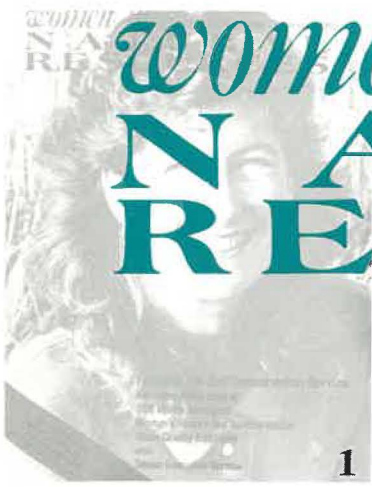


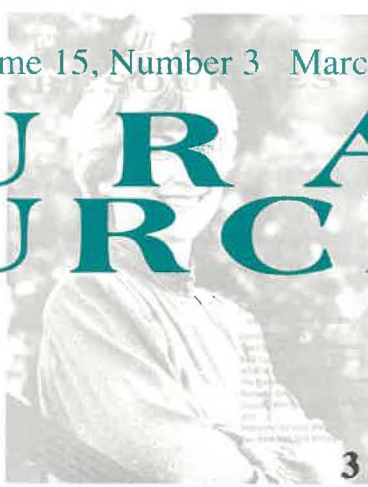
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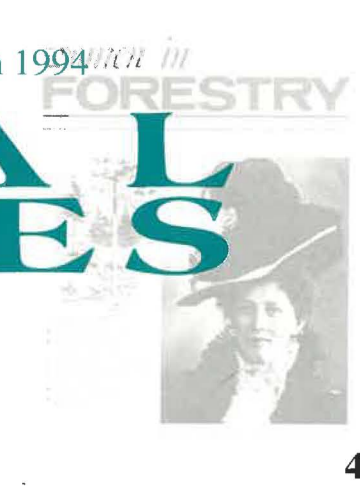
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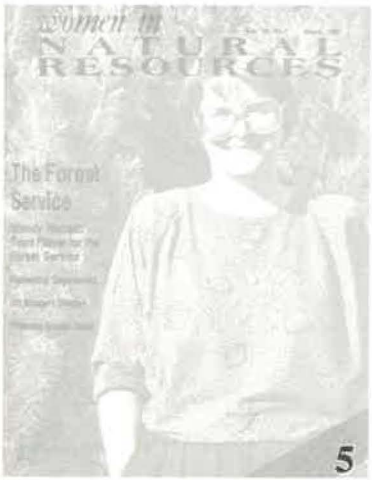
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OUR 15th ANNIVERSARY
African American women in agriculture & natural resources
Becoming an outdoors woman
She saved my life
Sociological factors & environmental innovations



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Editorial

Dixie L. Ehrenreich

Mutability (always changing) is the second name of the journal

In our last two issues, some of the early Forest Service organizers and collaborators wrote about how they started women's awareness groups. As Mary Albertson, Linda Donoghue, and Andrea Warner noted, this journal started as Women in Forestry Newsletter in one such group in the Pacific Northwest. After a few years of holding the newsletter operation together, editor Linda Donoghue, then a project leader at the North Central Forest Experiment Station, inserted a notice that she would have to give it up and wanted someone else to assume responsibility for the publication.

At the University of Idaho, three of us had been receiving the newsletter and began to give some consideration as to how we could carry on with it. Molly Stock (now professor on joint appointment in Forest Resources and Computer Science) and Jo Ellen Force (now professor in Forest Resources) and I had collaborated on a successful conference in 1982 entitled Women in Natural Resources: An International Perspective. We talked about taking Women in Forestry on, but Jo Ellen was pressed for time and decided she couldn't. Molly and I contacted Linda who told us we were the only ones who had responded to her request.

In the Fall 1984 issue, Molly wrote in an editorial: "I think we all agree that we've made progress and we prefer to go about our work thinking the best about situations and people around us. But the darker side of 'reality' often forces itself upon us one way or another. We have all, at one time or another, as women in a traditionally male-dominated work force, lost our innocence in such matters. We have come to realize that the way we'd like it to be and the way it actually is are not always the same thing... Among the people that we work with, we find attitudes and behaviors ranging from the archaic, condescending, and paternalistic, to true acceptance, equality, and respect for our attributes as professionals and human beings. It is this inconsistency, we think, that accounts for the fact that some women wonder what all the fuss is about, while others are ready and willing to devote their lives to women's rights and women's issues."

For the first few years, until the subscription levels rose, the costs for typing (yes, typing) and pasteup skills were paid for by the College of Forestry (where Molly was appointed) and the Laboratory of Anthropology where I was a Research Scientist. Many forest archaeologists and social scientists the agencies hired got their college research experience working on projects the Lab funded through grants. Many of them were women so our Director was interested in seeing the journal fly, too. The College of Forestry had

a dean who was committed to increasing women student enrollments and women on the faculty. It was a good fit.

Molly and I learned "on the job," devised a division of duties, and published it on a shoestring as the subscription level slowly rose. The subscription income covered the printing and mailing costs, barely. We both continued with our regular work, pressed friends and family to help, and began to get the hang of it.

Right from the beginning I attended (with Karen Lyman who has been with us since the beginning) a few professional society conventions. We hired booths in the exhibit halls, assisted in publicizing or providing speakers for the host society's women's breakfasts or dinners, and helped with consciousness-raising. At first we spent most days arguing with male attendees who said we were not needed—or discussing with women about why it had taken so long to get a journal like ours going when we were needed so desperately. At one early Society of American Forester's convention in Portland, Oregon we were openly and continually ridiculed while at the national American Fisheries Society meeting in Sun Valley, Idaho we were rudely and pointedly ignored. On the other hand, the Society of American Foresters stepped up to the issue forthrightly and later undertook to sponsor a conference in Dallas in 1986 just for women in natural resources work. The journal published the proceedings from that meeting.

By 1985 we had begun assembling a staff of talented writers and editors who represented for our readers a profession, a section of the country, or a section of the journal (such as Research in Progress, Interviews, Query, Book Reviews). I have never met some of our longtime editors. We do our business by fax, phone, and disk transfer. They keep the journal on track and our readers up to date. I am very grateful to them.

Molly resigned as co-editor in 1985 and I was on my own until Lei Burrus Bammel, now and then a professor at West Virginia University-Morgantown came on board. Lei had been a pioneer in writing articles about the underrepresented numbers of women in natural resources work and her collaboration was a natural for us. In March 1990, her last year as editor, she wrote: "An understanding of the past sometimes helps to interpret the present. You might believe that changes for women in the profession are not occurring fast enough, and you would be right: there was a 15 year span between the time the first female graduated with a forestry degree [1932] and the first female hired by the Forest Service [1957]; 46 years until the first was appointed head of a research project [1978]; 47

years until a woman was a District Ranger [1979]; and 53 years until one became a Forest Supervisor [1985]." She has a way of really laying things out. When Lei's workload forced her to quit, I decided to devote more time to the journal and folded several of the jobs into one.

WiNR moved on to desktop publishing in the mid-80s and at that time we changed the name to Women in Natural Resources to reflect more accurately who our readers were. The income from subscriptions and advertising allowed us to be fundamentally self-supporting. More changes are coming soon: our long-time business manager is leaving us for much greener pastures and there will be other changes in personnel and technology before the next issue.

But the focus for the journal remains essentially the same in its 15th year as it did in the first when Linda Donoghue wrote that it was to 1) share information and resources regarding our work; 2) give support to one another for individual initiative, self-definition, courage, and sense of responsibility; 3) develop a body of knowledge that contains the vital seeds for social change; 4) affirm our presence as active, contributing members of the professions.

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WOMEN IN NATURAL RESOURCES

March 1994

Volume 15, Number 3

Yes children, I was
one of the original
consent decree
classmembers!



WOW
GRAMMA!



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Agriculture and Natural Resources

Diann Jordan
Jane Ford-Logan

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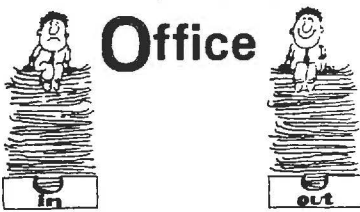
I Spent One Day a Month Applying for Jobs
Susan Savage

You have to take the time to figure out what you want out of your life—and where you want to live it. Then recognize that a profession is not the same as a job, and neither should control personal goals.



Diann Jordan offers encouragement to Aisha Hawkins, a high school apprentice student working on a project in Jordan's soil microbial ecology lab at the University of Missouri-Columbia

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Restoration & Management Notes

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I had a wonderful time reading the focus issue on mining and geology—good balance and coverage. And as usual your editors delivered some good pieces of their own. All in all the best dollar value I get is my WiNR four times a year.

Valerie Conden, Orlando, Florida

I finally understand ecosystem management after reading the excellent Elizabeth Estill interview. I always thought it was plain old multiple use wrapped up in new ribbon, but there are significant differences, I see. Daina Apple should be commended for her questions and the Forest Service congratulated for stealing Estill away from TVA.

Robert Notleson, Bethesda, Maryland

The mining industry and the forest products industry have very similar problems, don't they? Over-regulation will drive more than just a few businesses overseas if the trend continues.

Callie Meyers, Oklahoma City, Oklahoma

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(*set, go*)

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And thank you kindly.

I enjoyed the recounting in your last issue of the history of the song *Bread and Roses* and thought your readers might be interested in learning how *America the Beautiful* came about. (Credit goes to a Forest Service publication for this story.) During a Forest Service's 50th anniversary of Smokey Bear in September 1993, Mele Fong sang *America the Beautiful* and introduced the song with some background.

It was written 100 years ago by Katharine Lee Bates upon her return from a trip to Pike's Peak (located today in Pike and San Isabel National Forest in Colorado). Bates was born in 1859 in Massachusetts, and grew up in a religious family that believed in higher education for women. She was a noted poet and taught English, Latin, algebra, and geometry in secondary schools.

In 1893, the president of Colorado College invited Bates to teach English at the Colorado summer school. After arriving, she joined a college group for the opening of the Manitou and Pike's Peak Railway to the summit of Pike's Peak. There she was inspired to write *America the Beautiful*. The words were set to music by many composers, the most popular being Samuel A. Ward. In 1926, the National Federation of Music Clubs campaigned for the adoption of the song as the national anthem, but two years after Bates died, *The Star Spangled Banner* was chosen.

In 1993, the city of Colorado Springs hosted the dedication of a memorial plaque in Bates' honor which is placed at the summit of Pike's Peak on the Pike and San Isabel National Forest.

Lynn Kendall Morrison, Salt Lake City, Utah.

The histories and activities of the Federal Woman's Program and the short histories of WiNR—plus the biographical information of the early pioneers—have all been useful. And I didn't know that it took so danged long to get a few laws in place to protect women from discrimination in our own government. You ought to sell some of those articles as a package to remind us that this thin crust of protection is just a knife-flick away from being scraped off.

Connor Rafflansdorff, Bangor, Maine

Bears

Karen Lyman

Everybody who works in the woods for a long time has bear stories and I have a couple of good ones.

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

My very *first* bear encounter I call the Machine Versus Beast Episode. It happened more or less like this... While driving to work on a lonesome old logging road one morning, I spooked a large black bear in the middle of the road. Bears always act so surprised to see you, as if they were caught doing what they weren't supposed to be doing. (So much for their vaunted superior senses.)

After a moment of gaping at me, he began a full-tilt gallop down the road. Feeling secure in the safety of my large metal truck, I stepped on the gas, and in grand cowboy fashion, laughing loudly like the irresponsible nit that I was, I herded that loose sack of bear meat down the road. The hilarity of the situation—which had practically incapacitated me—had completely escaped the bear (who still hadn't figured out that he could get off the road and I couldn't follow). He kept

Excerpt selected by
Editor Ruth Parnall
from WiNR
Volume 9 Number 4

looking back, increasingly shocked to still see me there, flush on his behind.

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

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

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

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

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WILL ANYONE BE SURPRISED TO KNOW THAT THERE ARE NOT NEARLY ENOUGH AFRICAN-AMERICAN WOMEN WORKING IN SCIENCE? THESE AUTHORS LOOK AT THEIR NEEDS AND BARRIERS.

BLACK WOMEN AND THE WORKFORCE IN AGRICULTURE AND NATURAL RESOURCES

DIANN JORDAN
JANE FORD-LOGAN

The composition of the work force beyond the year 2000 is projected to be quite different from what it is today. Most studies show that there will be a larger segment of women and minorities. Who the minorities are—and what their roles will be in the highly technical areas within agriculture and natural resources sectors—are two questions of great concern to those studying how these groups are to be trained (Cooper and Henderson, 1988).

Other researchers are asking whether or not minority women are even interested in waging the tough battle to survive that continues on when the diploma is handed over and the professional life begins. Projecting ahead to the necessity to recruit from the university population of black women, those who study these issues believe that the combination of both race and gender may become important factors and together, work forcefully against black women's selection of agriculture and natural resources as career choices.

The current statistics about black women are revealing. According to data from the Civil Rights office of the USDA Forest Service, there are 15 black women foresters ranging from grade 5-13 with 60 percent of them—nine in all—in grades 9-12. There are 19 black women who are classified as technicians

from grades 1-8 with 63 percent—or 12 of them—in grades 5-8 with no black women classified above grade 8 in this category (Blankenship, 1993 personal communication). In an earlier USDA Forest Service report, Loretan (1991) found that in 1990, of 42 African American professional foresters, only eight were women.

In the USDA Soil Conservation Service technical positions (survey field crews)—which is the second largest group in the agency—females constituted 20.4 percent (605 of them) while black females constituted a small 1.7 percent of this total (Abbott-Donnelly, 1992). In other recent data (1992), the National Science Foundation (NSF) notes that male and female blacks make up only 2.6 percent of the total science and engineering workforce (Culotta and Gibbons, 1992).

Much has been written generally about women and minorities in science and technology and on race- or gender-based inequities faced in education and employment (Malcom, 1989; Tolbert, 1993; Cooper and Henderson, 1988; Phillips, 1993 and numerous articles in *Women in Natural Resources*). There are, however, only a few recent articles that discuss the issues of black women in science and technology (Malcom, 1989; Tolbert, 1993; Ford-Logan, 1992). And

further, to our knowledge, nothing has been written extensively about black American women in agriculture and natural resources.

To draw attention to this dearth of scholarly data, our objectives were (1) to review existing literature on black American women in agriculture and natural resources disciplines, (2) identify where possible the places black women work and the organizations they join, (3) identify needs and barriers that black American women may face, and (4) identify and discuss effective strategies to recruit and retain them in agriculture and natural resources.

METHODS

Because of the small number who could be identified, no specific survey or questionnaire was sent out or distributed to black women in agriculture or natural resources. Information was obtained through a library review of the literature, personal conversations with available black women (students and professionals) in these disciplines, personal experiences, and telephone interviews with membership officers in various organizations. While some data was collected from various professional society membership offices, others, such as the National Wildlife Society, do not collect this information.

What the literature says about black women earning the Ph.D.

None of the sources we searched identified the first black woman receiving doctoral degrees in agriculture and/or natural resources. But R. M. Patterson, writing in *SAGE, A Scholarly Journal on Black Women* (1989) provided information from other disciplines: the first black woman earned a doctorate in the biological sciences in the 1930s (Ruth E. Moore), the first doctorate in geology in 1940 (Marquerite Thomas), first doctorate in mathematics in 1946 (Evelyn Boyd), and the first doctorate in chemistry in 1947 (Marie Maynard). According to Patterson, approximately 650 black Americans earned doctorates in the natural sciences between 1876 and 1969 and more black females graduated from college than black males in those years. A relatively low number of black females—only 58—however, were recipients of the natural science doctorates awarded during that period.

In general, all women Ph.D. earners in the agricultural and biological sciences increased from 978 to 1350 in years 1980 to 1990 (Tolbert, 1993). However, these numbers do not distinguish between agriculture and biology. Data on minority women who earned doctoral degrees in science and engineering in 1980 compared to 1990 show a decrease for black women from 3.9 to 2.7 percent (Tolbert, 1993). In the area of agricultural sciences, natural resources and related sciences, the picture seems to be even more bleak.

The percentage of doctorates granted to all women in agricultural sciences rose from 2.2 percent to 7.7 percent for the period of 1920-1929 to 1978-1979 (Collins and Pesek, 1983). For earth/atmospheric and ocean sciences a 60 percent jump was seen (56 to 119) from 1980 to 1990 (Tolbert, 1993). Minority women show an overall increase in the percentage of doctoral degrees earned in 1990 compared to 1980, although the percentage did not increase for African Americans (Tolbert, 1993).

And finally, according to

Equal Employment Opportunity numbers, white women comprised 27.5 percent of full-time faculty staffers in the nation's institutions of higher education, while black women were 2.2 percent (Phillips, 1993). Presumably, most of these women, white or black, had Ph.D.s.

Participation of black women in professional societies and organizations

A few of the national societies and organizations provided data on the makeup of their membership, but because of the lumping of black women in the minority category—or women category—it is difficult to discuss or compare progress. And there is often no distinction made between student or professional members.

Nevertheless, there are some important nuggets of information. In a survey conducted by the Ecological Society of America on its membership and characteristics, only 12—or 0.3 percent—of the total respondents listed themselves as African Americans and no data were given on just African American females. In the American Society of Agronomy, 1.76 percent or 18 of its 1,023 total women in the society are black females (Cleo Tindall 1993, personal communication). According to Trisha Milburn (1993, personal communication), the American Fisheries Society has six black women members or 0.64 percent of its total women membership. In the Society of American Foresters, 0.75 percent (12) of its total women (1,605) in the society are black females (Amy Ziadi, 1993; personal communication). The national society for Minorities in Agriculture, Natural Resources, and Related Sciences has 24 percent (27) black women of its total personal membership (111) which represents diverse disciplines as the name of the society indicates.

These figures represent a very shaky foundation upon which to build a strong support system for the African American woman who may be interested in a natural resources or agricultural science career. What will it

take to interest this important demographic group?

NEEDS FOR A BLACK WOMAN'S SUCCESS

Accurate reporting Shirley Malcom, Head, Directorate for Education and Human Resources, the American Association for the Advancement of Science, asks the same question: "Where are minority women in science, particularly black women?" (Malcolm, 1989). Are the concerns and/or presence of black women truly perceived or just masked because of their dual identity?

As we searched for information about black women it became apparent that there are good reasons to stop "lumping" black women in the minority or women categories. This lumping effect has caused this human resource to be somewhat unseen, untapped, and unsupported. It appeared also to Malcolm (perhaps because of the lumping) that minority women were neither prominent in the civil rights or equality efforts for women—nor those for both women and men minorities, but their efforts were more obvious in the case of minorities.

