth
Adjunct Associate Professor
USDA FS, Physiology

University of Idaho

Dr. Lauren Fins
Associate Professor
Forest Genetics

Dr. Jo Ellen Force
Associate Professor
Forest Resources

Dr. Christine Moffitt
Adjunct Assistant Professor
Fisheries

Dr. Penelope Morgan
Associate Professor
Range Resources

Dr. Molly Stock
Professor
Forest Resources/Computer Science

University of Illinois

Dr. Sandra Brown
Associate Professor
Forest Ecology

University of Kentucky

Dr. Deborah B. Hill
Asst. Extension Professor
Silviculture, Forest Ecology (1981)

University of Maine

Dr. Katherine Carter
Associate Professor, Assoc. Dean
Tree Nursery Genetics (1981)

University of Massachusetts

Dr. Linda A. Deegan
Faculty Assistant Professor
Ecosystem Analysis, Estuarine Syst.
(1985)

University of Michigan

Joanna Daugherty
Assistant Professor
Landscape Architecture (1987)

Dr. Carol A. Jones
Assistant Professor
Applied Micro-economics, Env. Econ.
(1984)

Dr. Rachel Kaplan
Professor
Environmental/Behavioral Research
Meth. (1973)

Dr. Bobbi Low
Associate Professor
Evolutionary and Behavioral Ecology
(1972)

Dr. Terry Root
Assistant Professor
Physiological Ecology, Biogeography
(1987)

University of Minnesota

Dr. Isabell F. Ahlgren, Emeritus
Research Associate (1988)
Forest Ecology and Genetics (1965)

Dr. Francesca J. Cuthbert
Assistant Professor
Wildlife and Ornithology (1985)

Dr. Anne R. Kapuscinski
Assistant Professor
Aquaculture and Fish Genetics (1984)

University of Montana

Dr. Nellie M. Stark
Professor
Forest Ecology, Nutrient Cycling (1972)

University of New Hampshire

Dr. Stacia Sower
Associate Professor
Fisheries Physiologist

University of Vermont

Dr. Jean Flack
Associate Professor/Assistant Director
Environmental Law and Policy (1981)

Dr. Leslie Hing
Assistant Professor
Environ. Planning/Economics (1984)

Dr. Linda Merek
Extension Assistant Professor
Water Resources (1974)

Dr. Ann Spearing
Assistant Professor
Plant Biophysics/Physiology (1983)

Dr. Maria Franca Morselli
Research Professor
Maple Research Laboratory (1975)

University of Washington

Dr. Linda Brubaker
Professor
Forest Ecology, Paleoecology (1973)

Dr. Estella Leopold
Professor
Paleoecology (1976)

Dr. Ellen Pikitch
Associate Professor
School of Fisheries

Dr. Debra Salazar
Assistant Professor
Forest Policy and Law (1986)

University of Wisconsin, Stevens Point

Martha Monroe
Instructor
Environmental Education (1986)

Christine Thomas
Senior Administrative Specialist
Policy, Water Resources (1980)

Utah State University

Dr. Sharon Ohlhorst
Assistant Professor
Research

Dr. Winifred Sidle
Assistant Professor
Fisheries and Wildlife

Washington State

University

Dr. Linda Hardesty
Assistant Professor
Agroforestry and Range Management
(1985)

West Virginia University

Dr. Lei Lane Bammel
Professor
Recreation and Parks (1975)

Dr. Beverly Hummel-Azzaro
Associate Professor
Recreation and Parks (1977)

Yale University

Dr. Kristiina Vogt
Associate Professor
Forest Ecology, Ecosystems
(1987)

NEWS AND NOTES

Western Timber Industry Workers Can Never Own An Economic Unit of Trees

Every time an economic unit of tree farm land is held in federal ownership, that prevents one more family unit from living on and earning its living from their own tree farm property. And this is at a great cost to society. Why should millions of acres in the West, well suited to being in privately owned tree farms, be held in federal ownership? This, while comparable agricultural land is almost all in private ownership. Why is it that in the Southern and Eastern states the forest land is in the hands of private woodland owners, while in the West this is most often not the case? Are we in the West inferior in some way when it comes to managing forest land or participating in the free enterprise system? Surely not. It is just an error in our national development that needs correcting.

