

# women in N A T U R A L R E S O U R C E S

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

Vol. 9, No. 3 1988

## **EMPHASIS ON WILDLIFE**

**How Young People View  
Wildlife**

**Wildlife Photography**

**The Business End of Natural  
Resources**

**Portland's Urban Refuge  
Plans**

**Two Years in Sri Lankan  
Forestry**

**Gender Differences in  
Hunters**



*formerly women in  
FORESTRY*

## Editorial

### **DISCRIMINATION IS ALIVE AND WELL IN IDAHO, DEFENDED ADMIRABLY BY OUR GOVERNOR. THE LESSON FOR US ALL, WHEREVER WE LIVE, IS THAT UNEQUAL TREATMENT EXISTS ALL OVER THIS COUNTRY IN SOME SURPRISING PLACES.**

**T**here is a hot topic in our small state which is generating a lot of editorial and political interest. I bring this up because many of you have fought these fights and won them. We, however, and many others in states similar to ours, have yet to have a good airing of what constitutes acceptable behavior on the part of elected officials and civic leaders who wish to join a private (read discriminatory against women) club. Not only do these prominent people wish to join, they act on the wish and then thumb their noses at those who are irked.

At the center of the controversy, is our Governor, Cecil Andrus, Secretary of the Interior under Jimmy Carter, who is a member of the Arid Club of Boise, which until recently excluded women entirely. Lately, with much acrimony and footdragging, they voted to admit women after 5:00 pm to their inner sanctum—hardly a victory for equality. Andrus, good liberal Democrat that he is, however, declined to resign from the club, defended it, and mouthed the usual mealy sayings about “working for change from within” and that it was no big deal. He was joined in these sentiments by corporate presidents and other elected officials.

The upshot of all of this is that there has been quite an airing of what constitutes a “private club”, how they are allowed to discriminate, and how that works to the disadvantage of working women who cannot attend the hundreds of weekly business discussions held in these exclusive watering holes. There were some incredible stories in our newspapers—some by women attending seminars and business meetings being left on the doorstep as the rest of the businessmen exercised their rights to exclude them from their luncheons.

Women should be taken to task along with men for allowing elected officials, civic leaders, and corporate presidents who hire women, pretend they are not discriminating against them with outrageous rules for exclusion in their clubs where business is discussed.

Having said all that, I do not want to discuss the business-loss aspect of it. I do want to discuss what we can do to hurt these places where it hurts the most—in the pocketbook. After decades of asking, begging, reasoning, suing, and cajoling, there are still these places which somehow resist all good offices, as they say.

In many of the clubs who do grudgingly admit women, the rules are transparently drafted to give priority to men, limiting participation to certain hours, banning women from sports facilities (if available) except for a few hours a week—perhaps only on the weekends—yet charging the same amount for dues.

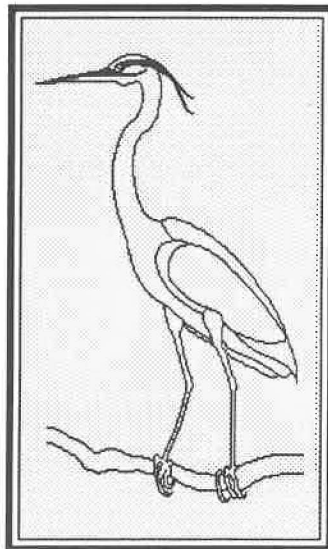
The Supreme Court has said private clubs can discriminate if they are small, exercise a certain selectivity in membership, and maintain commonality of interests. Rotary and JayCees were clearly too big and too open to the public to be considered private. Where the Arid Club fits in such a scheme, I don't know, but I do know that it is offensive for public people to flaunt their right to exclude others.

The rest of us, however, who are appalled at discrimination do not have to help those who flaunt it, pay for it. We can help see to it that they are denied liquor licenses by impacting local regulatory agencies, we can refuse to contribute to the political campaigns of those who join such establishments, and refuse to purchase goods and services at businesses owned by discriminators.

There are other things we can do: 1) Hammer the IRS for allowing business deductions for club dues and expenses paid into these joints; 2) question why certain municipalities give significant tax breaks for certain kinds of facilities, like golf courses, for segregationists; 3) promise never to allow organizations to which we belong have dinners, meetings, or parties on their premises. Incredibly, all of this money earned from people who are harmed by discrimination gives some of the clubs up to 40% of the income they need to survive.

The current trend is definitely toward fewer, not more, of these discriminating clubs; it is not, however, because men have willingly given women access. The Arid Club's behavior is not unusual in other words, and in the end, they will probably open their membership. In the meantime, we should not allow them to use our tax system or our own incomes to help them prosper, or allow our elected officials to mock efforts toward an equitable remedy.

*Dixie L. Ehrenreich*



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# LETTERS

I believe you are limiting your subscribers by continuing to call the periodical *Women in Natural Resources*. Those of us who have a subscription know that you include archeology and cultural resource management, but it is not evident from the title. I just returned from the Society of Historical Archeologists (SHA) meeting in Reno where we set up a women's caucus. We discussed, among other topics, a publication for women that would include anthropology/archeology. I suggest that a change in the title to something like *Women in Resource Management*, coupled with a notice in the SHA Newsletter would substantially increase your subscriptions and also the number of articles submitted for publication.

**Billee Hoornbeek**, Archeologist, White Mountain National Forest, Laconia, New Hampshire

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We were pleased to see that you found some news items (Volume 9 Number 2) of interest in our *ESF '87* for June. Your People feature on page 53 listed several of our outstanding women graduate students and faculty. Also, under News and Notes on page 56 you started an excerpt of a statistical analysis of women graduate students at our college. There may be some confusion about our name, but SUNY means the State University of New York. And our analysis concerned only the College of Environmental Sci-

ence and Forestry (ESF). In view of this confusion and since the item was not continued, we thought that you might like to re-run the story. We think that these statistics are very important.

**Rod Cochran**, Assistant to the President for Public Relations, College of ESF, SUNY, Syracuse, New York

*Eds. Note: The excerpt was truncated, the titles of the two units confused, and the statistics were important. We are happy to run our intended excerpt in this issue of News and Notes. Accept our apologies.*

••

I read with interest your editorial "Women, Computers, and the Gender Gap," which appeared in *Women in Forestry* (Vol. 9, Number 2). I enjoyed reading it. As a Research Social Scientist and newcomer to the Forest Service, I was very pleased to see that there is a journal that specifically provides information for, from, and about women who have interests and/or positions in natural resources.

**Bernice McNair Barnett**, Outdoor Recreation and Wilderness Assessment Research, Forestry Sciences Lab, Athens, Georgia

••

I am delighted to be contributing to a professional publication with such a focus and have sent in my subscription to receive future publications.

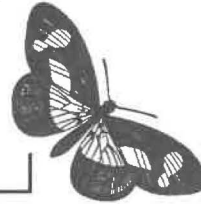
**Miriam Olivia Westervelt**, Social Science Research Analyst, U.S. Fish and Wildlife Service, Washington DC

••

Molly Stock's letter to the editor in Volume 9, Number 2, berating *WiNR* for the small "women in" in the title illustrates the continuing dilemma for professional magazine/journals like yours. She wondered if that meant that you were not proud of being associated with women (although she also said she knew that you were). You probably get an equal number of suggestions from those who would like to see the "women in" deleted entirely. My experience with the journal is different. When I hand around articles I've copied, or clip open the journal to what I want read by others, most don't even notice where it came from until they stop by to tell me they used it, or sent it on to somebody else because it was excellent or gave them new ideas. I like the strong blend of technical (most nicely popularized) and issue-oriented articles and departments, so I differ with her about that, too. While I take a number of scientific journals, I don't, by any means, take them all, and it helps to hear what other professionals are doing in their fields.

**Dale Smith**, DNR, Washington

# QUERY



**N**ext year, *Women in Natural Resources* will celebrate its tenth anniversary. The journal began as a newsletter *Women in Forestry*, in 1979, then evolved into a journal in 1983. In 1987, the name changed to the current one to more accurately reflect the readership. To begin our anniversary celebration, we would like to initiate a new department which we are naming, **Query**. Each issue we will ask the same question of several readers chosen from our subscription list. The question for this issue is, **Where were you ten years ago, and are you now where you thought you would be after those ten years?**

## *Judith L. Henry*

Ten years ago I was attending a community college in Rhinelander, Wisconsin. I had decided to complete the basic courses for a four year degree before I went to a larger university. I wanted to pursue a career in forestry, but people around me were discouraging. Finally, my brother said to me one day, "If forestry is what you want to do and you're persistent enough, you'll make it." All I had were dreams ten years ago which were not specific—because I knew very little about a career in forestry.

Looking back at the past ten years, I am amazed! I went from a forestry-aide/college student to a forester preparing timber sales and processing land exchanges. I have lived in states I never thought I'd even visit. The memories I have of those places are a part of me and they have enriched me as a person. My career has been fast paced and exciting. Yes, I am where I thought I'd be in ten years. When I was a forestry aide, I had big dreams for myself in the Forest Service, to go far. Some of those have come true in ways I had never thought of. But the best part is many of these dreams are still unfolding! I am not Chief yet!

*Judith L. Henry is a forester on the Harvey district of the Black Hills National Forest. She currently prepares timber sales, administers timber marketing contracts, processes small tracts applications and land exchanges, and administers the aspen management program.*

## *Barbara Leuelling*

Ten years ago at age 30 I was finishing a quarter at the University of Wisconsin-River Falls where I had returned for a second B.S. degree. I had an M.S. in Physical Geography with soils, geology

and geomorphology as a background, but somehow couldn't get employment in what I wanted to do—soils related work. The commitment and passion were there, but for me, there was no job. My goal was to get into the soils field and learn as much about soil and land use as I possibly could. I had been working with the Minnesota Department of Transportation, had been turned down for soils jobs (seemingly because I did not have the right mapping course from the right schools), had applied to the DNR Peat Inventory (hoofing it from one person's office to the next to find information, make myself known to other people), and had been turned down flatly for field positions—because I was married.

Now, at age 40, I feel I've attained the generalized goal I had established in 1978. I could not have prophesied that I would not actually get my second B.S., but instead would take a job with the Minnesota Peat Inventory (who didn't care if I went for the final 8 credit hours in ag econ!), take a job in Seattle as an Engineering geologist, and finally come back to Minnesota as a soil scientist.

I am now an area Soil Scientist—managing land on the Superior National Forest and implementing an Ecological Classification System with regard to tree harvest, reforestation, wildlife habitat, and water quality. The responsibility level is fairly satisfactory, although after being here for 8-9 years, the gentle stirrings of a need to change are starting.

Things are different than when I was in my 20's and early 30's: Needs and insights have given me different perspectives. It is harder (more contemplation?) for me to define where I want to be in 10 years: The acceleration of information

available to us is outstanding, the changes in job structure, the jobs that have become obsolete, the jobs that have developed, the changes in living patterns, and finally finding, at this time, that a dual career situation places limits on each of our careers. Harder?! Different?! Exciting?!

While working on the Superior National Forest, I have had the great good fortune to supervise women soil technicians. I didn't expect this! I'd always been the single woman trying out my wings in someone else's social/business world. There were no role models that I could idolize (what did Katherine Hepburn know about soils?!?)

To generate a soil technician position and fill it with another woman was a challenge. When I transferred to another district, I went through the the same scenario. I had always worked, giving other women support and encouragement, but now I was in a position to actually work with other women in the field! To work with other women is very rewarding and generates a real sense of delight and fun that had previously been missing—for me in my job, and for others in the general workforce. I would not have missed this for anything.

My commitment to networking among women has a different texture than it did 10 years ago. Experienced women are in the workforce and they are not all in entry level positions with little recognition or responsibility. However, there are still few opportunities for me to work with women who are my peers.

I look forward to what I may reflect upon in 1988. Will I maintain my steadfast dedication to my profession of soils or be tempted into administration? Will I realize some dream I've been pursuing?



## QUERY

...I rather suppose I will have at least had fun.

*Barbara Leuelling is currently manager of an ecological inventory on the Virginia and Aurora Ranger Districts of the Superior National Forest. She is responsible for inventoring and providing soil maps for 25-30,000 acres annually. She also recommends to forest managers area suitability for timber harvesting, reforestation and species selection, site preparation and campsite location/rehabilitation. As an interdisciplinary team member she makes recommendations used in integrating plans for a variety of resource management activities with emphasis on vegetation management. She is also the editor of Association of Women Soil Scientists Newsletter*

### Donna Duffy

Ten years ago I was finishing a B.S. degree in Forestry and Soil Science from the University of Wisconsin at Stevens Point. I was also starting my work with the Forest Service as a cooperative education student in Soil Science. In 1978, I thought I had it made—a job, and soon a degree. I figured I would stay with the Forest Service and in ten years I would be Chief, or at least a District Ranger.

Well, the Forest Service was very good to me and I made it as far as an Assistant District Ranger. But I grew restless and I decided to take a different path. I started law school this fall and I hope to finish in 1990. Where will I be ten years from now? I have no idea. I just hope I'll be using my brains and talent to make the world a little cleaner and safer. Lofty goals, I know, but we should always aim high and far.

My life is not all work. Friends, family, and community are all important to me. That is one of the main reasons I quit the Forest Service. I wanted to expand my horizons without moving every two to three years as the Forest Service still demands.

*Donna Duffy lives in Brandon, Vermont, is a law student, a consultant in soil science and forestry, and owns her own business.*

## OPINION

THE STATE OF MICHIGAN DEPARTMENT OF LICENSING AND REGULATION BOARD OF REGISTRATION FOR FORESTERS: Be it known that Elisabeth Burns Naylor Having Submitted Acceptable Evidence of His Qualifications and Experience in His Profession Has Been Duly Registered And Is Hereby Authorized to Practice PROFESSIONAL FORESTRY Using the Title REGISTERED FORESTER.

At first glance, you might think this statement is just fine, just plain wrong, or something you heard a long time ago. Whatever you might think, this exact wording was nicely written on MY official State of Michigan certificate.

Initially, the wording didn't bother me too much. And once I had the certificate matted and framed, it looked (almost) great. But the ensuing months at my office, (where I displayed it) made me realize something, somewhere, had to change.

My peers were puzzled by the confusing certificate wording. Elisabeth, they knew was a woman (better known as Lisa), but the certificate read, "His Qualifications and Experience in His Profession....," and to them—it just didn't make sense. It also created a much larger (and more serious) question of credibility which reflected on the Board of Foresters and on me, a Registered Professional Forester in Michigan.

I brought this matter of Michigan's gender specific language on the Forester's certificate to the attention of other women professionals and Michigan Department of Natural Resources (DNR) representatives at the "Women In Natural Resources Conference—Moving Towards the 90's" in St. Paul, Minnesota, last April. Immediately following the meeting, I also had the opportunity to share this inconsistency with Gerry Rose, who at that time, was the Assistant State Forester in Michigan's DNR. Rose is currently Minnesota's State Forester.

Upon my return to Cadillac, I received a call from Paul R. Flink, then Chairman of the Board of Foresters. He apologized for the error on my certificate and explained that steps would be taken to prevent any similar mistakes. I offered to follow-up with a letter documenting the incident, but he assured me the problem would be remedied.

Time elapsed; spring turned to summer; I had a baby; summer turned to fall; I returned to work, and the certificate still hung in my office with reference to "his qualifications....his profession." I finally decided to write that letter.

The Michigan DNR, Department of Licensing and Regulation and the Board of Foresters responses to my proposal for change were overwhelming! I also learned that I was the first woman in the state of Michigan to be registered as a Professional Forester! This fall, I was joined by two other women foresters. Apparently the error was an oversight—no women had ever been registered and until I was, there was never a need to change the certificates.

The new certificates will now read:...Be It Known That Elisabeth Burns Naylor Having Submitted Acceptable Evidence Of Qualifications and Experience in This Profession Has Been Duly Registered And Is Hereby Authorized to Practice PROFESSIONAL FORESTRY Using The Title REGISTERED FORESTER.

A special thanks goes to Paul R. Flink, Acting Assistant State Forester, and Michael D. Moore, Deputy State Forester, Department of Natural Resources, State of Michigan, and Gerry Rose, Minnesota State Forester, for responding to and taking action to resolve this problem.

In summary, HOORAY for the integration of women into the field of natural resources! But as this incident shows, some barriers still exist and we need to work with other professionals around us to resolve them—women and men alike.

*Lisa Naylor, Registered Professional Forester, Cadillac, Michigan*

*When the range won't provide a home anymore where will the Grouse dance? A discouraging word from the range*

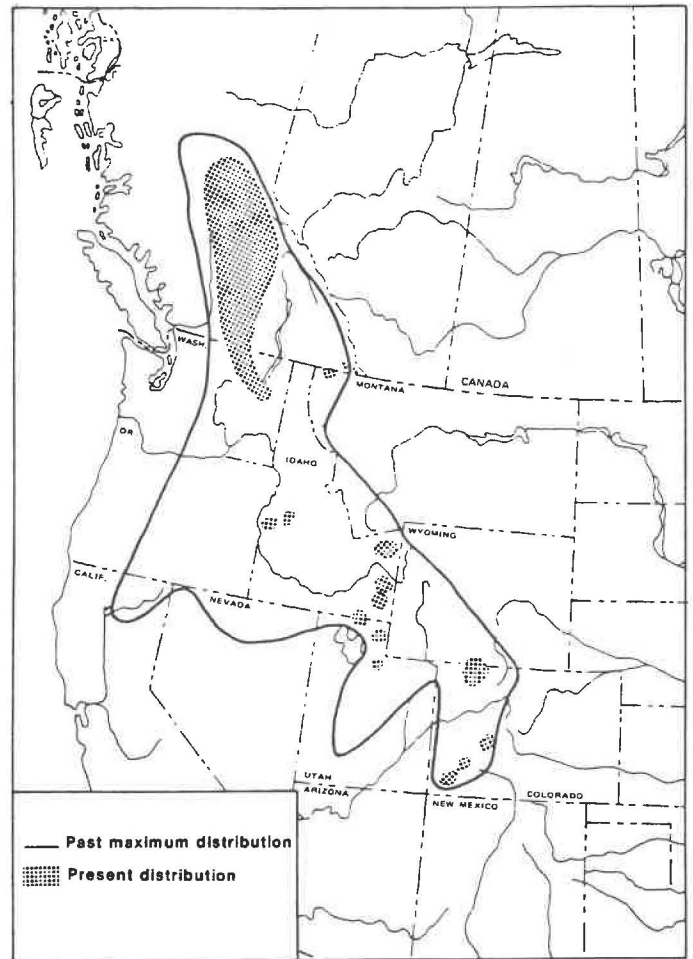
# The Decline of the Sharp-tails

Vicki Saab Marks and Jeff Marks

**W**hen Europeans first settled in western north America, sharp-tailed grouse (*Tympanuchus phasianellus*) enjoyed a wide distribution, occupying a variety of open habitats from Alaska, east to Michigan, and further south to northern California and southern Colorado. Sharptails are still abundant in some parts of their range, but in others they have declined severely. To discern why, we recently completed a research project on a race of sharptail that is in serious trouble—the Columbian sharp-tailed grouse (*T. p. columbianus*).

Columbians are one of six subspecies of sharptails. Their original distribution encompassed the mesic sagebrush-steppe and Palouse prairie regions west of the Rocky Mountains from central British Columbia south to Colorado and California. During this century, however, Columbians disappeared from California, Nevada, and Oregon, and were reduced to remnant populations in Washington, western Idaho, western Montana, Utah, and Wyoming. Overall, Columbian sharptails are gone from about 90 percent of their original range. They seem to be doing well only in British Columbia, Colorado, and eastern Idaho.

In western Idaho, Bureau of Land Management (BLM) biologists had been concerned with the sharptail's plight for years. They knew that small numbers of birds occurred in two counties and that most of the occupied habitat was on private land. They also knew that the birds had been much more widespread in the past. Because Columbian sharptails had not been well-studied, however, there was very little information on which sound management decisions could be based. Clearly, additional information was needed before the BLM could develop a plan of action on behalf of the grouse. In 1983, the BLM initiated a three-year study of the habitat requirements of a remnant group of Columbian sharptails near Mann Creek in Washington County, Idaho. We had the good fortune to conduct this research and thereby learn some of the habits of this fascinating species. Here, we present a brief account of sharptail life history and offer our thoughts about how habitat alterations in rangeland environments have influenced the welfare of this native species.



The Mann Creek study area was chosen because it contained the largest known concentration of sharptails in western Idaho, thus we assumed that the habitat was among the best available in that part of the state. Our primary objective was to describe and quantify the year-round habitat characteristics of the Mann Creek population based on locations of radio-tagged individuals. We also measured habitat characteristics at random locations for comparison with the grouse sites. And, as a final check, we conducted a satellite study 32 km away at Hog Creek, an area in which sharptails were formerly abundant. We reasoned that if the habitat features chosen by grouse at Mann Creek were in fact critical to their survival, then such features would be absent or in poor condition at Hog Creek.

Sharp-tailed grouse have a "lek" mating system; which means that courting males display in well-organized aggregations. The term lek has been used to describe both the aggregation of displaying males and the location where males display. We prefer the former definition. Each spring, groups of male sharptails congregate on traditional sites called dancing grounds to compete among one another for mating opportunities. Dancing grounds are usually at least 1 km apart. Although territorial position may change with time, once a male establishes a territory on a dancing ground, it normally is faithful to that dancing ground for the rest of its life. Males also display at dancing grounds during autumn, during which time young



males may establish territories within leks and older males may “improve” the locations of their lek territories (see below).

Females visit dancing grounds only in the spring. Based on cues that are still a mystery to biologists, females choose a mate from among the displaying group. As is typical of lek species only a few males perform most of the mating in any one year and males thereafter provide no parental care whatsoever.

The leks on our study area contained from five to 15 males each spring. Using a variety of techniques, we captured 46 sharptails from different dancing grounds during three seasons. Thirty-eight of these birds were equipped with solar-powered radio transmitters, and the rest were released with colored leg bands but no radios. Sixteen of the radio-collared birds



provided the bulk of the habitat data we obtained.

From spring through autumn, radio-collared sharptails showed a distinct preference for big sagebrush (*Artemisia tridentata*) areas with a diverse understory of bunchgrasses and native forbs. Most of the nests we found were concealed beneath sagebrush plants within 500 m of a dancing ground. The birds used arrowleaf balsamroot (*Balsamorhiza sagittata*) plants for cover during spring and early summer, and scattered

bitterbush (*Purshia tridentata*) shrubs for shade and cover during hot summer days. Compared with measurements taken at random sites, the Mann Creek grouse selected areas with (1) greater density and canopy coverage of arrowleaf balsamroot, (2) greater horizontal and vertical plant cover, (3) greater canopy coverage of decreaseer forbs (as influenced by livestock grazing), and (4) greater canopy coverage of bluebunch wheatgrass (*Agropyron spicatum*). The presence of bluebunch wheatgrass was especially important during a drought year when the exotic grasses that normally provide spring and summer cover dried up early in the season and provided no cover for grouse.

Starting in late summer, sharptails begin to supplement their normal diet of succulent forbs, grasses, and insects with the ripe fruits of chokecherry (*Prunus virginiana*), bittercherry (*P. emarginata*), serviceberry (*Amelanchier alnifolia*), and hawthorn (*Crataegus douglassii*). At Mann Creek, cherries and serviceberries grow in dense patches on hillsides and are known collectively as mountain shrubs. Hawthorns grow in dense strings along the permanent streams in the area. By the first snowfalls of mid-November, hawthorns provide the only remaining palatable fruits. Once the snow has set in for the winter, grouse feed heavily on hawthorn fruits and on the buds of mountain shrubs, particularly chokecherry and serviceberry. The habitat requirements of sharptails are narrower in winter than at any other time of year. Mountain shrubs and riparian hawthorn provide critical winter food and escape cover, and grouse cannot survive the winter in areas that do not contain healthy stands of these plants.

When we measured vegetation at random sites at Hog Creek, we found that most of the features selected by grouse at Mann Creek were conspicuously absent. The vegetation at Hog Creek had been severely modified by years of dryland farming and livestock grazing. The diversity of native forbs and grasses was much lower at Hog Creek, and sagebrush and bitterbush shrubs had been removed from large tracts of land. Of greatest significance, the critical winter food and cover plants were almost nonexistent. The few mountain shrubs and hawthorns we found were in poor shape with little evidence that reproduction was occurring. Although we did flush a few single birds from small patches of bitterbush and sagebrush, the dancing grounds located by Idaho Fish and Game personnel in the 1940s and 1950s were vacant; we never did find a flock or brood in the course of our vegetation sampling. Quite clearly, land use changes had altered the countryside, so that its ability to support a sharptail population was very poor.