Another disadvantage of not knowing exactly how many there are is that it is wrongly believed that theirs is a most favored status and that they are displacing legions of qualified whites. The truth is that there are very few black women in professional careers in agricultural and natural resources, especially with doctoral degrees. They are given special status because they are essentially pioneers. As it now stands, black women may face very harsh comments from both men and women due to rumor masquerading as truth.

Sometimes black women have a real dilemma because they are not sure if certain negative comments are made because of race, gender—or both. However, in some cases, the answer is very clear. Denise Meridith, now Deputy Director of the Bureau of Land Management (BLM), cites two clear examples in her career in an interview with Daina Apple (1990). In the first

example, Meridith's undergraduate advisor at Cornell University told her that only one woman at a time could be accepted in veterinarian school and further stated that "black people only like to party and didn't study enough to get good grades." The second example was a bit later in her career in the BLM. At one point she felt that she was having problems moving up in the organization due to an element of sexism in the BLM against promoting women. What is at work here is an entirely different perception of character—altered by race and gender—and used by the majority to describe the behavior of minorities and women.

In sensitive comments based on inaccuracies only serve to alienate and create uncomfortable feelings for the often lonely, often single black woman. Her support systems become crucial to her survival and success.

Support from white males

Black women are often accused of having more privileges and taking jobs from white men. These beliefs and attitudes may create distrust and distress for black women. In a 1991 article, Lynne Duke examines the cultural shifts which bring about anxiety for white men. Duke found the stress-producing issues of cultural diversity in the workplace provoked some interesting, open, and honest comments from white men. For instance, an interviewee stated that he feels affirmative action was and, in some cases, still is a good thing. He further states though that "in certain areas, there's a good chance they are probably getting far more attention than I would consider to be equitable."

The membership in professional societies and workforce data that we gathered from the various agriculture and natural resources national organizations show this is not true—black women make up only a tiny percentage of that population. The idea that a black woman is a major threat for jobs or positions in these disciplines was unfounded. These non-supportive attitudes, however, do not encourage black females to enter these professions.

Organizations and committees that may include black women's issues

National Society for Minorities in Agriculture, Natural Resources and Related Sciences, c/o Dr. Marquita Chamblee-Jones, MAP Program Director, 121 Agricultural Building, Michigan State University, East Lansing, Michigan 48824.

The national society for Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS) was established in 1985 and had its first conference in 1986. The society's goals are to provide mechanisms for recruitment and retention of multicultural students—and then see these students into colleges of agriculture across the country, thereby ensuring a steady supply of professionals for the future (Jordan and Williamson, 1990).

Another goal is to provide a network for professionals and student members. Although the numbers are still significantly less than the number of men represented, it has the largest number of black female members in the agriculture, natural resources, and related sciences disciplines. Their careers range from minority recruiters to research scientists in all arenas of the work force including academia, government, and industry (MANRRS, professional membership files, 1992-93).

Of the group with doctoral degrees (nine Ph.D.s and one DVM), seven or 70 percent listed the agricultural sciences as their area of expertise. The other areas listed were food science and technology, crop/plant physiology, soil science, botany, nutrition, horticulture, and veterinary science. Only one black female listed responsibilities in Administration (an Assistant Dean in a College of Agriculture).

Progress has been made in making sure these women are visible in all ranks of the society. To date, black women have served as president and vice president in the organization as well as other officers and committee chairpersons. However, more improvements can be made on the representation of black women in the advisory branch of the organization. Presently, only two black females are represented on a 15 member board.

Minorities in Forestry and Forestry-Related Sciences (MINFORS), c/o Dr. Jimmy Reaves, USDA Forest Service, Southern Forest Experiment Station, Alabama A & M University, Normal, Alabama 35762.

A biennial symposium has also been developed for minorities in forestry and forestry-related sciences called MINFORS. This symposium is sponsored by public and private organizations concerned about the significant under-representation of minorities in Forestry and related sciences.

The sponsors believe that the problem is due to lack of information provided to high school, college, and graduate students. Advisors may be unaware, for example, of the opportunities for rewarding careers in forestry and related sciences. The symposium is designed to expose minority college students, professors, and advisors to these opportunities. It also seeks to generate collaboration among minority institutions (especially historically black colleges and universities) and traditional forestry schools, agencies, and private corporations to advance the role of minorities in forest resources, science, education, technology transfer and management.

MINFORS has not been formally established into a national organization.

The National Technical Association, P. O. Box 7045, Washington DC 20032.

The National Technical Association was organized in 1926 by a group of black men for the advancement of science and engineering and for breaking down barriers due to racial prejudice. The organization primarily includes all of the sciences and engineering professionals with student chapters across the country. Its goals and objectives are not specific to minorities in agriculture and natural resources.

Committees addressing minority and women's issues within professional societies.

Several national organizations in agriculture, natural resources, and related sciences have standing committees that address some of these issues. Examples are the American Society of Agronomy (ASA), the American Society for Microbiology (ASM), the American Society of Cell Biology (ASCB), the American Agricultural Economics Association (AAEA). Others with national committees for diversity are the Society of American Foresters (SAF), and the American Society of Fisheries (ASF). The Committee on the Status of Blacks in Agricultural Economics (COSBAE) publishes a newsletter.

How can white men become more supportive specifically? (1) An obvious change in attitude would be a first step. (2) Even more importantly, white males are directors, department chairs, corporate executive officers, and middle managers of agencies. These white males have the power to hire, promote, and advance careers. Black women and other minorities need to be allowed to play a strategic role in their organizations and to be judged by their contributions. (3) Recruiting one "token" woman or minority is not enough. And if a black woman is a researcher, for example, don't expect her to do the recruiting for all the women and minorities or serve on all the diversity committees for the whole unit. Although she can be an asset in encouraging women and minorities into the profession, hire someone specifically to coordinate those activities. (4) Where possible, encourage project collaboration between black women and her colleagues and indicate clearly the advantages of this association.

Support from black males

The notion that black women take jobs and opportunities is not exclusive to white males. For different reasons, similar sentiments may be felt by a black male counterpart. Black men may feel that because black women are viewed as less threatening to white males—and that they can fulfill both gender and race requirements—they are ultimately favored for job opportunities.

In George Davis' and Glegg Watson's *Black life in Corporate America: Swimming in the Mainstream* (1982), the authors note that among blacks, men had a considerable head start in the mainstream—by at least 10 years—but as soon as black women began to compete in that arena, a myth grew that they would soon overtake and pass black men. In the agriculture and natural resource disciplines, black males have also had a considerable head start on black women. Some of the black women we spoke with stated that there is a fear by some black men that black women will take their positions. They resort to unhealthy competition rather than

cooperation with black females. This insecurity, whether founded or unfounded, creates stress for black women.

These comments also led to some specific suggestions by those to whom we spoke that black men can utilize to support black women. (1) An acknowledgment that we need each other's support. (2) Acknowledge black women's contribution. One black woman in natural resources stated that she did twice as much work as her white counterpart but was never acknowledged in appropriate meetings by her black male supervisor. Although she believes her supervisor appreciated her work on some level, he never publicly recognized her efforts yet expected her to go the extra mile if he got into a jam. She stated, "He takes me for granted because I am a black woman."

Gender becomes an important issue within the race. It is important for black men to recognize the black woman's worth and utilize her strengths so that they both excel in their careers.

Support from white females As with some white male colleagues, some white women may not view collaboration with black females as advantageous because we are so few and thus an unknown quantity. White female professionals may not see her own oppression and discrimination as being different from that of black women. They may not get "her problem."

Susan VanDyne, professor of English and chairperson of the Women's Studies Department at Smith College, acknowledges that the primary experiences of African American women are not represented (Phillips, 1993). Phillips' article points out that there is a distinct unwillingness to acknowledge the distinctively different nature of oppression for white women and nonwhite women.

Common comments from other women may be: "You got it made" or "I can't believe you are having problems finding a job" making the unsuccessful job hunter feel even more rejected. They do not connect to the race and gender prejudices encountered by black women. Regard-

less of the length of their service, black women earn less money, fewer promotions, and less tenure than white women (Phillips, 1993). At times this dual identity, being black and female, may cause doors to open but other times they are surely closed. Joyce Cacho (1993, personal communication) describes the weight for this dual identity as being very heavy like "two sand bags dropped on your shoulders."

What can white women do? (1) White women can make sure black women's issues are not "lumped" under minority or women categories but openly discussed as specific and sometimes distinct issues. (2) They can provide or make sure information is accessible to all groups. Some of the personal interviews with black women in agriculture and natural resources indicated that sharing of information between the two groups is not always reciprocal. (3) They can be further supportive by respecting and understanding cultural differences. (4) White women in their roles as supervisors or faculty can support or offer encouragement for women in this ethnic group to pursue science and natural resources careers.

Support from black women Issues of conflict between ourselves should be discussed openly. We are sometimes so busy dealing with issues of day-to-day survival that we tend to ignore and not acknowledge our own biases and conflicts.

As we have become successful and promoted into the mainstream, do we make sure our younger colleagues are aware of promotion and greater success opportunities or are we content to be "queen bees?" A younger black female colleague we know was trying to make a decision to pursue her doctorate in the agricultural sciences. She did make a decision to pursue a doctorate but was reluctant to discuss her decision for fear of jealousy from other minority female colleagues. We were surprised to learn of this fear and were somewhat stunned that her perception was that some black females are contented to be the token, the only one. Our re-

sponse to her was that we were genuinely proud of her; the profession definitely needed more black women.

In our own career development, we have seen women and minorities in higher positions treat their younger counterparts harshly and in a manner to suggest that even though we are the same race or gender—*there are no free-rides here.*" Joyce Jones, a physiologist, who is a single black parent, believes that she has been denied information—by black women—or passed over for opportunities that surely other ranked minority women and men knew about (1993, personal communication). In some cases, it is as though the status quo is an easier place to be because the demands on camaraderie are not as high.

Another way of saying it is that as black people battle with every one else for higher position, they expect more from each other in the way of help, but are not getting it. This is not to suggest that all minorities and women do not do their best to provide information and opportunities for their younger counterparts, but most would agree that more effective networking and mentoring is in order.

Another issue, although rarely discussed, are black women from other countries who decide to pursue agricultural and natural resources careers in this country. Although as a group black American women have suffered oppression and still continue to deal with these issues, we are not always viewed as supportive of black women from other countries. Some of these non-U.S. women stated most black women embrace them as sisters, but not all readily accept other differences.

As the literature review and membership data from national organizations have suggested, we have serious critical mass (numbers) problems and very few role models in key positions. We cannot afford to be jealous of each other.

Support from family In 1976 Shirley Malcom wrote, "the more an 'individual' resembles the 'typical scientist,' the lower are the costs [to become one].

Each factor of deviation from the norm raises the costs so that, as a group, minority women must pay a tremendous price for a career in science. This 'differentness' may not only be a factor in the scientific community but also in the context of her culture."

While it is obvious that black women deviate about as far as possible from the white male norm of "typical scientist" what does Malcolm mean when she refers to *context of her culture*? It means explaining to those she cares about that a field of work considered an anathema to her race because of American social history is, in fact, worthy of serious study. For instance, Janet Haselrig (1993, personal communication), a wildlife biologist, recalls comments from friends like, "Girl, what are you trying to find in those woods?" Our own personal comment repertoire includes many variations of "Didn't we work hard enough during slavery on the farm? Why do you want to work in the field?"

On the other hand, Haselrig said that although the initial reactions are to view you as strange, once friends and family members understand and realize that you are doing what you want to do and that you enjoy a "weird" profession, they begin to take an active interest in your career development. The black woman's family and friends are usually her strongest source of emotional support.

Support mechanisms for faculty We would like to address especially the university culture in the following suggestions for support, because it is at the university first that young scientists observe, participate, and interact as independents in a professional community in a dramatic and personal way. Observing how minority faculty women are treated by their colleagues, how they are rewarded by administration, and how satisfied they are with their lives are beacons of encouragement for young scientists along the path—only if the faculty woman is satisfied. She is a model in other ways if satisfied: she assists young males to accept authority from minority women.

•*Credit for Mentoring* Credit toward tenure and promotion for all faculty who mentor and develop effective programs that increase women and minorities who are coming through the educational pipeline is desperately needed. Faculty life is tough for all women, particularly minority women, and is reflected in the body count: according to the American Council on Education, only two percent of all *tenured professorial* positions were held by minority women. Minority women averaged 11 percent of all *part-time faculty* positions with black women making up five percent of this part-time total (Phillips, 1993).

In the university setting where we are often less than one percent of the total agricultural or natural resources faculty, we are often looked upon to answer many of the concerns of minorities or women. Most of the work or efforts for addressing diversity needs in our universities is placed under the rubric of services, and despite the rhetoric, it is generally not nearly as highly valued as research, publishing, and teaching when promotions are considered.

Sandra Murray (a black female cell biologist) states that, "Service work doesn't count for a lot at tenure time but if you turn down requests, you may miss valuable contacts, and you can create enemies by not being a team player." It is also difficult to just say "no" when you have been there and know the barriers and obstacles. This personal conflict and reality present a real dilemma for minorities. On the other hand, if you do choose to just say "no" especially as a black female, you are often criticized by your counterparts as noncaring. There is no easy answer except to be true to oneself.

This is not to suggest that developing programs should replace research or teaching but all scientists (male or female) should be given credit and encouragement to interact with minorities and women. This may relieve some of the stress experienced by minority and women faculty/researchers.

•*Equity in Pay* Regardless of the length of their contracts,

black women are more likely than their white female counterparts to earn less money and have fewer positions of tenure (Phillips, 1993). Women, in general, have still not received equity in pay. Low salaries have been reported for minority women as a group, especially black women (Phillips, 1993).

•*Adequate Research Funds and Space* These two items must be provided for black women (and women) whether they are located in a university, government, or industrial setting. If we are to increase the flow through the pipeline of black females, we must make sure the present black female scientists are supported on all levels. Because black women may be isolated in a particular department or university, special efforts should be made to form collaborative research projects with each other, where possible.

•*Reduce Teaching Loads for Black Women* Women in general may have heavier teaching loads and black women are no exception. This is why it is so important for women already in the ranks to provide information which highlights these facts so that there are data. Unless concrete evidence is offered, release time for women who would like to increase their research efforts will be denied.

•*Visibility* Appropriate recognition of accomplishments and achievements should be given whenever the opportunity arises. We must not wait for the entrenched bureaucracy to give us the recognition and honor that we deserve. We must recommend and support each other for awards and opportunities that demonstrate and display our scientific and professional endeavors.

BARRIERS TO SUCCESS: WAYS TO SURMOUNT THEM

Early childhood socializing Signithia Fordham, professor of anthropology at Rutgers University, pushed some obvious buttons with her controversial research on "Those Loud Black Girls" which focused on meeting the distinct needs of black girls (Morgan, 1993). Fordham uses "loudness" as an

appropriate metaphor because black females who succeed, especially academically, have learned to adopt male behavior or "gender passing," which is seen as the "normal" behavior. This research supports the widely held belief that there is a lack of appreciation for both gender and racial diversity and that both black and white females engage in a certain amount of it in order to succeed. These norms do not allow for gender diversity, which means sadly, that every social group has the same norms. But, even more importantly, these distinctions are being taken away much earlier in black girls' lives.

We need to reach students, especially black females, at an early age to promote a sense of selfhood, a sense of accomplishment, and, perhaps a sense of "we too are the norm." Early encouragement by talks at secondary and middle schools and Saturday science programs for elementary students can demonstrate and emphasize that gender and race need not limit any student from success.

Lack of pre-college and college level opportunities We can make sure female students are exposed to and given equal opportunity for summer internships and appropriate work experiences. For summer internships during high school years, such as in Forestry programs (which may be far away from the inner city or small town life), it would be advisable for recruiters to send females on joint assignments—especially if this is their first experience.

Women and minorities often complain of isolation on campuses. For black women, this feeling may be experienced to an even greater extent. When we examine the total number of science degrees awarded in engineering, math, and physical sciences (EMP) for U.S. citizens, we find that black women make up the smallest percentage (Tolbert, 1993), so it is not a figment of black women's imagination that they are often on their own in classes and field work.

In answering the question we have been focusing on here—why are too few black women doing science or enrolling in sci-

ence courses? One answer is that women and minorities are "still too much in a box" and are sometimes unable to discern their own best interests.

That does not, however, relieve them from the struggle to educate themselves. The burden of mainstreaming should not be totally placed in the lap of the establishment; it is an individual responsibility (Ford-Logan 1992). Once young women and minorities are made conscious of their opportunities and potential, they must be made aware of the consequences of their actions and their interactions. They must learn the best ways to get things done by watching and observing both successful women and men. At a minimum, majority and minority professionals must assure that while the learning process goes on, discriminatory or threatening actions are blocked.

Lack of self-esteem and self-confidence As women, black or white, we can help each other: we must encourage one another and simply be kind. There are numerous studies that document women as being nurturers and caretakers. This should be viewed as a strength that we bring especially to girls and women who show an interest in agriculture and natural resources work. Our actions can promote self-esteem and confidence.

Lack of financial support Funds for college and graduate study have been cited as a number one barrier for entrance into *postgraduate* studies (Jordan and Williamson, 1990). Black females must be made aware of, and provided with, financial assistance. Single parent families (especially black women) may need extra sources of funding.

Lack of consideration for the overworking of minorities In a special issue of *Science* (1992) focusing on minorities in science, the generation of minority scientists who are now in tenured positions or in administration still face extra burdens at the top. Because minorities may represent only a handful of representatives of this group, minorities who have "made it" are tapped to take on extra professional responsibilities. It is a serious conflict.

SUMMARY

It is clear that some strides have been made to increase the number of women and minorities in agriculture and natural resources. Although the data is scarce and sometimes sketchy, the number of black women in these areas has increased by small increments. Some unique barriers still exist. Black women who have surmounted the obstacles must continue to help break these barriers to progress and do more to increase our numbers. We must network through possible joint projects and acknowledge each others' accomplishments.

We believe the future can be a bright one for young black girls interested in agriculture, natural resources, and related sciences. However, we must begin early in their lives to teach and inspire them about careers in these areas. Finally, it is very important that black women already in these careers be retained by supportive networks from other women and men. Because black women are faced with both race and gender issues, encouragement and sensitivity can help ease the feeling of isolation and loneliness.

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Diann Jordan, pictured below in her lab is an assistant professor of Soil Microbiology in the School of Natural Resources at the University of Missouri-Columbia, Missouri.

Jane Ford-Logan, in the greenhouse, is a plant physiologist, research scientist with the USDA Forest Service, Southern Forest Experiment Station at Alabama A & M University, Normal, Alabama.