This shift of land ownership from federal to private would enhance life for people throughout the country. Land which is now being held by the federal government for forest production at a net cost to the nation, is prime tree farm land which private individuals could manage in a manner to greatly increase its productivity, and return a nice profit to society.

....Lonnie Williams, *Loggers World*, March, 1988

Now New England Birds Have a Place to Winter

The Massachusetts Audubon Society and its sister organization, the Belize Audubon Society, are working together to establish a park of 150,000 acres of tropical forest in northwest Belize. If the effort to acquire the land is successful, the park will be the largest in Belize. The partnership is a natural one given that the area represents the wintering ground for many New England birds. The area is also home to the exotic puma, marguay, jaguar, ocel-

lots, and jaguarundi, which depend on it as one of their last refuges. The Massachusetts Audubon Society has contributed \$500,000 to the project, two-fifths of which is an outright gift.

Boston Globe, November 22, 1987

Successful Fusion of Concepts from Landscape Architecture and Ecology

Joan Iverson Nassauer presided at a symposium entitled "Landscape Corridors: Structure and Function" at the American Association for the Advancement of Science Meeting in Boston February 11, 1988. The symposium succeeded in bringing together a diverse group of people by discipline who share a common interest in sustainable urban and rural planning. Nassauer, a landscape architect from the University of Minnesota, provided an excellent account of research that demonstrates that preservation of landscape—in architectural terms—is important not only to the long-term survival of endemic flora and fauna, but also to the health of humans. Gary Barrett, Miami University, presented results of innovative research on the importance of landscape corridors to the biological control of pest species on agricultural crops.

Diane M. Calabrese, Papillons: Diversified Endeavors

U.S. Fishermen Landed Record Catch in 1987

Some 6.9 billion pounds of fish and shellfish valued at \$3.1 billion and averaging 45 cents a pound was caught last year. Fish sold by Americans at sea or at foreign ports added another 4.1 billion pounds to that total. NOAA reported that Louisiana led in volume with a catch of 1.8 billion pounds, followed by Alaska at 1.7 billion, Virginia at 709.6 million.

....Associated Press, May 10, 1988

Need Help in the Classical Music Department? Help for Your Top Twelve is On the Way

James Schoepflin, Professor of Music at Washington State University and conductor for the Washington-Idaho Symphony Orchestra, recently listed his choices for a basic start to a library of classical music. They are, from the Baroque to the present: Bach, Brandenburg Concertos Nos. 5 or 3; Mozart, Symphony No. 40 in G Minor, with Karl Bohm as conductor; Mozart, Piano Concertos A Major K. 488, or C Major K. 467 with pianist Murray Perhia; Haydn, String Quartets by the Julliard Quartet; Beethoven, Symphony No. 5 in C Minor by the Berlin Orchestra; Beethoven, Piano Sonata Op. 13; Berlioz, Symphonie Fantastique; Mendelssohn, Violin Concerto in E Minor with Itzhak Perlman; Brahms, Symphony No. 4 in E Minor; Debussy, Prelude to the Afternoon of a Faune and La Mer; Stravinsky, Firebird Suite and Rite of Spring by Claudio Abbado; Bartok, Concerto for Orchestra, with the Berlin Orchestra.

....Butch Alford, Publisher, *Lewiston Morning Tribune*, April 7, 1988

Too Many Women Enrolled at University of North Carolina say Trustees

Trustees say they fear alumni contributions, as well as the university's political influence, may suffer under the current enrollment pattern of three women for every two men. Since 1975, more than half of the entering freshmen have been women, and they have made up almost 60 percent of the classes in the last four years. Nationwide, the percentage of women undergraduates is lower—about 48 percent at public universities and 53.5 percent overall, according to the Center for Statistics at the US Department of Education.