Toward the end of our work at Hog Creek, a local rancher identified a 16 ha patch of relatively undisturbed habitat just north of our study area boundary, which was the location of an historic dancing ground. Our visit to this “habitat island” bordered on revelation. Before us was an example of what much of the Hog Creek area must have looked like years ago when sharptails were numerous. Scattered big sage and bitterbush were interspersed with lush stands of bluebunch wheatgrass; arrowleaf balsamroot and other forbs were numerous. A nearby creek supported a nice riparian stand of hawthorn. A few patches of chokecherry and serviceberry graced the hillsides. In short, this area looked just like the areas selected by sharptails at Mann Creek. Here, we expected to



find a grouse or two, and did when we flushed a flock of 11-14 birds on a crisp September afternoon. After weeks of searching, this was the only flock of sharptails we observed at Hog Creek.

The overall condition of the rangeland at Mann Creek, and the habitat features selected by grouse there, indicate that Columbian sharptails are occupying habitats that are in as close to a natural state as possible. Columbian sharptails have declined at a rate much greater than that of any other race of sharptail, and they appear to be highly vulnerable to human-caused habitat alterations. In contrast to the disappointing record of Columbian sharptails, plains sharptails (*T. p. jamesi*) still occupy most of their historic range in the great Plains despite the amount of agricultural development and livestock use there. Why the difference between the survival of the two subspecies? One reason might be related to the different evolutionary histories of the rangelands in the two areas.

Plains sharptails evolved with a prairie vegetation that was co-adapted to vast herds of large grazing ungulates, particularly bison (*Bison bison*). Because the rhizomatous grasses were resistant to grazing and trampling, the introduction of domestic livestock during this century had relatively little effect on the structure and species composition of the local flora in the Great Plains.

The story is much different west of the Rockies, however, where shrub-steppe vegetation and Columbian sharptails evolved in the absence of large herds of ungulates. Caespitose grasses, i.e., bunchgrass, so important a component of the Intermountain West, reproduce mostly by seed, and thus have little resistance to continued overuse by domestic livestock. The introduction of large herds of sheep and cattle into this region, has resulted in profound changes in the structure and species composition of rangeland vegetation, namely the replacement of native perennials with exotic species that are adapted to overgrazing by livestock. Columbian sharptails clearly have not adjusted to these livestock-related habitat changes. In addition, dryland farming throughout the region has removed much of the critical wintering habitat for sharptails. The influence of such practices undoubtedly led to

the decline of Columbian sharptails in the Palouse region.

The habitat islands where Columbians persist in western Idaho are remnants of the quality shrub-steppe and grassland habitats that used to be widespread. Sadly, there is a direct relationship between the disappearance of these habitats and the disappearance of Columbian sharptails. Thus, Columbian sharptails are a very good indicator species of mesic rangelands that are in better than average condition.

*If left unchecked, the habitat changes that have influenced Columbian sharptails are not likely to reverse themselves. If the Columbian sharptail is to remain a viable part of the Intermountain fauna, land managers must take steps to conserve lands that currently support sharptail populations and improve the condition of public rangelands that have the potential to become sharptail habitat. As a starting point, we suggest that key parcels of habitat be set aside (or purchased from private landowners if needed) throughout the range of the Columbian sharptail and managed specifically for the grouse. In some cases, proper management would include the reduction or outright elimination of livestock grazing. Management decisions such as these will not be popular with everyone. Nonetheless, they are among the challenges which must be met if we are to conserve healthy populations of native wildlife on public rangelands.*

The past and present distribution map of the grouse was adapted from Miller, G. C. and W. D. Gaul. 1980. Status of the sharp-tailed grouse in North America. Pages 18-28 in P. A. Vohs and F. L. Knoop, eds. Proc. Prairie Grouse Sym. Oklahoma State Univ., Stillwater.

*Vicki Saab Marks is a wildlife biologist with the U.S. Fish and Wildlife Service, Boise. Jeff Marks is a research biologist with the Boise District of the Bureau of Land Management (BLM). While conducting the sharptail research, Vicki was a biologist with the Boise District BLM. Part of the research served as her M.S. thesis in wildlife management from Montana State University. Jeff will soon be leaving BLM to study for his doctorate.*

## Faculty Position Available Wood Science and Technology Assistant Professor: Wood Processing/Seasoning University of Massachusetts at Amherst

The **appointment** is for an assistant professor, tenure track, 9-month appointment, beginning September 1, 1988. Requires Ph.D. with at least one degree in wood science or forest products. Responsibilities include undergraduate instruction in wood seasoning and primary/secondary wood processing; development of an active research program with emphasis in processing/utilization of eastern species; limited extension responsibilities; student advising.

**Submit qualifications**, resume, transcripts, and three letters of reference no later than **April 7, 1988** to: Dr. R. Bruce Hoadley, Wood Science and Technology Search Committee, Department of Forestry and Wildlife Management, University of Massachusetts, Amherst, Massachusetts 01003

# The Chimpanzees of Gombe

By Jane Goodall

Belknap Press of Harvard University Press 1986

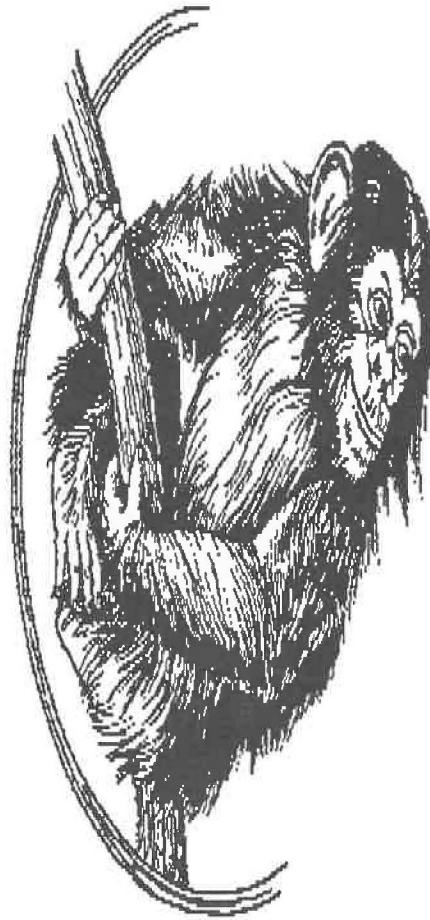
*The Chimpanzees of Gombe* is a major research monograph summarizing over a quarter century of work that Jane Goodall and her associates have conducted on the chimpanzees along Gombe Stream near Lake Tanganyika, Tanzania, Africa. In addition, the book recaps the history of using chimpanzees in behavioral research. Her behavioral study is the longest-recorded continuous study of any single group of vertebrates, yet it still has not filled in all the gaps needed to present a complete picture of the life-history and behavior of chimpanzees. Goodall points out early on in the work that if she had ended her research after 10 years she would have come to very different conclusions about their behavior.

In contrast to a captive studies researcher, Goodall went to live among the subjects of her study, and approached her observations of their behavior in a very non-threatening manner, establishing trust between observer and subject.

Included in the book are photographs of the individual chimps, their names and life-history. One of her subjects, Flo, even merited an obituary in the *London Times* because Goodall had written so movingly of her life and behavior.

Gombe National Park today contains a population of approximately 160 eastern or long-haired

chimpanzees. When she began her studies in the region in 1960, there were large areas of undisturbed forest east and south of the park. Today, these areas are encroached by cultivated lands and the chimpanzees are nearly



isolated—a situation that has her concerned about the future integrity of the population.

Goodall calls the chimp society a fusion-fission society. The social environment may change from a peaceful party of a few individuals to a large excited gathering in a short moment and

the animals have to be able to adapt and survive. She documents how the chimps use a variety of sophisticated behaviors, including deceit, in their interactions with one another.

This book is a must for any student of animal behavior and for scientists using chimpanzees in research. Goodall has been a leader in the movement for humane treatment of these very intelligent, social animals. After reading *Chimpanzees of Gombe*, the reader certainly will be more sensitized to chimps and their human characteristics.

## The Author

JANE GOODALL was born in London, and obtained her doctorate in ethology from Cambridge University, where she studied under Robert Hinde. Her first funding for chimpanzee research came from Lewis Leakey. In 1965, she founded the Gombe Stream Research Center. In addition to this monograph, Goodall has published two popular books and many scientific papers derived from her research. She has received numerous awards: Among them, the Golden Medal of Conservation from the San Diego Zoological Society, and the J. Paul Getty Wildlife Conservation Prize.

*Reviewer Christine M. Moffitt is adjunct assistant professor in the Department of Fish and Wildlife Resources, University of Idaho, and book review editor for Women in Natural Resources.*

*An insight into how children and youth view wildlife, how regional and age differences appear, how professionals and parents can increase and capitalize on positive learning opportunities*

# The Gender Gap in Young People's Interests in Wildlife

Miriam Olivia Westervelt

**T**he results of a national survey of children's attitudes, knowledge, and behaviors toward wildlife have revealed that girls and boys relate to wildlife in different ways. Girls appeared less interested in wildlife and the out-of-doors, more pet-oriented, more opposed to hunting, more fearful of animals in the wild, less likely to participate in a variety of wildlife-related behaviors, and less knowledgeable about facts concerning wildlife. Some differences were more evident at certain age levels and persisted into adulthood. Results are discussed in terms of ways to utilize differences—and popular beliefs and behaviors—to improve wildlife education programs for both boys and girls.

## THE YOUTH AND WILDLIFE SURVEY

The national survey of "Youth and Wildlife" (Westervelt and Llewellyn 1985) was conducted by the US Fish and Wildlife Service in cooperation with the publisher of the *Weekly Reader* newsmagazine for the purpose of establishing baseline information on children's attitudes, knowledge, and behaviors toward wildlife on a national level. Pilot study results (Kellert and Westervelt 1983) suggested that demographic factors were major influences on how 300 children in Connecticut related to animals. A major objective of the "Youth and Wildlife" survey was to examine these factors more fully with a nationally representative sample.

In exchange for designing a questionnaire tailored to the fifth and sixth grade readers of *Weekly Reader* periodicals, the Service was able to analyze the results of over 15,000 questionnaires completed by the students themselves. The focus of the survey was 10 to 12 year-olds based on pilot study evidence that this developmental stage offers excellent opportunities for fostering an appreciation of the natural world.

A sample of 3,087 questionnaires was drawn from the 15,787 that were returned, with four students representing each of the 789 fifth and sixth grade classes participating. The children were primarily 10 to 12 years of age, and from rural, suburban, and urban areas in 49 states. Compared to US Census data (1979) on this age group, the proportion of children surveyed living in rural areas was relatively high and Northcentral and Rocky Mountain states were heavily represented. As a readership survey, the respondents did not comprise a sample of fifth and sixth graders nationwide. Based

on the large sample size, and the fact that *Weekly Reader* reaches about 90% of the nation's school districts, the results were considered to be fairly representative of children across the country. Even so, it must be acknowledged that the sampling procedure did not entirely preclude the possibility of sample bias.

The questionnaire consisted of 47 questions about attitudes, knowledge, and behaviors toward wildlife. Attitude items represented the four orientations toward animals found in the pilot study to be the most common in fifth graders: Emotional identification with animals, particularly with loveable kinds of animals (humanistic); interest in wildlife and the out-doors (naturalistic); concern for the treatment of animals, expressed in this study as opposition to hunting (moralistic); and avoidance of animals due to fear or dislike (negativistic).

Six true/false questions were asked to determine level of knowledge about the physical and behavioral characteristics of wild animals. To measure wildlife preferences, children were asked to indicate how much they liked each of 13 species—representing predatory, non-predatory, big, and small mammals and birds. Finally, 12 questions were asked about frequency of participation in a variety of wildlife-related activities.

## RESULTS

The most prevalent attitude in both boys and girls was the humanistic attitude. Compared to boys, girls were much more sentimentally oriented toward loveable types of animals and had stronger tendencies to attribute human feeling to wild animals (Figure 1). In fact, girls had the highest humanistic scores of all demographic and behavior groups in the study. For example, 73% of girls, compared to 39% of boys, said they liked loveable animals more than animals in the woods, beautiful, or useful animals. More girls than boys thought wild animals get lonely in the wilderness, and girls were more likely than boys to believe love is a feeling people should have for animals as well as people.

Opposition to hunting, as measure by the moralistic scale, was the second most strongly expressed attitude. Like the humanistic attitude, higher moralistic scores were more characteristic of girls than boys, with the girls' scores being the highest of all demographic groups in the study. Eighty-three percent of girls, compared to 74% of boys, were anti-sport

hunting. Both sexes were more approving of hunting for food purposes, with 50% of girls and 35% of boys opposed. Boys were also more supportive than girls of "hunting whales for food as long as there are a lot of them left in the world."

As the third strongest attitude, naturalistic interest in wildlife and the outdoors was stronger in boys than girls. If they went camping, 57% of boys, and only 39% of girls, wanted to be where wild animals were. A preference for wild animals over pets was indicated by 41% of boys compared to 35% of girls. Thirty-one percent of boys, and only 39% of girls preferred animals that live in the woods the most. There was only one demographic group with less naturalistic interest than girls—children who lived in the South.

Fear of animals was the least common attitude and more frequently expressed by girls. More girls believed wild animals are dangerous to people and 45% of them, compared to 28% of boys, said they would be afraid to touch a snake. Like the naturalistic scale, girls and children living in the southern states scored similarly as the most negativistic of all demographic groups.

Boys liked more animals than the girls did (Figure 2). Only one animal was liked more by the girls—the robin. The robin was the favorite species of the girls, followed by the eagle. Boys favored the eagle most, and then the robin. The largest differences between boys and girls were evident for animals that are typically seen as large, fierce, and predatory, i.e., the eagle, bear, wolf, and coyote.

A fairly unimpressive level of knowledge about physical and behavioral characteristics of animals was evident in the average score of 64 on a scale of 1 to 100. For example, only about half of the sample knew that insects do not have backbones, and only 31% knew snakes are not covered with slime. Boys scored higher than girls on every item. Reflecting perhaps their relative lack of interest and their fear of wild animals, girls and residents of the South had the lowest knowledge scores of all demographic groups.

## BEHAVIORAL DIFFERENCES

The three most popular wildlife-related activities (reported by more than 50% of young people) were fishing, watching wildlife TV shows, and going to the zoo (Figure 3). Girls were more active than boys on just one of these activities—going to the zoo. Fishing and watching wildlife TV shows were positively related to the naturalistic attitude and knowledge of wildlife. In fact, wildlife TV viewers had the second highest knowledge scores of all activity groups. Going to the zoo was not related to these positive wildlife orientations.

Of the three other activities with differences between girls and boys—hunting, birdwatching, and identifying birds—girls were more active in one activity—birdwatching. Interestingly, birdwatching was also the only activity reported by more girls than boys in the pilot study.

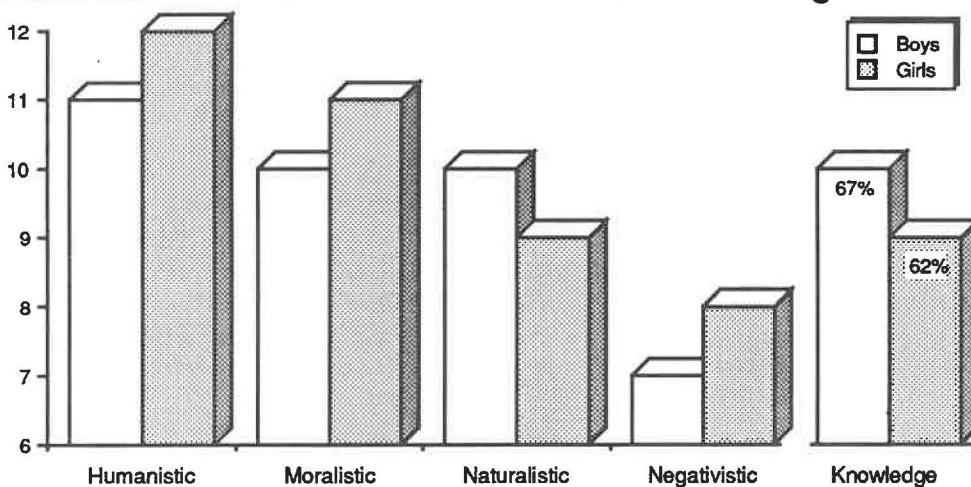
Important to consider are the different attitudinal profiles of the bird-identifiers, made up mostly of boys, and the birdwatchers, who were mostly girls. The young bird-identifiers (defined as those who said they could identify more than 30 kinds of birds) topped the scales in many dimensions. They had the highest naturalistic scores, the lowest negativistic scores, and the highest wildlife knowledge scores not only of all activity groups but of all demographic groups as well. Their humanistic scores were the lowest of the activity groups. In contrast, birdwatchers had the highest humanistic scores of the activity groups, indicating a clearly different orientation toward wildlife. Interestingly, only 7% of the birdwatchers said they could identify more than 30 kinds of birds, which is the same percentage reported by the total sample.

It was also interesting to find that the only two activity groups comprised of mostly girls—birdwatchers and zoo-goers—were also the only activities completely unrelated to level of knowledge and positively related to anti-hunting sentiment. Birdwatching was also unique in that it was the only behavior related positively to humanistic sentiment.

These orientations of girls appear to persist into adulthood based on a national survey of adults (Kellert and Berry 1980). Adult behavior groups which included mostly females were membership in humane organizations, zoo visitors, pet owners, and anti-hunters.

The relatively high percentage of boys reporting hunting activity could have been the result of several factors—the relatively large rural makeup of the sample, the heavy representation of Northcentral and Rocky Mountain states where most of the hunting activity was concentrated, and the fact that hunting was not defined on the questionnaire. Looking for animals like frogs or insects

**Figure 1**  
Mean Attitude Score **Differences in Attitudes and Knowledge\***



\*Differences are significant at the  $p < .0001$  level, F test, Attitude scale 1-15, Knowledge scale 0-100.

could have been considered a form of hunting as it was in the pilot study.

### THE RELATIVE INFLUENCE OF GENDER AS CHILDREN GROW OLDER

The pilot study of 300 second, fifth, eighth, and eleventh grade students in Connecticut (Kellert and Westervelt 1983) revealed that gender was not as significant an influence as age on children's attitudes and knowledge about animals. The pilot study revealed distinct age differences in children's orientations toward animals. Briefly, between the second and fifth grades, fears of animals abated, a dramatic increase in factual understandings about animals appeared between the fifth and eighth grades, and the development of concern for animal welfare issues and ecological understandings was evident between the eighth and eleventh grades.

Within the four age groups, attitudinal differences between boys and girls were scattered. Differences were least evident in the youngest children. The only sex difference among the second graders was that girls were more negativistic. Indeed, the negativistic scores of the second grade girls was the highest of all demographic groups in the pilot study. With age, dislike and fear of animals decreased in both boys and girls. In adulthood, similar male and female differences have been reported by Kellert and Berry (1980) but the maturational trend appeared to be opposite, in that negative feeling about animals increased in men and women from ages 18 to 76.

Among 10-12 year olds in the "Youth and Wildlife" survey, sex differences were evident on all attitudinal dimensions as well as knowledge. Gender was a more significant and consistent demographic influence in this age group than were region of the country and urban/rural residents. Gender and region were almost equal in influence—with the exception of the humanistic attitude, the prevalence of which knew no regional boundaries. Gender and region also had more consistent and significant relationships with attitudes and knowledge than urban/rural residence in the adult survey, though education was the most powerful influence in that study.

The same gender difference in the attitudes of 10-12 year olds have been reported in adults. Young and adult females were more humanistic, moralistic, and negativistic, and less naturalistic than their male counterparts. The general maturational trends in these attitudes appear different in childhood and adulthood, however. In general, except for the negativistic dimension discussed above, these attitudes increase through childhood and decrease from ages 18-76.

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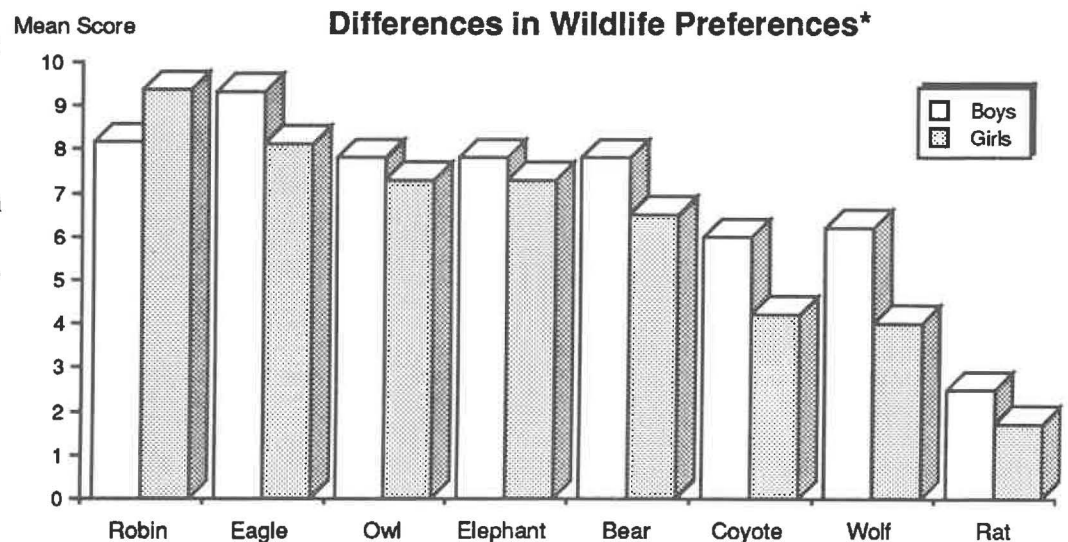
Other attitudinal differences between boys and girls were reported in the pilot study. In the fifth grade, boys became more "dominionistic" than girls; that is, they were more willing to subordinate animals for their own needs and enjoyment. By the eleventh grade, boys expressed greater appreciation for predator-prey relationships and the balance of nature, as measured by an "ecologistic" scale. These sex differences are reported in adults as well, though the maturational trends toward an increase in ecologistic attitudes and a decrease in dominionistic feelings seemed to be completed by age 18 since there were no age differences reported between adult age groups.

### DISCUSSION

Results of this study suggest the need for a change in traditional thought about the wildlife attitudes and behaviors that we, as parents, educators, or natural resource professionals, should be reinforcing to prepare children to become wildlife-oriented adults. At first glance, the characteristics of boys—more naturalistic, knowledgeable about facts, and actively oriented—would appear to comprise the preferable model to the humanistic, less knowledgeable, and passively oriented girls. Objective analysis of the attributes of girls, however, reveals valuable learning opportunities that can be equally applicable to boys. This paradigm shift, or change in the values we unthinkingly assign to the ways boys and girls typically relate to animals, is a vital ingredient for wildlife programs that seek to recognize the best opportunities for teaching children about wildlife.

- The first learning opportunity to recognize is children's basic orientation toward animals—the humanistic attitude. This attitude is much stronger in girls, not only in their attitudes but the species they prefer and the behaviors they enjoy. It is also predominant in boys, it knows no regional boundaries, and appears to be growing with expanding urban-

Figure 2



\* Differences are significant at the  $p < .0001$  level.

ization (Kellert and Westervelt 1981) The opportunistic strategy here is obvious—to use it to our teaching advantage. This will require resisting an inclination to view this attitude as a limitation on wildlife management efforts, as a cardinal crime of animal observers, as a curse on wildlife. Instead, it should be viewed as an immensely useful tool for capturing children's attention and directing it toward the natural world. Once interest is captured, the educational process should move beyond sentimental affections for loveable types of animals to the development of concepts involving species and habitat needs. The popular animals—like the robin, eagle, owl—would be good animals to use to encourage this process along. Otherwise, attitude development can too easily get stuck in the humanistic mode in adulthood, as the results of research attest (Kellert and Berry 1980).

- The humanistic approach may be most effective in the early elementary school years when negativistic fears are highest, particularly in girls. Fears can be dispelled by providing a means of identifying with wild animals using human characteristics and emotions that have meaning in a child's egocentric, anthropomorphic world. Writing about the value of this approach, Rachel Carson said, "For the child, it is not half so important to know as to feel... Once the emotions have been aroused—a feeling of sympathy, pity, admiration or love—then we wish for knowledge about the object of our emotional response. Once found, it has lasting meaning. It is more important to pave the way for the child to want to know than to put him on a diet of facts he is not ready to assimilate" (Carson 1956).