EIGHTEEN YEARS AGO, AN EVENT TOOK PLACE IN THIS AUTHOR'S LIFE WHICH IS STILL A VIVID MEMORY.

SHE SAVED MY LIFE

PAULA JAN PEPER

As the sun's first rays illuminated the pasture in front of the Forest Service cabin, I tromped through dew-laden meadow grass and caught Squirrely, my Forest Service-supplied half-Arabian quarterhorse. Within half an hour he was grained, curried, and saddled.

After carefully checking my first aid kit and replacing missing items, I packed it in my saddle bags along with maps, compass, and a day's ration of food. It was July 3, 1976, the day before our nation's bicentennial and I expected an invasion of backpackers taking advantage of the long weekend to trek through the high Sierras.

An "invasion" of the proposed Carson-Iceberg Wilderness meant that I might see as many as 25 people over the course of four days, nearly twice the number I'd met during all of June. This area of the Toiyabe National Forest in California's central Sierra Nevada Mountains spanning a 6,000 to 10,000 elevation range remained little known, most hikers preferring the comparatively well-worn trails of Desolation Wilderness to the north, Mokelumne Wilderness to the west, or Yosemite National Park to the south.

It was my second year as the Carson Ranger District's lone backcountry patrolperson, a job lasting four to six months each year and paying \$4.29 an hour. On this particular work day I had planned to patrol a 22-mile loop up the Poison Flat Trail, through Long Valley and the Fish Valleys, then back down the same route to the Poison Lake Trail. I

would check camps at the lake and then wind my way down an old Paiute Indian trail, a shortcut back to the cabin. Mistral, my three-year-old German Shepherd, took up her place about ten feet in front of us as the horse and I set off on the beginning of what I assumed would be a good 10 hour trek.

After trotting through the morning mist for about a half hour, we stopped at the northern tip of Dumont Meadows, a lush, mile-long valley bordering the East Carson River, to help some week-long campers repack their gear on their rented pack horses. Having fed their breakfast leavings to Mistral, the campers saddled up and rode off on the nine-mile trail to Antelope Pack Station and civilization. I spruced up the campsite and spent 15 minutes on foot, checking the cow trail along the river for litter.

I had tethered Squirrely to a small lodgepole pine and when I returned, he was pawing at the ground, snorting and prancing, displaying what I interpreted as his usual eagerness to get moving. He knew the backcountry well, having spent four years there on patrol, two more than I. At nine years old, he possessed the high energy typical of his Arabian ancestors and became bored easily if not challenged with new trails or cross-country routes on a regular basis. This boredom created a penchant for

playing games, pretending to be spooked by squirrels darting about the forest being his favorite. And so it was that at the end of my first season in the backcountry I changed his name from Sylvester to the more descriptive "Squirrely."

Gathering up the reins, I put my left foot in the stirrup and had just begun swinging my right leg over the saddle when I spotted a yearling bear cub about one hundred yards upwind from us. A nanosecond later, Squirrely erupted, wildly twisting and bucking his way around the meadow. At 23-years old, I was in excellent physical shape from hiking, cross-country skiing, snowshoeing, and horseback riding. While no bronc rider, I'd averaged about 1800 miles per year for two years on horseback in rough, mountainous terrain and could generally keep my seat during the occasional outburst of bucking and crow-hopping typical of most rambunctious, young horses.

But this was different; Squirrely started bucking before I had completed mounting him. Frantically trying to get my right foot into the stirrup, I struggled to gain control over the horse by releasing all pressure on the reins in hopes he'd buck himself out. But when he added an uncontrolled gallop to his midair gyrations, I pulled up the reins so tightly that his head was nearly

touching my own. The horse charged on, bucking and twisting, panicking in an all out effort to escape the bear's scent. As I fought to keep him from plunging towards the trees and boulders at meadow's edge, fought to keep from being catapulted over his head, his legs suddenly slipped out from under him and both of us lost the precarious balance we'd had. Crashing down hard, under the horse, sliding back first against the earth, seeing grass tear by, I wildly hoped the horse wouldn't crush me completely.

As quickly as it all began, it was over. Squirrelly's explosion lasted perhaps a minute, then I lay face up, looking at the sky, the air calm, everything quiet, like watching a television show with the sound turned off. I observed Squirrelly rise silently, shake himself and trot off across the meadow. Mistral ran up, licked me on the cheek and also left at a run. I assumed the bear cub had run off as well, being easily frightened by the noise of the bucking session. Now all was so quiet, so peaceful, until from someplace outside of myself I heard a gurgled whisper, "Oh God, someone help me." Pain followed. Everything felt crushed. My lungs rattled oddly. Blood gushed from my mouth. I had to get help.

Completely alone, I lay there trying to think. There had been people camped not far from my cabin, a little over a mile away. If I could reach them. . . . Blood gurgled in my throat as I struggled to move, to crawl, to work myself up onto one knee. Intense muscle spasms threw me back to the ground as they coursed from my ribs down my left leg. Was it broken? I ran my hand over the hip and leg, feeling for a wound or deformity. Nothing. Good. At least if it were broken it wouldn't be a compound fracture. Gingerly I felt around inside my mouth to determine where the blood dribbling down my chin was coming from. Was my lung punctured or had I simply bitten my tongue? Tongue and mouth were fine. Something internal then.

Moving was impossible. Every attempt to kneel or crawl

met with bone-jarring spasms. The meadow and surrounding peaks whirled dizzily around me. Pulling a notebook from my shirt pocket, I jotted down my mother's name and address, the name of my doctor in Carson City, and my location, in hopes that someone might find me and call for help if I were unable to remain conscious. But who would find me so far off the trail, lying in knee-high grass?

Reaching to my right side, I found the Forest Service radio still attached to my belt. Leviathan Lookout, perched at the top of 9,000 foot Leviathan Peak 30 miles away and across many mountain ridges, was the only radio contact I might have a chance of making. I prayed that my friends Jimmie Beanblossom and her husband "Beany" were on duty. They were a caring couple who diligently contacted me via radio every evening to check on my health and welfare. Feeling strangely tired and sleepy, I pulled the radio from its case, pressed the transmit button and spoke. "651, this is 125." No answer.

"651, this is 125, Peper, please answer." Nothing.

"651—Jimmie, Beany, anyone at Leviathan. . . this is 125, Paula Peper."

A crackling of static and then, barely readable, "This is 651, Peper. Go ahead." Beany, Jimmie, they were there.

"My horse spooked. I'm down, hurt. Maybe fractured hip. Also spitting up blood. I'm in Dumont Meadows. Need help."

"Your transmission is breaking up, Peper. Repeat."

Growing sleepier, I found talking a tremendous effort. "Horse threw me in Dumont Meadows. I'm hurt. Help me." It was impossible to keep my eyes open. As I started to lose consciousness, I could hear Jimmie trying repeatedly to reach me, then arguing via radio with someone about getting a helicopter in the air, the other person asking for map coordinates to fly to, Jimmie stating she had none.

Map coordinates. Dumont Meadows wasn't labeled on any map. My maps were in my saddlebags on the horse.

Squirrelly was . . . well, who knew where?

I'm not sure how long I dozed, but when I awoke, Jimmie was madly trying to reach me. I called back.

"Is that you, Peper? Please repeat."

"Yes, Jimmie. It's Peper. Is help coming?"

"Peper, if that's you, keep trying, your signal is breaking up." I continued trying.

"Change to frequency two, Peper."

Changing frequencies still didn't help. I needed to move. I'd found only a few good locations for clear radio contact with Leviathan along the 132 miles of trail I patrolled and this, apparently, was not going to become another. Holding the radio so near the ground probably caused additional interference. I tried raising it higher and calling again. No good, the reception had faded. My only hope was that it would improve. I'd have to keep trying.

Jimmie's voice came on again, "Peper, we cannot read you, but maybe you can read us. I'm trying to get a helicopter up. We aren't sure where you are. If you can read me, key your radio twice. Repeat, key your radio twice."

Good old Jimmie, always thinking. We'd still manage to communicate. I pressed the transmit button on my radio twice.

"Peper, if you can hear me, key your radio twice."

Again I pressed the button, but again she came on with the same message. It was no good. I could hear everything she said, perfectly, but she heard nothing from me. I tried willing the helicopter to fly, to begin searching. There were miles and miles of country to cover. I wanted them to contact Gary Sayer, my supervisor, the one person at the Carson Ranger District office who really knew the backcountry. He would be able to tell them exactly where Dumont Meadows was. What I didn't know then was that Gary and his family were vacationing for the 4th of July weekend at a campground 20 miles south of Lake Tahoe.

I lay there listening as Jimmie and Beanie frantically tried to

convince the Field Officer on Duty and in charge of the helicopter to get the ship up and searching for me. He kept insisting on their trying to get more information from me. I kept trying to call for nearly an hour before pain began wracking my body again and made the effort to communicate impossible. Relax, Paula. Stretch out and convince your body to relax. I tried meditating, repeating an Indian mantra to myself over and over. It worked, soothing me, relaxing spasming muscles. I lay back, resting, starting up at the electric blue sky, the rugged contour of Simmons Peak, the gently swaying pines across the meadow.

There was an odd rustling in the grass, not the breeze rippling through it, but something else, something alive coming nearer. Raising myself up on my elbows and turning my head towards the sound, I caught sight of two pointed black ears floating rapidly towards me. . . . Mistral! Within seconds she burst through the tall grass and stood panting over me. She ran circles around me, barking, then returned to lie along the length of my side, licking my face with her dripping pink tongue.

Again there were rustling sounds. . . and then a voice, "Wow, lady! Your dog is incredible! Can you believe it! She came and got us. . . wouldn't leave us alone, kept barking, so we followed her. When we ran into your horse along the way, we knew something was really wrong. I can't believe your dog!"

As though cued, Mistral lay her head gently on my chest and thumped her tail on the ground. Until that moment, she'd only seemed good for shredding pine cones on the cabin floor, chasing squirrels through meadows, antagonizing the mule, and stealing steaks off the campfire. Rather than abandoning me as I'd first assumed, she'd purposefully given me a lick and run off to the campsite near the cabin where we'd met two backpackers the previous day. She'd found David and Catherine still there, so she barked insistently, harrassing them until they finally

figured out that she wanted them to follow her. On her own, without a command, she'd managed to bring help. As I lovingly stroked her head, I discussed my situation.

"I think I may have fractured my hip. Something's not right in my chest. Don't know if I have something wrong internally. I feel pretty light-headed. Listen, can you use this radio? I can't reach out from here, but move around the meadow some and try calling out to Leviathan Lookout. Just push the button to talk and release it to listen. Call Jimmie and say you're with me, Paula Peper. Then maybe you can help guide the helicopter in, make sure it sees us."

David went to work and within minutes found a spot from which he could communicate. He didn't have a map and couldn't give coordinates, but he clearly explained our location in reference to the cabin, the river, and other visible landmarks that were on Jimmie and Beanie's map at the lookout. He also related my status.

Jimmie came on the radio loud and clear, "Okay, David, we have a location and the chopper will be up and flying momentarily. Tell Peper we'll get her out, and try to keep her awake. We'll call you again when the helicopter is enroute."

While we waited, Catherine cleaned the blood from my face and worked to make me as comfortable as possible. Minutes later we heard the throbbing of the helicopter's rotors coming up through the canyon along the East Carson River. David signaled the wind direction and the ship landed. Its doors opened and seconds later Dan Symms, a range technician and friend, came running towards me with two other men. To my amazement, the chopper took off before they reached me. Dan grabbed hold of my hand, "Don't worry, Paula. You have plenty of help now. These guys with me just happened to be visiting when your call came in. Meet John Cramer and T-bone. They're smokejumpers out of Boise and they're Emergency Medical Technicians."

John and T-bone checked me over as thoroughly as they could without a medical kit. John explained he'd sent the chopper back because he wanted another that was large enough to transport me inside with at least one EMT attending. The muscle spasms were worsening, but I had remained calm and could wait awhile longer. I tried to relax and listened to the communications on the radio as people at the Forest Service's Markleeville Guard Station frantically searched for a Stokes basket and other equipment necessary for my transport.

John moved a couple of hundred feet away to send messages, but in the clear mountain air, I could still hear him talking. "Pulse and blood pressure holding. Possible fracture, left femur or hip joint. Possible internal injuries. We want that other helicopter immediately." They answered: "10-4. The FOD [Field Officer on Duty] is working on it. We'll radio when it's enroute."

John and T-bone continued to check my vitals after each wave of spasms picked my upper body up and slammed it back against the earth. Another hour dragged by. I kept thinking that I must not panic, must remain calm, think and talk coherently. Over and over I kept telling T-bone I was fine, as much to convince myself as anyone else. I also continued to meditate in an effort to keep my vitals steady and delay shock.

Over four hours after Mistral had arrived with help, I felt myself go into some kind of convulsion, a gigantic, all-consuming spasm. T-bone rapidly rechecked vitals and yelled something to John, who, in turn, screamed into the radio, "*This is an emergency!* Patient is tachycardic. She's going into shock. We need transportation now! Take the doors off the helicopter that flew us here and get it back to us!" Jimmie relayed John's message to the FOD with equal vehemance, "Get that chopper flying *sta!* Paula needs help *now!*"

I couldn't understand why they were so upset. I felt calm, euphoric. It wasn't bad resting in the meadow, really. The wind

was picking up a little and it was getting cooler, but somehow, I felt very contented, not for a moment realizing I was going into shock.

"John. The FOD copies but states it's against safety policy to fly without the doors. . ."

"What!"

"Standby, John. He may be changing his mind."

Only later were we told that all the while the Forest Service worked to find a larger helicopter to transport me, the original helicopter that brought John and T-bone had been parked near a cow camp at Wolf Creek Meadows about eight miles north of the accident scene. When the FOD refused to have the chopper's doors removed, my friend and nearest neighbor, cowboy Clyde Connell decided it was time to intervene. We'd met and become friends a year earlier when he took up residence at Vaquero Cow Camp, some two hours away from my cabin.

The morning of the accident, he'd ridden to Wolf Creek to help another cowboy repair barbed-wire fences. He was a tough, lean, old cowboy who'd started punching wild cattle on an Arizona homestead at the age of three. He lived by a rigid cowboy code of ethics that taught him to care about people first and rules later. That day at Wolf Creek he put that code into action. Listening to the radio transmissions and growing increasingly disgusted with the argument over the helicopter doors, Clyde grabbed a crescent wrench and marched out to the helicopter where he told the FOD that he had a choice: "I can use this here wrench on the chopper doors or I can use it on you first, then the doors. Your choice."

As Clyde recounted later, "That feller made a snap decision, and the right one fer once. Just about everybody liked it; the boys on the crew were mighty happy to get them doors off and get to flying back to you."

Within 15 minutes, the chopper landed for the second time in the meadow. Ed Paniagua, Helitack Crew Foreman jumped out and ran over to us with the Stokes basket. John and T-bone then wanted to prepare me for

loading, but were afraid Mistral might attack them if they hurt me in the process. I patted her head. In five hours she'd never moved from my side. She knew the men were trying to help me. I figured she knew better than to bite them. I told them to go ahead and begin; she'd be okay with them.

Working together, John, T-bone, and Dan rolled me up onto my right side. They accordion-pleated a blanket against my back, and rolled me onto it, centering me in the blanket by pulling the pleated edges out. With three men holding onto each side of the blanket, I was lifted into the litter. Without hesitation and in one fluid movement, they lifted me and ran. I was in the ship, being strapped down across the back seat before I realized that the loud wailing sound I had heard as they ran came from me, not Mistral.

Mistral was busy trying to jump into the chopper with me, but the guys kept her out while they finished securing me. Although the Stokes basket was tied down to the seat, my head and shoulders extended beyond the doorway of the chopper.

"Okay, Paula, you're wrapped up and ready to go," Ed informed me. We should have you at the airport in Minden, Nevada within the hour. An ambulance will meet us there to take you into Carson City. Are you going to be okay?"

I nodded affirmatively. "But what about my dog? She's flown in this ship before. You've got to let her come. Without her I'd still be lying in the meadow."

"There's no room and it wouldn't be safe for her. We'll bring her to you as soon as possible."

Before I could argue any further, the pilot powered up the rotors, and we were airborne. Turning my head, I looked down through the wire of the Stokes basket and saw four people standing off to the side of the meadow. Directly beneath me, in the center of the meadow, Mistral sat alone, staring, watching the helicopter rise higher and higher, carrying me away. I could only hope she wouldn't attempt to follow, that she would know enough to obey whoever stayed

behind, wouldn't try to hole up at the cabin to await my return. It would be a long while before I'd be back again.

I lost sight of her as we crossed the ridge, flying towards Antelope Pack Station. The winds were high and the prop wash battered against my face as we flew. I saw Leviathan Lookout coming up, and as we passed it, Ed turned and yelled that Jimmie and Beany had a message for me, "You tell Peper we love her and she'll be just fine."

An hour later I was transferred into an ambulance. As we raced to Carson-Tahoe Hospital, the attendants cut off my clothes, readying me for the emergency room doctors. Within half an hour, we pulled up at the hospital. The ambulance doors swung open and, to my amazement, there was my boss, Gary Sayer. "A fire patrolman got hold of me, Paula. You're safe now and you'll be just fine."

A moment later, my sister Patty came rushing up. My mother, having been notified of the accident, had rangers contact Patty where she and her family were camping at Lake Tahoe. Patty had spent the hours since then trying to find out what hospital the Forest Service would transport me to so she would be there to greet me. Seeing her, I finally let go, let the tears roll. At

4:00 p.m., six hours after Mistral first brought help to me in the meadow, I was at last safe, in good hands, with people I knew and loved.

My back and left side had sustained multiple contusions and abrasions. Sclerotic patches, small, hardening fibrous tissues, had been torn from my left hip joint, causing severe pain as they grated, like pieces of sand, within the joint. The impact had also broken multiple blood vessels in my bronchial tubes, causing the oral bleeding I'd suffered earlier in the day. I could not sit up for a week and it was two weeks before I'd try walking with crutches. I had three more months of recuperation and therapy before I would return to limited duty work.

On my fourth day in the hospital, I was finally reunited with Mistral, who was quickly dubbed "Wonder Dog" by the hospital staff. And she was a wonder; until that day in the meadow, I had never imagined that she was capable of rescuing me or anybody. She had simply been a dog, a dog like any other dog—eating too much food, caring more about chasing squirrels than obeying commands, and preferring to howl with the coyotes than keep me company during backcountry evenings. But from July 3, 1976 to today, I've known that I wouldn't have made it out of the high Sierra

backcountry if not for her. If shock from my injuries hadn't killed me, exposure to the elements would have.

On the positive side, I came away from the accident having gained two more close friends; the Beanblossoms at Leviathan Lookout "adopted" me as another of their many Forest Service "children," keeping close tabs on me, and offering constant encouragement and love as I recuperated.