John W. Pope, a trustee, speculated that because men often make higher salaries than women, women graduates would not be able to contribute as much money to the university, and they have less influence in the Legislature. Said Robert C. Eubanks, Jr., another trustee, "So many of the girls from Chapel Hill marry men from other schools, and statistically the big money tends to go to the school with the husband."

Although comparisons of giving by male and female alumni are not available, either for Chapel Hill or nationally, some fund raisers and researchers say donations by women are going up as they are being treated more equitably by employers, and that the difference between men's and women's giving is becoming insignificant.

Admission to the university is based more on students' academic and leadership records in high school than on their SAT scores, a process that the trustees charge is biased toward women—the average woman applicant has a stronger high-school record than the average man, but the average man has higher SAT scores.

...Elizabeth Greene, *Chronicle of Higher Education*, January 28, 1987

Nongame Species Get No Respect

While most wildlife in the United States are not hunted, nongame species get the least attention when it comes to wildlife management programs. In "Funding State Nongame Programs: How Much is Enough?" the National Wildlife Federation concluded that \$66 million in new federal funds is needed to manage nongame species. Even though Congress passed the Nongame Act in 1980, authorizing expenditures of \$5 million per year to manage nongame wildlife, money to implement the statute has *never* been appropriated. As a result, nearly all 50 states have come up with measures to fund nongame programs at some level. But these efforts are not without problems. In Colorado, for example, where the funding comes from income tax check-offs, nongame funding has had to compete with the US Olympic team and victims of domestic abuse.

...*Colorado Wildlife* (Vol.6, Issue 3)

Superfish: Coming Soon to a Lake Near You?

"Genetic manipulation is one of the first ideas that come to mind when people want to increase the yield of some source of food," says Anne Kapuscinski, an assistant professor of fisheries at the University of Minnesota. Some of this research is now spilling over into gamefish enhancement. Researchers hope to produce "transgenic" walleyes by the summer of 1989. They dream of economical cradle-to-grave nurseries supplying the nation with walleye, lake trout and other traditionally slowgrowing game fish of the upper Midwest. The Minnesota legislature, the project's major funder, hopes the superfish will someday spark a tourist bonanza. Before that can happen, the products of genetic tinkering must be safe to release into the environment.

...James S. Thornton, *Sports Illustrated*, March 7, 1988

No More Weddings in the Meadows in Granny Gowns

When a woman who already has her own home, her own career, and her own sense of personal style decides to have a husband too, she can do it her way. She wants her own—and her future husband's—stamp on the festivities and will go to great lengths and expense to put it there. The average cost of a wedding with reception—food and beverages for 200 guests—is now \$10,379 according to *Bride's*, but it can go as high as \$30,000 and up in larger urban areas. First-time brides and grooms will spend a total of \$24 billion on their weddings this year. Their priorities? Terrific food, a sophisticated party atmosphere, and time to see far-flung friends who have flown in for the occasion. Their problem? Picking a date when most of those friends can make it—and then finding the time to plan the wedding itself.

...Louise Tutelian, *Savvy*, May, 1988

Major Job Changes Mean Clothes Overhauls

Your clothes reflect your position within a particular environment. Change the environment—or your level of authority, responsibility or visibility in it—and the message your clothes send may be misinterpreted, suggests Joyce Grillo,

president of Impression Management, a corporate consulting company. A classic example: The navy blazer suit. On a management trainee it says, "Take me seriously," but it can make an experienced manager look insecure, too wet behind the ears for her high-powered position. How do you know when to make a change in your appearance? "If you're job hunting ask yourself and others, What image are they looking for?" says Grillo. If you're a button-down type and your prospective employer wants a high-style image, you increase your chances of getting the job by dressing the part. Once you have the job, you've got a head start on your new image.