- Wildlife knowledge is the second area that calls for a "paradigm shift" in our thinking about model characteristics. The present study measured knowledge of isolated facts about the physical and behavioral characteristics of animals. The girls' scores were significantly lower on every item. There is important evidence that this type of factual knowledge is less related to positive environmental attitudes in children than is conceptual knowledge (Richmond and Morgan 1977). For the development of positive attitudes about wildlife, then, it may

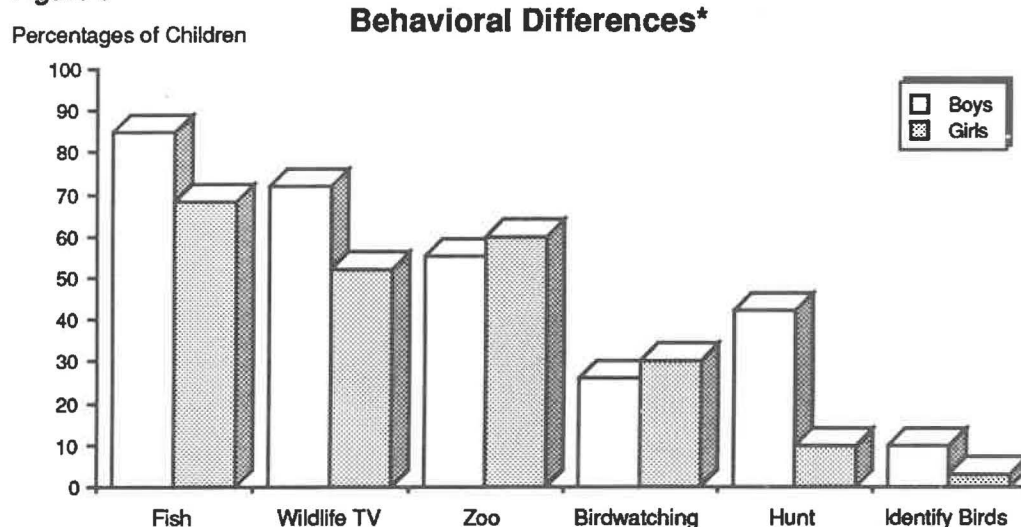
be more important for children to understand how living things depend on one another rather than knowing that spiders do not have 10 legs and snakes are not slimy, for example. For young girls, in particular, the concept of dependencies, relationships, and interactions between living things may prove to be a psychological construct that has relevance and greater potential for stimulating learning of ecological concepts at young ages.

- Regarding behaviors, an opportunistic strategy would be to increase opportunities for those forms of interaction with wildlife that are both popular and positively associated with attitudes and knowledge, e.g., fishing and watching wildlife TV shows. It is encouraging to note that fishing is becoming even more popular with boys and girls between the ages of 6 and 15 (US Fish and Wildlife Service 1987). The "paradigm shift" needed concerning behaviors requires resisting a reflex to place more value on activities that involve direct contact with wildlife. Watching wildlife TV shows, a passive activity, is reported to have a direct influence on children's attitudes and knowledge (Fortner 1983). The need for this particular shift in thought will become more critical as urban areas expand and opportunities for direct contact with wildlife diminish.

- There is a real need for more children's wildlife TV programs on major networks that are as educational as they are entertaining. Children's Television Workshop (Mielke and Chen 1981) reports the greatest need for science education programs exists among girls in the elementary grades. Mielke's finding supports the earlier suggestion of the immense value of relationships with animals to stimulate girls' interest in the natural world. He found that girls tended to be more attracted to animals than boys were, a nurturing relationship to an animal was more likely to be of high appeal to girls, and in their imagery of scientists, girls made more positive references to working with animals.

The results provoke interesting questions about the relative values of girls' and boys' attitudinal and behavioral profiles regarding wildlife, the relationship between perceptions of wildlife in childhood and adulthood, and when and how these

**Figure 3**



\* Differences are significant at the  $p < .01$  level.

views are most heavily influenced. For most attitudes, the influence of gender becomes noticeable in the prepubescent years and persists through adulthood. Whether the values expressed are functions of developmental stages or reflections of societal changes in how Americans regard wildlife remains unclear. These questions deserve more systematic investigation, ideally in studies of longitudinal design which can follow males and females from childhood to adulthood. In the meantime, we can acknowledge that differences between girls and boys

*continued on page 16*

*If male scarlet tanagers, lions, and bee drones were humans, they would hang out in singles bars*

## “The more things change...”

Donna Burks

**T**he growth of the women's movement in recent years has caused confusion over traditional female/male roles. As women have joined the work force, domestic and parenting duties have been divided more equitably (in some cases) among spouses. Phrases like “women have left the bedroom for the board room” and terms like “house husband” underscore the dissolution, albeit slow, of gender stereotypes. Amid all the chaos, one truism remains intact: men and women ARE different! Beyond the influence of socialization, however, the biological roles of each sex have changed little. This principle applies throughout the rest of the animal kingdom as well. Collectively speaking, a great diversity of physical, behavioral, and sexual differences exist throughout the natural world, but at the species level, male/female roles are very clearly defined.

Let us begin our anthropomorphic journey up the evolutionary ladder with the social insects: Ants, termites, and honey bees,—the latter having been studied most intensively. Theirs is definitely a matriarchal society. The queen lays unfertilized eggs which give rise to drones, the male bees. A drone carries only one set of chromosomes; thus, all sperm he produces is genetically identical. The queen, product of a fertilized egg, has paired chromosomes. Drones then mate with the queen to produce fertilized eggs which hatch into infertile female worker bees. If a queen breeds with only one drone, she supplies all the genetic variability to the workers. By breeding with more than one drone, a greater variability can be passed on to the workers. After fulfilling their copulatory responsibilities, drones have outlived their usefulness and are killed or driven from the hive by the workers. Duties of defending the hive, rearing the young, and tending the queen, are all performed by the female workers. Males in this society are merely sex objects!

Farther along the evolutionary trail are seahorses and pipefish—two marine fish species that represent a feminist's dream come true. Males of both species “give birth” to the young. Females deposit eggs in the male's brood pouch at which time fertilization occurs. The male seahorse retains the eggs in the pouch until they hatch. In the case of pipefish, the eggs actually become embedded in the lining of the pouch which functions as a placenta. In both species, however, once the egg sac is absorbed, the young are expelled from the pouch, ready for independent existence.

Nowhere in the animal kingdom are differences between male and female more obvious and spectacularly displayed than among birds. Not all species are permanently dimorphic. Those that are exhibit only subtle gender differences such as a difference in eye color. Others possess distinguishing features which are only employed during the breeding season. One example is the male sharptail grouse, which employs purple esophageal air sacs to attract a mate. In those instances where plumage of the sexes is different during all or most of the year (like wood ducks, cardinals, and hummingbirds), the contrast is often startling. In some species, males undergo plumage changes prior to breeding season. Variations range from the growth of large plumes (called aigrettes) by egrets to colorful transformations like those of male scarlet tanagers and American goldfinches. In winter, male tanagers and goldfinches appear similar to the females of their species. During breeding season, as the name implies, males change to brilliant scarlet and yellow, respectively, with contrasting dark wings. Most of this male gaudiness is used to attract prospective mates or to ward off competitors. The job of hatching and rearing young usually falls to the female bird, so it is to her advantage from a survival standpoint to be less conspicuous than the male.

The development of an incubation patch (an area of bare, thickened, heavily-vascularized skin found on the underside of brooding birds during the nesting season) aids in the identification of females in birds of like-outward appearance. This method works as long as the males of a given species do not share incubation duties. Among more “liberated” species, e.g. woodpeckers, both sexes incubate and, thus, both develop brood patches.

While differences between male and female birds are characterized by beauty and color, differences between male and female lions, for example, are often a matter of power and strength. A classic stereotype depicts the image of the male lion as the “King of Beasts.” This is a macho myth! While males do defend their territory and females from other males, they apparently do little else but breed. Females of the pride are the primary hunters. Some males may rely exclusively on the kills made by the females for sustenance. Furthermore, because males are larger than females, they often use this advantage to steal carcasses from females for themselves.

Child abuse, incredibly, is not unique to human families.

*continued on page 16*

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*I was acutely aware of, and upset by, my working colleagues' perceptions of western morals and values.*

## Two Years in Sri Lankan Forestry

Jane Carter

**S**ri Lanka is at present so often in the media, with news of violence and unrest between the Sinhalese and Tamil communities, that this must be the first image of the country that springs to many peoples' minds. From February 1984 to February 1986, these problems formed a continuous backcloth to my life, and yet I was based in areas well removed from the immediate scenes of trouble, and was little directly affected. This account will not dwell on that. The intention, rather, is to describe some of the experiences of a young, British, female forester working in the Sri Lankan Forest Department.

I worked in Sri Lanka as a VSO, an acronym for Voluntary Service Overseas, the British equivalent of Peace Corps. Perhaps the most noteworthy difference between the organizations is the fact that VSO does not normally pay volunteers' salaries. This is the responsibility of the employer in the developing country, who pays whatever a local person with similar qualifications might receive. VSO only recruits fully trained people with practical skills and relevant work experience—it does not recruit raw graduates. As a graduate with only one year of experience out of university, I was fairly exceptional, and among the youngest of the volunteers in Sri Lanka (the oldest was 58!). I was also, throughout my period of service, the only volunteer working in forestry.

I was recruited to work as a forest officer in Nuwara Eliya District (pronounced Nureaylia) with the title of Assistant Conservator of Forests (ACF). This is actually a position of considerable authority since few members of the Forest Department have degrees in Forestry, but in practice it defined my salary (Rs 2,000/= US\$73 per month) and had little bearing on my day-to-day work.

A week before I left the United Kingdom, I was told that the Forest Department had decided that I was to work in the head office in Colombo for my first six months, a decision that I viewed from the start with misgiving. I found myself in Colombo at the worst time of year, at the city's hottest and most humid, when all offices without air conditioning seem to grind to a virtual standstill. I sat beneath a limpid overhead fan, daily endeavoring to muster enthusiasm for the old research records that I was required to catalogue. Most of those around me had long since given up. Some flicked through newspapers, others amused themselves drinking endless cups of tea, one simply laid her head upon her desk and

went to sleep. I was fortunate, however, in having the chance to form one close friendship with a female research worker who taught me a great deal about Sri Lankan attitudes and beliefs. Happily, I was able to complete the work assigned to me in Colombo in less than the six months anticipated, and was thus transferred to Nuwara Eliya at the beginning of May 1984.

I arrived in Nuwara Eliya just as one Divisional Forest Officer (DFO) was leaving, and a new man was taking his place. The latter took a while to settle himself and his family into Nuwara Eliya, and I was left with little to do (without his authority) for nearly a month. Even after he was installed, I continued to feel that I was surplus to requirements, as he was obviously non-plussed by my presence, and unwilling to allow me any responsibility. My feelings of uselessness were heightened by glowing accounts of my predecessor, another female forester (who had been the first VSO forester to work in Nuwara Eliya). It seemed that she had accomplished so much in her two years of service that I began to wonder whether I could ever contribute anything further.

At the same time, I was also becoming acutely aware of, and upset by, my working colleagues' perception of western (not just British) morals and values, and, in particular, their attitude towards western women. I knew that my own conduct was constantly and closely watched, and that many people were always ready to criticize. As my time in Nuwara Eliya lengthened, and my Sinhalese improved, I came to appreciate that my predecessor, too, had had this problem. People in the Forest Department had every respect for her professional abilities, but they could be most unkind about her social activities. I was certain that most of the tales told about her must have been quite untrue; this process, however, only heightened my own insecurity.

It took some time for me to realize that although one must be sensitive to the attitudes of the local community, essentially the only thing to do is to be oneself. As a young woman forester, working practically in the field, I did not conform with social norms, and I could not expect to be readily accepted by the community. It was inevitable that I tended to be an object of suspicion and ridicule; the most I could hope for was that those with whom I worked most closely would come to have a better understanding and regard for me. I think that some of them did; of others, I am not so sure.

Working conditions remained difficult throughout 1984.



As I became familiar with my area of work, Nuwara Eliya District, I realized that there was considerable potential for improvement in this central district in Up Country Division. Covering a total 151,023 ha, the district ranges in altitude from roughly 450-2,600m (the majority well below 2,000m), and spans three major climatic types, known broadly as the intermediate zone, wet upland zone, and wet lowland zone. The intermediate zone is warm and relatively dry, with a unimodal rainfall pattern which, while averaging about 2,000-2,500mm per annum, falls almost entirely during a three month rainy season. The upland zone has a cool, wet climate where rainfall is bimodal, and would average 2,500-3,500mm per annum. The highest rainfall occurs in the warm wet lowland areas, where rainfall is also bimodal, but may typically average 3,500-5,000mm per annum. Natural vegetation obviously is diverse within the district, but the species used in plantation forestry are not so varied. Current planting is almost entirely of pines and eucalypts—above 1,500m *Pinus patula* and mainly *Eucalyptus grandis*; below 1,500 m, *P. caribaea* and below 1,200m, *E. camaldulensis* and *E. tereticornis*.

At the time, afforestation was being conducted within the district under five separate programs. Apart from a relatively small area planted annually under departmental funding, there was also a forestry program funded by the Nuwara Eliya Integrated Rural Development Project (IRDP) with joint Sri Lankan and Dutch government funding. The World Bank had a project; the Asian Development Bank (ADB) had one called the Community Forestry Project (CFP); and USAID had one called the Upper Mahaweli Reafforestation Project which was not administered directly by our office.

Although my job description was poorly outlined, during my first nine months in the district I was largely engaged with IRDP and the World Bank programs, monitoring nursery work and the maintenance of plantations. I was independent in my mode of transport, a Honda CD 125, without which my field work would have been seriously curtailed. The Division then had only one jeep. However hard I worked, though, it was frustrating to know that few of my recommendations would be taken seriously by the DFO—and, as a result of that, by my working colleagues.

Things started to change at the beginning of 1985, with the retirement of the DFO and a redefinition of my working duties. I now was to spend 50% of my time on the IRDP forestry program and 50% of my time with the community project (CFP). A temporary, part-time DFO gave me far more responsibility—but without the necessary authority—a disturbing and challenging situation. My confidence grew enormously, and I was encouraged to find, when a new and young DFO arrived in May, that he was eager to implement new ideas and to listen to my suggestions.

With his support and the financial backing of the IRDP I implemented a forestry education program in selected local schools with talks, slide shows, and visual materials. We also assisted in the establishment of a small nursery, providing written instructions for this purpose. One other IRDP project, tobacco cultivation was widely

practised, and fuelwood for curing the leaves is in increasingly short supply. Indigenous tree species are too slow to meet the farmers' present needs, but eucalypts, which have the required growth rate, are disliked and rarely planted due to the belief that they dry out the soil and inhibit the growth of other plants nearby. With this in mind, I was able to obtain the seeds of some fast-growing Australian acacia species from the CSIRO Division of Forest Research Tree Seed Centre, Australia, and to conduct a number of on-farm trials with the seedlings raised. The initial reaction of the farmers was enthusiastic, but unfortunately many of the plants were lost in a series of landslides.

My work with the CFP comprised two main activities: 1) the establishment of two research plots, and 2) the monitoring of farmers' woodlots. In both tasks, I received considerable moral support from an Australian consultant forester, Steve Midgley, who was based in a town about two hours' drive from Nuwara Eliya, and whom I saw perhaps once a month. The field trials, which comprised two species/provenance trials in separate locations, and a Calliandra spacing trial, took up a great deal of time, particularly during the two monsoon periods. The Beat Forest Officer and I would spend the whole day drenched, scrambling up and down the plots, which, at the time, were a sea of mud, and then complete the process with a wet motorbike ride home. The results, however, were rewarding: Both trial plots have been well maintained, and should provide valuable information in the course of the next few years.

The farmers' woodlots were a more troublesome political issue. There had been many problems in the allocation of land for the purpose, with recipients often qualifying through political connections rather than true need or merit. Steve and I did our best to alert the appropriate authorities to this problem.

The above is only a brief summary of two years. It does not, of course, give a complete picture. Despite the frustrations involved in working in Sri Lanka, I found the experience a very enriching one, both in terms of the vast amount I learned and the insight gained into Sri Lankan culture. Most returned volunteers with whom I have spoken said that they felt they received more than they gave. I certainly feel that way.

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Lion cubs, too, are susceptible to abusive parents and as many as 80% may die before reaching two years. They are abused in several ways. For one, it is difficult for a cub to consume its fair share of a kill. In lean times, lionesses may actually prevent their own cubs from feeding, sometimes with fatal results. Perhaps the unkindest act of all is the male lion's reluctance to accept cubs sired by males outside his own pride. Male newcomers are likely to kill the cubs of displaced males of the pride. They are far more tolerant of cubs they themselves father. A lioness, on the other hand, will nurse the cubs of her relatives in addition to those of her own.

What is the common denominator here? They are all examples of animals in the animal kingdom which share a concern about the gene pool. Each animal attempts to breed, and if successful, makes a contribution to its own species' gene pool.

Usually, fitness and reproductive success go hand-in-hand. For example, the male bird who defends the choicest territory attracts more females than does a male displaying in marginal habitat. So, too, after ousting the old, dominant male and destroying his cubs, the young male lion insures that only *his* genes will be carried by future members of the pride.

Human society, though still largely sexually motivated, has strayed from this basic biological principle. Criteria other than fitness enter into mate selection. Test tube babies and other medical advances save the lives and genes of individuals who otherwise would perish.

On the other hand, with the possible exception of the seahorse/pipefish example, humorous parallels in human society may be found. Could it be that some lion-type males rely almost exclusively on females for sustenance? And how many drones, or for that matter scarlet tanager types, hang out in singles' bars? Perhaps the pig, as in "Male chauvinist pig" has borne the weight of the chauvinism slur too long. It's time a few of his brethren from other stops along the evolutionary scale share the load.

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do exist and can consider from a more informed standpoint how educational programs might be improved for them. The findings can be especially helpful to opportunistic educators who choose to utilize the most popular beliefs and behaviors as springboards for stimulating greater appreciation for and sense of identification with the natural world.

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*Up-to-date studies show that women are similar to male hunters in some ways, differ in many others.*

# The Characteristics and Formative Experiences of Female Deer Hunters

Robert M. Jackson

At a time when men and women share participation in most areas of work and leisure activity, hunting remains highly segregated. The National Survey of Fishing, Hunting and Wildlife Associated Recreation (1982) reports that approximately two percent of all women hunt and that only eight percent of all hunters are women. Participation in the shooting sports and in certain other wildlife-oriented activities continues to be limited by unique factors of both a personal and social nature.

The motivations, participation and satisfaction for persons active in hunting and outdoor recreation have historically been of interest to wildlife managers and educators. Published studies on hunters consistently sketch out a rurally based, male-dominated, recreational activity with all the trappings of a social system and high level of involvement of many participants (Heberlein and Laybourne 1978). Kellert and Berry (1987) concluded that gender is among the most important demographic factors in determining attitudes about animals in our society. Females were found to especially value wild animals as objects of affection and expressed considerable concern regarding the consumptive exploitation of wildlife. Males in the Kellert and Berry study were far more knowledgeable and less fearful of wildlife and more inclined to value animals for practical and recreational reasons.

Bevins et al. (1978), showed that female participation in hunting and fishing was greatest in northeastern states with large rural populations. Peterle's Ohio study (1961, 1967) and Klessig and Hale's Wisconsin study (1972) also showed that females having rural backgrounds hunted more frequently than females from urban backgrounds. The same authors also reported that one percent and six percent respectively of the hunters sampled were female. Based on randomly drawn samples of Michigan's young hunters, Langenau and Mellon-Coyle (1977) determined that the "young people represent a significant portion of the Michigan hunting population. Hunting is an important part of the adolescent experience and the percentage of young people who hunt has been increasing over the past few decades."

Investigators have also looked for developmental patterns in hunting participation. In an earlier report, Jamsen (1976) reviewed the sex and age structure of licensed hunters and anglers in Michigan. The percentage of young people in his census category of 12-19 years remained fairly constant over several years but with more fluctuations apparent in female hunters. In another study of Michigan hunters, Bouchard and Lerg (1972) determined that females usually started hunting

later and stopped earlier than males. Adult females bought proportionately more licenses than teenaged females. In contrast, adult males bought proportionately fewer licenses than teenaged males.

There is evidence that women's leisure life is broadly different from that of males and is shaped by different forces. Pomerantz (1977) evaluated the recreational participation of males and females in twenty outdoor recreationally oriented wildlife activities. The only two categories where women participated more than men were horseback riding and going to the zoo. In the same study it was determined that interests of males were more likely to be influenced by relatives or organizational leadership (scouts, recreational groups, etc.) whereas females were more influenced by teachers and classmates.

The potential for recreation to enrich the life of adult women was confirmed by Riddick and Daniel (1984). They found that leisure activity participation emerged as the strongest contributing factor to the life satisfactions of older women. In a review of the research evaluating the relationship of self-concept to outdoor recreation, Ewert (1982) concluded that in spite of certain flaws in the research methodology, survival training and outdoor recreational programs did positively enhance an individual's self-concept. These results stress the importance of active leisure involvement for successful aging and positive mental health in the adult years.

Studies conducted by Drowbough and Locandro (1978) on the results of the New Jersey Hunter Education Program found that the attitudes of females improved more than those of males. It is evident that women can and do respond when given education opportunity. They suggest that females may be more open and willing than males to accept the behaviors, morals, and values of hunting and hunters as described by the hunter education instructor.

## PROCEDURES

For the past eight years the Wisconsin Hunter Performance Project, directed by this investigator, has collected extensive data about the behavior, attitudes and formative experiences of literally thousands of Wisconsin deer-gun, deer-bow and waterfowl hunters. The methods utilized included direct observations of hunters by trained observers and landowners, field interviews with hunters and anglers, and follow-up home interviews with both individuals and groups. While providing a comprehensive picture of

white males these studies shed little light on the development and participation of women. The percentage of women who participate in hunting and fishing was so small that stratified sampling procedures resulted in populations with only a few female subjects.

As a result, the researcher designed a series of studies that would focus on female hunters. In the first study (1979), deer gunhunters were interviewed in the field at the end of their hunting day as they passed through a check point at a large military base, Ft. McCoy, Wisconsin. The base was selected for this study for three major reasons: (1) The hunt is managed in such a way that each hunter must check in and out through two gates on the post; (2) excellent records are maintained which log hunter participation, success rate, etc.; and (3) this researcher has been studying hunter populations on the post for eight consecutive years (with the obvious advantage of making comparison studies).

College students were trained by the investigator to conduct short interviews with a stratified sample of hunters as they left the post. The stratification was based on sex, hunter success, days of the week and party size. Interviews were conducted over two seasons with approximately 40 female and 173 male hunters. The interviewers questioned these subjects about success rates, pre-season preparations for hunting, motivation, satisfaction, etc.

In the second phase (1986), names of women deer hunters were drawn from the records of the county clerks in two disparate Wisconsin counties. License stubs are held in these offices for two years and are considered public record. A random sample of female bow (N=100) and gun (N=100) deer hunters was drawn from each county unit. Each subject was then contacted by phone and asked a series of questions to determine if they had actually hunted. The interviewer described the nature and objectives of the project and urged the subject to respond quickly and completely to an eight-page questionnaire they would receive. Utilizing both a first and a second mailing (to non-respondents) the investigator achieved a 72 percent response rate.

The questionnaire format utilized questions which focused on those formative and motivational factors which the literature suggests may be of greater importance for females. Other items were identical to those used in earlier studies, permitting comparison with the male hunters which heavily dominate all Wisconsin hunter populations. In addition to these data, both group and individual interviews were conducted with selected women hunters; these were particularly useful in developing case and life histories of the recreational development of these subjects as well as providing validity and reliability checks of the questionnaire responses.

## RESULTS

The field interviews with women (N=40) and male (n=173) deer gunhunters were of unique importance because both the males and the females had actually been hunting. Wisconsin is probably not the only state in which women purchase licenses so that their spouse can shoot a second deer (illegal). Many females may never enter the woods before they register "their deer" at the registration station (compulsory).