Squirrely survived the entire incident without injury and went on to serve many more years in the backcountry. I decided while still in the hospital that if I were able to return to the job, he'd remain my first choice as a mount.

In May of the following year, Mistral and I did return to our backcountry home, both of us eagerly trading the amenities of civilization for the beauty and freedom of wilderness. But no matter where we were, whether patrolling Sierra backcountry, visiting friends and family in Sacramento, or working on a remote ranch near California's central coast, Mistral never forgot that day in Dumont Meadows. Until the end of her long, active life in 1984, whenever a helicopter flew overhead she would race to my side and lean protectively against me, emitting a menacing growl to ward off the bird in the sky that swooped down and took me away one summer day, years earlier.

Paula Jan Peper is a Biological Technician, Western Center for Urban Forest Research, based in Davis, California. Her project researches the effects of root barriers on tree root development for the Forest Service's Pacific Southwest Forest and Range Experiment Station. She worked in timber, recreation and fire management for the Forest Service in Nevada and California from 1974 through 1982 when she left to manage an isolated ranch in California's Cuyama Valley.

In 1987, after five years of offence building, livestock tending and tree planting, she yearned for conversation with someone other than four-legged critters. Working seasonally in resource management and vegetation monitoring at Sequoia-Kings Canyon National Parks, she financed a Bachelor's in English and a secondary level teaching credential in 1991. Peper taught English as a second language to students from 11 different countries in an inner city California high school during the 91-92 school year—then returned to the Forest Service and her current position.

The photos below are of Paula Peper and Mistral in the early backcountry years, and of Paula and her 10-month-old current German Shepherd pup, Sage.



Jessie A. Micales

Research

In

Progress

Focus on:

FIRE

Effect of Fire on Mycorrhizae

Dr. Carole Coe Klopatek,
Research Microbial Ecologist

My overall research emphasis is on the effects of anthropogenic disturbances, such as fire, grazing, and climate change, on ecosystem structure and function. I focus on below-ground processes, including nutrient cycling and plant relationships with mycorrhizal fungi. These key below-ground processes are fundamental mechanisms that underlie large scale ecosystem behavior.

My primary research area is the short- and long-term effects of fire on biogeochemical cycling of nutrients and mycorrhizal relationships. In early laboratory studies, my coworkers and I used a microcosm approach to test how fire effects microbes, mycorrhizae, and nutrients. This study demonstrated how fire negatively effects these critical below-ground properties. The results prompted us to repeat the experiment under actual field conditions.

•In the fall of 1989, we burned a large section of mature pinyon-juniper woodlands. Immediately following the burn, spore and total propagule numbers were significantly reduced under tree canopies (up to 88 percent loss) and in the interspaces between plants (47 percent loss). A significant decline in

mycorrhizal species richness was also noted, confirming our earlier findings. In addition, over 80 percent of the carbon and nitrogen was lost from the forest floor.

Two years after the burn, increases were found in both spore number and species diversity in the interspaces compared to pre- and post-burn samples. In contrast, burned canopy soils showed no recovery from the effects of burning. We found decreases in species diversity, spore number, overall propagule number, and in the soil nitrogen and carbon levels in all samples. Little, if any, vegetative cover was found on burned canopy soils even after two years.

Our one- and two-year post-burn results suggest that there is still significant losses of nitrogen by nitrification and possibly through subsequent denitrification and nitrate leaching. Significant losses in carbon are now occurring via carbon dioxide evolution. Overall, it appears that fire changed the spatial distribution of mycorrhizae and nutrients from a canopy-dominated to an interspace-dominated mycorrhizal community.

We are continuing to monitor this site in order to determine the successional patterns of these below-ground properties following fire. We wish to explore further the long-term consequences of fire by examining a fire chronosequence.

•We have two additional research projects in semi-arid woodlands. These studies focus on how potential climate change may effect landscape dynamics of carbon and nitrogen pools and fluxes in

the southwest. We are accomplishing this by studying select ecosystems with emphasis on a semi-arid pinyon-juniper woodland and the ecotones between it and the bordering biomes-ponderosa pine on the mesic end and Great Basin Desert scrubland on the more xeric end.

Specifically, we are documenting 1) the relative pool sizes and aggradation rates of carbon and nitrogen levels and mycorrhizal density and diversity across ecotonal boundaries, and 2) how potential soil heating may affect these processes. We are attempting to predict changes at the regional biome scale under the stressful conditions of climate change by documenting different pool sizes, fluxes, and associated ecosystem properties (such as mycorrhizae) at the selected sites.

Preliminary findings from this study indicate significant differences in mycorrhizal populations and nutrient pools across transition zones of pinyon-juniper and ponderosa pine forests, particularly in the forest floor material. We have also found that there are significant differences in the cellulose-degrading bacterial populations. These differences are related to the different carbon fractions under and between each of the vegetation types and across transition zones.

•I also work on several projects in Nimibia, Africa. One study originally involved the occurrence of mycorrhizae across a moisture gradient in the hyperarid Namib Desert. Continued funding allowed me to continue this work, and I am currently assessing the mycorrhizal commu-

Research in Progress
If you have a research project which would interest our readers, give us a brief overview, your own contributions to the research, and what you expect the outcome to be. Send two copies to:
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nities and composition along a fog (coastal), fog-rainfall (desert/inland), rainfall (mountain) precipitation moisture gradient through the country. My coworker, Dr. Joseph Morton of West Virginia University, is deeply involved in the identification of these unique fungi. Thus far, we have found several new species of mycorrhizal fungi and have examined many plants that have never before been identified as mycorrhizal, including two of the oldest living plants in existence! I have also found that these symbionts adopt unique adaptations when exposed to different water regimes.

•My last research project involves bioremediation. The overall objective of this work is to measure the efficacy of a new microbial slurry, recently approved by the U. S. Environmental Protection Agency, on soil contaminants, such as petroleum-based hydrocarbons (e.g. diesel fuel), aromatics (e.g. BTE), and pesticides (e.g. pentachlorophenol and 2,4-D). I will be testing how this slurry can be used with mycorrhizal fungi during remediation and in reclaiming post-remediation sites.

This research is specifically designed to identify, quantify, and compare mechanisms of degradation pathways in this slurry against known enzymatic pathways of soil microbes. The specific goals of this research are to determine: 1) how this slurry activates the natural flora of soils; 2) what enzyme pathways microbes use to break down the contaminants; 3) to what extent these same pathways exist and function in different soil types; and 4) whether post-contaminated

sites can be reclaimed economically with mycorrhizal fungi in conjunction with the slurry. Contaminated soils and research sites include an ephemeral riverbed (downstream effects), an agricultural soil, a forested soil, rangeland soil, and a desert soil.

Carole Coe Klopatek has been with the U.S. Forest Service for six years and is stationed at the Rocky Mountain Forest and Range Experiment Station in Flagstaff, Arizona. She also has a laboratory at Arizona State University in Tempe, Arizona. She received her Ph.D. in Microbiology from Arizona State University in 1991.

Fuelwood Harvesting and Prescribed Fire

Hazel Perry, Research Soil Scientist

Effects of various forest management practices on soil nutrients and nutrient cycling in pinyon-juniper woodlands are being studied on the Heber Ranger District of the Apache-Sitgreaves National Forest in central Arizona. Harvesting of fuelwood has become a more popular use for pinyon-juniper woodlands in recent years and is also an effective treatment for opening up dense stands of trees that inhibit growth of the understory grasses and forbs that are utilized by domestic livestock and wildlife.

Fuelwood harvest, however, leaves the forest manager with a problem of slash disposal. Slash material, the smaller branches and stems of the trees left after harvesting, can inhibit livestock and wildlife utilization, increase

fire hazard, and decrease the aesthetic value of an area.

Prescribed fire is an inexpensive and rapid method of slash disposal, but its long-term effects on nutrient cycling and plant regeneration are not well known. Pinyon-juniper woodlands occur in semi-arid areas that are often limited in soil nutrients. In an area that has been harvested for fuelwood, nutrients contained in the wood are removed from the site, thus decreasing the total nutrient pool. When the slash material is burned, even more nutrients are lost due to volatilization and erosion of ash and soil materials. Although some nutrients may become more available immediately following a fire due to their release from organic materials, their long-term availability may be limited by precipitation with soil minerals, thus rendering them insoluble.

Two studies are underway to determine the actual loss of nutrients, changes in plant availability, quantity and quality of forage grasses, and plant regeneration in areas where fuelwood harvesting has been followed by prescribed fire. Soil, grass, litter, and slash nutrients, overstory/understory production, and tree regeneration were measured before and after treatment. Soil temperatures were also measured during burning to determine the effects of soil heating on soil nutrient losses and plant availability. Stainless steel soil probes were inserted horizontally at different soil depths and attached to data loggers that recorded soil temperatures during the fire in order to determine the rates of heating and maximum

temperatures. Soil temperatures were also measured following the fire to determine the duration of elevated temperatures.

Treatments have been completed for one study, and data are currently being analyzed. Harvesting treatments for the other study will be completed this year with burning in the falls of 1993 and 1994. Information gained from these studies is important to forest managers dealing with fuelwood harvesting, stand thinning, and prescribed fire in pinyon-juniper woodlands.

This work is being done in cooperation with other scientists from the Rocky Mountain Forest and Range Experiment Station at Flagstaff, Arizona, the Riverside Forest Fire Laboratory, and personnel from the Heber Ranger District, Heber, Arizona.

Hazel Perry is stationed at the Southwest Forest Science Complex of the Rocky Mountain Forest and Range Experiment Station, U.S.D.A. Forest Service. She has a B.S. and M.S. in Environmental Resources in Agriculture from Arizona State University and is currently a Ph.D. candidate in Soil and Water Science at the University of Arizona.

IS IT WORTHWHILE TO REMOVE BARRIERS FOR WOMEN WHO WANT TO BECOME HUNTERS AND ANGLERS? THESE AUTHORS BELIEVE IT IS AS LONG AS CERTAIN CONCEPTUAL AND MARKETING CRITERIA ARE MET.

BECOMING AN OUTDOORS-WOMAN

CHRISTINE L. THOMAS
TAMMY A. PETERSON

Introduction

Resource Management agencies, federal and state, have recently increased emphasis on investigating the needs of their non-traditional clientele (Thorne et al. 1992). This undoubtedly has been motivated to some extent by a decline in the numbers of their traditional clients—male anglers and hunters. The figures reported by the U.S. Fish and Wildlife Service (1991) in the National Survey of Hunting and Wildlife-Associated Recreation demonstrate a significant decline in the sale of hunting and fishing licenses between 1985 and 1991. Fishing license sales fell from 58.6 million to 34.8 million and hunting license sales declined from 18.5 million to 14 million at a time when the total population increased.

These figures may not entirely reflect changes in participation (the methodology changed between studies) and other research has shown a drop in hunting participation from 16 percent in 1959 to 10 percent of those 18 years and older in 1989 (Gallup and Newport 1990). Some states have also experienced a decline in fishing license sales (Sport Fishing Institute 1991). Based on these figures, some sociologists have predicted the end of hunting during the early decades of the next century (Heberlein 1992).

Women have not been a traditional clientele of resource management agencies. Their participation in hunting and angling has historically been at a rate much lower than their representation in the general population. Even though the overall number of hunters and anglers continues to decline, the number of women participating in these activities, though still small, continues to increase (Snepenger and Ditton 1985). Reports indicate that the percentage of female hunters may have increased to nearly 10 percent of the hunting population (Stange

1992, National Shooting Sports Foundation 1991), and women make up greater than 30 percent of anglers (U.S. Fish and Wildlife Service 1985).

While state and federal agencies have done little to encourage or facilitate participation of women in hunting and angling (Thomas 1990), this group of previously-ignored agency clients may hold the key to the future of traditional wildlife-based recreation. The reasons for this belief are several: research has shown that unless an individual is introduced to hunting in childhood, he or she is unlikely to pursue the activity as an adult (O'Leary et al. 1987). It has also been determined that mothers play a dominant role in shaping the recreational choices of children (Howard and Madrigal 1990). Jackson (1990) predicted that 60 percent of children born in 1989 will be reared at some point during their first 18 years by a single parent (usually a woman). Thus, if hunting and fishing are to survive the next century, women will play an important role. Whether or not women choose to participate in these activities, it is important for them to understand resource management and environmental protection programs.

Identifying Barriers Workshop

In August 1990, the College of Natural Resources of the University of Wisconsin-Stevens Point, in conjunction with the Wisconsin Department of Natural Resources hosted a workshop, "Breaking Down the Barriers to the Participation of Women in Angling and Hunting." The purpose was to identify barriers preventing women from participating and to identify strategies for breaking those barriers (Thomas and Peterson 1990).

The workshop was attended by 65 participants and speakers who represented a diversity of interest groups. There were hunters and anglers who came because of

personal interest. The Wisconsin Coon Hunters Association, Badger Fly Fishers, Wisconsin Wildlife Federation and Wisconsin Hunter Education Association were represented. National representatives from Safari Club International and the National Rifle Association attended. Personnel came from the Iowa, Georgia, and Virginia fish and game management agencies. Some 20 other agencies requested proceedings.

One unexpected benefit was the very high interest on the part of the press. The workshop generated dozens of news stories, as well as radio reports, interviews, and talk shows. The workshop itself was covered by television and public radio. University archives reports that this was one of the most widely written about events in the history of the university. This interest and publicity became important later as we sought to move forward on the workshop recommendations.

The workshop participants were divided into seven focus groups with balanced representation from each interest group. The groups identified 21 barriers to the participation of women in hunting and angling (Table I), of which 14 related directly or indirectly to lack of educational opportunities for women.

Many of these barriers are consistent with those identified by recreation researchers. Ewert (1988) found that women were significantly more fearful than men in facing outdoor recreational situations. Some of the fears were a direct result of lack of training, fear of low ability, and fear of not fitting in. Theobald (1978) identified discrimination by agencies in public recreation programs. Shaw (1985) confirmed that women have significantly fewer weekend leisure hours to expend than do men.

Recommended strategies of the focus groups

1. Provide educational opportunities for women to learn outdoor skills in an environment that is not intimidating. These might involve classes that enroll mostly—or only—female students with female or male instructors who are supportive of women joining the sport. Courses could be held in urban areas.

2. Promote hunting, angling, and outdoor skills programs for all youth, boys and girls, through the elementary and secondary school programs, Scouts, 4-H and other youth organizations. Teachers of these programs would then become role models.

3. Promote the image of the sportswoman through media coverage of female participants. Many participants suggested that outdoor writers be encouraged to write about the activities of women. National or state hunting and fishing interests should find a positive female role model who would be willing to act as a media spokesperson for hunting and fishing.

4. Encourage clothing and equipment manufacturers to develop lines that are specifically designed for women. It was also suggested that a women's area within the sporting goods section of the discount department stores would be helpful and that perhaps pattern companies could be encouraged to introduce a line of patterns geared to the sportswoman who sewed her own clothing.

5. Promote hunting and angling as family activities through the media, agencies, and sport clubs.

6. A number of groups suggested a "Take Mom Hunting/Fishing Day" that might be promoted through agencies or the clubs.

7. Encourage the clubs to be more open to the participation of women.

8. Establish mentor programs that would pair up female hunters and anglers with hunters or anglers (male or female) who would be willing to share outdoor experiences.

9. Make information about where to hunt or fish readily available through an "800" number or through local chambers of commerce.

10. Work to improve the image of the sport by encouraging ethical behavior and by reducing the reliance on expensive, complicated equipment.

11. Promote demonstrations and seminars at sport shows that focus on or are conducted by women.

12. Promote the aspects of the sport that are not directly related to "killing."

13. Publicize images of parents taking daughters hunting and fishing. Encourage printing of stories in sports publications that do the same.

14. Promote partnerships between organizations, agencies, and sporting publications for the purpose of implementing these strategies.

Implementation of the strategy

Three months after the workshop, representatives of the University of Wisconsin-Stevens Point College of Natural Resources, the Wisconsin Department of Natural Resources, and the Wisconsin Wildlife Federation met to plan a prototype outdoor skills clinic for women. The planners were not trying to address all the barriers that were identified in the "Breaking Down the Barriers" workshop. Some of these (e. g., urbanization, single parent households) are beyond the scope of resource management agencies. The idea was to use the vehicle of a skills clinic to address some of the educational barriers. It was hoped that the publicity from such a clinic would begin to level social barriers and generate interest by manufacturers and retailers in breaking the equipment and clothing barriers.

The remainder of this paper will examine the design of the program, the marketing

strategy, and results of implementation of six clinics; three in Wisconsin and one each in Nebraska, Oregon (which was co-sponsored with agencies from Washington state) and Texas.

DESIGN OF THE PROGRAM

Location and time

Three Wisconsin clinics were held at the Treehaven Field Station, located between Tomahawk and Rhinelander, Wisconsin. The Nebraska program was held at the State 4-H Camp near Halsey, Nebraska. The Oregon/Washington workshop was held at Aldersgate Conference Center, a church affiliated facility near Turner. The Texas clinic was held at that state's 4-H facility at Brownwood. These residential facilities met a number of criteria important to the program design:

1. Comfortable lodging for approximately 100 people
2. Lodging for approximately 20 faculty
3. On-site food service
4. Meeting space to accommodate the full group
5. Classroom facilities
6. Shooting ranges and fishing locations within 20 miles
7. Pleasant natural setting.

The program was designed around a weekend format. All clinics started late on a Friday morning and finished at noon on Sunday. Planners believed this would help working women participate with a minimum of time away from work.

Because a natural resource program was being marketed to a non-traditional clientele, planners wanted them to be comfortable, enthusiastic and have a positive first experience. The thinking was that graduates may then advance at their own speed to a primitive wilderness type experience after they have learned some basics in a comfortable setting.

Curriculum

The curriculum was designed to include one-third hunting and shooting-related activities, one-third fishing-related activities and one-third non-consumptive activities that related to the other categories (examples: use of map and compass, canoeing). This clinic provided skills for the novice in a non-threatening atmosphere. Providing a broad range of choices also insured a higher level of enrollment because the program would appeal to a broader market.

Sponsorship

Project planners sought a broad base of sponsors spanning agencies, private organizations, and industry to accomplish a number of objectives. National level organizations such as the National Shooting Sports Foundation, National Rifle Association, the

Archery Manufacturer's Organization, Safari Club, and Cabela's provided money for the national administration of the project. Agencies were not asked to provide money; rather, they were asked to partner in the planning and to provide instructional assistance.