...J.M. *Glamour* January 1988

Foreigners Own Very Little U.S. Timber and Farm Lands

Just one percent of agricultural land is owned by foreigners according to Economic Research Service reviews of reports under the Agricultural Foreign Investment Disclosure Act. Of the 12.5 million acres owned by foreigners, 50% was forest land, 17 percent cropland, 28 percent pasture, and 5 percent other designations. Corporations held 80 percent of the total. Nationals of England, Canada, West Germany, Netherlands and Switzerland, in that order, own 69% of these U.S. lands. Maine had the heaviest concentration with 1.79 million acres, or 14 percent of their total.

...Associated Press, May 15, 1988



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PUBLICATIONS

The FAO has published a 135 page book (in French/Spanish/English) which notes all of the forestry schools in the world. Send \$7.50 for *World List of Forestry Schools*, Fourth Edition 1986 Order #6091-F2902, Berman/Unipub, 10033-F M. L. King Highway, Lanham, Maryland 20706-4391.

The USDA has released a slide presentation about soil called *What is Soil Erosion?* The 93-frame presentation focuses on farmland where most erosion occurs. For prices on the various formats available at different prices, write Photography Division, Office of Governmental and Public Affairs, USDA, Washington DC 20250.

The Center for Research on Women (CRW) at Memphis State University has a data base for a selected bibliography on research on women. If interested, a search of the *Research Clearinghouse* costs \$7 for up to 10 references. An additional charge of 10 cents is assessed for each reference over 10. The collection is strongest in civil rights, social change, and women of color. For example: *Southern Women: Speaking for Ourselves* by Maxine Alexander; *Civil Rights Issues of Asian and Pacific Americans: Myths and Realities* by Bok-Lim Kim; *Personal Politics: The Roots of Women's Liberation in the Civil Rights Movement and the New Left* by Sara Evans. For others write CRW at Clement Hall, Room 339, Memphis State University, Memphis Tennessee 38152

Martha Banta wrote *Imaging American Women: Idea and Ideals in Cultural History* (Columbia University Press 1987) to help readers interpret female representation. It is a scholarly examina-

tion of the ways women were being looked at—and evaluated as social signs—in the United States during the volatile age spanning the Centennial years of the 1870s and the close of World War I. Banta draws on many sources and images to make her points in this fascinating book.

The Society of American Foresters (SAF) has published a new tool for those interested in planning on the country's 156 national forests. The bibliography, *NFMA: An Annotated Bibliography 1976-1986*, was compiled by Donald J. Ellis and Jo Ellen Force. There are some 173 annotations in the volume covering scientific, legal, environmental, industrial, and governmental data on the National Forest Management act of 1976. The two authors are members of the Land Use Planning and Design Working Group, one of 28 subject-area working groups in SAF. Send \$20 to SAF, 5400 Grosvenor Lane, Bethesda, Maryland 20814.

The second edition of James Fazio's *The Woodland Steward: A Practical Guide to the Management of Small Private Forests* is now available for \$16.90 from The Woodland Press, Box 3524 University Station, Moscow, Idaho 83843. The first edition won awards from the National Arbor Day Foundation, and the Association for Conservation Information. The focus of both editions is land stewardship which results in wood production, wildlife habitat, and other objectives of the landowner. The second edition includes new information about the Tax Reform Act, computer technology aids, and further research on woodland management.

An article about the new female poor in seven industrialized nations can be found in the Spring 1987 issue of *So-*

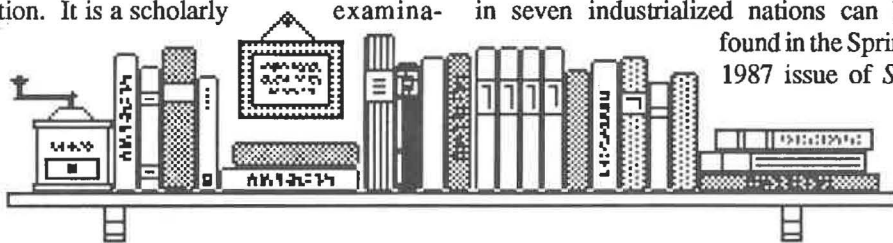
cial Policy. The article was written by Gertrude Goldberg and Eleanor Kremen who looked at wages, benefits, and government policies. How these things affected mobility and demographics is also discussed. The data were gathered from capitalistic and socialistic countries and organized in such a way that it could be used to predict and monitor women's impoverishment.