The existence of differences between male and female

deer hunters, or the lack of differences in hunting behaviors and values, are both of interest (Table 1). Among the comparisons where the differences were not statistically significant, 55 percent of the females vs. 66.5 percent of the males scouted the hunting area before the season, while 75 percent of the females sighted in their rifles vs. 83.1 percent of the males. Females reported seeing a mean of 7.28 deer on the day of their hunt vs. 9.23 as reported by the males, among which are .87 bucks for the former and 1.00 for the latter. For both sexes, 46 percent reported they had shooting; among these shooters, 94.5 percent of the women were successful compared to 76.5 percent of the men. For the females 47.5 percent indicated that their interest in hunting had increased over the last few years vs. 40.5 percent of the males. These data suggest that the women hunters were as prepared, effective and involved as the male deer hunters.

TABLE 1. Comparison of the Hunting Behaviors of Female and Male Deer-Gun Hunters Based on Ft. McCoy, Wisconsin Field Interviews (1984-1985)

SIGNIFICANT DIFFERENCES BETWEEN SEXES	
	<u>Level of Significance</u>
Who introduced you to hunting?	.001
Participation in other forms of hunting	.001
Membership in sportsman's organization	.01
Rating of day's hunting satisfaction	.05
Own their own gun	.01
Relationship to party members	.001
Number of years hunted	.01
DIFFERENCES BETWEEN SEXES: FACTORS NON-SIGNIFICANT	
Scouted during the pre-season	
Sighted in own rifle	
Number of deer sighted while hunting	
Number of bucks sighted	
Hunting success (deer tagged)	
Growth in interest in hunting	
Female: N=40; Male: N=173	

Among those factors where differences between the sexes were significant, 45 percent of the females reported they were introduced to hunting by their husbands and 30 percent cited their fathers. In contrast, 68 percent of the males identified their father as initiating them in hunting activities. Women hunters were far more likely to hunt only deer (42.5 percent vs. 15 percent) and significantly less likely to own their own gun (85.0 percent vs. 96.5 percent) or belong to a hunting club (15 percent vs. 39.3 percent).

When asked how many years they had hunted deer, females reported a mean of 8.88 vs. 17.79 years for males. Women were also more likely to express dissatisfaction with their hunt. When asked at the end of the hunting day, "How was your hunt?", identical percentages (27.5) of males and females described it as excellent, but 37.5 percent of the females rated the hunt as poor vs. 16.8 percent of the males. Approximately two-thirds of both groups cited bag or

shooting opportunities in explaining their ratings.

The mailed questionnaire responses confirmed the hypothesis that women hunters had unique developmental patterns. Over half of these women began to hunt after reaching the age of 20. Comparably, over half of 1000 Wisconsin male deer gun hunters surveyed earlier by this investigator were initiated to hunting by age 14 or earlier. Less than 15 percent of these women had completed a hunter safety course and about one-third of those who took the course enrolled in this program after their 30th birthday.

The major measure of hunter satisfaction was adapted by the investigator from the theoretical model offered by Hendee (1971). A broad spectrum of recreational and hunting satisfactions are presented to the respondent in a 21-item Likkert scale (Table 2). In this analysis both the women bow and gun deer hunters (N=256) were compared to a similar group of male hunters (N=250) selected through stratified sampling from 10 Wisconsin deer management units (Jackson et al. 1981). A comparable ratio of hunters existed in the two groups for both gun and bow hunters as well as those using both methods.

In comparing mean ratings, significant differences between female and male hunters can be noted for 13 of the 21 Likkert items. Three other items approached having a five point scale with 1 as low and 5 as high. Female hunters reported significantly greater satisfaction for nature appreciation, family companionship and shooting a gun or bow. Male deer hunters gave higher ratings to seeing deer, utilizing hunting skills, exercise and outdoor activity, escape from routine, companionship with friends, marksmanship, using outdoor skills, getting shooting, killing a deer, telling hunting stories, displaying a trophy and doing better than friends. Notable disparities in the ranking of means include marksmanship (female = 13; male = 7); family companionship (female = 4; male = 8); shooting a gun or bow (female = 7; male = 16); and utilizing hunting skills (female = 5; male = 2). Both sexes ranked the more macho and competitive factors (killing a deer, showing the game I bagged, displaying trophy deer, doing better than my friends) in the bottom half of their rankings.

Comparisons were also made between those females who only hunted with a rifle (N=118) and those who hunted only with a bow (N=46). In general the differences were small and only rarely statistically significant. Among the exceptions, the mean age for beginning hunting was 22.55 for gun hunters vs. 25.78 for bow hunters. Bow hunters were more likely to be homemakers or blue collar workers while a larger percent of rifle hunters were white collar or clerical workers.

In responding to the Likkert type scale evaluating 21 different types of satisfactions, differences between female bow and rifle hunters were significant only for provision of food (rifle = 3.64; bow = 3.06) and exercise (rifle = 4.01; bow = 4.33).

Differences in developmental patterns between the two groups of female hunters were apparent in responses to the question, "Indicate the importance of the following as an influence on your becoming and developing as a hunter" (Table 3). While the rank order of these factors was almost identical, female bow hunters gave significantly higher mean ratings to spouse (4.54 vs. 3.93) and rifle hunters to father (2.91 vs. 2.21) and to grandparents (1.56 vs. 1.10). A

TABLE 2. Mean and Rank Rating of Hunting Satisfactions for Wisconsin Female (1987) and Male (1979) Deerhunters on 21, 5 Point, Likkert items.

Satisfaction Factor	Female Hunters	Male Hunters	P Level *a
Nature appreciation	4.48 (1)	4.35 (3)	N.S.
Seeing deer	4.29 (2)	4.50 (1)	.01
Exercise and outdoor activity	4.10 (3)	4.34 (4)	.01
Companionship: family	3.99 (4)	3.79 (8)	N.S.
Utilizing hunting skills	3.88 (5)	4.38 (2)	.001
Escape from routine	3.82 (6)	4.10 (5)	.01
Shooting a bow or gun	3.69(7)	2.83 (16)	.001
Companionship: friends	3.61 (8)	4.06 (6)	.001
Solitude	3.55(9)	3.55 (11)	N.S.
Provision of food	3.47 (10)	3.44 (12)	N.S.
Using outdoor skills	3.44 (11)	3.73 (9)	.01
Getting shooting	3.29 (12)	3.60 (10)	.01
Marksmanship	3.24 (13)	4.03 (7)	.001
Killing a deer	2.89 (14)	3.40 (13)	.001
Telling hunting stories	2.78 (15)	3.35 (14)	.001
Show game I bagged	2.77 (16)	2.87 (15)	N.S.
Having the best equipment	2.76 (17)	2.72 (19)	N.S.
Watching hunting movies or TV programs	2.61 (18)	2.84 (17)	N.S.
Trophy (display)	2.28 (19)	2.83 (18)	.001
Doing better than friends	1.93 (20)	2.28 (20)	.01
Using special equipment you own (off road vehicle)	1.75 (21)	1.73 (21)	N.S.

\*a - This test was a one-way ANOVA comparing the means of female and male deer hunters.

consistent and stronger motivation among female bow hunters to share their husbands' interest in the sport was apparent in a number of other response patterns in the data.

## DISCUSSION

One of the objectives of this project was to open the door and show the direction to greater participation by

females in the shooting sports. Not everyone agrees with that premise. Funding has been limited and difficult to find. The president of one state sports organization stated, "I won't support this because, frankly, I don't want women in the same woods with me." Yet other organizations who rarely, if ever, fund research projects not only provided small but significant grants but have shown an interest in cooperatively developing programs to stimulate female participation.

Female hunters cited numerous obstacles to their partaking in the hunting experience. Some women indicated they had been harassed by male party members and others, including one woman whose mother asked her, "When are you going to grow up, give up hunting and be a good mother?" Some females reported initial hunting experiences where their clothing offered little protection against the cold or wet weather of deer hunting; others cited being given guns that were heavy and overpowering. One subject stated, "It was like my husband was trying to punish me." A female bow hunter related that when she asked her husband to introduce her to archery, "He just handed me a bow and said to go and shoot it." Yet shooting instructors across North America consistently report that women can and do become excellent shots and are typically more teachable than young males.

TABLE 3. Comparison of Wisconsin Female Bow and Gun Hunter Response Means to the Question, "Indicate the importance of the following as an influence on your becoming and developing as a hunter," (1987).

Categories	Female Bow (N=46)	Female Gun (N=118)
Spouse**	(1) 4.54	(1) 3.93
Self-influenced	(2) 3.33	(2) 3.46
Father*	(3) 2.27	(3) 2.91
Brother	(4) 2.12	(4) 2.55
Adult other than family	(5) 2.11	(5) 2.23
Boyfriend	(6) 2.09	(7) 1.97
Friends in own age group	(7) 2.02	(6) 1.98
Grandparent**	(8) 1.10	(8) 1.56

Level of Significance: \* = .05; \*\* = .01

In spite of these obstacles, the data reported in this study indicates that female hunters participated fully in the hunt including scouting, asking permission, practicing with their bow and rifle and successfully taking deer. Their intensity and commitment to hunting are great, as indicated by the fact that 70 percent stated they would miss hunting more than most or all other recreational activities. It should be noted that most of them reported that their most obvious model, their mother, didn't even have recreational interests. Their development as hunters is almost revolutionary.

The unique aspects of age and source of introduction to hunting, as well as reported motivations and satisfactions, suggest the need for innovative programming. Two other states, Iowa and Washington, are replicating this research. Along with Wisconsin, their resource agencies are testing pilot programs in hunter and wildlife education designed to recruit more female (model) instructors, recruit more girls

and adult women to their courses, and even offer special classes designed, but not exclusively, for adult women. Some of the female subjects were frank to admit that "men can intimidate women" and described the anxiety created when "every male eye in the group or on the firing line is on you waiting for you to miss or to fail." Instruction in non-threatening environments or groupings could be important for some females.

Success in developing greater participation in the shooting sports will do more than meet ethical demands for fair play or equality. While the original source can't be credited, many hunter educators and wildlife managers contend today that the future of hunting is in the hands of the non-hunters, a group that is primarily female. Recruitment of hunters from that group has obvious implications. Finally, the researcher has shared his recreational interests with a wife and daughters now for almost 40 years. As so many male hunters have told our interviewers, those shared and mutual recreational experiences are unequalled. Far better this than the father who first shared his hunting and fishing experiences with his daughter after her high school graduation. Later he asked this researcher in a group interview, "What have I missed?"

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could have been considered a form of hunting as it was in the pilot study.

### THE RELATIVE INFLUENCE OF GENDER AS CHILDREN GROW OLDER

The pilot study of 300 second, fifth, eighth, and eleventh grade students in Connecticut (Kellert and Westervelt 1983) revealed that gender was not as significant an influence as age on children's attitudes and knowledge about animals. The pilot study revealed distinct age differences in children's orientations toward animals. Briefly, between the second and fifth grades, fears of animals abated, a dramatic increase in factual understandings about animals appeared between the fifth and eighth grades, and the development of concern for animal welfare issues and ecological understandings was evident between the eighth and eleventh grades.

Within the four age groups, attitudinal differences between boys and girls were scattered. Differences were least evident in the youngest children. The only sex difference among the second graders was that girls were more negativistic. Indeed, the negativistic scores of the second grade girls was the highest of all demographic groups in the pilot study. With age, dislike and fear of animals decreased in both boys and girls. In adulthood, similar male and female differences have been reported by Kellert and Berry (1980) but the maturational trend appeared to be opposite, in that negative feeling about animals increased in men and women from ages 18 to 76.

Among 10-12 year olds in the "Youth and Wildlife" survey, sex differences were evident on all attitudinal dimensions as well as knowledge. Gender was a more significant and consistent demographic influence in this age group than were region of the country and urban/rural residents. Gender and region were almost equal in influence—with the exception of the humanistic attitude, the prevalence of which knew no regional boundaries. Gender and region also had more consistent and significant relationships with attitudes and knowledge than urban/rural residence in the adult survey, though education was the most powerful influence in that study.

The same gender difference in the attitudes of 10-12 year olds have been reported in adults. Young and adult females were more humanistic, moralistic, and negativistic, and less naturalistic than their male counterparts. The general maturational trends in these attitudes appear different in childhood and adulthood, however. In general, except for the negativistic dimension discussed above, these attitudes increase through childhood and decrease from ages 18-76.

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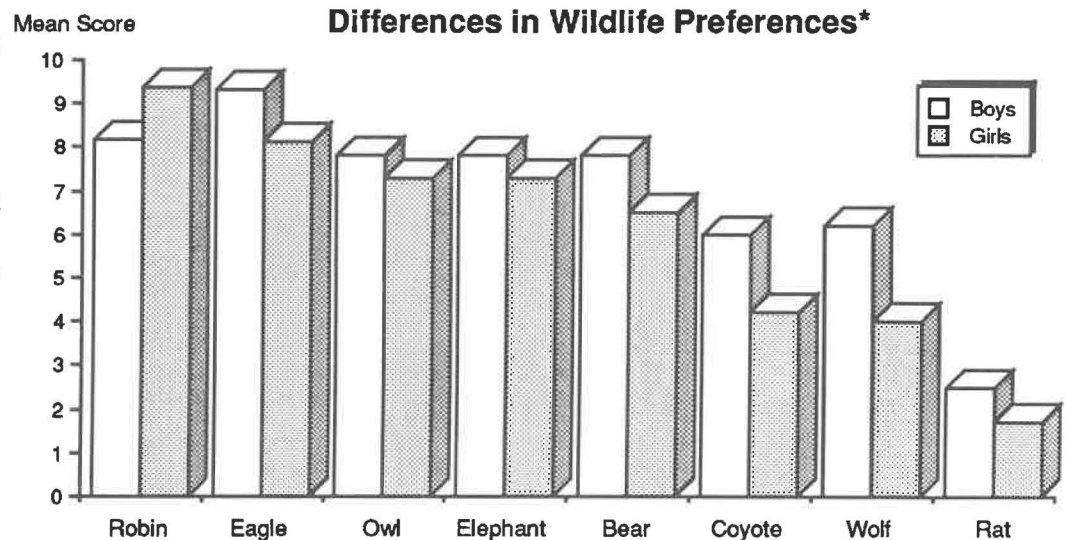
Other attitudinal differences between boys and girls were reported in the pilot study. In the fifth grade, boys became more "dominionistic" than girls; that is, they were more willing to subordinate animals for their own needs and enjoyment. By the eleventh grade, boys expressed greater appreciation for predator-prey relationships and the balance of nature, as measured by an "ecologistic" scale. These sex differences are reported in adults as well, though the maturational trends toward an increase in ecologistic attitudes and a decrease in dominionistic feelings seemed to be completed by age 18 since there were no age differences reported between adult age groups.

### DISCUSSION

Results of this study suggest the need for a change in traditional thought about the wildlife attitudes and behaviors that we, as parents, educators, or natural resource professionals, should be reinforcing to prepare children to become wildlife-oriented adults. At first glance, the characteristics of boys—more naturalistic, knowledgeable about facts, and actively oriented—would appear to comprise the preferable model to the humanistic, less knowledgeable, and passively oriented girls. Objective analysis of the attributes of girls, however, reveals valuable learning opportunities that can be equally applicable to boys. This paradigm shift, or change in the values we unthinkingly assign to the ways boys and girls typically relate to animals, is a vital ingredient for wildlife programs that seek to recognize the best opportunities for teaching children about wildlife.

- The first learning opportunity to recognize is children's basic orientation toward animals—the humanistic attitude. This attitude is much stronger in girls, not only in their attitudes but the species they prefer and the behaviors they enjoy. It is also predominant in boys, it knows no regional boundaries, and appears to be growing with expanding urban-

Figure 2



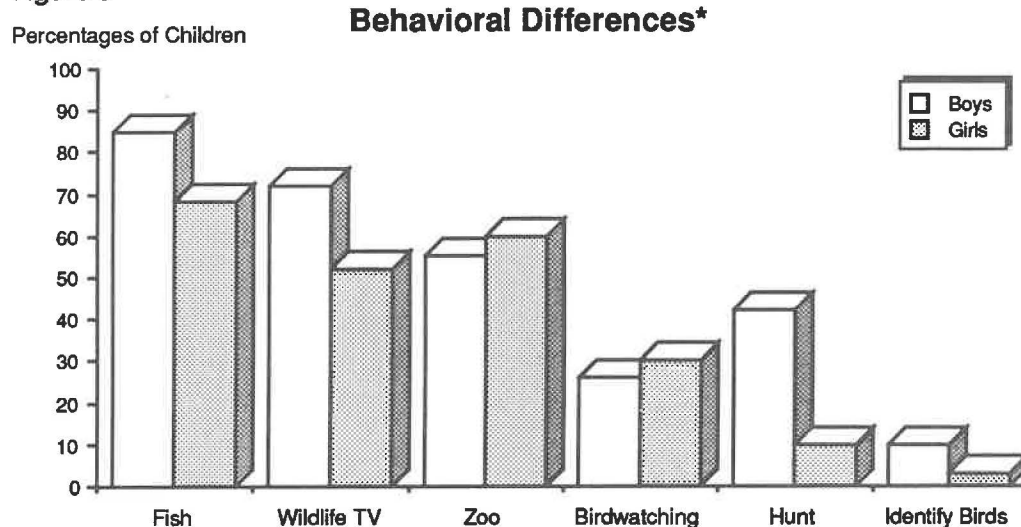
\* Differences are significant at the  $p < .0001$  level.

ization (Kellert and Westervelt 1981) The opportunistic strategy here is obvious—to use it to our teaching advantage. This will require resisting an inclination to view this attitude as a limitation on wildlife management efforts, as a cardinal crime of animal observers, as a curse on wildlife. Instead, it should be viewed as an immensely useful tool for capturing children's attention and directing it toward the natural world. Once interest is captured, the educational process should move beyond sentimental affections for loveable types of animals to the development of concepts involving species and habitat needs. The popular animals—like the robin, eagle, owl—would be good animals to use to encourage this process along. Otherwise, attitude development can too easily get stuck in the humanistic mode in adulthood, as the results of research attest (Kellert and Berry 1980).

- The humanistic approach may be most effective in the early elementary school years when negativistic fears are highest, particularly in girls. Fears can be dispelled by providing a means of identifying with wild animals using human characteristics and emotions that have meaning in a child's egocentric, anthropomorphic world. Writing about the value of this approach, Rachel Carson said, "For the child, it is not half so important to know as to feel... Once the emotions have been aroused—a feeling of sympathy, pity, admiration or love—then we wish for knowledge about the object of our emotional response. Once found, it has lasting meaning. It is more important to pave the way for the child to want to know than to put him on a diet of facts he is not ready to assimilate" (Carson 1956).

- Wildlife knowledge is the second area that calls for a "paradigm shift" in our thinking about model characteristics. The present study measured knowledge of isolated facts about the physical and behavioral characteristics of animals. The girls' scores were significantly lower on every item. There is important evidence that this type of factual knowledge is less related to positive environmental attitudes in children than is conceptual knowledge (Richmond and Morgan 1977). For the development of positive attitudes about wildlife, then, it may

**Figure 3**



\* Differences are significant at the  $p < .01$  level.

be more important for children to understand how living things depend on one another rather than knowing that spiders do not have 10 legs and snakes are not slimy, for example. For young girls, in particular, the concept of dependencies, relationships, and interactions between living things may prove to be a psychological construct that has relevance and greater potential for stimulating learning of ecological concepts at young ages.

- Regarding behaviors, an opportunistic strategy would be to increase opportunities for those forms of interaction with wildlife that are both popular and positively associated with attitudes and knowledge, e.g., fishing and watching wildlife TV shows. It is encouraging to note that fishing is becoming even more popular with boys and girls between the ages of 6 and 15 (US Fish and Wildlife Service 1987). The "paradigm shift" needed concerning behaviors requires resisting a reflex to place more value on activities that involve direct contact with wildlife. Watching wildlife TV shows, a passive activity, is reported to have a direct influence on children's attitudes and knowledge (Fortner 1983). The need for this particular shift in thought will become more critical as urban areas expand and opportunities for direct contact with wildlife diminish.

- There is a real need for more children's wildlife TV programs on major networks that are as educational as they are entertaining. Children's Television Workshop (Mielke and Chen 1981) reports the greatest need for science education programs exists among girls in the elementary grades. Mielke's finding supports the earlier suggestion of the immense value of relationships with animals to stimulate girls' interest in the natural world. He found that girls tended to be more attracted to animals than boys were, a nurturing relationship to an animal was more likely to be of high appeal to girls, and in their imagery of scientists, girls made more positive references to working with animals.

••

The results provoke interesting questions about the relative values of girls' and boys' attitudinal and behavioral profiles regarding wildlife, the relationship between perceptions of wildlife in childhood and adulthood, and when and how these views are most heavily influenced. For most attitudes, the influence of gender becomes noticeable in the prepubescent years and persists through adulthood. Whether the values expressed are functions of developmental stages or reflections of societal changes in how Americans regard wildlife remains unclear. These questions deserve more systematic investigation, ideally in studies of longitudinal design which can follow males and females from childhood to adulthood. In the meantime, we can acknowledge that differences between girls and boys

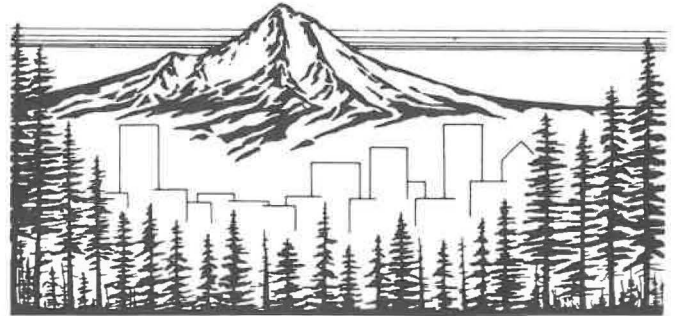
*continued on page 16*



*Keeping the country in the city*

# Planning for Urban Wildlife in Metropolitan Portland Oregon

Esther Lev and Michael C. Houck



One of the most significant pieces of environmental legislation of the early 1970s to be passed in Oregon was Senate Bill 100, Oregon's state-wide land use law. As with the landmark bottle bill, the clean up of the Willamette River, and other progressive natural resources legislation, Oregon's land use program was initiated as part of the late Governor Tom McCall's environmental legacy.

The focus of the state-wide land use program was to protect farm and forest lands. Other natural resources were targeted via specific land use "Goals." In all, there are 19 Goals which address environmental, social, economic, and energy issues. Goal 5 specifically addresses fish and wildlife habitat, open space, scenic views, wetlands, and a variety of other resources.

The key element in the Goal 5 process is the Inventory. The land use law's administrative rule requires "jurisdictions" to carry out an inventory of Goal 5 resources (wetlands, wildlife habitat, etc.) in order to receive acknowledgement from Oregon's Department of Land Conservation and Development. This is true for both rural and urban jurisdictions. Although there are flaws in the enforcement of the Goal 5 program at the local level (Houck and Rogers, 1984; Houck, 1986; Frenkel and Frenkel, 1986), it offers the best opportunity for addressing wildlife habitat issues on private lands in Oregon.

The rule requires, unfortunately, that jurisdictions use only "the best information available," which often is lacking or incomplete. Few planning staffs in Oregon have expertise to collect the information required to afford true protection to these resources. Due to this limitation, citizen involvement, as required by Goal 1, is crucial. Neighborhood or conservation groups are often familiar with smaller urban wildlife habitats that can be valuable to an effective land use program.

## A BALANCING ACT

Part of the process is popularly known as a "balancing of values" or, technically, an Economic, Social, Energy and Environmental (ESEE) analysis. An ESEE analysis must be done by the affected jurisdiction if there are potential conflicting land uses. In urban areas there are almost *always* such conflicts. All of the ESEE factors are balanced and a decision is made whether to: 1.) protect the resource fully; 2.) allow the

conflicting use with no resource protection or; 3.) modify the development to ensure some protection of the resource. This process is highly dynamic—and political—and requires public involvement through planning commission and city council hearings. Some conservation organizations actively involved in this arena include Audubon Society of Portland, the Wetlands Conservancy, and 1000 Friends of Oregon, a watchdog group formed by the late Governor McCall.

## INVENTORY AND EVALUATION OF SIGNIFICANT WILDLIFE HABITAT

*The following process describes one inventory methodology that has been used by four jurisdictions in the Portland area. It has evolved over a five year period through a program initiated by the Audubon Society of Portland funded by a grant from Oregon's nongame wildlife program.*

The first inventory in 1981 utilized large scale (1:1000) planning maps with floodplain and forest overlays. The product was a *qualitative* description of all wildlife habitat in each of nine Community Planning Areas in suburban Washington County on Portland's western boundary. A land use conflict, however, in the nearby city of Beaverton—involving wetlands and riparian habitat—prompted the next iteration of the inventory methodology, because the city planning commission, city council, and planning staff demanded a *quantitative* inventory which allowed determination of relative "significance" of each of the 86 resource sites. As a result, a Wildlife Habitat Assessment Form (Fig 1) was developed cooperatively by the Oregon Department of Fish and Wildlife, US Army Corps, US Fish and Wildlife Service, and the Portland Audubon Society. This assessment form was then used in the Beaverton Goal 5 update and subsequently in Portland's Willamette River Greenway update (Houck, 1987) under state land use Goal 15 (Willamette River Greenway).