Local conservation groups were asked to provide instructional support, scholarship funds, and publicity for the program. These national, state and local agencies, organizations and businesses provided the financial support necessary to launch the program and hire a pool of instructors. They lent credibility, guaranteed a base of participants, and created ownership and a desire to succeed across a broad group of supporters.

Instructors and their fees

The planners looked for a balance of male and female instructors. This was done to avoid the idea that these activities need to be segregated. The mostly female composition of the workshops was provided mainly to help women overcome some of the barriers to learning that had been identified in the earlier focus groups. State agencies provided some of the instructors, while the remainder of experts came from sports clubs, national organizations and individuals. Planners looked for enthusiastic instructors who were excited about sharing their knowledge with others.

State agency employees participated as representatives of their agencies and were not paid. Others were offered small honoraria, \$100-\$150 per session taught to offset some of the costs they incurred by participation. The program sponsored meals and lodging for all instructors.

Marketing

Fazio and Gilbert (1981) have suggested that resource management professionals consider the "Five M's of Marketing" when considering a program such as ours. The five are: Message, Market, Medium, Money, and Measurement.

Message

The message project planners were trying to send in implementation of the "Becoming an Outdoors-Woman" program was actually a series of messages:

1. Women can and do enjoy outdoor activities.
2. There are a growing number of women participating in outdoor activities.
3. Women should be considered a viable/important client base for agencies and manufacturers.
4. The "Becoming an Outdoors-Woman" experience will be comfortable, rewarding, and fun.
5. The "Becoming an Outdoors-Woman" program will be a history-making event that women will want to be part of.

Market

At first glance, one might think the audience is obviously women. Again Fazio and Gilbert (1981) offer the wisdom of one of their seven principles of public relations: *The Public is many publics*. Rephrased, this might read: The target market is many publics.

While planners were trying to market this to truly novice women as the primary audience, they also believed it important to have role model veterans participate to share knowledge about the activities beyond the workshop. The value to the veteran is twofold: 1) the opportunity to link up with other interested women, and 2) the event status of the workshop validates her participation in an activity where she may have felt isolated.

In addition to novice and veteran outdoors-women, planners were marketing the concept of the program to the entire resource management community (including men). Showing the success of this program to resource management agencies might sensitize them to a missed opportunity. Clothing and equipment manufacturers need to see that women are interested and able to buy their products. Clubs and organizations need to see that women are important to their futures. Dads and husbands need to realize that daughters and wives are potential field companions.

Medium

How to get the message to the market is always a critical consideration. Agencies have told us that they have tried to do programming for women, but few or no women signed up. Where did they fail? Perhaps they did not expend enough energy in the marketing of their programs. This program took tremendous energy on the part of the planners in working with the outdoor press to get the word out.

Secondly, program planners believe that past efforts may have been too narrowly focused and not attractive to women. This program was conceptualized and marketed as an event. The participants gained much more than a skill. Participants had fun, they enjoyed camaraderie, believed they were part of a pioneering effort, and generally came away with the good feelings one might have after an outdoor adventure with new and old friends.

Program planners used primarily print media to advertise the event. They circulated, in advance of each event, 2000 one-page fliers to various agencies, at sport shows, and fairs. These fliers had a tear-off piece that could be mailed in if the reader wished to receive registration information. In addition, planners printed and distributed approximately 2000 registration brochures for the Wisconsin clinics and 3000 each for the others. The cost of printing and distribution was covered by the program revenue.

Planners worked extensively with outdoor writers. Press releases and personal letters were sent. In Nebraska, a prominent outdoor writer was invited to our first planning meeting and asked to be an instructor. Articles plus black and white photos were sent to 400 Nebraska news outlets. Particularly in Wisconsin, the articles that resulted from our efforts turned out to be very productive. When a prominent outdoor writer for the Milwaukee *Journal* published an article about the program, the phone did not stop ringing for three days.

Paid advertising used in Nebraska was expensive and not particularly successful—with one exception. An advertisement caught the eye of the editor for the *Omaha-World Herald* "Living" section. The resulting front-page article about the project, complete with photographs, was a registration-bonanza.

As one might expect, not every encounter with the press was completely positive. Project planners miscalculated the interest by an outdoor writer for one newspaper and relied too heavily on him, too early in the project. By the time they realized that he was not going to make much effort on their behalf, precious time was lost. Tremendous eleventh hour effort with other writers salvaged the program. The lesson here is the proverbial adage about not putting all of one's eggs in one basket.

The second time this program is offered in any given state, there will be less need for publicity for the purposes of generating enrollment. The second time this project was run in Wisconsin and Nebraska, the enrollment filled in just three weeks. Word of mouth quickly becomes the medium for advertising. Agencies will want to continue to generate publicity for projects like this one even so, because prospective participants are only one of the target markets that need to be reached. Manufacturers, retailers, and current hunters and anglers need to be aware of the program.

Money

Fees charged for this event pay the program expenses. Administration costs have been borne by sponsoring agencies and grants from national organizations. With shrinking agency budgets, it is important to demonstrate that this project will not be a cash-drain to existing programs. This is another important reason for developing a base of sponsorship. One way that agencies can keep administrative costs down is to find a camp facility that will want to take the lead in this project in subsequent years and make money in the process. Another idea would be to partner with a conservation group and let that group handle the administrative details of the project. Texas is exploring conducting enough of these programs to fund the administration of them.

Table I. Barriers to participation in hunting and angling.	
Barrier	Number of Responses*
Image of sport as portrayed by anti-hunting movement	7
Expense or availability of suitable equipment	7
Social pressure from peers, significant others, family members, male hunters or outfitters who view hunting as a man's sport	6
Lack of female role models	5
Raised in non-hunting or angling family situation	5
Image of "slob" hunter or "Rambo" attitude is a "turn-off"	5
Lack of information	5
Increased urbanization of society	4
Lack of time	4
Seen as dangerous	4
Single parent families	4
Early childhood conditioning	3
Fear of looking stupid	3
Co-ed facility problems	3
Lack of place to go	3
Isolation of being only female	2
Tradition	2
Fear of guns	1
Attitude of agency personnel	1
Attitude toward game vs. packaged meat	1
Vanity	1

* Number of groups which identified each barrier.



Registration fees ranged from \$100 to \$170; the higher fee did not slow registration. Women flew in from all parts of the country to participate. Scholarships have been available when cost was a problem. Approximately 10 percent of participants received scholarships awarded on a first come-first served basis. Single parents and students were encouraged to request assistance. Most recipients have been students, divorced mothers, women whose families are living on one income, and retired women. While minorities constituted 2-4 percent of the participants, they received 10 percent of the scholarships.

Measurement

To determine success of a program, goals were established. For this program, we defined success as:

1. Full enrollment
2. Satisfied participants
3. Positive feedback from instructors
4. Willingness of sponsors to continue the program

The program succeeded in all four goals. We turned away registrants from all but one program, due to full enrollment. Participant evaluations were extremely high, and instructors felt very positive about the program. Several national sponsors including the National Shooting Sports Foundation, the National Rifle Association, Archery Manufacturers Organization, Cabela's, and Safari Club have provided planning money to carry the program forward.

Next year a minimum of eight states (Arkansas, Montana, Nebraska, Oklahoma, Oregon, Texas, Washington, and Wisconsin) will hold "Becoming an Outdoors-Woman" projects. Nine other states (California, Illinois, Indiana, Iowa, Michigan, New Jersey, New York, Michigan, and South Dakota) sent agency personnel to "Becoming an Outdoors-Woman" training sessions.

Who actually signed up for the program?

Participants ranged in age from 18 to 72. Workshop participant numbers varied from 94 (Oregon) to 120 (Texas). All workshops had a target of approximately 100 participants. Some participants did not stay on site, thereby freeing up bed space and allowing higher enrollment. Attendees represented a range of careers and life styles. There were urbanites, as well as farm women. In three of the six programs, men registered in small numbers as participants, 1-3 in each program.

Some could not have attended without a scholarship, while others were very wealthy. Participants ranged in education level from high school diploma to multiple degrees. In Nebraska, approximately 4 percent racial minorities attended, while in Wisconsin the

number was about 2 percent. These numbers probably under-represent the percent of minorities in the target population and more work needs to be done in making outdoor recreation available to those groups.

In order to fine-tune future programs, the data from past workshops are being examined. A graduate research project currently underway will 1) determine exact numbers and percentages of participants in various demographic categories, 2) disclose levels of expertise of participants, and 3) track activities of participants after participation in the program.

What next?

The program is continuing in two ways. First, program planners have two state agency training sessions scheduled for 1994, one in conjunction with a Montana clinic and one in conjunction with a Wisconsin clinic. In this way, they hope to help other states implement the "Becoming an Outdoors-Woman" program. At this writing, 14 states and Manitoba have clinics planned in 1994.

The second phase of the project involves a research project. Planners know this program can be successfully marketed and that it is well received by registrants. But there are questions that still need to be answered in order for state agencies to know whether or not the project is worthy of their precious resources. For that reason, we want to know whether or not clinic participants significantly changed their behavior in the following ways: (1) Do they plan more outdoor activities? (2) Do they purchase licenses? (3) Do they purchase equipment? (4) Do they hunt, fish, canoe, or camp more than they did before they "Became Outdoors-Women"? This research is underway and should be completed by June 1995.

It is a gigantic leap from the rifle range to the hunting camp. Planners believe there is value in the publicity this program brings to agencies, to program sponsors, and to the fact that women participate in and enjoy outdoor activities. They also believe that it will take more than this program to move most of the participants into active outdoor lives. There is a role here for families, retailers, agencies and sports clubs to play. That role involves providing follow-through. Those experienced in outdoor activities can provide mentoring to ease that transformation for the novice. The "Becoming an Outdoors-Woman" program can spark an interest, it can teach basic skills, can build self confidence, and can bring interested people together, but it is doubtful that this program can be a panacea on its own.

Conclusion

The "Becoming an Outdoors-Woman" program is a successful example of marketing a natural resource program to a non-

traditional clientele. Planners used the following strategies and recommend agencies apply these to similar projects: 1. Use a research base to identify a need. 2. Build coalitions and partnerships to create support, provide help, lend credibility to projects, and foster ownership and willingness to succeed. 3. Provide a total, quality "event" that includes skill learning, a non-threatening atmosphere, a comfortable facility, a scenic natural environment, and fun. 4. Work with the outdoor media to publicize projects; use basic marketing principles. 5. Work hard enough to insure its success. 6. Ask participants for evaluation and feedback and incorporate their ideas in following programs.

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Tammy Peterson, pictured on the left, is an education program specialist with the Western Region of the US Fish and Wildlife Service, division of Federal Aid. She provided programming assistance for the "Becoming an Outdoors-Woman" program and the "Breaking Down the Barriers" conference. Peterson's Bachelor's is from the University of Wisconsin-Stevens Point College of Natural Resources where she majored in Resource Management. She spent one year as assistant to Dean Daniel Trainer before joining the Wisconsin Department of Natural Resources as director of their Aquatic Education program.

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Photos of instructors and participants on page 19 are courtesy of the University of Wisconsin-Stevens Point.



First-time managers have to learn some hard lessons

Rookie managers first have to let go of the deeply held attitudes and habits they developed when they were responsible only for their own performance. Many think managing means doing what they've been doing all along, only with more power and control. One new sales manager described his role as that of the "lead salesperson with the final authority and accountability," and complained that "if people would just leave me alone, I could do my job." Instead, to use the analogy of an orchestra, a new manager must move from being a violinist, who concentrates on playing one instrument to being the conductor, who coordinates the efforts of many musicians and must know about every instrument. She must also find new ways of deriving satisfaction from her work and measuring her success, a mental switch that can be traumatic. In the words of one new manager, "I never knew a promotion could be so painful.

Most first-timers soon discover that task learning (including building key relationships) is only part of the story. They are surprised by how much personal learning they must undergo. One manager, who admitted that she preferred action to analysis, said she had never believed that adults could change themselves very much. But in her first year as a manager, she found herself "growing and discovering new sides" of herself, learning to manage her weaknesses and play to her strengths. "I don't need to be liked," she said. "[the staff knows] I just want to get the job done. I don't have to play any games to protect my ego, and so I give it to them straight." She began finding new satisfaction in directing her efforts to helping subordinates "fulfill their dreams."

Rookies quickly learn that their new position is one of dependence as much as authority, since their success now depends largely on the performance of subordinates. In particular, those who have been star performers

have to face up to the fact that many subordinates fall short of their expectations, yet they must figure out how to get them to deliver. In the beginning, many first-time managers, eager to implement their ideas, use a hands-on, autocratic approach. But they soon find out that to be effective in their new role, they have to develop the capacity to exercise influence without relying simply on the power of their position.

After six months or so, just when they think they are getting a handle on managing their team, they begin to recognize a new dependence on those over whom they have no formal authority—their bosses and their peers. Rookies tend to learn the hard way that unless they understand the power dynamics of the organization and its impact on their unit, and unless they actively manage these external relationships, their own success is jeopardized. Subordinates of new managers frequently find themselves having to meet unreasonable performance objectives with limited resources because their bosses have not devoted enough time and energy to managing up—and laterally.

As they work with people day by day, new managers begin to create personal maps for diagnosing the inevitable problems and conflicts they encounter and develop rules of thumb for resolving them. By experimenting with different ways of handling these situations, they build up a kind of "personal case law" as a set of guiding principles.

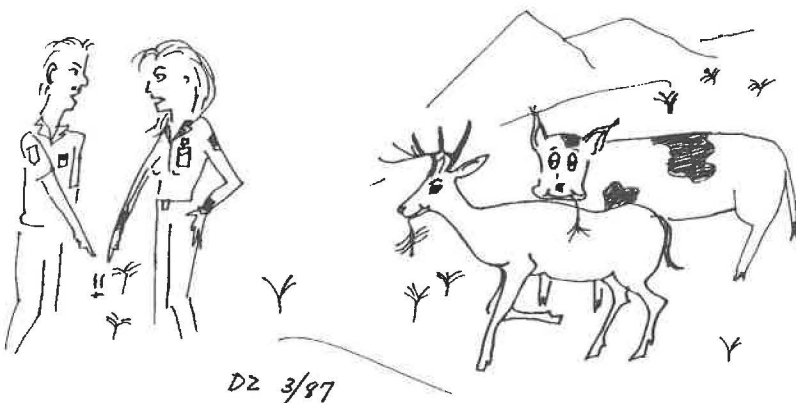
In time, new managers must also come to terms with another basic principle that feels intu-

itively illogical: To treat people fairly is to treat them differently, since the right amount of delegation for one employee may be grossly inappropriate for another. In this regard, most new managers are more comfortable working with less experienced subordinates than with more experienced ones...because they seemed to depend on him as much as he did on them. In contrast, his more experienced people, especially the most successful, were forever complaining that they got too little respect and autonomy and too much attention. In fact, many experienced subordinates refer to "new-manager syndrome," the tendency to overmanage.

Three primary factors often keep first-time managers from becoming effective delegators. First, they have to accept the distinction between managing the people and managing the task. The second is their personal preference: they themselves tend to be good at technical tasks and like doing them. They fear that their skills will become obsolete as they spend less time on details. The third and perhaps most significant inhibitor is insecurity. New managers do not know whom to trust or how to assess a subordinate's competence, personal integrity and motivation. "This job demands that you rely on somebody else to get it done," observed one new manager. "Before, you were the master of your fate. You had no one to blame but yourself, and no one to take credit but yourself."

Learn to be a self-directed learner. Rookies must force themselves

*News & Notes
continued page 42*



NO! The deer are destroying the seedlings! NO! The cattle are browsing on them. They're overpopulated! Range maggots! Bambi lover!

THE KELP AND EELGRASS BEDS LOCATED IN THE SHALLOW WATERS OF PUGET SOUND, WASHINGTON ARE CRITICAL HABITATS THAT ARE BIOLOGICALLY VERY DIFFERENT—BUT FUNCTIONALLY VERY SIMILAR.

NEARSHORE VEGETATED HABITATS OF PUGET SOUND

J. ANNE SHAFFER

Nearshore vegetated habitats of Puget Sound are structurally and biologically complex, provide critical habitat to a myriad of organisms, and are sensitive to anthropogenic activities. Studies of components of each of these habitats, how the habitats relate to each other, and how human activities affect them are ongoing.

Large bull kelp (*Nereocystis luetkeana*), an annual non-vascular algae, is present in shallow cobble areas in spring and summer months, when it grows up to 12 inches a day. Underwater, these summer beds are a beautiful, muted forest.

Winter storms remove the bull kelp and allow other algae to colonize the kelp bed. Fleshy red algae are dominant winter plants, and visually transform the cobble habitat into a lush carpet of soft red "flowers"—a completely different environment from the summer kelp bed.

Microscopic bull kelp begin growing again in early spring, and become the large, dominant feature of the bed by early summer. Kelp is very sensitive to its physical environment: sunlight, water movement and temperature, and sedimentation dictate its ability to recolonize rocky habitats each year.

In the summer, these beds provide refuge and feeding areas critical for juvenile and adult rockfish, salmon, cabezon, and perch. During winter months kelp crab depend on red algae for food.

The rock habitat of winter and spring are important for cabezon and midshipman, which lay their eggs on or under the rocks. Throughout the year, large octopus may be found under larger rocks of these beds. They are secretive during the day, but roam the kelp bed at night to feed on rock and kelp crab.



Eelgrass (*Zostera marina*) beds are located in shallow sand areas often adjacent to the kelp beds. In contrast to bull kelp, eelgrass is a perennial, vascular plant. The beds are therefore present year round. Eelgrass bed biomass and percent cover fluctuate seasonally, with large growth windows in the summer, and dormant periods in the winter.

Eelgrass is also very sensitive to light, sedimentation, water movement, and temperature. Like kelp beds, eelgrass beds provide critical habitat for many juvenile fish and crab. Juvenile salmon, rockfish, and lingcod hide and feed in eelgrass beds. Herring lay their eggs on eelgrass, and birds, such as mergansers, loons and brandt, feed on fish and invertebrates in the eelgrass beds, or on the eelgrass itself.

Both kelp and eelgrass beds affect their physical environment by slowing water as it flows through them. As a result, sediment and plankton, including fish and invertebrate larvae, drop out of the water column to the kelp and eelgrass substrate, creating nearshore habitats that are uniquely diverse structurally and biologically.

They also combine to form drift algae, a third seasonally dominant and critical habitat of Puget Sound. Drift algae is dominant in summer and fall, and forms large floating mats of detached algae and eelgrass. These transient mats, which either sink, or are pushed back to shore, essentially provide upside down kelp and eelgrass beds, and associated refuge and prey, to the Puget Sound open water habitat. Not surprisingly, a number of larval and juvenile planktonic fish and invertebrates depend on these habitats for food and refuge.