A new urban forestry guide aimed at Washington, Oregon, and California is available from the World Forestry Center, 4033 SW Canyon Road, Portland, Oregon 97221. Ask for "An Introductory Guide to Community and Urban Forestry." The 25 page booklet has six agency sponsors and gives communities tips on how to be successful while developing urban forestry programs.

The Audubon Wildlife Report 1988/1989 focuses on a little known but influential agency in the Department of Commerce—the National Marine Fisheries Service. The lengthy report (848 pages) also provides readers with an inside look at wildlife conservation policies of the Forest Service, BLM, and the Park Service. Just coming out now, the report is priced at \$49.95 from Academic Press: Harcourt Brace Jovanovich.

"Valuation of Landscape Trees, Shrubs, and Other Plants" is published by the International Society of Arboriculture, 5 Lincoln Square, PO Box 71, Urbana, Illinois 61801.

Project Learning Tree's *Branch* recommends three nature recordings for the young at heart: *Birds, Beasts, Bugs and Little Fishes*, Pete Seeger (Folkway Records); *Songs of Nature and the Environment*, Gerry Axelrod, Robert Mackling (Folkway Records); *For Everything . . . A Season*, Mary Jo Deaver (Melody House Publishing Co.).



KIOSK*

*postings

There is a new *Asia-Pacific Community Forestry Newsletter* published by the Regional Community Forestry Training Center in Bangkok, Thailand. They are currently supported by the Asian Development Bank, the Government of Switzerland, and Kasetsart University in Bangkok. The acronym for the unit is RECOFT. They started in March 1987 after the Jakarta Declaration of the Eighth World Forestry Congress (1978) planted the seeds, calling for community forestry training, research, information exchange, a forum which was centrally located, and close to a variety of ecological zones. If you are interested in receiving the free newsletter you can write to Dr. Somsak Sukwong, Director, Regional Community Forestry Training Center, c/o Faculty of Forestry, Kasetsart University, Bangkok 10900, THAILAND. Include your phone and telex, and indicate if you are willing to contribute news or articles.

The Forest History Society is a nonprofit, educational institution. Founded in 1946, it advances historical understanding of human interaction with the forest environment through programs in research, publication, service, library, and archival collecting. It publishes the excellent quarterly *Journal of Forest History*, edited by Alice Ingerson. Currently, the journal is featuring covers of historical landscape paintings by American artists. Membership in the Society begins at \$20 for individuals. Write to them at 701 Vickers Avenue, Durham, North Carolina 27701 (919-682-9319).

Women and International Development (WID) is a joint Harvard/Massachusetts Institute of Technology (MIT) group which is based at the Harvard Institute for International Development. The organization hosts a seminar series, holds a lunchtime forum series, and produces a newsletter, *WID*. The group encourages the attendance of students and influences their informal education by including them in planning sessions and

seminars. At its eighth annual workshop in April, speakers were Luz Beatriz Arellano, Nicaragua; Nandawan Boonprasat-Lewis, Thailand; Kumari Jayawardena, Sri Lanka; and Leslie Liddell, South Africa. For more information write WID at One Eliot Street, Cambridge, Massachusetts 02138.