*In 1986, Portland initiated its Goal 5 update by hiring two biologists to conduct its natural resource inventory using a modified version of the Wildlife Habitat Assessment Form. Because of its successful use in Portland, several other jurisdictions, including the Eugene metropolitan area, are currently using the same methodology.*

# URBAN WILDLIFE REFUGE SYSTEM

RAFTON BOTTOMS

SAUVIE ISLAND (BYBEE-HOWELL MARSH)

HARBORTON FOREST/WETLANDS

SMITH AND BYBEE LAKES

WEST DELTA PARK HERONRY & FORCE LAKE

COLUMBIA SLOUGH SYSTEM

SUBARU WETLANDS

GOVERNMENT ISLAND

PURPLE MARTINS

SWAN ISLAND LAGOON WETLANDS

COLUMBIA SLOUGH SYSTEM

PORTLAND AUDUBON SANCTUARIES

TUALATIN HILLS NATURE PARK

MT. TABOR

POWELL BUTTE

OREGON EPISCOPAL SCHOOL MARSH

ROSS ISLAND

OAKS BOTTOM

REED COLLEGE

BEGGARS TICK MARSH

LEACH BOTANICAL GARDEN

KOLL CREEKSIDE MARSH

WILDLIFE REFUGE

TIDEMAN JOHNSON

MILWAUKIE PARK

ELK ROCK ISLAND

GLEN ECHO MARSH

HEDGES CREEK MARSH



## WILDLIFE HABITAT ASSESSMENT FORM

The intent of a *one* page rating sheet is to provide information that is easily understood by planners, policy makers and the public. There are numerous techniques that could be used to quantify wildlife habitat values. King County, Washington, (Seattle region) has developed, for example, a detailed and exhaustive quantitative wetland assessment evaluation that is one of the best examples of wetland assessment programs in the northwest. It is, however, complex, and requires extensive field work by professional biologists. Since biologically trained staff are uncommon and only the "best information available" is required in Oregon's planning process, a less complex and rapid-use inventory format is more suitable.

The one-page assessment sheet evaluates each site for its existing wildlife values. The rating system is based on three basic wildlife requirements: Food, cover, and water. Each site is evaluated for quantity, quality, diversity, and seasonality of these three factors. Other site attributes that are also considered include: Human and physical disturbance; habitat inter-persion and unique biological features (rare plants or animals, rarity of habitat). Educational and scenic values, although considered important, were eliminated from the assessment form because they are not *biologically* important.

Another form, which is descriptive and qualitative in nature, is also completed for each site. The form includes physical parameters, vegetation, wildlife sightings, habitat function, human interaction and management potential information. It was felt that descriptive information was needed for each site (in addition to the Wildlife Habitat Assessment Form) to facilitate responsible land use decisions. Educational values are considered on this assessment form.

*Portland has now completed much of the inventory and has begun the hearing process. The city is currently developing an Environmental Overlay Zone to achieve protection of significant natural resources. One of the several potential strategies to achieve that objective follows.*

### PORTLAND'S URBAN WILDLIFE REFUGE SYSTEM

#### The Setting

Portland is bisected by the Willamette River near its confluence with the Columbia River. To the west lie the Tualatin Mountains, which were upthrust along a long fault line ending in the city center. To the east of the Willamette rise numerous volcanic, forested buttes that dominate the flat terrain of east Portland. West of the Tualatin Mountains are the Portland suburbs of Beaverton and the unincorporated areas of the Tualatin Valley. The combination of buttes, Tualatin Mountains, and flat lands dotted with numerous wetlands and riparian corridors provide a great diversity of wildlife habitat in a highly urbanized setting.

Although much of this land is privately owned, many of the most significant natural areas are in public ownership. The City of Portland Bureau of Parks and Recreation, for example, owns more than 7,600 acres of natural park lands (Fig. 2). The bulk of this property is in Forest Park (4,800 acres), Smith and

Bybee Lakes (2,000 acres), Powell Butte (560 acres), and Oaks Bottom (160 acres). Forest Park and Powell Butte are upland mixed coniferous/deciduous forests while Smith and Bybee and Oaks Bottom (featured on the cover, this issue) are mixed wetland/riparian habitats.

The second major public landowner in metropolitan Portland is the Tualatin Hills Park and Recreation District (THPRD). Their natural areas are almost exclusively riparian corridors and freshwater marshes, a fact that reflects the flat terrain of the Tualatin Valley.

#### Recommended Urban Wildlife Refuge System

The Audubon Society of Portland has recommended the establishment of a regional Urban Wildlife Refuge System to the Portland Park Bureau, THPRD, and other park departments in the metropolitan area. The objectives of this recommendation are: 1.) To promote a comprehensive, metropolitan-wide management program for the care of significant urban natural areas; 2.) to promote appropriate use of sensitive natural areas by the general public and educational institutions; 3.) to provide an appropriate organization for the donation of significant lands or conservation easements by the private sector; 4.) to provide a system for research by natural resource agencies and the scientific community. Sites that would be included in the system would be park lands managed primarily for their wildlife values, with passive human recreational activities as an important element.

#### The Olmstead Vision, An Historical Basis

The idea for an interconnected system of parks is not new to Portland, nor to north America. In 1903, Fredrick Law, Jr., and John Charles Olmsted wrote a comprehensive plan for a City of Portland park system. That year, they did the same for Seattle. It was their father, Fredrick Law Olmsted, who had a key role in laying out New York City's parks. The Olmsted brothers envisioned in their 1903 masterplan an integrated park system that would include "scenic reservations, natural or semi-natural scenery...rougher, less artificially improved...and rural or suburban parks intended to afford visitors mental refreshment..." In addition, "A connected system of parks and parkways (that would be) manifestly far more complete and useful than a series of isolated parks."

Audubon's current proposal thus plays on an old theme, that of rougher, more natural areas for the benefit of wildlife and enjoyment of passive recreationists. It also adopts the thesis that an interconnected system is a better system. The Olmsted's "connector" was to have been a forty mile long system of boulevards and parkways, some of which exist today. The modern vision, however, is a more ambitious 140 miles as proposed by the 40-Mile Loop Land Trust, a local, non-profit organization dedicated to carrying out the Olmsted dream, but with a new twist. Rather than auto-dominated boulevards, the new Loop will consist of hiking, bicycling, and canoeing trails. Much of the 40-Mile Loop has been completed and, fortuitously, falls along many of Portland's most significant wildlife habitats.

Connecting, preserving, and providing public access to Portland's remnant natural areas is a high priority. Portland is moving forward on all three efforts through: Its land use (Goal 5) process; a new direction within the park system which recognizes the importance of natural areas, and; the proposed Urban Wildlife Refuge System.

### A Place for Herons

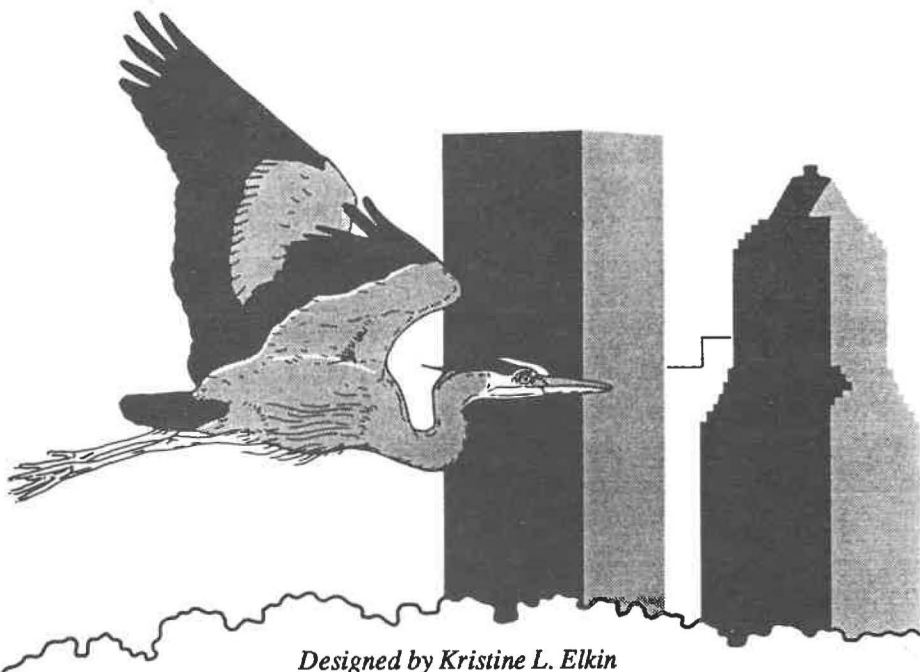
Perhaps the most heartening recent action taken by local government was Portland's City Council adoption of the Great Blue Heron as the official city bird in 1986. Implicit in that action was the recognition of the importance of wildlife in our urban environment and the symbolic role the heron plays in a city situated on two great river systems.

William Stafford, Oregon's Poet Laureate, best sums up the hope for the future of Portland's wildlife in a poem he wrote to honor the council's action.

### Spirit of Place

Out of their loneliness for each other  
two reeds, or maybe two shadows, lurch  
forward and become suddenly a life  
lifted from dawn or the rain. It is  
the wilderness come back again, a lagoon  
with our city reflected in its eye.  
We live by faith in such presences.

It is a test for us, that thin  
but real, undulating figure that promises,  
"if you keep faith I will exist  
at the edge, where your vision joins  
the sunlight and the rain: heads in the light,  
feet that go down in the mud where the truth is.



Designed by Kristine L. Elkin

## Wildlife Habitat Assessment

UNIT NO.	LOCATION	SQ FT	SCORE	SA
COMMENTS				

COMPONENT	DEGREE			SCORE		COMMENTS
	0	4	8	1	2	
WATER	Quantity & Seasonality	NONE 0	SEASONAL 4	PERMANENT 8		
	Quality	STAGNANT 0	SEASONALLY FLOWED 4	CONTINUALLY FLOWED 8		
	Proximity to Cover	NONE 0	NEARBY 4	IMMEDIATELY ADJACENT 8		
	Diversity (Stream, Pond, Wetland)	ONE PRESENT 2	TWO PRESENT 4	THREE PRESENT 8		
FOOD	Variety	LOW 0	MEDIUM 4	HIGH 8		
	Quantity & Seasonality	NONE 0	LIMITED 4	YEAR AROUND 8		
	Proximity to Food	NONE 0	NEARBY 4	IMMEDIATELY ADJACENT 8		
	Structural Diversity	LOW 0	MEDIUM 4	HIGH 8		
COVER	Variety	LOW 0	MEDIUM 4	HIGH 8		
	Nesting	LOW 0	MEDIUM 4	HIGH 8		
	Escape	LOW 0	MEDIUM 4	HIGH 8		
	Seasonality	NONE 0	LIMITED 4	YEAR AROUND 8		

Existing Enhancement Potential

ADDITIONAL VALUE						
DISTURBANCE	PHYSICAL	PERMANENT 0	TEMPORARY 2	UNDISTURBED 4		
	HUMAN	HIGH 0	MEDIUM 2	LOW 4		
INTERSPERSION		LOW 0	MEDIUM 3	HIGH 6		
UNIQUE FEATURES 0 - 4	WILDLIFE FLOPS	RARETY OF HABITAT TYPE				
	CLERIC	EDUCATIONAL POTENTIAL				

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*I can't tell how many times I screamed "I quit!" to the trees*

# Notes From A Recovering Imposter

Lynn Levine

At the symposium for Women in Natural Resources in Dallas in December 1985, I was struck by how few women present were privately or self-employed in the natural resources fields. Many, many women, especially Forest Service personnel, considered themselves "on the inside". Many wanted to know if or how one could make it outside the womb. It suddenly seemed that sharing my experiences might be helpful to other women, but what started out as a superficial account turned deeper when I was asked to speak at the Stumbling Blocks and Stepping Stones Conference, held in Tennessee a year after the Dallas Conference.

It's always helpful to know another's background. I'm one of those multidisciplinary types. I started out teaching elementary education in 1973. At that point I didn't even know that there were any other options for women. I lived in Brooklyn; that's right, in New York City. When I left teaching, I had no idea what I wanted to do. I did know that there were a few things I loved: Being outdoors, trees, and dealing with people. In 1975, I applied and was accepted at the University of Massachusetts, where I finished a degree in forestry and then became a Master's candidate. Since I had only a vague notion of why I was there, I made a promise to myself that I would attend school only as long as I didn't have to go in debt. Unbelievable as it may seem, through work study and tuition waivers I made it through school without owing anyone money. Lack of indebtedness was important for my next transition.

After the first year of forestry school, I realized that there was a job that I could make for myself: Consulting forester. That seemed to meet all of my needs. First of all, I wouldn't have to move. I was in a fairly new relationship at the time and the person I was living with was not—no way, no how—going to pick up and move with me as the Forest Service or any other organization would demand. I really loved the southern Vermont area and had many established good friends. The job description also fit. I loved diversity. The thought of marking

timber or doing inventory day in and day out had no appeal. In consulting, I would be involved in marketing, selling the business, supervising loggers, and so on. I would also be able to develop my own systems, something I dearly loved to do. Luckily, my work study jobs at school prepared me somewhat for this. I had worked as an assistant to county foresters and had gotten a look at what was ahead.

Starting the business was scary. I really wanted someone to step forward and offer me a position in their consulting company, but no one held out the silver plate. So I took the leap myself. I was financially able to take the risk because I had few living expenses. I was caretaking a house in exchange for rent and I was otherwise debt-free. I was also able to acquire the "huge" amount of capital required to start a business: I borrowed \$1,000 from my mother to buy equipment and to support myself during the expected transition period.

That first year was exciting. My initiation rite into the business was my business card. I have a vivid recollection of handing out my business card and having a landowner ask me, "How long have you been in business?" I answered ever so proudly, "Oh, two days." Just naming my business seemed magical. When I finally decided on Forest Care, I planned to hyphenate it. But, when I first typed it in caps, the dash came out as an asterisk, FOREST\*CARE. I thought it was so wonderful I kept it.

Through contacts with county foresters and friends of friends I was slowly able to build up a clientele. My chest was puffed out so far since I couldn't believe I was getting paid for walking in the woods. By the second year I had managed to put a pin through my chest and felt a bit deflated. I still loved the idea of being a forester. I loved it when people smiled at me after learning that I worked in the woods. I didn't, however, enjoy the actual work in the woods anymore.

I discovered I had to be accountable. I began feeling the repercussions of what I did. The white birch stand I thinned



FOREST \* CARE

blew over and my timber tally ran short. I had trouble getting loggers to do what I wanted. I was making mistakes and was devastated by them. I was always comparing myself to other foresters who seemed so self-confident. Every morning and every phone call I would wonder when they would find out that I was a fraud. It was hard. I can't tell you how many times I screamed "I quit!" to the trees. Luckily, no one heard me. I also pooh-poohed all my successes. After spending two years writing a computer inventory program, with no prior computer education, I said to myself, "Oh, no big deal."

No one, except for my closest friends, was aware of this. To everyone else, I seemed to be doing great. I managed to smile and smile. On the outside, my business looked like it had made it. But, the pain became greater and greater and I decided to see a therapist. Through therapy, I became aware of inner voices that I had previously not heard.

It might interest you to learn what my inner voices sounded like at the time, so please put on your visualization beanies, relax, and imagine spending a day in the woods with Lynn. What you'll read will only be the voices I heard inside me. Oops, just a moment. You'll excuse me while I put on my boots, cruiser's vest, and of course my compass. Ready? Here goes.

"What a nice day. I'm glad I finally made it here. I wonder if Stand 2 is going to really need a harvest as I planned. Well, let's see. Better get the paint gun ready. Jesus, I spilled the paint. God, I always manage to get paint all over me. I mean, whenever I see Gil he never has paint on him. Okay. Okay. I think I got everything. Shit, I forgot the calipers. How many times do I have to remind myself to check everything before I go out into the woods. I am so stupid. Are you ready now, old girl? Let's go. Okay. When am I ever going to get to Stand 2? I am so bad at judging direction. I really have a problem, having been born in a city. Boy, if this is Stand 2, I made a horrible mistake on the plan. There's nothing to mark here. What will I tell the owners? This is what happened when I made a mistake on Goldberg and Schiff. Oh, phew. Here I am. Yeah, I can maybe see why I wanted to mark in here. Let's just sit down and take a little rest. Okay, I'm ready. Which tree should I mark? Maybe I'll leave this red oak. Uh oh, it has a seam up it. Gosh, this sugar maple also looks a wreck. Which one is better to leave? You better make a decision quick, otherwise you'll be here all day. Okay, I'll leave the oak, but I wish I knew which was the right thing to do. It's not fair these two nice sugar maples are next to each other, and it's crappy other than this. If Charlie was out here he'd know what to do. My God, it's two o'clock, and it's starting to rain. Why didn't I know it was going to rain? I would never have planned to come out here. You are so stupid for not listening to the radio. I guess I'd better head back. Thank God, paint doesn't stay on the trees when it rains. I'm so lazy about working in the rain, and the paint gives me a good excuse to quit working."

Now comes the outer voice. "Well, hi, Mrs. Hepler. I didn't expect to see you out here. Yes, it's going quite well. What a great view from the top."

These are some of the common themes. I was always making a big deal out of nothing, focusing on the negative and constantly comparing myself to those forester gods who, I

imagined, knew everything.

Through readings, I discovered that what I was going through was not unique. I learned that it was common for people, especially women, to constantly put themselves down. This has been labelled the "Impostor Phenomenon" by psychotherapists Pauline Clance and Suzanne Imes. I'd like to present a description, on the topic of "The Perfectionist Woman" from a book, *Women and Anxiety*, by Helen A. DeRosier, of women who feel, as I did, that they are faking it.

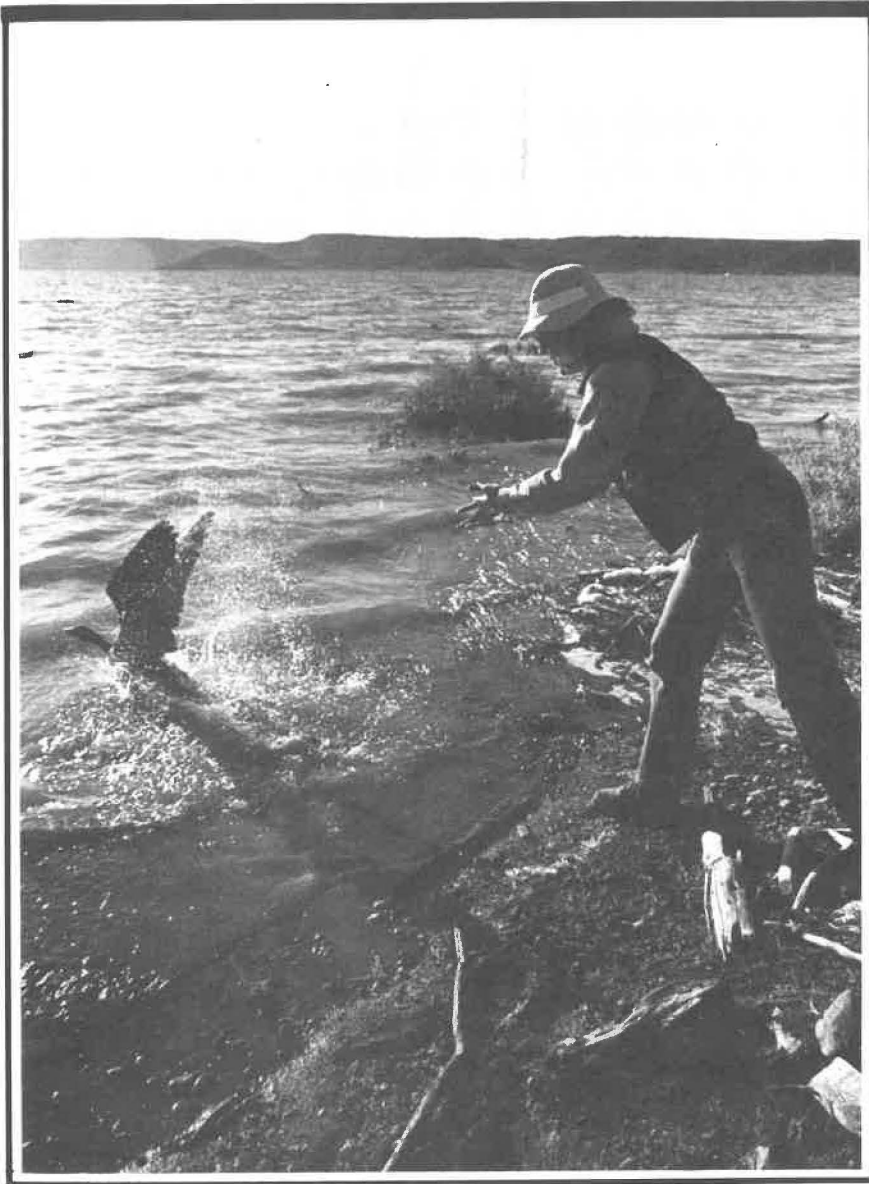
Perfectionism is often confused with a whole-hearted wish to accomplish something as perfectly as possible. If you have such a goal and can succeed in it, you are in a position to enjoy your success. If you fail, you can say, "Well, I did my best!"—and turn your attentions elsewhere.

But the perfectionist, as a compulsive striver, can do no such thing. She nags herself for her failures. She is a cruel taskmaster and allows herself no relief from self-condemnation. The perfectionist has no freedom to win or lose; her failure to be perfect, according to individually established criteria, is an irrevocable indictment, a mark of poor character and even stupidity. Anxiety follows, an unrealistic fear that imagined inadequacies will be exposed to the world. (p. 78)

I think that about sums up the behavior I have been describing about myself. As I prepared this article, I read reports of other women preoccupied with putting themselves down. Many women seem steeped in self-doubt. For example, in *Games Mother Never Taught You*, Betty Harragan observes that, before applying for a new job, many women feel they need to know a full 150 percent of the job, while men feel confident about going for a new position when they know only 40 percent. Taking a risk requires women to have a minimal degree of self-confidence and the support and encouragement of others. "These are two commodities," according to Dr. Valerie Young, a training consultant, "that women are woefully lacking." These commodities are not absent as a result of something missing on the two X chromosomes, but due to socialization. One study of classrooms of the 1980s showed that teachers viewed girls and boys very differently. When teachers evaluated boys, they stressed performance and work habits; when they evaluated girls, they emphasized friendly, agreeable behavior. Another current study also found teachers less likely to call upon or respond to girls in the classroom. And, when teachers did respond to girls, they were less helpful, giving less corrective criticism. Researchers found that girls get less parental feedback, positive (such as talk, approval, or physical affection) or negative (such as disapproval or yelling).