J. Anne Shaffer researches and publishes on nearshore estuarine and marine ecology, and invertebrate taxonomy and ecology. Currently, she works for the Quileute Tribe on the Olympic Peninsula, Washington State. Her Bachelor's is in zoology from San Francisco State University and her Master's in marine biology is from Moss Landing Marine Laboratory. She is a WiNR editor.

IF YOU NEED TO GATHER SOME COMPARATIVE STATISTICS ON HOW THE CLOSURE OF A CERTAIN TYPE OF ACTIVITY CAN AFFECT THE INCOME OF THE REGION, FOR EXAMPLE, THIS AUTHOR POINTS YOU TO THE PROPER DATA SOURCES.

HOW TO TRACK YOUR REGIONAL ECONOMY

SUSAN KRUG FRIEDMAN

Natural resources professionals, particularly those individuals with management and analytical responsibilities, face the challenge of dealing with all aspects of the environment, the social and economic—as well as scientific. Learning how to track business trends in your region can help to give you a perspective on the public you serve, on economic growth and development, and can help you to answer several key questions. Is employment expanding in the area? What are the sources of jobs and income for the population? How does this region compare economically to other areas in the U.S.? Will closure of key industries affect a region permanently? Can evidence be found in the data to show that downsizing of a natural resource activity is not fatal to a community?

Whether you are developing a broad-based profile of a geographical area or evaluating alternative uses of land, water, or other resources, for example, you need to consider the economic factors involved and to collect supporting data. Knowing where to find reliable data quickly can assist a manager in the evaluative process.

Data on employment are available for every state and for many subdivisions of states, such as metropolitan areas, and are published by the U.S. Department of Labor in monthly reports like *Employment and Earnings*. These statistics will tell you how many people have jobs in a particular place and will allow you to make comparisons over time.

For information on national and personal income, the Bureau of Economic Analysis at the U.S. Department of Commerce is a top source. The Bureau of Economic Analysis also compiles extensive data on state and local personal income (including per-capita income) through its Regional Economic Measurement

Division. Data for the states and for localities (i.e., counties and metropolitan areas) are published periodically in the Survey of Current Business.

In these reports, you will find a wealth of information for the U.S. as a whole and for each state. Extensive industry information allows you to see the sources of income and to make comparisons among activities in various regions of the country. Through the earnings data, you can determine, for example, how much mining or manufacturing industries contribute to different states' economies, or the relative impact of the construction or retail trade industries. You can compare these findings among states or regions (i.e., New England) or to national averages.

The Bureau of the Census, another branch of the U.S. Department of Commerce, compiles construction data by area. The Current Construction Reports have extensive information on building activity. Statistics are published on indicators such as building permits and on actual housing starts. In one monthly report, "Housing Units Authorized by Building Permits," for example, you will find information for a large number of locations across the U.S.

The *Statistical Abstract of the United States* has an excellent reference section on sources by topics. You can find the names and publishers of data on a wide range of subjects that may be relevant to your research, such as agriculture, fisheries, forestry, metals and minerals, and recreation. The *Statistical Abstract* also includes listings of statistical abstracts for the states and the organizations that publish them. The *Statistical Abstract* is produced annually by the U.S. Department of Commerce, Bureau of the Census.

The Federal Reserve System is another valuable data source. As our central bank, the Federal Reserve Board of Governors and the district Federal Reserve Banks monitor

business conditions nationally and regionally. Private financial institutions, such as large banks, also monitor local business conditions and may produce reports of interest to you. These reports are often distributed by economics or public affairs departments.

The federal government provides a useful classification scheme that relates to geographic areas. The U.S. Office of Management and Budget defines metropolitan statistical areas (MSAs). There are also primary (PMSA) and consolidated metropolitan statistical area (CMSA) classifications. A description (and listing) of metropolitan areas is in the *Statistical Abstract of the United States*.

For New England, there are also New England County Metropolitan Areas (NECMAs). As explained in the *Statistical Abstract*, these additional classifications are made since New England MSAs are based on towns and cities instead of counties. The definitions of metropolitan areas such as MSAs are subject to change, as a reflection of changes in population.

In addition to the well-known U.S. censuses that are undertaken for population and housing every ten years, there are economic censuses. These reports contain very useful business data. The economic censuses are carried out every five years and include the following: Census of Construction Industries, Census of Manufactures, Census of Mineral Industries, Census of Service Industries, Census of Retail Trade, Census of Wholesale Trade, and Census of Transportation. (There are also some other associated reports.) Although separate from the economic censuses, there are additional censuses for agriculture and governments, as noted in a helpful report entitled *Guide to the 1987 Economic Censuses and Related Statistics*.

Information in the censuses is collected for the U.S. and for various geographical divisions, such as states and metropolitan

statistical areas (MSAs). Some statistics are even compiled by zip code. Data vary by type of census, but, as shown in the *Census Guide*, generally include the number of firms and establishments, employment, sales or value of work or shipments, various operating expenses, and payroll (with a range in the items, level of detail, and geographical categories that may be available). Reports are printed or available in computer formats.

A large amount of Census and other government data is organized according to the Standard Industrial Classification or SIC system. These categories are determined by the U.S. Office of Management and Budget and were revised in 1987. Establishments (such as a store or mill) are categorized into major industry divisions: Agriculture, Forestry and Fishing; Mining; Construction; Manufacturing; Transportation, Communications, Electric, Gas, and Sanitary Services; Wholesale Trade; Retail Trade; Finance, Insurance, and Real Estate; Services; Public Administration; and Nonclassifiable Establishments. These headings, as published in the *Standard Industrial Classification Manual*, 1987, are then divided into two-digit, three-digit, and four-digit categories, with increasing levels of detail.

You can find a treasure of information on employment, payroll, and establishments by SIC code in *County Business Patterns*. The studies, published by the U.S. Bureau of the Census, give an in-depth profile of states and counties by industry.

Some additional classification systems are also used in the economic censuses. These are explained in the censuses and in the *Census Guide*.

Government data can provide help if you are interested in a segment—such as an age group—of the national population. The U.S. Census is the premier source of population information. The *Statistical Abstract of the United States* is a handy reference for population data as well as for a large variety of economic statistics.

For further information, you can explore other government reports, such as the *County and City Data Book* (U.S. Bureau of the Census), and the work of the many private agencies that publish studies of markets and industries. Some sources may be available in computer formats. The reference staff at your local library can help guide you to reports and directories of such information. I have emphasized government reports because they are wonderful sources of data—and are accessible at minimal expense to you.

Just as you need scientific data to assess ecological change, you need employment, income, and other statistics to evaluate economic change. You might develop a profile of your region by looking at the contribution of different industries to employment. For

example, from *County Business Patterns*, you can see how large a share “lumber and wood products” represents of employees in manufacturing. As of mid-March 1990, the national average was about 4 percent. In Idaho, by comparison, the ratio was about 21 percent. You might then look at historical data to see how employment in different sectors has changed over time and whether these jobs have tended to be stable or cyclical.

You may also be able to spot some emerging industries. Based on your knowledge of natural resources, does the region have any special strengths for future economic development? In addition, you should consider population resources in your evaluation, such as the educational level. The Census provides information on the size of the population in school and the percentage of high school and college graduates.

Diversity is a key to economic resiliency. The diversity of your region's economy can be increased through the types of industries represented, both services producing and goods producing, and through the consumer, business, and government markets served. We know that animals that have learned to utilize several food supplies—rather than a single source—are better able to cope with disruptions in their environment. Similarly, with careful diversification, communities can more readily survive—and even benefit from—economic change.

Resources

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U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings*.

Note: The reader may also wish to consult updated editions, as available, of the references cited.

Susan Krug Friedman is a self-employed business economist and writer based in Bloomington, Indiana. Prior to that, she worked for 12 years on the staff of a public utility. She graduated from Wellesley College with a bachelor's in economics; her master's degree in economics is from Western Michigan University. Friedman also holds the M.B.A. from Arizona State University. Her articles have appeared in professional journals and national magazines, and she has published two books. In addition to research, analysis, and writing, she offers seminars on applied economics based on her book, Economics for the Office from which this paper was derived (Economics for the Office: A Practical Introduction to Economics for Your Job or Business, Copyright 1993 by Susan Krug Friedman. All rights reserved).



How did your career as a nature writer evolve? What authors do you recommend for people interested in natural resources?

Marcia Bonta
Tyrone, Pennsylvania

Published works
Escape to the Mountain: A Family's Adventures in the Wilderness 1980
Outbound Journeys in Pennsylvania 1987
Women in the Field: America's Pioneering Women Naturalists 1991
Appalachian Spring 1991
On Nature's Terms 1992
(Contributing author, two essays)
Appalachian Autumn 1994
(Due out in July)

Works in progress
American Nature Writers
(Contributing author)
More Outbound Journeys in Pennsylvania
American Women Afield: Writings by Pioneering Women Naturalists (Editor)

Bonta has also published over 200 articles which have appeared in *Pennsylvania Wildlife*, *Pennsylvania Game News*, *Birder's World*, *Living Bird*, *Bird Watcher's Digest*, and *American Horticulturist*, among other magazines.

Edited by

Ellen O'Donnell

I first started keeping a nature journal when we lived in Washington, D.C. in the 60s. Later we bought a place in Maine out in the country, and we lived there from '66 to '71. It was there that I really began to learn more about nature and to write in my journal with more detail. I wrote primarily about natural science, and my children's reaction to nature. I had been reading about nature for some time, mostly what I would call "country nature," articles by Gladys Taber who wrote for *Family Circle* about her home Stillmeadow. She also published many books about her rural Connecticut home. I also read Edwin Teale, Hal Borland, Sigurd Olson and Henry Beston. I read a lot more male authors than female then, primarily because there were many more male authors who were writing and being published.

My first publication was actually a potato soup recipe I submitted to *Yankee Magazine*. They accepted it and sent me \$25, and I was thrilled. It was the first money for writing I had ever made. Later we bought the place where I now live—640 acres on a forested mountaintop in central Pennsylvania. It's such a beautiful place, it has inspired me to write about it and get other people interested in the outdoors.

With that goal in mind, I contacted the local newspaper about doing a nature column. I wrote for them for about 9 months (for \$5 a column), and then the column was cancelled because they "couldn't afford to pay" me anymore. I was

really angry that it collapsed, so I said, "I'll show them, I'll write a book." And I did. It was accepted for publication in 1978, and was published in 1980 as *Escape to the Mountain*, a country nature narrative about our life on the mountain. I have written a lot of magazine articles since then, and I wrote my column, *Brush Mountain Notebook*, for over 9 years for another newspaper. It was also cancelled due to "downsizing," leaving me with little respect for newspapers in general. In fact, I wouldn't advise a dog to write for them! But out of those columns, plus additional research and observations, have come my books *Appalachian Spring* and *Appalachian Autumn*.

Pennsylvania is a particularly difficult state for women nature writers since it is such a resource-oriented state and outdoor publications focus primarily on hunting and fishing. When I was first in contact with New York publishers, their general attitude was people in Pennsylvania don't buy books, and if they do, it's how-to books. I wanted to prove that that wasn't true. When I first started writing in Pennsylvania, the field was wide open, since there really weren't many nature writers, male or female, and no one was focusing on the wonderful features Pennsylvania has to offer. I decided to write about natural resources in a way that the average reader can get excited about. It meant going against the tide of writing conservation articles and scientific/philosophical ones, but I believe that the

reader must first learn about the resource and why it's unique before he or she will want to do anything about it. In other words, I write environmental education material for adults.

In addition to my writing, I usually read several books a month. For locating excerpts by a substantial number of women who have written about nature, including poets and essayists, I suggest Lorraine Anderson's *Sisters of the Earth*. Women nature writers that I would recommend include: Terry Tempest Williams, *Refuge: An Unnatural History of Family and Place*; Helen Hoover, *The Long-Shadowed Forest* and *The Gift of the Deer*; Theodora Stanwell-Fletcher, *Driftwood Valley* and *The Tundra World*; and Ann Zwinger *Run, River, Run* and *Beyond the Aspen Grove*. I also recommend the following male authors: Edwin Wade Teale, E.O. Wilson, Bernd Heinrich, John Alcock and Howard Ensign Evans. Most of these authors are biologists who write well, too, and they have a lot of informative material to offer.

As for publishers, one that has specialized in women and nature is Texas A&M University Press. They'll be publishing one of my ongoing works, *American Women Afield: Writings by America's Pioneering Women Naturalists*, which should be out in Spring 1995. Texas A&M Press would be a good source for locating other women nature writers, and biographies by and about women naturalists.

Gale Lawrence
Richmond, Vermont

Published works
The Beginning Naturalist
Vermont Life's Guide to Fall
Foliage
A Field Guide to the Familiar
The Indoor Naturalist

Becoming a nature writer was a long slow process that happened fast when the time finally came. I always liked books and read a lot when I was growing up in the various suburbs my father's career took us to. It seemed natural that I would gravitate toward English in college, and the next thing I knew I was an English teacher.

Like many English teachers, I really wanted to be a writer, but the job description didn't call for me to write. I was supposed to teach high school students how to read works that had already been written and how to write themselves, but I wasn't expected to write—unless I dabbled a bit in fiction, poetry, or literary criticism.

So I dabbled and had no success and felt very frustrated by how reversed and out of order my life seemed. I remained frustrated until I hit my mid-life crisis.

At age 34, I decided to chuck everything, move to an old farmhouse in Vermont (my native state), and write no matter what. It was a desperate move, and I was deeply disappointed when my writing didn't just happen, get published, and

catapult me into the happily-ever-after stage of my life.

I spent a year trying to write various things to no avail. About then a new Vermont friend who knew I was trying to write approached me and asked me to take over his weekly nature column for Vermont's statewide Sunday newspaper. I protested that I didn't know enough, but he responded with the ultimate confrontation: "You can write and you can learn."

The rest is history—not happily-ever-after history—but history nonetheless. I wrote the statewide nature column every Sunday for 10 years, educating myself about the natural world one subject at a time. During that same period I produced four books, numerous book reviews, and a few magazine articles.

I have, incidentally, returned to teaching English—college writing—to support myself, but now at least I'm a writer teaching writing rather than a frustrated writer teaching poetry, fiction, and literary criticism. Maybe that's as happily-ever after as the writer's life gets.

As for authors I recommend, you can't go wrong with Rachel Carson. She did it all—or most of what can be done with nature writing—and she did it well. Her first book, *Under the Sea Wind*, was poetic/fictional/creative. *The Sea Around Us* and *Edge of the Sea* are scientific. *Silent Spring* is environmental and *A Sense of Wonder* is inspirational.

The one thing Rachel Carson didn't do is reveal much of herself. For personal Journals, I turn to Dorothy Wordsworth, who is much more interesting than her brother William, and Clare Walker Leslie, whose *Naturalist's Sketchbook* showed me how sketches and notes can capture moments as engagingly as sentences and paragraphs.

For autobiography, the most memorable one I've read is Sally Carrighar's *Home to the*

Would you like to contribute to Query? Here are the next and upcoming Query Questions.

1. Have you ever testified in court in a professional capacity regarding natural resources? How did you prepare for your appearance, and what did you learn from the experience?
2. Have you ever participated in establishing a women's group in your field? What obstacles did you face and how did you deal with them?
3. Who is the natural resource professional you most admire? How has this person influenced your life?

To submit your response to any of these questions, please send your comments to:

Ellen O'Donnell, WiNR Query Editor
c/o 110 Ferguson Building, Pennsylvania State University
State College, Pennsylvania 16801

Please include your telephone and fax numbers, plus a short biographical description of yourself.

Wilderness. It's an amazing tale of psychic healing.

For personal essays, I've enjoyed two women who aren't especially famous but have taught me interesting things about themselves and their subjects. Lois Crisler started observing wolves while her husband was shooting footage of them for a Walt Disney nature film. Then she took in a female wolf and continued to observe her for many years. *Arctic Wild* and *Captive Wild* tell the extended story of her long association with wolves.

Finally, a new young writer who has not yet caught the attention of the nature writing establishment has impressed me with her fine and thoughtful personal essays. Janice Emily Bowers is a botanist working in the mountains and deserts around Tucson. Her first collection, *The Mountains Next Door*, has been followed by a second that I'm looking forward to reading: *A Full Life in a Small Place and Other Essays From a Desert Garden*.

Editor's note: Gale Lawrence's first two books, *The Beginning Naturalist* and *Vermont Life's Guide to Fall Foliage* are still in print and are

available through most bookstores or directly from The New England Press in Shelburne, Vermont. Gale's second two books, *A Field Guide to the Familiar*, and *The Indoor Naturalist* were originally published by Prentice Hall but fell victim to the corporate shuffles in New York and have ceased to exist. She teaches writing at the Wildbranch Workshop in Outdoor, Natural History and Environmental Writing held each summer in Craftsbury Common, Vermont.

WOMEN IN NATURAL RESOURCES SURVEY: PART 2

KATHLEEN A. GRIFFIN
DIXIE L. EHRENREICH

Introduction and summary of part 1

This is the second of a three-part series reporting on an informal, non-scientific poll of WiNR subscribers to find out who we are, and more importantly, to find out some basic information about ourselves. As you may recall from the first article (December 1993) in which we focused mainly on the the questions about demographics, respondents indicated that they are well-educated (49 percent have a Master's, Ph.D., or law degree), and adequately paid with about a third making between \$31,000 and \$40,000 (and slightly less than a third making more than \$40,000). The largest age group is the 33-45 category with 62 percent, and the age 20-32 second (but not even close) in numbers. About one third of the total worked in forestry or forest-related disciplines. Not quite two-thirds worked for the federal government, with state/county/city government a very distant second. The USDA Forest Service was the largest single employer by far. The geographic areas with the largest numbers employed were first, the northwest, and second, the midwest/lake states. Slightly more than half of the respondents are married but only one-third had children. Two thirds, however, said they also had dual career considerations.

Of the non-demographic questions we featured last issue, we asked if you had had mentors and over half of you said yes. Of those who said no almost all said they would have liked to have had one. About two-thirds of respondents said they themselves had been mentors.

Overwhelmingly, to the questions are you glad you chose your profession? and do you recommend your profession to other women?—respondents answered yes. Check the December 1993 issue, pages 10-11, for the actual numbers on the specific questions.

In this issue, we look at a broad range of disparate questions and respondents' answers to them, and then end with a narrative summary. The total number of responses for each particular question is provided in parentheses. Values are number of responses unless indicated otherwise.