WiNR goes to the SAF

At the Society of American Forester's meeting in Rochester October 16-19 a buffet for women has been scheduled for 7:30 on Sunday night, right after the icebreaker. The attendance at the traditional conference breakfasts had grown to the point that it was becoming difficult to meet and talk with everyone. There will be informal reports about the activities of the regional networks, and a short agenda. The buffet (cost around \$10.00) will feature pasta and salads and will be served in the convention hotel close to where the icebreaker is scheduled. Child care, at a nominal charge, will be available for this and on-site at the various hotels for the convention activities. A pre-registration for the buffet via a postcard mailing is planned, but if you don't receive one, contact Margaret Shannon, 221 Marshall Hall, College of Environmental Science and Forestry, State University of New York, Syracuse, New York 13210 (315-470-3673). WiNR plans to have a booth at the convention, and will have a table at the buffet, so drop by to see us!

The National Park Service (NPS) announces the **Federal Archeology Program Coordination Workshops**. This year they will focus on (among other topics) the Archaeological Resources Protection Act, federal and state program interaction, and public education. There are several fall dates and sites for the workshops. Send an application request if interested and a brief statement about your current position and responsibilities to Dave Dahlen, c/o Mather Employee Development Center, PO Box 77, Harper's Ferry, West Virginia 25425 (202-343-4113).

The Coolidge Center for Environmental Leadership promotes the sustainable use of natural and cultural resources, and also designs and produces educational materials. The group works to enhance global communication among individuals and organizations concerned with the environment and sustainable development. Its library includes a collection of publications and periodicals on sustainable development. For more information about their services write to them at 1675 Massachusetts Avenue, Suite 4, Cambridge, Massachusetts 02138-5085.

The Practicing Foresters Institute Trust (PFI) has scheduled courses for the University of Georgia (October 31-November 3, 1988) and Eugene, Oregon (February 19-22, 1989). One PFI course satisfies the Continuing Education requirements for continued membership in the Association of Consulting Foresters and has pre-approved CFE credit from the Society of American Foresters. For a brochure contact PFI at 5410 Grosvenor Lane, Suite 205, Bethesda, Maryland 20814 (301-530-1786).

Many of the Forest Service Regions are offering remote rustic cabins and lookouts for rent on a first come-first served basis. Rates range from \$15 to \$40 per night depending on occupancy and length of stay. The funds are often recycled into maintenance on the structures themselves. Contact your local Forest Service office for a directory or information.

If you are having a hard time finding shoes to fit your odd-sized feet jot down these phone numbers provided by *Women's Sports and Fitness*. Hersey Custom Shoes (207-778-3103) will custom-make running shoes, and Hill Brothers (804-528-1000) will make just about any kind for you. If you have physical problems and need someone familiar

EVENTS

Western States and Provinces Elk Workshop, 13-15 July 1988,

Wenatchee, Washington. Write John Pierce, Washington Department of Wildlife, 600 N. Capitol Way, Olympia, Washington 98504 (206-586-2755).

National Marine Educators Association Conference 19-12 July 1988, Santa Cruz, California. For information contact Diane Baxter/Pat Kampmann, Scripps Institute of Oceanography, 8602 La Jolla Shores Drive, La Jolla, California 92093 (619-534-4087).

August

Billfishes of the Atlantic, Pacific, and Indian Oceans, 1-5 August 1988, Kailua-Kona Hawaii. The Marine Recreational Fisheries meeting is sponsored by the National Coalition for Marine Conservation, the International Game Fish Association, the Sport Fishing Institute, the National Marine Fisheries Service, and the Billfish Foundation. To submit a paper, contact Ken Hinman, National Coalition for Marine Conservation, PO Box 23298, Savannah, Georgia 31403.

Ecological Society of America and American Institute of Biological Sciences, 14-18 August 1988. The theme of the annual meeting will be biological di-

versity with special emphasis on conservation biology and an overall program which will be comprehensive in nature, covering the full breadth of ecological subdisciplines. For information contact Stephen J. Chaplin, ESA Program Chair, The Nature Conservancy, 1313 Fifth St. SE, Minneapolis, Minnesota 55414.

National Urban Forest Council Annual Meeting, 14-17 August 1988, Vancouver, British Columbia. The conference will be held in conjunction with the International Society of Arboriculture 64th Annual Conference and Trade Show. Contact Tere O'Rourke, American Forestry Association, P. O. Box 2000, Washington DC 20013 (202-667-3300).