Things began to change for me; I now feel, 10 years later, that I am a recovering impostor. I had chosen a profession that gave me a lot of time to be alone and work things through without too many watchful eyes. Therapy was definitely helpful. Although I began to understand that what I was experiencing was part of a social problem, it was important for me to learn how my family failed to counter the cultural messages. But, just knowing this information was not enough—it takes time to process it. Let me give you an

*Judged Best*



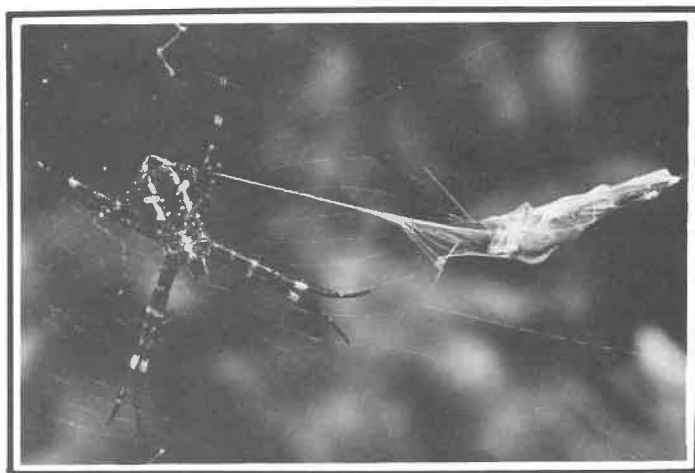
*Meg Gallagher*

# PHOTO

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C O N T E S T



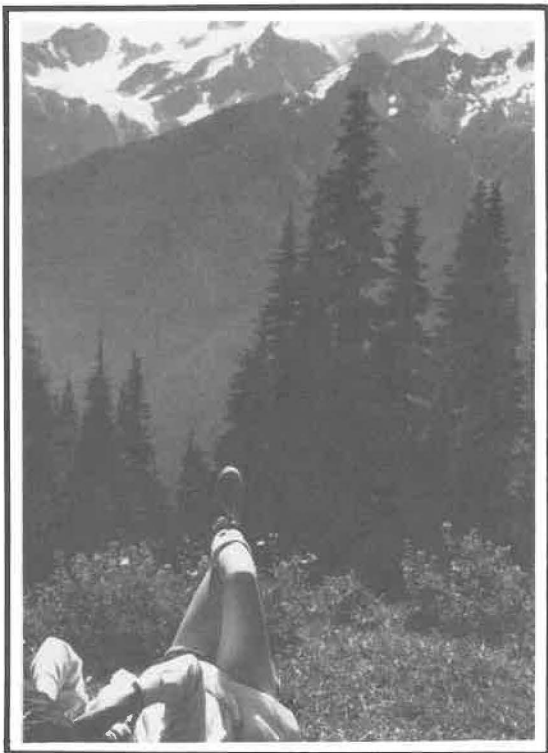
*Jerry Igo*



*Rosanne Tackaberry*



***Claire A. Puchy***



***Linda Hanlon***



*The workplace is changing. The FWP can help women and men adapt*

# The Benefits of an Active Federal Women's Program

Elaine J. Zieroth

I had wanted to be involved in the Federal Women's Program (FWP) since 1979, when I first heard about the program from a very helpful FWP Manager in the Shasta-Trinity National Forest. I felt I could use my experience as a pioneer in the Forest Service to help other women adapt to their jobs. I envisioned the FWP Manager as someone who was a friend and advisor to women in the Forest Service. At that time, nine years ago, I didn't realize that women are not the major clients of the program. Our *first* responsibility is to assist management—usually men—in recruiting, retaining, and supporting women in an environment free from discrimination.

For the past two years, I have been involved in the Federal Women's Program in the San Juan National Forest, where I work as a Wildlife Biologist. I share the duties of the Federal Women's Program Manager with Administrative Assistant Nattie Silva. We come to the program with very different backgrounds and strengths, but one thing we do have in common is that we spend far more than the allotted 5 percent of our time on the program, mainly after hours. Either of us could devote most of our time to the program.

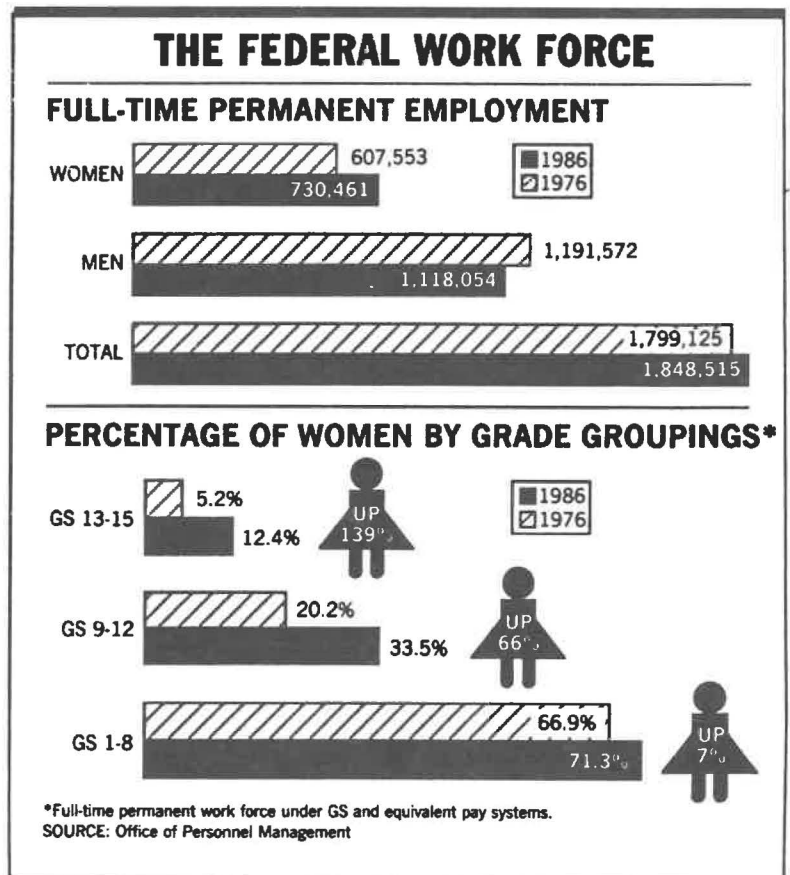
It has become obvious to us that the Federal Women's Program takes on the personality of the FWP Manager and also reflects the style and atmosphere of the unit. The program clearly varies from Forest to Forest. I talked to one FWP Manager who said that she never gets consulted about recruitment and hiring, but said "They send me to some nice training and I put on a clerk's tour every year." It appears that there is either a great deal of confusion over the duties of the FWP Manager or that the program is being given only "lip service" by some Forests.

## The Federal Men's Program

When I first started as FWP Co-Manager, I had to overcome a tendency to verbally justify my involvement in the program and make my role less visible. I thought that my position as "one of the guys" was threatened. And there were reasons for that feeling. I heard comments like: "Aren't you taking this Women's Thing too seriously?", "Where is the Federal Men's Program?", and "Isn't this more

favoritism for women?" At least people still felt that they could talk to me openly!

I've given these questions a great deal of thought. Now, I can answer that there is a Federal Men's Program; it's called the Forest Service. The culture and personnel policies of the Forest Service, and other resource agencies, have evolved over 80 years to fit the world of men. Men could generally work 40-hour weeks, were free to travel or camp-out, and could pick up the family and transfer to a location the agency usually selected. Before there was a Federal Women's Program, there was a system in place that influenced recruitment, promotions, and transfers. This system is the "Good Old Boy" (or "Fair



BY TOBEY—THE WASHINGTON POST



Haired Boy”) network—and it’s still in place. The favored few who fit the mold and got the career opportunities rarely complained about the system, and, although they were in the position to do so, rarely fought very hard to make changes. Presently, women and minorities are in demand, mainly to meet legal and social mandates, and many people are complaining.

The Forest Service culture, steeped in traditions of military order, outdoor interests, and natural resource management, is an alien culture to many women and minorities. Special programs, addressing women, Hispanic people, and Native Americans, for example, have been created to help these outsiders adjust to their jobs once they are hired. The ultimate goal of these programs is to create a Forest Service that is so diverse and flexible that these programs are no longer needed.

I personally see a number of benefits from the human rights emphasis, including programs such as the Federal Women’s Program, that have also helped men. They are:

1. Improved and more available career counselling for everyone
2. More flexible work schedules
3. An environment where men can fill any niche, such as clerk or business management assistant, without being limited by the macho firefighter mold
4. Reforms in job selection procedures (more variety in evaluation criteria, less preference for Forester degrees)
5. More training and workshops on stress, wellness, interpersonal relationships, team building, and other human resource fields
6. Attention to the desires and needs of the individual and family in job placement, transfers, and dual careers
7. Flexible maternity and child-rearing schedules (which will probably be available as paternity leave, also).

In addition, I have helped men in the Forest Service using skills I gained as FWP Manager, such as offering career counselling, reviewing job applications, and providing information on job vacancies. Almost all the workshops and programs put on by the FWP in our Forest are also open to men.

### Recruitment

The most exciting and important duties that Nattie and I share are in recruitment. Our goal is to ensure that there are several qualified women candidates on each job certificate. We have no secret methods for hiring women and we *cannot* hire anyone who is not qualified for a position. Although we often campaign for our candidates, we still work closely with the Forest Supervisor, District Rangers, and Staff Officers who make the final decision. They make us aware of anticipated vacancies and opportunities and we keep them informed of the concerns of the women on the Forest.

Successful recruitment requires the use of personal and professional contacts, computer networks, and luck. I make several telephone calls for each vacancy, check out voluntary applications, Peace Corps lists, and candidates from other agencies. If women are to be retained in the job after they are hired, it is crucial to be honest with the candidate and with the managers about any special conditions, limitations of the job (or candidate), the Forest Service’s objectives, and individual needs and desires. I advise every candidate to evaluate a job on face value. Words like “potential”, “probable”, or “career development” do not mean much. I’ve seen women talked into taking jobs to make affirmative action box scores look good, but everyone loses in the long run if the match is poor.

The recruitment game is very competitive. I receive notices every week on hot job prospects for women and have been on the receiving end of many recruitment efforts. I expect to see premiums offered soon, like toasters, for each woman hired, or finder’s fees for good leads! Many recruitment efforts strike me as so insincere and impersonal that I’ve dubbed our successful computer network the “Barbie Hotline”.

### Retention and Development

I naturally get involved in career development and counselling. The managers of the San Juan Forest have a good attitude: We should retain women in the Forest Service, but not hold them in our Forest just to keep our number high. The Federal Women’s Program should reward programs that promote women to other Forests, develop careers, and help women solve adjustment problems. Too much emphasis is placed on numbers and percentages. The San Juan Forest program emphasizes educational and career development programs, hiring trainees and cooperative education students, and mentoring the women in the Forest. These programs help women move upward and onward within a few years, which benefits the agency, but gives us the worst “numbers” in the Rocky Mountain Region!

### One Last Word

An active Federal Women’s Program is an asset to any agency. Men and women are currently struggling with all the changes going on in the workplace. Many men feel threatened;

*continued on page 36*

# WILDLIFE PHOTOGRAPHY

William Seymour

**W**ildlife photography can be one of the most frustrating of all types of photography. Yet the results can be spectacular. Never mind that the subjects are, for the most part, uncooperative, the conditions less than ideal, and the light usually poor. Add to those concerns the responsibilities of the photographer himself/herself, and one would wonder why photograph wildlife at all. The following is an attempt to alleviate some of the photographer's concerns by stressing the importance of adequate preparation prior to the wildlife shoot.

Essential to wildlife photography is *preparation*. Preparation means knowing your equipment and making sure that it is functioning properly before you leave. If you have not used your camera in awhile, a good idea is to shoot a test roll and have it processed before your trip in order to make sure that your equipment is working properly. Then *practice*. Practice changing lenses so you can do it quickly if you need to. Practice changing film. You'll always run out when there is another *great* picture waiting to be taken. Practice focusing. Know which way you will need to move the lens if your subject gets closer to you. And practice following motion, which you will encounter in a running or flying bird, for example.

Preparation also means keeping your camera and lenses clean. Cotton swabs and a small amount of lens cleaner will do this. *Remember* that that small hair or speck of dust you see in your viewfinder *will not* appear on your picture because it is in the viewing system which is completely out of the way when the picture is taken. In most cases, if you try to clean the mirror or viewing screen, you will only put more objects there than were there before. And a general warning is that unless you know what you are doing, don't take your camera apart.

*Change* your camera batteries. Most modern cameras are *totally* dependent on batteries to operate, (a few still having manual shutter speeds to use if the batteries fail). Change camera batteries about every six months. As we all know (especially when trying to start a car on a cold morning), cold weather causes batteries to lose power. If you are going to shoot under cold conditions for a period of time, have a spare battery keeping warm under your coat. If those in your camera slow down, change them.

Another problem occurring in *very cold* conditions is found in the small amount of internal lubrication your camera

has. If you plan a polar bear safari, for instance, it might be wise to let your camera repair person remove the lubrication, which can be replaced when you return. To warrant this, you would be shooting at temperatures of about 0° Fahrenheit. If your camera does stop and it is not the battery, simply warm it up and it will start again. When you come in from the cold, though, to a warm, humid room, allow thirty minutes or so for condensation on your camera to evaporate. Don't try to wipe it off, especially from the lens or mirror or you'll end up with a streaked mess. If you have a plastic bag handy, put your camera in it and let the moisture condense on the plastic bag.

You'll not be fully prepared until you get plenty of film to take with you. It is often a *long* way to the nearest camera store. Incidentally, if shooting outside the United States, you should check with customs officials in the country to which you are traveling to see how much film you are allowed to take into the country. In addition, before leaving home, you should list all your equipment, complete with serial numbers, and declare it when you leave the U.S. so that you won't have to pay import duty when you return. If you are going to a humid climate, some moisture absorbing material is a good idea to pack with your cameras. Be sure also to keep your film in the sealed film canisters because fungus loves to grow in gelatin, which is what the emulsion of your film is. If you will be in a tropical country for a long time, it would be wise to mail your film home as you shoot it. Furthermore, when traveling by air, avoid the x-rays as much as possible. Color film is more sensitive to x-ray than is black and white. I have had very good cooperation with inspectors when I explained that I had very important film and asked that they hand inspect my camera bag. It may take a little more time, but it is worth the effort.

Carry a spare camera. Defeat Murphy's law. Murphy had to be a photographer who went out to photograph wildlife. If he had two cameras, neither one of them broke. If he had only one, it did break.

Be sure to have film in your camera. I know. I know this is a stupid statement, but don't laugh. All photographers, if they will admit it, have taken pictures with cameras they *thought* were loaded.

Speaking of film, what film? Unfortunately, most animals do not move around very much at mid-day when the light is best but prefer early morning or late afternoon when the light is

marginal for taking pictures. Because of this, you will probably need to choose a film with an ASA rating of 400. The higher the number, the more sensitive the film is to light. If you plan to shoot *all* your pictures outside in bright sunlight, you could probably get by with a film with an ASA of 200 or 100. The slower the film, the better detail you get, and in many cases the better color you get. There are some films with an ASA of 1000, but you really sacrifice quality with these.

Be certain what type film you are buying. If the name of the film ends in "color", such as Kodacolor, then you will get prints. If the name of the film ends in "chrome," such as Fujichrome, then you will get slides. Beware of the film which offers you both. Usually, neither will match quality with the



single purpose film. If you are shooting for publication, be sure to check the requirements of your publisher. Most want slides. A note at this point: When you get back from the trip after spending big bucks to expose the film, don't take it to a cheapie one-hour processor. This is a quick-and-dirty operation. Take the precious film to an established photography dealer who knows and cares what he or she is doing.

Wildlife photographers must also prepare themselves by having the best possible equipment available. With all the cameras on the market today, which one is best for you? As I tell my students, it is the eye and mind of the photographer that makes the picture. The camera only completes it in a form so someone else can enjoy it. Cameras are somewhat like cars. All of them will get you from here to there, but you like to feel comfortable during the trip. Look at the entire camera line for the brand. You can get as fancy or as simple as you desire and can spend just about as much money as you want to. The fully automatic cameras are nice and much better than they were two years ago. The smallest amount of money you can spend and still get a single lens reflex (a camera with which you look right through the lens which is necessary with the longer telephoto lenses) costs between \$200 and \$250 for the basic camera and "normal" lens.

Choose, however, a camera that gives you a full range of shutter speeds up to at least 1/1000th of a second. Many cameras have speeds of 1/2000th or 1/4000th now, nice for fast moving animals. On most cameras, the camera operator has to decide on the shutter speed and then the camera sets the f stop, or the operator has to decide on the f stop and the shutter speed is then set by the camera. (The f stop is measured in numbers like 1.4-2-2.8-4-5.6, etc. The smaller the mathematical

number the *more* light the lens admits.) For wildlife photography, I think setting the shutter speed and letting the camera decide the f stop is the best way to go. This gives me the control over the action stopping setting of the camera.

A short word about auto-focus cameras at this point. They are improving rapidly, but they still have a long way to go. Focusing is done in a very small center area of the viewfinder which may or may not give you good composition in the finished slide or print. It is getting much faster, and some cameras do a fairly decent job of following the focus on a subject coming toward you. Auto-focus lenses are a lot more expensive than regular lenses and some of the auto-focus bodies will not take the old style lenses. As with any camera, use it before you go on a once-in-a-lifetime trip.

I would suggest that your back-up camera be a manual one of the same brand or at least have the one manual shutter speed I spoke of earlier. It is really frustrating to have dead cameras and no way to take pictures.

If you are a serious wildlife photographer, you will drop a bundle real fast on lenses, which are very necessary to the wildlife photographer. Because there is little resale value, it is really best to buy what you want and need the first time. But which lens or lenses do you need, not to mention want? The lens for the 35mm film size is a focal length (the distance from the center of the lens to the film and given to you by the manufacturer) of 50mm. It sees about 45 degrees, which is about what *your* eye sees well. In wildlife photography, you will probably be working with a telephoto lens which has a focal length longer than 50mm. To determine the magnification of a lens you are considering, divide the focal length by 50. Thus, a 300mm lens divided by 50 means that it is 6X, or you can stay six times as far away from your subject and have it the same size on your film as you can with a normal lens.

Because most wild animals or birds don't want you close, you will probably be working with lenses of 300mm, 400mm, or longer. These lenses present several problems, however. The first is cost. We have a really nice 300mm lens which is very fast; that is, it lets in a lot of light and can be used in low light levels. It retails for over \$4,000 and weighs over 20 pounds—not a lens for either a weak or cash poor photographer! One consideration might be renting a specific lens for your trip. Do you know that some camera stores in larger cities are set up to do this? It is wise, though, to reserve the one you want well in advance of your trip.

The second problem is that the longer lenses magnify whatever camera motion is present. A rule of thumb says use a minimum shutter speed as fast as the focal length of your lens. Thus, a 400mm lens requires a minimum shutter speed of 1/500th of a second. Lenses in this range are usually slower and let in less light, becoming a problem under poor light conditions.

Another piece of equipment to consider is the zoom lens. A zoom lens has moveable pieces of glass in the middle which allow you to change angles of view. There are many good 100mm-300mm zoom lenses, but these are marginal in many situations. Vivitar makes a 120mm-600mm (2.5X-12X), but it is slow and expensive. A lens with a maximum aperture of f 5.6 or f 8 is difficult to use in the minimal light of early

morning or late afternoon. I think the "one touch" focusing and zoom in the same control ring is best, but other photographers like separate functions so as not to change focus when you zoom or vice-versa. In choosing a zoom lens most experts say double the 1st lens you have. If you have a 100mm lens, then get a 200mm. If, for example, you have a 200mm lens, get a 400 mm lens, etc. The zoom lens market is expanding rapidly, providing greater opportunities for specialized investment. If I had to buy only one telephoto lens, then I guess it would be the 200mm f 2.8, but that would be a *compromise*. A cautionary note: Lenses are not interchangeable from one

brand to another. A Nikon lens, for example, will not fit a Canon. If ever the saying "you get what you pay for" is true, it is in camera lenses, the cost of which reflects the quality.

You may have heard of the tele-extender. A 2X extender doubles the focal length of the original lens when you put it between the lens and the camera. Sound good? It is not that good. One major problem is that you lose a lot of light. With a 2X extender you are left with 1/4th of the original light, or if you had a lens that had an f stop of 4 it would be f 8 with the extender. If you have a 3X extender (I have yet to see a really sharp one), then it triples the original focal length from 100mm to 300mm, but you lose 3 f stops of light or from an f 4 lens to an f 11 lens. This takes out shooting in all but really good light. If you are really set on an extender, I would suggest your getting the one made by your camera company. The extender costs about \$200, almost as much as another lens.

With the longer lenses, usually 200mm or longer, you need some support. A tripod is nice, but a heavy one may add as much as 10 pounds to your load. I like a monopod. It gives you support, is not too heavy, and can be used as a walking stick. With a monopod, though, you have to *concentrate* on holding the camera still.

If your chosen subject is very small and you can't get close enough with the normal lens, you might want to look at a macro lens, which focuses not only in the normal range but also has an extended focus which allows you to get very close or 1:1 reproduction. One to one means that if your subject is 1" in real life, it will be 1" on your negative. This lens is a really valuable addition to your camera line, but it is usually slower and requires very critical focus when shooting up close due to the minimal depth of field (focus). If you don't have a macro lens, you might want to look at a set of close up filters which screw in the front of your normal lens. These filters come in varying powers but take away the normal focus range of your lens while you have them in place.

Several other kinds of camera equipment are available and



All the lenses are 300mm (6 power) lenses. From left to right: f5.6 (\$200) f4.0 (\$350-400) f2.8 (\$1,000-1,500) f2.0 (\$4,000)—this one weighs about 12 pounds.

make wildlife photography more exact. Extension tubes go between your lens and the camera and allow you to get very close to your subject, but they also do not allow you to take normal pictures when in place. Make sure they connect with your light meter, or you will have to figure out how much light you lose and what the new f stop should be. A bellows attachment goes between the lens and the camera and lets you get *very* close, but the same problems and requirements are there as well. A power winder, for instance, is a useful tool, winding the film and cocking the shutter each time you take a picture. It also lets you keep your camera at your eye, preventing your losing your subject from the viewfinder when winding the film. Power winders permit 1-2 pictures per second and cost about \$100. The motor drive, which lets you take 4-6 pictures per second, costs around \$400. In most cases, the power winder is adequate. Finally, most of your longer lenses have shades built into them, but if they do not, shades protect your lens, keep out stray light, and help keep rain and snow off your lens.

In summary, wildlife photography differs little from other kinds of photography in that it, too, can be expensive, frustrating, tedious, and filled with the unpredictable. Yet it can also be among the most rewarding. What person doesn't respond to well-conceived pictures of animals and birds in the wild, photographed well? But none of that is achieved unless and until thorough preparation has taken place. It is by far the most essential step in the process known as wildlife photography. Don't ignore it. In a subsequent article, I'll discuss what to do with the equipment once you have it. Good luck and good shooting!

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## NEWS AND NOTES

*continued from page 48*

### **Field Season is About to Begin—Take Care of Your Eyes Out There**

UVA and UVB sun protection is now available, not just in sunglasses, but in gas permeable lenses, soft lenses, and eyeglasses. Though eyes have some natural protection from bone structure, eye tissues are exceptionally sensitive to the sun and, once severely damaged, can't repair themselves. Sun exposure may be one reason cataracts develop. In sun glasses, look for a label saying "ANSI Z80.3 standard." If you spend a lot of time outdoors, consider UV protection for all your glasses. For those who work in the water, and for those who play, there are prescription lenses for swim goggles which are pre-cut to fit popular goggle shapes. One manufacturer, Aquaview, even has a number to call for more information (415-780-2404).

....*Glamour* February 1988

### **Exercise Does Not Have to be a Sweaty Struggle to be Good For You: Scrunchies May Be the Answer**

If you don't have time to work out today, try scrunchies right there in bed—for a quick, energizing workout. Throw back the

*FWP continued from page 32*

they see themselves as targets of discrimination because of aggressive affirmative action programs. The FWP Manager should be able to help these men—and women—accept the changes. After all, who should know more about these feelings than women? My advice to other Federal Women's Program Managers is:

1. Enjoy the position and learn as much as you can from the experience
2. As early as possible, discuss the program goals, objectives, and direction with management; if you and management disagree on your role or duties, consult with the regional FWP Manager
3. Prepare an aggressive Action Plan for the program to give you direction and objectives for recruitment, career development, retention, and discrimination
4. If you feel that you cannot be active and effective in the position, let someone else try; the FWP Manager should be the best candidate for the job, not necessarily someone who needs civil rights on their record
5. Keep your ears open for backlash and bad attitudes that can set your program back
6. Talk to other FWP Managers and find out what they are doing
7. Develop a good network of contacts who will keep you informed about job vacancies, potential candidates, concerns, and issues that affect women

I have grown personally from my involvement in the program. I've learned to listen, counsel, empathize, and refer. I've sat down with women and their peers or supervisors to help resolve conflicts. I've been treated as an equal by the Forest Management Team while politicking for an aggressive FWP action plan. I predict that it will be 10 years before we can phase out the special emphasis programs. On the other hand, I am continually amazed by how much has changed since I started working in 1972.

*Elaine Zieroth is the Zone Wildlife Biologist for the San Juan National Forest in southwestern Colorado. She also shares the duties of Federal Women's Program Manager there. She has also worked for the Forest Service and BLM in California and for Gunnison National Forest in Colorado.*

covers. Open your mouth and eyes wide, inhale deeply. Now scrunch up your face and blow out through pursed lips. Repeat for 10 breaths. Now throw your arms out wide as you inhale, bring them back so your hands press palm to palm as you breathe out. Bring your legs up—press knees together, press palms together—tighten your stomach—close your eyes tightly—lift your head—tighten all the muscles in your bottom. Exhale in a long breath—20 repetitions inhaling and opening up, exhaling and tensing. Shmuel Tatz, a Russian-Israeli physical therapist who devised this scrunchy, teaches body tuning to Olympic athletes and world-class musicians.