Part 2

How many years have you been in this position? (n=337) *Many respondents obviously had worked many years for an agency yet they were in "new positions" so this does not equate to the number of years worked for an agency.*

Years < 1	51
1-3	158
4-5	49
6-10	44
11-15	31
>15	4

How many people do you supervise? (n=351)

People 0	126
< 5	128
5-10	52
11-20	22
>20	23

Where do you work? (n=353)

Office	147	Office/field	130
Field	34	Office/field/lab	10
Lab	10	Field/lab/class	7
Classroom	2	Office/lab/class	7
		All locations	6

Do you work professionally with women? (n=353)

Yes	313	No	40
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What percentage of your workplace colleagues are women? (n=295)

% < 10	80
11-25	77
26-50	104
51-75	20
76-100	14

Is your supervisor male or female? (n=342)

Male	287	Female	55
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Approximate age of your supervisor. (n=334)

Age	30's	75
	40's	140
	50's	108
	> 60	11

Is your supervisor supportive? (n=341) Conditional responses indicated support some of the time or depending on the issue.

Yes	244	No	22	Conditional	75
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Are you paid adequately? (n=331)

Yes	237	No	94
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Is your pay the same as males in same job? (n=341)

Yes	268	No	43	Don't know	30
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Do you recommend your employer to others? (n=329)

Yes	258	No	31	Conditional	40
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BACK PAGE COMMENTS ON HARASSMENT

There were many opportunities to add additional comments to the WiNR survey and many people took advantage of it. From the comments it is obvious there is no tried and true definition for sexual harassment. These comments written on the "back page" of the survey provided insight into the feelings of subscribers. We've selected various comments to share some of the frustrations, and the wisdom expressed.

It can't be tolerated because it reduces productivity and people can't contribute their best. **Natural Resources Team Leader, USFS**

It was unbearable. I felt that I would suffer if I went through proper channels (i.e. EEO representative). I enlisted the help of the offender's peer to ask him to stop, which he did, thank goodness. I still get angry though because the offender's peer acted as if his behavior was normal and my reaction was wrong. **Environmental Specialist, Private Company**

I think many women are too thin-skinned about this. I've found if you do your job well it doesn't matter. **33-45 yr old, "very successful" Range Conservationist with SCS**

It is extremely subtle—and it is often difficult to help younger women see that they are being discriminated against. Older women who have worked up through the male system can also be blind, or so emotionally involved that they can not help younger women one-on-one. **33-45 yr old graduate student**

I believe the put-down, non-supportive, personal attack type of harassment is more prevalent towards women than sexual harassment. Such treatment would be considered mental and emotional cruelty in a divorce case! **Lands and Mineral Staff Officer, USFS**

They would be surprised if I labeled it harassment. **District Manager, BLM**

The State of Missouri takes a strong stand on harassment, and it has helped make this the most supportive workplace I've experienced. **Land Reclamation Specialist**

Basically the University supports/protects professors and not students despite repeated offenses and complaints filed. **Graduate student**

Hands everywhere. Darling, honey, wouldn't you like it if you had it. **US Army Corps of Engineers**

The Southwest is far behind other portions of the country in attitudes about women. **USFS**

Don't be afraid to put people in their places. Let them know where their place is—and is not. Be definite. **Senior Regional Forester**

Intolerable in any form. Really ruined my life while it was happening (8 years ago). **Research Forester, 12 years with USFS**

If you could take a similar job elsewhere, you would take it because...(n=193) *Many people did not answer this question or indicated in the comments an unwillingness to take another job.*

Like employer but not present location	60
Like employer but need a change	76
I do not like my employer	18
Too expensive to live here	28
Other	11

Are you free to move? (n=334) *These numbers may be surprising given the number of responses indicating dual career considerations (Dual career considerations 69%; see article last issue).*

Yes	236	No	98
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How many moves in the last 5 years? (n=343)

Moves	0	109
	1-3	219
	4-5	15

Does your five-year plan for yourself include more: (n=359) *Many people indicated multiple responses.*

Money	159	Responsibility/promotion	208
Education	106	Free time	141
Family focus	123	Job security issues	61
Other	6		

What is the best part of your job? (n=359) *Many people indicated multiple responses.*

The money	38	Satisfying work	216
Good colleagues	159	Socially responsible	128
Good work environ.	94	Forces me to grow	144
I meet the public	57	I am my own boss	68
Other	6		

What do you like the least about your job? (n=359) *Many people indicated multiple responses.*

The money	58	Impacts on family life	88
Lack of support	79	Heavy work load	161
Dead end	40	Harassment	15
Don't use my training	35	Other	10

Are you where you ought to be career-wise for your age? (n=354) *Conditional responses generally indicated a reaction to the phrase "where you ought to be" and included such comments as "I'm where I WANT to be," "given my CHOICES this is as good as I can..." "By WHOSE standards?"*

Yes	201	No	86	Conditional	67
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What about childcare? Is it... (n=121)

Not available	18	Provided by employer	9
Satisfactory	67	Unsatisfactory	7
Expensive	20		

Have you ever thought of owning your own business? (n=345)

Yes 198 No 132 Have 15

Do you belong to a professional society? (n=355)

Yes 292 No 63

Has it been useful? (n=303)

Yes 184 No 71 Conditional 48

If you do not belong to a professional society, why? (n=80)

Does not address my career needs 30
No opportunity to join/participate 15
Too expensive 24
Plan to in the future 8
Other 3

Is sexual harassment a problem for you in the workplace?

(n=344) *Some responded that it is also a problem for them to handle as a supervisor of those who are being harassed or who are doing the harassing.*

Yes 112 No 232

Have you personally experienced it? (n=347)

Yes 247 No 100

Recently? (n=260)

Yes 46 No 214

Who was/is doing the harassing? (n=359) *Many people indicated*

multiple responses.

Colleagues 159
Supervisors 118
Subordinates 40
Members of the public I work with 62
Other (incl. contractors, professors) 13

Narrative summary

Some interesting information comes out of this set of questions. We think, first of all, that it is no surprise that about one third of us spend our time in offices, solely. Another third split the time in the office with work in the field. But what is surprising is that less than 10 percent of us are field workers only.

We here at the journal know that you all move around a lot (because of the changes in addresses), so we weren't surprised to see that two-thirds of you had been in the current job for three years or less—but that is a whole lot of shifting going on. One third of you supervise only three or fewer people, and one-third of you do not supervise anybody at all.

When we asked questions about the workplace, we found that most respondents worked with women professionally and about half worked in a place with more than 25 percent of their colleagues who were women (but of course, that means the other half had fewer than a quarter of their colleagues who were women). There was good news about management: most supervisors were male, three-fourths of them supportive of the respondents, with their ages falling mostly in the 40s and 50s. The bad news is that fewer than one-seventh of you had women supervisors. Another interesting answer to another question about what respondents "liked least" about their jobs was that about 20 percent of you said that you lacked support in your work.

Back Page comments on harassment (continued)

Our department has had problems in the past and has conducted training. Many of my male colleagues are uncomfortable about working with women because they don't understand sexual harassment and where the lines should be drawn. Currently I have 17 guys working for me. I told them to be themselves. If they do or say something that would constitute harassment I will tell them. If they continue after being warned, then I'll take action. **State Game and Fish**

[There is a problem of] harassment dealing with acceptance of lesbians and gays in the organization and related discrimination. **USFS**

It's real and more widespread than I think people realize. **Geologist**

Recently experienced sexual harassment?...Yes. Not a problem, do not expect it again partly due to items in the news lately. **Urban Forester**

I take these things really well, but these were really bad (rude and inappropriate comments). I just ignored them in hopes they would go away!!
20-32 yr. old, USFS

Nothing galvanizes my anger more. It is unacceptable. It is enslavement.
33-45 yr old, Research Wildlife Biologist

Easier to deal with as I gain confidence with age. **33-45 yr old Supervisory Forester, USFS**

I recommend this career to other women, but I make it clear that harassment comes with the territory. **Research Forester, USFS**

Most is covert. Hard to prove but you know it is happening. **Admin. Officer, USFS**

Generally negative attitude toward women vis a vis affirmative action continually expressed by one faculty member. Also some faculty and students actively sexually harass students (it's a university!). **46-55 yr old, Asst. Professor**

Better for new women now, by far. The men are often first to come down on the offender. **USFS**

(continued)

We tried to get at job satisfaction in several ways: first, we asked if you were satisfied with your pay and fewer than one third said no. (In another question about pay, however, we found that more money figured as the second most checked goal to get more of in a five-year plan.) Three quarters of you said there was no pay differential with males for the same work, but 15 percent of you said there was. Then we asked if you would recommend your employer to others and only 20 percent said no (or only under certain conditions which we took as at least a part-time negative). That remaining 80 percent is a surprising recommendation for women who work in natural resources agencies, the largest employer, and correlates with what was reported last issue on satisfaction. But a cautionary note was sounded about job satisfaction when some 60 percent of respondents said they had considered going into business for themselves. Not quite two-thirds of respondents indicated they were where they wanted to be career-wise for their age—but we got some interesting essay comments about that, too.

In an attempt to assay general satisfaction, we asked those who had children (only one-third of our respondents) to rate their child care arrangements: Over half said their arrangements were satisfactory, while only eight percent had child care offered by employers. The rest said it was expensive, not available, or unsatisfactory, in that order.

We asked about job-related moves and two-thirds of you moved one to five times in the last five years. And even though large numbers of respondents said they had dual career considerations, over two-thirds said they were free to move and large numbers said they would move given the right reasons.

We asked some questions about future plans—and got some contradictory information. We asked what a personal five-year plan would include and more than half said more responsibility/promotion. On the other hand, when we asked what they liked least about their jobs, slightly less than half said they carried too heavy a work load which was the largest complaint. In several questions we tried to get at free time and family orientation views and found that lack of free time and an inability to focus more time on the family were two things they did not like about their jobs.

In responding to What was the best part of your job? we allowed multiple answers: the largest number checked that their work was satisfying, the next largest said they had good colleagues, and the next was that the work forces them to grow. The money was a distant 7th in ranking.

We also asked several questions about professional societies. Seventy-five percent said they belonged, but only slightly more than half of those said it was useful to them. Of those who did not belong, the largest number (less than one-third) said it did not address their career needs, while one quarter said joining was too expensive.

And finally, we asked about harassment. The answers were very interesting. To the question, Is sexual harassment a problem for you in the workplace? one-third said yes. To the question, have you personally experienced it? a whopping three-fifths of you said yes, but when we went further and asked if the harassment was recent, a huge majority said no. One could conclude from this, perhaps, that given the age group (33-45) where the bulk of respondents were grouped, that harassment grew less with age and experience—or education about that behavior is producing results. The largest groups of harassers were, in order, colleagues, supervisors, members of the public, and last, subordinates.

In the next (and last) part of this series on the survey, the emphasis will be on trying to get at some correlations.

Back Page comments on harassment

(continued)

[My last harassment] was about 10 years ago. The U.S. government has changed tremendously and it doesn't happen nearly as frequently in the 2 agencies I have worked for. **Geologist, Soil Conservation Service, previously with Bureau of Reclamation**

Has more to do with differential power than with sex. Men are getting better at hiding harassment from others, but the amount of harassment hasn't decreased in the past 10 years. **USFS**

While I have not been harassed, I feel I was sexually discriminated against twice in the early 80's. However, to the agency's credit, I was listened to, and the people doing the discriminating were great. They had been unaware of their behavior and modified it immediately—very supportive. **USFS**

Harassment is not the issue—acceptance as equal humans without special needs from the old-guard is a problem. Women foresters are still considered a strange and peculiar beast. **Land Use Forester, Private Company.**

It's improving but it is still there. Most men remain unaware of the impact of their language on women - despite training. Hill-Thomas helped get dialogue out in the open. **Associate District Manager, BLM**

Many loggers are still mentally living in the 19th century. **Supervisor, Industry**

Just because I don't feel I've been sexually harassed doesn't mean I think women get a fair break - we still must work harder to prove ourselves. **Fisheries Biologist, State agency**

It's hard to do anything when no one else sees or hears the behavior. **USFS**

It really effects morale and work output—awful. **Resource Specialist, USFS**

Unfortunately, its one of those "little" things that are easier to put up with than to make a "big" deal out of. **USFS**

Harassment?...Hidden, covered up, ignored. **Asst. Ranger Admin., USFS**

No support at work to curb it. **Supervisory Forester, USFS**

I have also seen and experienced some harassment (non-sexual) from other women. Usually this takes the form of "oh you are married—how can you possibly be serious about your career?" I think women need to support each other when they can and refrain from reacting with such indignation or righteousness when others choose more traditional lives. **Married, Professor**

Back Page comments on harassment
(continued)

It has diminished for me to the point where I'm surprised when I run into it now. But I'm turning 50, so that aging has probably helped.
Forester, State agency

I do not see it as much with a state agency as I did when working with a private consulting firm. **Biologist, State agency**

Harassment is so wide spread that a serious discussion of the violence of power needs to be initiated. **State agency**

While my employer discriminates against women, I think sexual harassment is quite rare. **State agency**

I believe the situations are happening less frequently because men/women are more aware of the consequences.
Resource Clerk, USFS

USFS is very good I think about sexual harassment education. It does occur but is usually corrected or addressed.
Forestry Technician, 8 yrs, USFS

Big improvement through education. **Personnel Specialist, State agency**

He thought he was "just joking around." It's very demeaning/belittling.
University Instructor

Experienced harassment? Yes. A love sick colleague who didn't know the word no. **Park Ranger, U.S. Army Corps of Engineers**

Our particular office is an exception—tactful comments are made (myself included) in good clean fun. Nothing is taken seriously or used in a way to manipulate others. Very comfortable working conditions. **Forestry Aide, State agency**

I've experienced more problems with discrimination because I'm a woman, rather than harassment because I'm a woman. **20-32 yr old, Development Coordinator, University**

Some harassment was race motivated as well.
Minority female, USFS

I've experienced more non-gender, non-sexual harassment than sexual harassment. The issue is more hostility in the workplace.
Forester, USFS

Curiously, most of the "chilly climate" comes from male colleagues who are the same age as myself (mid-30's). I have yet to be treated in the same way by older male colleagues. Perhaps it's related to self-confidence and security?
Assistant Professor, University

Fine line between harassment and discrimination. **Museum Curator, USFS**

[Some] still assume I am there at growers meetings as a male's wife or on a leisure trip, not an owner/manager of my own nursery. **Owner/Manager Private Company**

The backlash due to the Consent Decree for sexual

discrimination in California is alive and well. **USFS**

Some are going overboard in their definition. I think the person who harassed me thought he was being complimentary.
USFS

I don't ignore it as I did when I was younger and perhaps less understanding.
46-55 yr old, Professor

I lost my last job because of my refusal to "play along" with my supervisor's advances. **Teacher**

Sexual harassment?...Not taken seriously even when reported. **USFS**

Most everyone, male and female, get harassed - most of the time it's not overt sexual harassment - just people (male and female) being completely oblivious to others' feelings. **Urban Forestry Coordinator, State agency**

Most of it is stupidity, jealousy that a woman can succeed where they are scared to even try. They resent me. They don't consider me. They lack respect. **Self-employed Consulting Forester**

The Forest Service, under the Consent Decree, has been out ahead on identifying issues about diversity in natural resources. Certainly, the agency has made mistakes and backlash remains a problem nationwide, but my concerns as a woman have always had a place and an ear. I consider the Forest Service a good employer.
Research Project Leader, USFS

The city has been fairly aggressive in training employees about sexual harassment. It still happens, but not in my direct work environment. Like racism, it has gotten more subtle also. **Water Conservation Analyst, City agency**

Harassment related to the individual's religious beliefs [is] a day to day occurrence of subtle harassment. **USFS**



Kathleen A. Griffin, pictured at right while working in La Union, Honduras, currently teaches General Ecology and Wildlife Management at Central Washington University, Ellensburg. She recently returned from two years in Honduras as a Peace Corps Volunteer where she worked as a Protected Areas Consultant for the Honduran Forestry Service. Her Bachelor's in Wildlife Management is from Humboldt State University and her Master's in Wildlife Biology is from Washington State University.

Dixie L. Ehrenreich is Editor, Women in Natural Resources.

SOCIOLOGICAL FACTORS AFFECT THE ADOPTION OF ENVIRONMENTAL INNOVATIONS

BARBARA RUSSELL

Because the Soil Conservation Service is dependent upon private landusers to implement and maintain recommended conservation practices, SCS professionals are always searching for methods to facilitate the adoption of environmental innovations. In order to do this, an already complicated scientific project then becomes a complex *sociological/environmental* project. At that point the need often arises to involve other federal, regional and local units of government, special interest groups, and private citizens.

McMurdie Hollow Conservation Project is a good example of this process. This project was part of a larger water quality project in northern Utah's Cache Valley. A resource inventory conducted by SCS in the Little Bear River Hydrologic Unit identified McMurdie Hollow as (1) a severely eroding sub-watershed with (2) soil sediments and pollutants accumulating in the Little Bear River as a result. (3) Cattle overgrazing in the upper watershed, (4) lack of conservation cropping rotations and tillage practices on

cropland areas, and (5) improper pesticide management all contributed to the degradation. Not surprisingly, reduction of water infiltration into the upper watershed created (6) excess overland water flow. The result was a large gully in the lower reaches of the sub-watershed. Improving the sub-watershed became a high priority within the SCS hydrologic unit where I am a Soil Conservationist.

A major social problem within this sub-watershed was the gully embankment which had become a local trash deposit site because it was located on a county road with open public access. Local officials had closed the area as a dumping site and provided an alternative landfill, but dumping continued. Residing on the embankment were animal carcasses, washing machines, wire, cans, and general farm and household wastes. So in addition to erosion, there were real concerns about water pollution and destruction of the natural aesthetics of the local area.

Since the federal Soil Conservation Service works with local Soil and Water Conservation Districts by providing technical assistance, we began our work together by attacking the specific sociological problems in tandem with

the environmental ones. Most district conservation board members are locally elected farmers, ranchers, business people, and regional officials. That was true of ours—and we were fortunate because all of the members were supportive of the Little Bear River Hydrologic Unit project. In fact, a key landowner in McMurdie Hollow was elected to serve on the local Soil and Water Conservation District Board. (We found as time went on, that landusers in McMurdie Hollow cooperated based on the extent of their property's contribution to the degradation or improvement of the project site. For example, the owner of the gully area and owners of critically abused range site areas in the upper watershed participated more than other landusers.)

What was our collaborating group able to provide that the landowners by themselves could not? Organizational skills and financial resources. SCS pulled in the Utah State Extension Service cooperation on the project and submitted a proposal for a grant from the Coors Brewing Corporation to improve water quality through community team building projects. In addition, the group solicited the Bureau of Reclamation (BOR) to provide additional matching funds because the clean up project

Photo on facing page is of Barbara Russell and Joni Montgomery, a cooperator-landuser

met some of BOR's goals and objectives within the watershed. The grants were awarded and efforts to clean up the site began.