September

American Fisheries Society/International Association of Fish and Wildlife Agencies 11-14 September 1988 Toronto, Ontario Canada. This is their joint annual meeting for managers and professionals in conservation, fisheries, and environmental science. For information contact the Ontario Ministry of Natural Resources, Whitney Block, Queen's Park, Room 3520, 99 Wellesley Street West, Toronto, Ontario, M7A 1W3.

California Riparian Systems Conference, 22-24 September 1988, University of California at Davis. The conference is sponsored by the university's extension office. The presenters will report on issues

surrounding the destruction of streamside lands, managing these resources, and restoration of riparian habitats. For more information, contact Dana Abell, Coordinator of the Conference, UC Davis Extension Office, Davis, California 95616 (916-752-3098).

October

Explorations in Feminist Ethics: Theory and Practice, 7-8 October 1988, Duluth, Minnesota. Call for papers on the subject: Is there a relation between sex/gender and morality? are due May 31. For questions about the submission of papers contact Eve Browning Cole, Dept. of Philosophy and Humanities, 369 A. B. Anderson Hall, University of Minnesota, Duluth, Minnesota 55812 (218-726-8548). For information about the conference, contact Teri Williams at 218-726-6142.

Environmental Education Conference 14-19 October 1988, Orlando, Florida. The theme is Building Multicultural Webs Through Environmental Education. Contact NAEF at PO Box 400, Troy, Ohio 45373 (513-698-6493).

Society of American Foresters (SAF), 16-19 October 1988, Rochester, New York. This is the annual convention of the 19,000 member organization. For information contact SAF at 5400 Grosvenor Lane, Bethesda, Maryland 20814 (301-897-8720).

Fisheries Bio-engineering Symposium, 24-28 October, 1988, Portland, Oregon. Write David Owsley, USFWS, Dworshak National Fish Hatchery, PO Box 18, Ahsahka, Idaho 83520 (208-476-4591).

November


American Water Resources Conference, 6-11 November 1988, Milwaukee. The theme is "Water for the Years Ahead—Quality and Quantity: 1990 and Beyond." Two symposia are being held in conjunction with the conference: The Great Lakes; and Nonpoint Pollution. Contact Max Anderson, University of Wisconsin College of Engineering, Platteville, Wisconsin 53818.

Announcing

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with sports medicine, training, or nutrition, the magazine recommends you call 202-667-4150 for a name from the American Running and Fitness Association's National Sports Medicine Professional Referral Service.

The Nature Conservancy sponsors field trips and tours. In their March/April Magazine, for example, they list four trips in Oregon, others to Minnesota, Virginia, Arizona, several to Montana, California, and Hawaii. For more information write the Conservancy at 1800 North Kent Street, Arlington, Virginia 22209 (703-841-5300).

The Soil Conservation Service has produced a slide show on soil erosion of 93 frames in a slide set, filmstrip or videotape format. The show focuses on farmland mainly but explains on-site and off-site damages. For prices and information write for "What is Soil Erosion" to Photo Division, Office of Governmental and Public Affairs, USDA, Washington, DC 20250.

The Journal of Computing and Society, a new refereed, academic journal on the social impact of computing technology and computerization invites papers

Director for Planning and Applications in the Northeastern Forest Experiment Station

PEOPLE

Continued from page 11
Broomall, Pennsylvania, and Acting Program Manager for the new research programs on forest response to acid rain and air pollution.

Dr. Fege just completed a one-year Executive Potential Program, together with **Laura Ferguson** (Deputy Supervisor of the Wenatchee National Forest, Wenatchee, Washington), **Sharon Heywood** (Forest Service Land Management Planning staff, Washington, D.C.), **Sally Wisely** (Bureau of Land Management Area Manager in Durango, Colorado), **Betty Blair** (Environmental Planner, Bureau of Reclamation), and 30 other women and men from some 12 Federal agencies. Under auspices of this program, Fege worked as Deputy Supervisor of the Olympic National Forest in Olympia, Washington from March to June, 1987.

for its early issues. Computers and gender, computers and power relations, computers and work, are planned topics. For information write to them at PO Box 717, Palo Alto, California 94301.