....Tara Bennett-Goleman *Good Housekeeping* October 1987

*I can't tell how many times I screamed "I quit!" to the trees*

# Notes From A Recovering Imposter

Lynn Levine

At the symposium for Women in Natural Resources in Dallas in December 1985, I was struck by how few women present were privately or self-employed in the natural resources fields. Many, many women, especially Forest Service personnel, considered themselves "on the inside". Many wanted to know if or how one could make it outside the womb. It suddenly seemed that sharing my experiences might be helpful to other women, but what started out as a superficial account turned deeper when I was asked to speak at the Stumbling Blocks and Stepping Stones Conference, held in Tennessee a year after the Dallas Conference.

It's always helpful to know another's background. I'm one of those multidisciplinary types. I started out teaching elementary education in 1973. At that point I didn't even know that there were any other options for women. I lived in Brooklyn; that's right, in New York City. When I left teaching, I had no idea what I wanted to do. I did know that there were a few things I loved: Being outdoors, trees, and dealing with people. In 1975, I applied and was accepted at the University of Massachusetts, where I finished a degree in forestry and then became a Master's candidate. Since I had only a vague notion of why I was there, I made a promise to myself that I would attend school only as long as I didn't have to go in debt. Unbelievable as it may seem, through work study and tuition waivers I made it through school without owing anyone money. Lack of indebtedness was important for my next transition.

After the first year of forestry school, I realized that there was a job that I could make for myself: Consulting forester. That seemed to meet all of my needs. First of all, I wouldn't have to move. I was in a fairly new relationship at the time and the person I was living with was not—no way, no how—going to pick up and move with me as the Forest Service or any other organization would demand. I really loved the southern Vermont area and had many established good friends. The job description also fit. I loved diversity. The thought of marking

timber or doing inventory day in and day out had no appeal. In consulting, I would be involved in marketing, selling the business, supervising loggers, and so on. I would also be able to develop my own systems, something I dearly loved to do. Luckily, my work study jobs at school prepared me somewhat for this. I had worked as an assistant to county foresters and had gotten a look at what was ahead.

Starting the business was scary. I really wanted someone to step forward and offer me a position in their consulting company, but no one held out the silver plate. So I took the leap myself. I was financially able to take the risk because I had few living expenses. I was caretaking a house in exchange for rent and I was otherwise debt-free. I was also able to acquire the "huge" amount of capital required to start a business: I borrowed \$1,000 from my mother to buy equipment and to support myself during the expected transition period.

That first year was exciting. My initiation rite into the business was my business card. I have a vivid recollection of handing out my business card and having a landowner ask me, "How long have you been in business?" I answered ever so proudly, "Oh, two days." Just naming my business seemed magical. When I finally decided on Forest Care, I planned to hyphenate it. But, when I first typed it in caps, the dash came out as an asterisk, FOREST\*CARE. I thought it was so wonderful I kept it.

Through contacts with county foresters and friends of friends I was slowly able to build up a clientele. My chest was puffed out so far since I couldn't believe I was getting paid for walking in the woods. By the second year I had managed to put a pin through my chest and felt a bit deflated. I still loved the idea of being a forester. I loved it when people smiled at me after learning that I worked in the woods. I didn't, however, enjoy the actual work in the woods anymore.

I discovered I had to be accountable. I began feeling the repercussions of what I did. The white birch stand I thinned



FOREST \* CARE

blew over and my timber tally ran short. I had trouble getting loggers to do what I wanted. I was making mistakes and was devastated by them. I was always comparing myself to other foresters who seemed so self-confident. Every morning and every phone call I would wonder when they would find out that I was a fraud. It was hard. I can't tell you how many times I screamed "I quit!" to the trees. Luckily, no one heard me. I also pooh-poohed all my successes. After spending two years writing a computer inventory program, with no prior computer education, I said to myself, "Oh, no big deal."

No one, except for my closest friends, was aware of this. To everyone else, I seemed to be doing great. I managed to smile and smile. On the outside, my business looked like it had made it. But, the pain became greater and greater and I decided to see a therapist. Through therapy, I became aware of inner voices that I had previously not heard.

It might interest you to learn what my inner voices sounded like at the time, so please put on your visualization beanies, relax, and imagine spending a day in the woods with Lynn. What you'll read will only be the voices I heard inside me. Oops, just a moment. You'll excuse me while I put on my boots, cruiser's vest, and of course my compass. Ready? Here goes.

"What a nice day. I'm glad I finally made it here. I wonder if Stand 2 is going to really need a harvest as I planned. Well, let's see. Better get the paint gun ready. Jesus, I spilled the paint. God, I always manage to get paint all over me. I mean, whenever I see Gil he never has paint on him. Okay. Okay. I think I got everything. Shit, I forgot the calipers. How many times do I have to remind myself to check everything before I go out into the woods. I am so stupid. Are you ready now, old girl? Let's go. Okay. When am I ever going to get to Stand 2? I am so bad at judging direction. I really have a problem, having been born in a city. Boy, if this is Stand 2, I made a horrible mistake on the plan. There's nothing to mark here. What will I tell the owners? This is what happened when I made a mistake on Goldberg and Schiff. Oh, phew. Here I am. Yeah, I can maybe see why I wanted to mark in here. Let's just sit down and take a little rest. Okay, I'm ready. Which tree should I mark? Maybe I'll leave this red oak. Uh oh, it has a seam up it. Gosh, this sugar maple also looks a wreck. Which one is better to leave? You better make a decision quick, otherwise you'll be here all day. Okay, I'll leave the oak, but I wish I knew which was the right thing to do. It's not fair these two nice sugar maples are next to each other, and it's crappy other than this. If Charlie was out here he'd know what to do. My God, it's two o'clock, and it's starting to rain. Why didn't I know it was going to rain? I would never have planned to come out here. You are so stupid for not listening to the radio. I guess I'd better head back. Thank God, paint doesn't stay on the trees when it rains. I'm so lazy about working in the rain, and the paint gives me a good excuse to quit working."

Now comes the outer voice. "Well, hi, Mrs. Hepler. I didn't expect to see you out here. Yes, it's going quite well. What a great view from the top."

These are some of the common themes. I was always making a big deal out of nothing, focusing on the negative and constantly comparing myself to those forester gods who, I

imagined, knew everything.

Through readings, I discovered that what I was going through was not unique. I learned that it was common for people, especially women, to constantly put themselves down. This has been labelled the "Impostor Phenomenon" by psychotherapists Pauline Clance and Suzanne Imes. I'd like to present a description, on the topic of "The Perfectionist Woman" from a book, *Women and Anxiety*, by Helen A. DeRosier, of women who feel, as I did, that they are faking it.

Perfectionism is often confused with a whole-hearted wish to accomplish something as perfectly as possible. If you have such a goal and can succeed in it, you are in a position to enjoy your success. If you fail, you can say, "Well, I did my best!"—and turn your attentions elsewhere.

But the perfectionist, as a compulsive striver, can do no such thing. She nags herself for her failures. She is a cruel taskmaster and allows herself no relief from self-condemnation. The perfectionist has no freedom to win or lose; her failure to be perfect, according to individually established criteria, is an irrevocable indictment, a mark of poor character and even stupidity. Anxiety follows, an unrealistic fear that imagined inadequacies will be exposed to the world. (p. 78)

I think that about sums up the behavior I have been describing about myself. As I prepared this article, I read reports of other women preoccupied with putting themselves down. Many women seem steeped in self-doubt. For example, in *Games Mother Never Taught You*, Betty Harragan observes that, before applying for a new job, many women feel they need to know a full 150 percent of the job, while men feel confident about going for a new position when they know only 40 percent. Taking a risk requires women to have a minimal degree of self-confidence and the support and encouragement of others. "These are two commodities," according to Dr. Valerie Young, a training consultant, "that women are woefully lacking." These commodities are not absent as a result of something missing on the two X chromosomes, but due to socialization. One study of classrooms of the 1980s showed that teachers viewed girls and boys very differently. When teachers evaluated boys, they stressed performance and work habits; when they evaluated girls, they emphasized friendly, agreeable behavior. Another current study also found teachers less likely to call upon or respond to girls in the classroom. And, when teachers did respond to girls, they were less helpful, giving less corrective criticism. Researchers found that girls get less parental feedback, positive (such as talk, approval, or physical affection) or negative (such as disapproval or yelling).

Things began to change for me; I now feel, 10 years later, that I am a recovering impostor. I had chosen a profession that gave me a lot of time to be alone and work things through without too many watchful eyes. Therapy was definitely helpful. Although I began to understand that what I was experiencing was part of a social problem, it was important for me to learn how my family failed to counter the cultural messages. But, just knowing this information was not enough—it takes time to process it. Let me give you an



example. One Sunday night I was in the bathroom late, concentrating on getting a drink of water. I heard a sound and got quite scared. I quickly realized it was my husband, Cliff, but my body was still in the fight-or-flight response. I heard my inner voice reassuringly say "It's only Cliff," but it took some time for my body to relax. In the same way, just knowing about the patterns didn't mean I'd changed. It takes a lot of effort and practice.

Another key factor was talking and sharing with others. Whenever I got together with other women foresters, we talked openly and discovered that we had many similar problems. It was a hard step to take, but well worth it. To be able to find out that one forester was having trouble getting out of bed each morning, and another felt herself very incompetent in all aspects of her fieldwork, was more than reassuring. Occasionally, I would dare to find out how these issues plagued my male counterparts and would learn other reassuring things. All of these people appeared self-confident and self-assured, but only by digging deeper did I find out more.

Once, when I went to a depression support group, I was shocked to see I knew half of the people present, some of them the most smiling people in town. I learned one's inner and outer worlds do not necessarily match. In fact, I am now quite suspicious of people who always seem to smile, and I do not take them at "face value". For me, finding out that I was not alone was a key factor in my self-healing.

I am now a supervisor and employer. Over the years, many women have come to me looking for some kind of role model or mentor. These are the women I have hired. Time after time I have discovered that these women all feared that they were just faking it. I have found these closet impostors to be the most energetic, intelligent, dedicated, and hard-working employees.

Since I am quite sensitive to my employees' problems, I have made a special effort to be supportive. I have tried to provide them with a comfortable workplace, where they can talk about their self doubts. I also share with my fellow workers the mistakes I've made and continue to make. I hope this will prevent them from believing that I am superhuman, at the expense of their self-worth. Whenever I give these foresters or (secretaries) criticism, I make sure it's surrounded with positive feedback. I ask my employees to repeat back what they have heard to ensure they have not heard only the negative. And, most importantly, I emphasize to them over and over again that when they are out in the woods, they should try to have a good time. They have *chosen* to be foresters because they love the woods, and it's important that those good feelings not be lost. I have found that production follows good spirits, not the other way around.

So, I want to leave you with these thoughts: If you are suffering from feeling like you are a fake—don't worry, I can't see you if you blush—you are not alone. You cannot solve this dilemma alone, either. It is important to break down the wall of self-imprisonment and find out that you are not so different from your fellow workers and friends. If you are in a supervisory role, I hope that you have begun to see that you have a part in all of this. It is within your power to create a safe, comfortable, working situation for your employees. By providing a supportive environment for them, you have also

given them an opportunity to change.

Lynn Levine has been a self employed, consulting forester for FOREST\*CARE in Dummerston, Vermont for the last 10 years. She is co-author of "Working With Your Woodland" a resource book for woodland owners. She is mother to five-year-old Brook, and is actively involved in the Association of Consulting Foresters of Vermont, the Women in Natural Resources Committee, and Project Learning Tree. Levine asks that WiNR note that she wishes to dedicate the article to Helen Hafner, an elementary education college professor, who helped her begin to explore her inner world.



# WiNR

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# Log Buying: Demanding, Frustrating, and Fun

Tammara M. VanRyn-Lincoln

**T**he phone rings, 6:00 am. You know a logger will be on the other end. He probably wants to know the mill scale on yesterday's load of logs. You long to ignore the ringing and drink a cup of coffee in peace, but you also know the person on the other end of the line has probably delayed going out to the woods in order to call at "a decent hour." So, you answer and pleasantly give the information needed. It is the beginning of another busy day in the wood procurement business.

The mill I worked for was the third largest sawmill in Vermont. They sawed 14MM BF of softwood dimension stock per year—which amounts to roughly 270 MBF per week or 60-70 truckloads of logs. As Chief Procurement Forester, I was responsible for locating the required amount of hemlock, spruce, fir, and red pine. In addition, I oversaw quality control and accounted for every load of logs brought into the yard. To get it all done, I talked on the phone in the morning, put in a nine hour day at the mill or on the road meeting with loggers and looking at lots, and then spent the evening on the phone. Needless to say, my personal time was limited and an answering machine was an absolute must.

The hours a log buyer keeps are just one complication of the job of procurement which is in a job classification all its own. Since it is very site and personality specific, procurement does not lend itself to being taught in a forestry curriculum. Thus, even with a B.S. in Forestry, when I started buying logs, I knew little about the particular requirements of the job. I also did not anticipate the difficulties associated with being a woman in this business.

When I started buying logs in the spring of 1986, I was told that I was the first female log buyer in the state of Vermont. While I question this (there have been women in similar positions) the fact remains that a woman in this job was a novelty. In a business where news travels fast, being a new kid on the block and being a woman means that you achieve minor celebrity status fairly rapidly. I had to struggle to learn every logger's face, the crew's names, the look of their log trucks. If I only met a person once, I might not remember them at a second meeting. They *always* remembered me.

To overcome my inability to learn everyone's name at once, I found it essential to keep a 3 x 5 card file with a card on every logger and trucker. I would record their names, a number, address, and any other pertinent information—including hobbies, equipment, and other helpful data. I added

notations to these cards every time I spoke with a logger, recorded the lots they were on, and the species being cut. The file became a valuable record. The cards could be arranged alphabetically or by region. I found the region list useful for planning site visits. This list was augmented by taking names from local directories of logging contractors.

Although getting the lists and cards together was not difficult, I had other obstacles. After making calls and lining up loggers to visit, the next problem was getting to the lots. Two days after being granted a company truck, I got it stuck in the mud on an out-of-the-way spot. I had to have someone from the mill pull the truck out. Of course the entire staff was entertained by the incident. I was also the entertainment in the log yard when I sent hydraulic oil flying as I broke a hose on a hydraulic log loader. I found that the best policy in these situations was to laugh with them. After all, what did I know about four-wheeling and unloading logs? On the other hand, I had some "firsts" to my credit. I had the driest scale slips in the state of Vermont being the first to scale with an umbrella!

Humor has its limits, however, and could not bridge all incidents. Most of the loggers and other log buyers had never worked with a woman and did not know what to expect. There were always individuals who would not accept my authority to represent the mill and would call the mill to confirm the prices I had quoted to them. Some of the men did not want me to run a chainsaw on their landing. Others told me I should not be in the woods at all. Often I would stop at a landing and not knowing whose job it was, I would walk some distance into the woods to find the crew. Looking back, I realize, in light of increased violence against women, that I should have waited for someone to come down to the landing. At the very least, I should have left an itinerary of my site visits with someone responsible.

Establishing camaraderie is an essential—but difficult—aspect of the job. After all, we were buyers and sellers of a product, and good relationships are essential with common interests sometimes a starting place. But I was not conversant in chainsaws and skidders. Sometimes there seemed to be little common ground. I sensed a need to dress like "one of the guys." I have always believed that some clothes and too much makeup were inappropriate for field work, but, still, I was bothered by a perceived need to wear baggy pants and oversized tee-shirts to avoid unwarranted attention.

*continued on page 21*

# PUBLICATIONS

Several journals have crossed the desk recently. *The Animals' Agenda*, published by the Animal Rights Network, Inc., as one of its communications arms, costs \$15 (US, Canada, Mexico), \$25 foreign, and is published monthly. The editorial offices' address is Box 5234, Westport, Connecticut 06881. They specialize in animal welfare, animal rights, and animal liberation. *Pan Ecology* is an irregularly published journal of nature and human nature published by the G.P. Marsh Institute. Fall issue 1987 features "Reflections on Ecosophy" by Alan R. Drengson, Associate Professor of Philosophy at the University of Victoria, British Columbia. Yearly subscriptions cost \$10 domestic and \$20 foreign. Contact the Institute at P.O. Box 1, Viola, Idaho 83872. *Earth First! The Radical Environmental Journal* is published and edited by Dave Foreman and aims its work at grassroots, citizen conservationists, who also believe in the civil disobedience ethic. For more information write PO Box 5871, Tucson, Arizona 85703, or call 602-622-1371. *Timberbeast* is a homespun journal edited lovingly by William N. Roy and aimed at those who collect models or photos of early logging machines. Wonderful stories surrounding early logging in the Pacific Northwest is the journal's specialty. For four issues send \$14 to PO Box 3695, Eugene, Oregon 97403.

Authors Nijole V. Benokraitis and Joe Feagin wrote *Modern Sexism: Blatant, Subtle, and Covert Discrimination* (Prentice-Hall \$17) using clear, on-target examples from movies, soap operas, political activities, legal cases, and research studies. The authors suggest ways to bring about changes and cite some new developments in that direction found on the legal, judicial, and political scene.

*Academics in Court: The Consequences of Faculty Discrimination Litigation* by George R. LaNoue and Barbara A. Lee examines what happens when a fac-

ulty member sues a college or university for discrimination. The study shows cases dragging on for years, involving departments, creating hostility, and burdening the plaintiff with legal fees. Faculty members who sue have only one chance in five in winning and will often leave. Colleges and universities do not fare well either, with bad publicity affecting all strata of activity. High legal fees affect them as well. The authors see arbitration or mediation as the best alternative. The book costs \$18.45 for paper from University of Michigan Press, P.O. Box 1104, Ann Arbor, Michigan 48106.

If you or someone you know needs information on financial aid in order to attend college, write for the extensive lists of sources organized by the Project on the Status and Education of Women, 1818 R. Street NW, Washington DC 20009. Single copies cost \$3.50, bulk rates are lower. There are references to assistance from/for the military, women's sports foundations, internships, work abroad, low-income women, disabled women, and many others.

The Tennessee Valley Authority Forest Management Technology Development Group based in Norris, Tennessee has released a new computer software system called YIELDplus 1.1. The software allows users to tap into a wealth of southern growth and yield research results for 13 major even aged forest types. For more information contact Samuel Davis, President, FORS, Courtview Towers, Suite 24, 201 North Pine Street, Florence, Alabama 35630 (205-767-0250).

The National Council for Research on Women, the Business and Professional Women's Foundation, and others, published *A Woman's Thesaurus: An Index to Language Used to Describe and Locate Information By and About Women* (Harper & Row, Inc. \$37.50 hardcover). There are over 5,000 entries that reflect historical and current research and writing

on women, policy analyses, and activist programs.

Three congressional research organizations worked on a report about health care, insurance, and related issues which emanated from a Women's Research and Education Institute (WREI) conference. The proceedings is entitled *Who Cares? The Health Care Gap and How to Bridge It*. Send \$10 to WREI, 1700 18th Street NW, Washington DC 20009.

An audio cassette adaptation of the book by Lois Hart and David Dalke, *The Sexes at Work*, addresses problems between men and women in the workplace and offers concrete solutions for eliminating them in a professional manner. Write Leadership Dynamics, 3775 Iris Avenue, Suite 3B, Boulder, Colorado 80301.

*Hands and Hearts: A History of Courtship in America* (Harvard University Press 1987) reveals the complex reality behind our stereotypes of courtship and enriches our understanding of adolescence, sexuality, courtship, and marriage. Author Ellen Rothman recreates the experiences of Americans during courtship and marriage from 1770 to 1920. She has interesting things to say about aspects and customs we think of as traditional and those we claim as modern.



# NEWS AND NOTES

## Color Women Artists Underrepresented: Don the Gorilla Masks and Mount the Barricades!

Women artists nationwide earn an average of \$5,700 annually—a third of what men artists earn, according to the National Endowment for the Arts. When the Museum of Modern Art mounted its "International Survey of Recent Painting and Sculpture," 165 artists were included; only 14 were women. That token ratio is typical of major museum shows. No women artists are represented in the Guggenheim Museum's permanent collection of Masters of Modern Art. And of the 56 artists whose work is in the collection of the Whitney Museum, four are women. Even Georgia O'Keeffe had to be dead before the National Gallery in Washington DC would give her a retrospective. Barbara Bruch, Seattle Women's Caucus for Art Vice President said that "the very subject matter of women's art is frowned on in commercial galleries. Even some very liberated men have the perspective that male imagery is universal, while female imagery is objectionable." But the word is out: The Guerrilla Girls is an anonymous New York feminist group that dons gorilla masks to protest sexual discrimination in such things as the Whitney Museum's notoriously sexist Biennial Exhibition.

....Deloris Tarzan Ament, *Seattle Times/Seattle Post-Intelligencer* November 8, 1987.

## She is No Longer a Cattle Person: She is a Grass Person

Georgia Lee Swickheimer and her brother operate a ranch in Goliad County Texas that has been in their family since before the turn of the century. They run a cross-bred cattle operation and are embarking on a long-term grassland improvement project. "I have decided that we are

in the business of raising grass. I no longer consider myself a cattle person. I'm now a grass person," Swickheimer said.

With Soil Conservation Service assistance, the Swickheimers plan to install a cell grazing system that will divide their ranch into at least five cells within five years. They plan to use mostly electric fences with fiberglass posts. The fences will radiate outward from a central water supply to be developed for each cell. "We hope to have the cell divided into eight paddocks, each of which will be about 270 acres in size. Our plan is to put cattle in one herd in one paddock, then rotate them to fresh forage every four to eleven days, depending on conditions," she said. Ideally, they would like to complete each cycle in 60 days. After 12 months, each pasture will have been grazed 50-60 days and rested about 300 days. She noted, "these rest periods will allow our grasses to gain vigor, and develop deep root systems. In our deep soils, we need deep roots to go to moisture during dry spells. If you graze grass continuously with no rest periods, the roots stay close to the surface. I think the cell grazing system will allow us to get more uniform use of our forage production to the point that we may eventually be able to double our livestock numbers."

....Dale D. Allen, *Soil and Water Conservation News* October 1987.

## Who Pays for Game Damage?

Every year, more than 4,000 callers with something in common dial the Oregon Department of Fish and Wildlife offices around the state. These people are all having a problem with one or more wildlife species damaging property, crops, or just being a nuisance. In all, the department spends about \$1 million a year, or 14 percent of the wildlife division budget to deal with these problems. This work is not only expensive and time consuming, but frequently controversial as well.

Biologists estimate that 60 percent of the elk and deer winter ranges, especially

in eastern Oregon, are on private lands. Thus, these lands are a critical component in the habitat mix needed to maintain herds. Landowners generally accept this, and are willing to tolerate wildlife use to a point. The key question is how much wildlife use of rangelands, forests, and croplands is acceptable? The 1985 State Legislature addressed these landowner concerns in a bill that would have the department reimburse landowners with cash for damages caused by wildlife. After several hearings and much testimony pro and con, the bill failed to pass out of committee. However, the Fish and Wildlife Commission received a legislative request to appoint a taskforce representing landowners and sportsmen. Their job would be to look at the damage issue, and review department policies and programs for handling the problems.

....*Oregon Wildlife* May/June 1987.

## Mama Elephants Need a Lot of Help: People Mamas Should Be So Lucky

In joint studies with Cynthia Moss in Amboseli National Park, Kenya, Phyllis Lee of the University of Cambridge, England, showed that the most vulnerable period for young elephants is the first two years of life. That communal caretaking can be important is demonstrated by the observation that "survivorship of infants (in this period) can be positively related to the number of potential allomothers (i.e. immature females) within the family unit" says Lee. For instance, infant mortality can be halved, from greater than 30% to about 15%, in family groups that have more than four potential caretakers as against groups with none. When a natural mother moves some distance from her infant, allomothers are about twice as vigilant for its safety and five times as responsive to any distress than would be predicted for an "average" group member. By contrast, infants play mostly with their

peers, not their potential protectors.  
...Roger Lewin, *Science* Vol 236.

## Success With Peregrine Falcons

Efforts to re-establish peregrine falcons along the coast of Virginia have been so successful that biologists are now going to concentrate their efforts in the mountainous portions of that state. A total of 126 birds have been raised and released from nine coastal sites in Virginia over the years. In 1985, some of these birds, now adults, returned and occupied the nesting towers at every site. Two pairs nested successfully and produced a total of seven young.

...*West Virginia NonGame News* Spring 1987

## Don't Bother Bats in the Maternity Wards

The annual Virginia big-eared bat maternity colony census conducted this past year showed seven of the nine known maternity colonies had increased in number from the 1985 census, two decreased. Overall, the population of known reproductive females has increased by more than 14 percent from last year and nearly 24 percent from 1983, the first year the counts were made. This increase is probably due in part to protective measures, such as gates and fences at cave entrances, taken by the West Virginia Nongame Wildlife Program, US Fish and Wildlife Service, and the US Forest Service. The cooperation of private landowners and cavers was necessary to enforce entry restrictions when the bats were present.

...*Endangered Species Technical Bulletin* Vol XI, Nos. 8 & 9.

## Out of the Kitchen, Into the Squats

Squatting has occurred in north America mainly in Vancouver BC and New York, but it is far more popular in western Europe. In England, Denmark, Italy and the Netherlands, it has become more and more widespread over the the last 20 years and is the focus of intense political action and organization. In the developed world, squatting generally takes place in empty publicly-owned buildings—empty because of tax foreclosures or speculation or

just because it can take city bureaucracies years to upgrade substandard housing.

Squatting happens because there is a lack of affordable housing at the same time as there is empty property. Given the relative economic disadvantage of women, it is not surprising that the number of squatting homeless women and mother-led families is rising. Not only do they benefit from the economic freedom of not paying rent, but they often have the opportunity to learn new skills and gain new independence. Because men are not around, women are forced to become involved in traditionally male domains like plumbing, carpentry, and electricity.

...Kate Lazier *Women and Environments* Fall 1987.

## Mississippi Antes Up the Money to Protect Wetlands

Mississippi has nearly three million acres of wetlands, but 10 percent is estimated to have medium or high potential for development as cropland. Fortunately, its farmers see the need for conservation. More than 13.5 million acres are already covered by conservation plans. Recognizing, however, that many of the state's farmers cannot afford to install conservation practices, the State legislature has passed a law to establish a cost-sharing program for conservation. The state originated a Hold Our Topsoil (HOT) campaign to increase public awareness. A 100-acre swamp on Vivian Rodgers' farm, aided by a water-control weir, hosts great blue herons, ducks, turtles, bullfrogs, and other wildlife. A nearby forested wetland helps to stabilize water flow. She is among the many Mississippians who have chosen to maintain wetlands over the years because they could see the benefits both to themselves and to the land.

.....Leslie Wilder *Soil and Water Conservation News* November 1987.

## Will A Promotion Ruin Your Life?

Everyone likes to be rewarded for hard work, but too often managers think they're doing employees a favor by sending more work their way via title changes. Furthermore, more and more women are realizing that sometimes a promotion can sidetrack a career, especially for those who are thinking of starting their own business

## NEWS AND NOTES

or changing fields.

Thomas L. Quick, a management consultant who has written many books on management, is blunt about the dilemma many promotable women are facing: "A lot of women are rethinking their priorities. They want families and they want challenging careers, but they don't want to work 70-80 hour weeks. It's a growing problem." Besides stalling you, accepting an unwanted promotion can actually hurt your job performance. On the other hand, saying no before taking a few precautions can put your career on permanent hold. It's crucial to let your superiors know exactly why you're saying no. By using this opportunity to discuss your career goals, you can depersonalize the rejection and demonstrate your commitment

....Carol Cox Smith, *Savvy* March 1988

## Uniforms Protect the Agency and Ensure Loyalty and Organization Identity

Many organizations believe employees in uniform are more obedient, responsive and reassuring.

More than 23 million Americans wear some type of uniform and the National Association of Uniform Manufacturers and Distributors projects an annual dollar value of more than \$2 billion by the end of the decade. Psychologists have long been aware that we judge people's political views, ethnicity, religious affiliation, and income by what they wear (see "Dress for Effect," *Psychology Today*, April 1986). Numerous studies have demonstrated that people believe the well-dressed are more intelligent, hardworking and socially attractive than the poorly dressed, and hence respond to the well-clad more favorably.

One function of service apparel is to communicate a company's or agency's selling points, whether it be cleanliness, professionalism, safety, or just plain good taste. Thus, like a chameleon, service apparel assumes the properties of the group it represents. It embodies the group's ideals and attributes, allowing its

*Continued on page 48*

# EVENTS

## April

**Federal Forest Policy**, 5-9 April 1988, Washington DC. Sponsored by the Society of American Foresters (SAF) and Washington State University, there are two programs with two themes: Processes and rules confronting every bill introduced in Congress, and identification of the current natural resource issues. For information contact the SAF 5400 Grosvenor Lane, Bethesda, Maryland 20814 (301-897-8720).

**Women in the Year 2000: Utopian and Dystopian Visions**, 7-9 April 1988 Indiana University-Purdue University. The impact of changing social practices on women—as the 21st Century arrives—will be assessed. Sponsored by the IUPUI Women's Research and Resources Program, School of Liberal Arts and Women's Studies program. For information contact IUPUI Women in the Year 2000 Chair, CA 001D, 425 Agnes St., Indianapolis, Indiana 46202.

**Fishing with Electricity**, 11-15 April 1988 England. Sessions will cover electrophysiology of fish, electric fishing apparatus, and the electrical field. For information write I. Crowx, HUMBERSIDE COLLEGE, School of Science, Cottingham Road, Hall, England.

**TAPPI Environmental Conference and Trade Fair**, 18-20 April 1988 Charleston, South Carolina. For more information, contact Gary L. Vosler, Willamette Industries, Inc., P.O. Box 339, Albany, Oregon 97321 (503-926-2281).

**National Fisheries Institute (NFI)**, 26-30 April 1988, New York City. This is their 43rd annual convention. Contact NFI, 2000 M Street NW, Suite 580, Washington, DC 20036 (504-296-5090).

**Association for Arid Land Studies**, 27-30 April 1988 Denver, Colorado. The annual meeting will be held in conjunction with

the Western Social Science Association. For information contact Andrew Schoolmaster, Dept of Geog/Anth, North Texas State University, Denton, Texas 76203.

**Brown Trout Biology, Use, and Management**, 28-30 April 1988 Asheville, North Carolina. Sponsored by the Trout Committee, AFS, and the North Carolina Council of Trout Unlimited. Contact T. Wayne Jones, Division of Boating and Fisheries, 512 N. Salisbury Street, Raleigh, North Carolina 27611.

## May

**National Conference on Women in Politics**, 6-8 May 1988, Ottawa, Ontario. Organized by Canadian Women for Political Representation (CWPR), a non-partisan group working to promote and support women in politics. Contact Janie Fortier, Chair, CWPR Box 2202, Station D, Ottawa, Ontario K1P5W4 (613-567-8739).

**Riparian Resource Management Workshop** 9-12 May 1988 Billings, Montana. The goal of the workshop is to bring together new methodologies to improve resource values. For information contact Chris Hunter, Chair, OEA Research, Box 1209, Helena, Montana 59624.

**Integrated Computer Applications in Forestry** 24-27 May 1988 Knoxville, Tennessee. Sponsored by Forest Resources Systems Institute (FORS) and University of Tennessee's Department of Forestry, Wildlife, and Fisheries. For information contact Samuel R. Davis, FORS Suite 24, Courtview Towers, 201 North Pine Street, Florence, Alabama 35630 (205-767-0250).

## 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.

**Rare Species and Significant Habitats**, 6-9 June 1988, State University of New York (SUNY). Discussion of sensitive management of rare species should interest botanists, zoologists, ecologists, and natural resource managers. Contact Donald Leopold, 333 Illick Hall, College of Environmental Science and Forestry, SUNY, Syracuse, New York 13210.

**National Recreational Fisheries Conference**, 7-8 June 1988, Alexandria, Virginia. For information: Gary Edwards, Deputy Asst. Dir., Fisheries, US Fish and Wildlife Service, Washington DC 20240 (202-343-6394).

**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).

## July

**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, Call for papers. The theme of the annual meeting will be biological diversity with special emphasis on conservation biology and an overall program which will be comprehensive in nature, covering the full breadth of eco-

logical subdisciplines. Abstracts will be reviewed (on abstract forms) no later than 29 January 1988. For information contact Stephen J. Chaplin, ESA Program Chair, The Nature Conservancy, 1313 Fifth St. SE, Minneapolis, Minnesota 55414.

### 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, M7 1W3.

### 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.

*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).

### 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.

## EVENTS

### PEOPLE *continued from page 28*



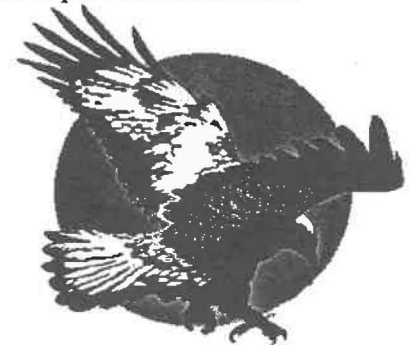
**Jackie Haymond** became the first woman to complete a doctorate in Forestry at Clemson University. After earning her Master's in 1978, Haymond took a job with the Clemson Extension Service as a forester. Her research was aimed at combining rural sociology techniques with forestry. She used sociological methods to characterize forest owners into groups depending on their tendency to use new technology. Haymond would like to continue

working with private forest landowners and write educational materials. "All my life, I've been reaching for one more step up the ladder," she said. "As long as people are learning, life is full. And when you stop trying to achieve, there's not much reason to get up in the morning."

**Mary Jo Lavin** became Deputy Regional Forester for state and private forestry in the Pacific Northwest. She is the first woman to hold a top leadership post in a Forest Service regional office. Lavin comes to the Forest Service with a long history of personnel management, the latest being her post as a Deputy Director of the Department of Natural Resources in the state of Washington.

**Susan Stafford**, an Associate Professor in Forest Sciences at Oregon State University, is serving as the first Faculty Associate to the Vice President for Academic Affairs and Provost. This year, Susan is dividing her time between this new position and her usual one as forest bi-

ometrician and consulting statistician. Stafford is the director of the Quantitative Sciences Group which she formed to meet the statistical analysis and data management needs of the department. In 1985, she was selected as Oregon's Outstanding Young Woman and has written dozens of journal articles. Of special distinction is "A Statistics Primer for Foresters" which took an innovative approach to explaining the principles of statistics to a broad audience of professional foresters.



## PEOPLE

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The Business and Professional Women's Foundation offers grants to scholars engaged in research in the United States on issues of importance to working women. Awards range from \$500 to \$3,000. For information contact the foundation at 2012 Massachusetts Avenue, NW, Washington DC 20036

Publishers of *The Campus Climate Revisited: Chilly for Women Faculty, Administrators, and Graduate Students* (published in October 1986) are interested in knowing if and how the paper was used on individual campuses. Was it distributed to faculty—did it generate conferences? Send applicable fliers, brochures, letters, to Bernice R. Sandler, Executive Director, Project on the Status and Education of Women, Association of American Colleges, 1818 R St. NW, Washington DC 20009.

The Duke University School of Forestry and Environmental Studies has decided to expand the scope of search for applicants for a faculty position in environmental/resource policy to include an additional position in resource economics. Thus, we seek two faculty for tenure track positions in the resource economics and policy area, with one of these positions expected to be filled by a resource economist. Persons interested may refer to the position description in WiNR's mailing in November, 1987, or contact Chair, Policy/Economics Search Committee, Forestry and Environmental Studies, Duke University, Durham,

North Carolina 27706.

The American Fisheries Society (AFS) is pleased to announce the J. Frances Allen Scholarship, a one-time award of \$2,5000, for a female doctoral student whose research emphasis is in the area of fisheries science. Dr. Allen was a pioneer of women's involvement in AFS and in the field of fisheries. The applicant must be an advanced Ph.D. student, and a current AFS member. For more information contact AFS, J. Frances Allen Scholarship, 5410 Grosvenor Lane, Bethesda, Maryland 20814 or call the committee chair, Brenda L. Norcross at 804-642-7082.

**We are not reaching women in natural resource professions when we recruit for planners, rangers, and park managers. Will you help?** If you are interested in working for the Idaho Department of Parks and Recreation, let us put you on our mailing lists. Contact Mary Preuit, Personnel Manager, Idaho Department of Parks and Recreation, Statehouse Mail, Boise, Idaho 83720.

A history graduate student (in public history) at UC Santa Barbara needs information on the job search success rate of middle-aged, career-transfer, re-entry women. She would also like to know about discrimination against older women college graduates. Contact Christine E. Savage, 3291 McKinley Street, San Diego, California 92104.

The Southwest Institute for Research on Women (SIROW) is seeking papers on women's issues pertinent to the southwest, or interesting to southwestern scholars. The Series is designed for the rapid dissemination of recent research and each paper is available for the cost of production and mailing. If you would like to contribute a 10-25 page paper contact SIROW at Women's Studies, University of Arizona, Tucson, Arizona 85721 for guidelines.

Careers in Forestry is a video tape (which can be rented or purchased) designed to assist young people facing career decisions. It conveys the wide array of opportunities open to professionals and provides a glimpse of what people with forestry backgrounds do. There is original music, sophisticated computer graphics, and up-beat messages for highschool age youth. Oregon State University (the producers) have included a trailer asking viewers to contact them, but individual copies may be purchased without that. For more information on the many options available contact the Forestry Media Center, College of Forestry, Oregon State University, Corvallis, Oregon 97331 (503-754-4702).

**Scholarships in Conservation** encourages competent students to pursue careers in a related curriculum—forestry, geography, journalism, wildlife management, and others. Application blanks may be obtained from the Soil and Water Conservation Society, 7515 Northeast

Ankeny Road, Ankeny, Iowa 50021. The deadline for submission is April 1st.

**Even the most fair-minded male executive sometimes errs in managing women because they are still relying on traditional cultural values.** Areas which cause the most difficulty are in awarding promotions; relocating promoted managers; performance feedback; travel opportunities for the company/agency. Executives often assume that family needs would disallow travel or relocations for women. This makes it imperative that women make their ambitions known and that they become aware of what is necessary for advancement so they can decide what they are willing to do. Honest critiquing is often hard to take—but there is no evidence that women cry more than men. Some companies hire consultants for workshops to smooth over some of these problems. For recommendations or workshop information contact Virginia Sprecher, National Training Labs Institute, 1501 Wilson Blvd., Suite 1000, Arlington, Virginia 22209 (703-527-1500).

**Eighty-nine members of Congress interested in providing a congressional presence for forestry and related industries have established the Forestry 2000 Task Force.** The task force intends to provide a forum for information, research, proposed legislation. The chair will rotate alphabetically (every six months) among Sonny Calhahan (Alabama), Sid Morrison



(Washington), Lindsay Thomas (Georgia), and Ron Wyden (Oregon). Would readers who know what is happening with the Task Force write to *WiNR* and bring us up to date on activities?

Students who are in grades 9-12 are eligible to enter a **National Youth World of Water contest**. The basic requirement is that each entry must deal with a topic in marine or aquatic science or engineering. Up to 15 students will receive awards and will be invited to make poster presentations of their projects at the National Marine Educators Association Conference at the University of California in Santa Cruz, July 19-23, 1988. There are 10 regional places to submit the entries. In order to find out the one closest to you and to request forms, call Vicki Osis (503-867-3011) or Pamela Sears (216-562-8101). Entry deadline is April 30th.

The DNR in Minnesota is developing a Community Forestry Resource Directory. They are **looking for individuals or private companies who offer community forestry-related consulting services** as a major part of their business. If you are interested in being included in the directory, write DNR, Division of Forestry 500 Lafayette Road, St. Paul, Minnesota 55155-4044.

The **Society of American Foresters (SAF)** is establishing a special fund for the recruitment, retention, and integration of women and minorities in SAF activities and structure.. In 1986, only 81% of the women and minorities renewed their membership, compared with 90% of the white males. In November, the SAF Council approved a special fund to which local and state chapters may apply in

order to sponsor programs that address professional needs of the more diverse workforce, recognize prominent minority and women professionals, defray costs of inviting women and minority speakers to meetings, and undertake many other activities. Written proposals will be evaluated on the basis of their expected magnitude of impact, potential to sustain activities beyond the funding period, partnership and networking activities, replication ability, feasibility, and cost-sharing. The fund will be inaugurated with donations from SAF members and friends. Later, donations from industry, foundations, and others will be sought. To donate, make checks payable to SAF, and send to 5400 Grosvenor Lane, Bethesda, Maryland. If you would like a copy of the guidelines, or to discuss other aspects of the project call Anne Fege 202-447-2422, or Richard Zabel at the SAF office 301-897-8720.

The Nellie Langford Rowell Library is a **Women's Studies Library** located at York University. We have holdings in the form of books, booklets, women's movement data, and subscriptions to current periodicals—including yours. The Library is proud to announce the beginning of its pamphlet series. Our first three are on: Sports equality, one on pay equity, and the third is a biography of Nellie Langford Rowell. Send \$2 for each or \$5 for the series to date.(include \$1 for postage and handling).to Nellie Langford Rowell Library, 202C Founders College, York University, 4700 Keele Street, North York, Ontario Canada M3J 1P3.

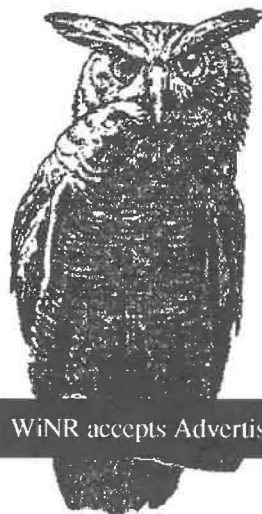
TVA's Land Between the Lakes' **Professional Development Series** has conferences addressing disparate subjects

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\*postings

such as marketing for small resorts, off-road vehicle areas, maintenance management for recreation areas, and others. In addition, this department handles applications for internships, apprentice programs, and research assistantships. For a booklet describing the activities write Jim Carpenter, Professional Development, LBL, TVA, Golden Pond, Kentucky 42231 (502-924-5602).

The purpose of the **Women's Aquatic Network (WAN)** is to bring together women with interests in marine and aquatic policy, research, legislation, and other areas; and to promote the roles of women in these fields. There is a newsletter for members and a sliding scale of fees. For information about the organization write to WAN, PO Box 4993, Washington, DC 20008.

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## Remote Sensing Research Position

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**Duties include** design, development, and integration of digital image analysis and geographic information systems, with emphasis on programming and data analysis, for natural resource inventory.

**For full position description, contact:**  
Marvin Bauer  
1530 N. Cleveland Ave.  
St. Paul, Minnesota 55108  
Phone 612-624-3703

**Application materials** including resume, transcripts, and three letters of recommendation should be received by **April 25, 1988**.

The University of Minnesota is an equal opportunity educator and employer and specifically invites and encourages applications from women and minorities.

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wearer to transmit the dominant values of the company or organization.

Uniforms affect employees as well as customers. Many organizations believe uniforms contribute to productivity and morale and ensure that workers are loyal to the organization's goals. Employees who interact with both insiders (coworkers) and outsiders are caught between two groups with often contradictory goals. There is a constant danger that they will begin to identify more with the customer's needs and values than with the organization's. A uniform can help to minimize role confusion and lowered performance by defining employee's roles and reminding them of their primary allegiance. Uniforms also help to control employees' behavior by making group members easily identifiable—deviations from desired standards are less likely if they are conspicuous.

The military, which has always used uniforms as a way of keeping people in line, recently provided a telling example. At one time, expectant U.S. servicewomen were permitted to wear civilian clothes once pregnancy was well advanced. The military, however, encountered morale problems as these women began to lose their identification with their soldier roles; their temporary return to civilian symbolism interfered with commitments to the organization. Maternity uniforms are now required.

....Michael Solomon, *Psychology Today* December 1987

## Hiring: The 90-day Trial

Even the best interviewers sometimes make hiring mistakes, and those mistakes can be painful to admit, for both the employer and the employee. On the other hand, they can be even more painful to ignore. Hoping to alleviate the pain all around, Doug Hard of Hard Engineering Inc., Huntsville, instituted a 90-day trial period for new employees. By formal agreement, the company can terminate a new hire within the first 90 days if the relationship is not working out. The policy does not make it easy to fire someone, but

it does remove some of the sting. "It allows you to say, 'Hey, it's just not a good fit,'" notes Jim Duggan, vice-president of marketing and sales, who recently had to say that to a new hire in quality control. We pride ourselves on being a human company, and it's very difficult for us to do something that's perceived as horrible to an individual. This makes it more cut-and-dried."

....*Inc.* February 1988

## Those Forest Service Roads are Defended By One Who Knows

Often heard is that the National Forests already have enough roads. It has been resoundingly proclaimed by some that "there are over 400,000 miles of roads on the National Forests!" This is an impressive number. Actually, we count about 344,000, but even that number is alarming to the uninformed. Many don't realize how big the National Forests are—191 million acres, or about 5 1/2 times the size of Arkansas. This is a big area, and 344,000 miles of roads on 191 million acres averages out to slightly more than one mile of road per square mile.

There has been much criticism that these roads are only for timber harvest. That is simply not the case. Most National Forest roads are initially funded for the harvest of timber, but logging-truck traffic accounts for only six to seven percent of the total annual use. The rest of the use is by the public and for other administrative purposes. The public uses the roads for things like hunting, fishing, firewood gathering, berry-picking, driving jeeps and other "rugged" vehicles, camping, picnicking, swimming, sightseeing, hiking, birdwatching, and a whole host of other activities. Administrative uses of the roads include fire suppression, grazing administration, cultural activities, fish-and-wildlife habitat improvement work, insect and disease suppression, and more. An often overlooked use of Forest Service roads is to serve county and private purposes where ownerships are intermingled, as they often are.

....Larry Henson, Associate Deputy Chief, USFS, *American Forests*, January/February 1988.

## Enrollments Of Women in Natural Resources Increase in ESF at SUNY

The number of women enrolled at the College of Environmental Science and Forestry (ESF) at the State University of New York (SUNY) has increased significantly over the past 10 years. In 1977, 71 women represented 20.5 percent of the total of 346. In 1977, 71 women represented 20.5 percent of the total graduate enrollment of 346. In 1986, 131 women represented 34 percent of the enrollment of 385. The percentage of advanced degrees awarded also shows an increase. In 1977, five women represented 8.2 percent of the 61 master's degrees awarded; in 1986, 17 women represented 23 percent of the 74 master's degrees awarded. When examining doctorate degrees, a less encouraging history appears. Of the 160 doctorates 1977-86, 18 (or 11.2 percent) were earned by women. Within the next few years, however, the percentage of women earning doctorates at ESF should increase.

....Maureen O'Neill Fellows, *ESF '87*

## Rating the Exercise Videos

Watching television has taken on a new meaning these days, with the proliferation of exercise videos designed to lead the viewer through a living-room workout. The best videos will keep you coming back for more, and they'll also keep you injury free. Rated for safety, quality of instruction, completeness, motivational value, and quality of production, *Women's Sports and Fitness* ranked the following five as among the best: Kathy Smith's Winning Workout (Fox Hills Video \$29.95), Crystal Light National Aerobic Championship Workout (Lorimar Home Video \$19.95), Dance Away the 50s/Dance Away the 60s/Dance Away the 70s/Dance Away the 80s (Polaris Communications Group, Inc. \$17.95), Jane Fonda's Low-Impact Aerobic Workout (Lorimar Home Video \$39.95), Judi Sheppard Missett's Fitness Formula (JCI Video \$29.95).

....Kevyn Allard *Women's Sports and Fitness* December 1987

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WiNR invites you to submit your manuscript for consideration.

# Information for Contributors

The journal, *WOMEN IN NATURAL RESOURCES*, aims to provide information and ideas for, from, and about women on topics related to the natural resource professions of forestry, wildlife, range, fisheries, recreation, arboriculture, ecology, biology, 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. *women in Natural Resources* seeks contributions that will effectively integrate the factual, the personal, and the philosophical aspects of the working professional. We also seek technical articles suitable for reading by professionals in many natural resource fields. Information from readers tailored for the departments is also solicited.

As seen by this issue, the format is flexible. Submit manuscripts in the style dictated by your profession or agency. Clarification of that style is the prerogative of the editors. Please check with the editorial office about sending manuscripts on Apple Macintosh or IBM disks.



# Information for Advertisers

Advertising suitable for *WOMEN IN NATURAL RESOURCES* readers is solicited. Camera-ready black and white, or copy suitable for our graphics department is priced from \$30.00 (2 1/2" x 2 1/2") to \$300.00 (whole page). For more information, contact the editorial offices.

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