The Society for Historical Archaeology is soliciting donations to assist them in the political battle to save shipwrecks, many of which are being plundered for artifacts out of waters designated as parks. The SHA asks that the donations be sent to Friends of Shipwrecks, c/o Foresight Science and Technology, 2000 P Street, NW, Suite 305, Washington, DC 20036.

Many of us working in natural resources are located in small towns (outposts some of us would say) and often rely on mail order catalogs to get specialty items. Now, there are mail order catalogs of mail order catalogs. For example, if you were looking for specialty food catalogs, you would find them in the following: *The American Mail-Order Gourmet*, Naomi Black and Mark Smith,

Running Press \$12.95; *Mail Order Gourmet*, Peggy Hardigree, St. Martin's Press \$9.95; *The Directory of Mail Order Continued from page 43*

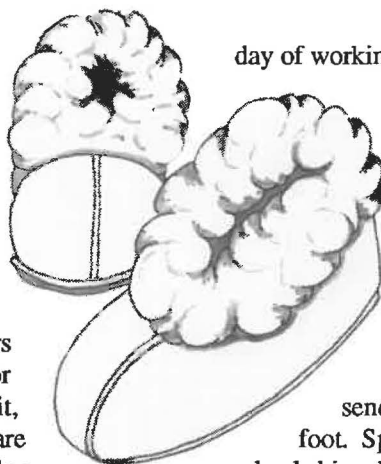
Catalogs, Richard Gottlieb, in the public library; *Great Catalogue Guide*, Direct Mail Advertisers, 6 E. 42nd St., New York 10017, \$2; *Satisfaction Guaranteed*, Linda West Eckhardt, St. Martin's Press, \$12.95.

The Rails-to-Trails Conservancy (RTC) supports conversion of abandoned railroad corridors into public-use trails. It is embarking on a study funded by A.W. Mellon Foundation which will eventually result in a regional map for designated cities chosen to be studied first. RTC publishes a quarterly newsletter and produced a citizen's manual for converting abandoned rail corridors into trails. For more information write them at 1325 Massachusetts Avenue NW, Suite 400, Washington, DC 20005 (202-783-0980).

KIOSK*
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Women in Natural Resources provides information and ideas for, from, and about women. Topics covered in the journal are those of forestry, wildlife, range, fisheries, recreation, arboriculture, ecology, and the social sciences as they relate to natural resources. We address issues of administration and personnel, gender related topics, educational resources, and support mechanisms. Technical articles suitable for reading by professionals in varied natural resource fields are also featured. Our contributors effectively integrate the factual, the personal, and the philosophical aspects of the working professional.

TO SUBMIT FULL LENGTH MANUSCRIPTS Unless the manuscript is designated to go into a "theme" issue, there are no deadlines. Because of the variety of professions represented, the journal accepts full length manuscripts (two copies) in the style dictated by the leading journal in your own profession, or the *Chicago Manual of Style*. Clarification of style is the prerogative of the

WINR

editors. Manuscripts can be sent on Microsoft Word for Macintosh or IBM disks, but should include hard copies as well. Please check with the editorial office before sending disks. Average manuscript length is 10 to 20 pages (space and a half). Include non-returnable black and white photos (action shots, please), and a short biographical sketch similar to those included in this issue.

Women in Natural Resources will provide letters confirming refereeing as needed.

TO SUBMIT SHORT DEPARTMENT ITEMS Copies or originals with author, source, date, and submittee are all that is required. Please include photos, phone numbers, and addresses.

FOR MORE INFORMATION Call Dixie Ehrenreich at 208-885-6754 or 208-883-0726.

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