As the gathering of financial support went on, a workgroup organized to address the physical trash clean-up efforts. This workgroup included landusers, SCS personnel, local environmental and community service groups, State Extension Service agents, and local units of government. For example, environmental and community service groups volunteered labor while Cache County road and Logan city landfill departments worked together to provide trucks to load and haul the excavated trash to the Logan landfill. We used some money to hire a drag-line operator to pull the trash from the gully and stack it on the county road—a quarter of a mile's worth of debris.

With the trash out of the way, it was time to stabilize the gully and a "kick off" workday was set in March 1992. Local corporations donated supplies, food, and drinks for the replanting volunteers. Participants prepared the site by picking up remaining pieces of garbage, raking the soil and placing geo-textile and erosion mats that USDA Agricultural Research Service (ARS) donated. Further, the volunteers planted willows along the streambanks and broadcast grass seed on the steep slopes—working on Saturdays and some weekdays.

The local newspaper covered the project which helped recruit additional volunteers. Cache County resurfaced the road after the project and implemented a diversion for concentrated water flow from the road to avoid the gully. Landowners in the upper watershed—2,000 acres—volunteered to implement conservation practices such as grass seedings, filter strips, sediment retention basins, deferred grazing, brush management, cross fencing, and proper grazing use.

Clearly, the McMurdie Hollow project was successful as an example of team building, but why was this project so successful compared to other projects that fail? As I look back on the project, it is apparent that we took into account classical sociological methodology for getting innovation to succeed and to be accepted.

The literature has many examples, but I will sketch out only a few of the key ideas: researchers Taylor and Miller (1978) note that careful planning with regard to getting the right persons involved can be critical in implementing environmental innovations. Other sociologists found sociological factors are associated with adoption of environmental innovations which include participants' socio-economic characteristics (Lionberger, 1960; Rogers, 1983).

Rogers also wrote that as the participant's level of education, literacy, and social status increase, the likelihood increases that these people will adopt new ideas or innovations. Adoption of innovations is a decision making process. Thus information and education are crucial (Buttel et. al., 1990). Institutions such as the SCS tend to be "gate keepers" of information about relevant environmental technologies and some authors noted the importance of gatekeepers in having the responsibility to disseminate information (Nowak, 1987). The amount of contact from change agents—such as a Soil Conservationist—is directly related to adoption of environmental innovations (Taylor and Miller, 1978).

When one looks at such factors as size or type of operation, and favorable attitudes toward the environment, the likelihood of adoption also can be assessed favorably. Further, social factors seen as positive to the project's success tend to be associated with access to—and control of—resources such as access to information and project-

specific education (Rogers, 1983).

This bare-bones paraphrasing of sociological principles deserves a closer look insofar as it related to our project. What the sociologists are telling us, I believe, is that it was likely that the landowners in McMurdie Hollow adopted the environmental innovations because of their socio-economic status and access to resources, including information. A major player on the various committees was a member of the Soil Conservation District board and he was also an area landowner with a stake in the outcome. Accordingly, the board membership contributed to his high local social status and access to valuable information concerning the project. He used information to make the decision to participate and support the project.

Many of the principles sketched out above mention information. SCS offered certain amounts and types of technical and financial assistance and information and/or education for informed decision

making. In the McMurdie Hollow project, spreading of information about the project, the financing, and how citizens were to take part was vital to its success. The workgroup maintained a special contact with landowners and other important groups through the local newspaper and radio, Little Bear River newsletter, scoping meetings, Soil Conservation District Board meetings, and personal visits with landowners and local business managers. Our goal was to be open, always sharing what we knew.

Marketing conservation applies sociological principles and includes (1) finding out what is important to the landuser, then (2) attaching conservation behavior to that value, plus (3) meeting the needs of the landusers while providing solutions to landusers problems. Three sociological research questions are useful to ask when developing a marketing plan: (a) Who is the target market or clientele? (b) What are the social and resource needs of these target clientele? And (c)



what marketing mix is necessary to meet these needs and to meet SCS conservation objectives?

The sociological literature cautions against assuming needs are homogenous across all groups because needs and attitudes vary (Ajzen and Fishbein, 1980; Roling, 1990). One approach we used was to "target" groups according to their similar resource needs. The landusers' needs, we found, were organizational power and funding. The solution? We applied for grants in places we knew had funds, provided or found other matching monies, and we recruited services and volunteers.

Many times the financial and organizational became one: the costs associated with the project were met through volunteer time from community service and environmental groups, grant money, and matching funds from BOR. The county volunteered trucks and time to haul the trash, regraded the road and built a water diversion. The ARS donated mats for slope stabilization, the businesses donated food. The landowners

volunteered for resource management plans on the privately owned upper watershed areas and received USDA Agricultural Stabilization and Conservation Service cost share funds to implement environmental innovations.

In the McMurdie Hollow project, landuser's participation depended on the extent of their private property's contribution to the improvement or degradation of the project. Landusers in the watershed who did not directly affect the project were not a "target" group. Perhaps the inclusion of landusers not targeted by the workgroup would have made this an even more "successful" project—or perhaps a failure if it was seen as too broad.

Unfortunately, all cases are not similar to the McMurdie Hollow project in that critical environmental problems do not always coincide with groups who are likely to adopt environmental innovations to improve the situation. By using social factors, however, one can determine who the target groups are, what their social and resource needs are, and

what timely, adequate and relevant information they need to make an informed choice. In a project that has low participation, a key issue would be to evaluate how, when, and to whom the information is being disseminated.

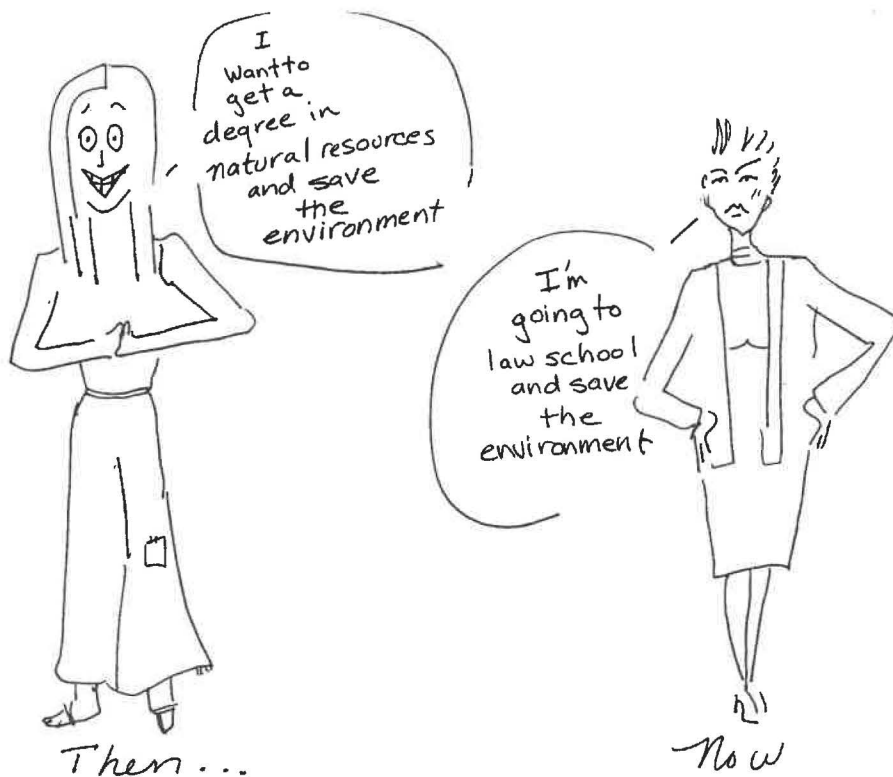
And finally, another caution: developing a marketing plan is a continuous process depending on who the target groups are and the needs of those groups. While one marketing mix works for a specific situation, it doesn't necessarily mean it will work for all groups and individuals—or even in seemingly similar situations.

The nature of our project created a unique collaboration effort among landowners, volunteer participants, the local community, and local, state and federal government agencies. Local grass roots or "bottom-up" participation was a vital component to the project. The "top-down" planning goals of the government agencies became sensitive to the needs of the local community by involving them in the planning and implementation of the project.

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When the journal started 15 years ago—and now.

Cartoons by Deann Zwiagt.

The people



Then...



Now

DZ 2/94

Whew -
What a day!
Let's go slam
a couple brews



Then...

Whew -
what a day!
Let's go hit
the health club,
then the juice
bar
before we head
to our
therapists



Now

fishing projects
yak yak | promotions yak
football yak
- bonus

MEN



Then...

travel | child care
projects | bonuses | promotions

Women



Now

TAKE THE TIME TO FIGURE OUT WHAT YOU WANT OUT OF YOUR LIFE—AND WHERE YOU WANT TO LIVE IT. THEN RECOGNIZE THAT A PROFESSION IS NOT THE SAME AS A JOB—AND NEITHER SHOULD CONTROL PERSONAL GOALS.

I SPENT ONE DAY A MONTH APPLYING FOR JOBS

SUSAN SAVAGE



When I look at the progression of my life and career, sometimes I feel lucky. I advanced from a GS 5 to an 11 in three years. Some might say I was promoted because I am a woman. But I say that it took hard work, preparation, and sacrifice to finally reach a position I like—and in a place I choose to live.

In the first phase of preparation for my work life, I pursued activities that I was interested in. I was career oriented, but not necessarily job oriented. I mean by this that I pursued biology as a profession, but I did not worry about the specific job I would end up with. My career preparation included developing diversity and breadth, learning to work hard wherever the work took me, and building on what my family started: a life full of travel to great natural and historic areas, emphasis on schooling, and encouragement to develop many hobbies.

My family visited Yellowstone, Acadia, Cape Cod, Everglades, Shenandoah, various historic sites, and I backpacked Isle Royale when I was 17. At Cranbrook Institute of Science my brother and I were fascinated by both the natural history and Native American culture exhibits. Through Girl Scouts I explored the outdoors. I also enjoyed learning textile arts from my mother and at Greenfield Village in Dearborn, Michigan. In senior high I was in the Ecology Action Club. I pursued botany and ornithology at Albion College, a liberal arts college, but I benefited as well from the music, theater and literature classes besides the hard-core science curriculum. I also participated in the Boston College Sea Semester program. I pursued ornithology, behavioral study, plus ecology and evolutionary studies through graduate school, not really worrying what kind of job I would find.

After too many years (it seemed to me) as a MS student at Ohio State, I finished my thesis on the vocal behavior of rufous-sided towhees then went to Finland to be a field assistant on a project studying the behavioral

ecology of ruff (*Philomachus pugnax*). While in Finland I had an opportunity to go to Rovaniemi, Finland and find out about the Laplanders, the European equivalent to North American arctic and subarctic Natives. I loved the subarctic environment. From Finland, several other field jobs took me to the Caribbean and northern Michigan.

I was offered my first government employment as a seasonal biotechnician stationed on the Colville River Delta for the Fish and Wildlife Service—on a project to study bird populations and bird habitat on the North Slope of Alaska. The Colville River is located about 40 miles west of Prudhoe Bay on the Arctic Ocean and is the largest river on the Alaskan North Slope, 850 miles north of Anchorage. Our field crew quickly learned about weatherports (vinyl quonset huts with steel frames), zodiac boats and small outboard motors. Soon we were covering 14 miles of river and 5-7 miles of tundra per day as we collected data on bird populations and the bird's use of tundra habitat. The tundra captivated me—you could see for miles. I loved the work so much, I wanted to return.

The next summer, I did. I obtained a job for US Fish and Wildlife Service at the Alaska Peninsula National Wildlife Refuge and supervised two field camps at the Ugashik Lakes. Here my crew interviewed fish-

ermen, surveyed waterfowl, and worked with Alaska Fish and Game on a project to determine grayling populations. By this time, I was well versed in ecological theory, field practices, computers, statistics, teaching, and I had developed a high degree of organization and efficiency plus a fairly good way of interacting with people. After my two summers in Alaska, I had also developed supervisory skills, arctic experience, and small boating skills.

While I was at Ugashik, a radio message from my supervisor asked if I would be interested in a permanent position in Washington DC with the National Park Service. My name had been pulled from the Biological Science register, a register that I had taken pains to update as needed.

My job in Washington was a far cry from my life as a field camp supervisor. I worked in the central office in the Wildlife & Vegetation Division, Integrated Pest Management Program. I went into culture shock as I rode the subway to work, worked in an office with no windows and interacted with people under high levels of stress—theirs and mine.

The NPS program's mission was to reduce pesticide use, to lower the toxicity of those necessary ones, and to look at alternative pest management. Specifically we tried to reduce the dependence on agricultural pesticides for those parks that grew

crops to maintain historic scenery, raise awareness about exotic species introduction, and reduce the toxicity of pesticides used in park buildings to manage common household insects. My job tracked the amount of pesticide used in the entire Park Service—endless paper shuffling and data management. My boss was sympathetic and I often was assigned to more interesting tasks, however I was never “in the field.”

Not a lot of time passed before it became apparent a life as a Washington bureaucrat was not for me. But I used the time profitably to do some stock-taking: I considered returning to school for my Ph.D., perhaps in natural science, conservation, and native use of resources. I knew whatever I did should allow me to become a field biologist, live a simple/sustainable lifestyle, return to Alaska, and hopefully form my own nuclear family. It became clear, in addition to career considerations, these other needs had to be met.

In order to move closer to those goals, while in Washington, I entered the NPS Natural Resource Management (NRMTP) Training Program, Class V, which was featured in *WiNR* in an article by Karen Taylor-Goodrich (Vol. 13, No. 1). The NRMTP was an 18 month-long program with six months of in-class training specific to natural resource management (e.g., wildlife management, vegetation management, water resources, air quality, mining and minerals, planning).

Entry in the training program is usually controlled by the regional offices, but I was the first to enter as a Washington office trainee. (There was also a non-regional office position from the Denver Service Center.) Our class was unique: 13 of the 22 trainees were women. I benefited by learning how NPS manages resources, about the NPS mission, and the defined legal authorities. The course heightened my awareness of threats to NPS resources.

I also spent at least one day a month applying for jobs during this period of my life. A job came open at Katmai National Park for

a subsistence specialist. The park office was located in King Salmon, Alaska, the last Alaskan village I had been employed in.

My friends warned me: subsistence is a can of worms, stay away. The requirements for the job were specifically beyond my knowledge, but I knew I could learn the legislative and regulatory parts. The job intrigued me because it was a blending of natural resource management with an emphasis on protecting the Native American culture I had been interested in since childhood. I would be the first Subsistence Specialist for Katmai National Preserve and Aniakchak National Monument and Preserve, a job that would incorporate the ideas I once thought of as a Ph.D. thesis!

The federal Alaska National Interest Lands Conservation Act, or ANILCA, indicated that subsistence was to be managed by the state of Alaska as long as the state had a law that paralleled the federal law of 1980. One of the requirements was that subsistence priority was provided to “rural” Alaskans. The state of Alaska ran the program until a private citizen sued the state over the subsistence law. It was found that the “rural” preference in the state law was in conflict with the Alaska State Constitution; the state law was then held unconstitutional and done away with. Since the state then was out of compliance with the federal law, the federal agencies began managing subsistence on federal lands.

In response to this new responsibility, the National Park Service created in several of the park units five new positions (and several other collateral duty positions)—two of which are currently filled by women. In being the first subsistence specialist for Katmai/Aniakchak, I have had much input into my position duties, responsibilities, and priorities for subsistence management.

My responsibilities include (1) natural resource management, especially for those species that are consumptively used by subsistence users, (2) cultural resource work including ethnography and ethnohistory, and

(3) administration. In addition, I have some strictly natural resource responsibilities that are commensurate with my academic background: (4) avian biology and (5) vegetation work.

The ethnographic responsibilities are people (ethno) and data collection (graphic) oriented: we look at how people—in this case, rural Alaskans—currently harvest and use natural resources and how they subsisted in the past. I have assisted Alaska Department of Fish and Game with several village visits and research projects in the area of Aniakchak. This research consists of house-to-house visits in which a lengthy survey form is used to ask residents about the animals they harvest, their sharing schemes, and what technologies they use in subsistence harvest.

We also conduct “key informant” interviews where knowledgeable people informally talk about the old subsistence ways. (I proposed a research project to be conducted by university investigators that will collect similar information for the Katmai area. This project is now underway.)

I also coordinate local ethnographic surveys with our Cultural Resource Specialist. This information is used to make sure that subsistence regulations conform to local customs and past traditions of subsistence users—which is what the law demands. The information can be used to change seasons and bag limits or methods of take for hunting or trapping regulations. Of course, this cannot be done if the populations are not maintained in a natural and healthy condition.

Administration takes up much of my time. These duties include writing the first subsistence management plan for Katmai and Aniakchak, assisting with the Natural Resource Management plan, attending public meetings on subsistence management or fish and game advisory councils, managing a

Alaska National Interest Lands Conservation Act, or ANILCA

Subsistence is a way of life that was practiced by all native Americans throughout the United States prior to contact with western culture. Alaska is a remaining stronghold for this way of life.

The practice of “living off the land” was given the name “subsistence” by federal or state bureaucrats. Besides creating many of the parks and wildlife refuges in Alaska, ANILCA deemed that subsistence use of resources was to be the **priority consumptive use** on federal lands where subsistence is allowed. ANILCA defines subsistence use as:

The customary and traditional use by rural Alaska residents of wild, renewable resources for direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation; for the making and selling of handcraft articles out of nonedible byproducts of fish and wildlife resources taken for personal or family consumption; for barter, or sharing for personal or family consumption; and for customary trade.

Some Alaskans who oppose subsistence do so because they feel that rural residency itself is not a fair way to qualify for subsistence. The plaintiffs in a case against the state subsistence law held that all Alaskans should be equally entitled to subsistence harvests. Others feel that eligibility for subsistence should be based on economic need or on ethnicity.

Recreational hunters sometimes resent the priorities for earlier seasons or limited openings that may be afforded to subsistence users. Recently, conflicts between subsistence and commercial fishermen have been taken to the courts as stocks in some areas decline. These conflicts derive from increasing populations, use of resources, technological improvements, differing philosophies on hunting and resource use, and differing access to goods.

To Alaskans who practice subsistence, it is a great deal more than this, however, and has become an emotional issue. For rural Alaskans, subsistence is survival. It means sharing and working together, learning animal behaviors, watching seasons, respecting animals that are harvested, teaching old ways, being efficient. There are special ceremonies and celebrations which go to the heart of this respect and dependency. Subsistence provides cultural identity and self-esteem.

public advisory committee, reviewing and writing hunting and trapping regulations, applying for research grants, and writing and issuing permits for subsistence activities. I also assist with interpretive programs when requested by the schools.

Fieldwork for the biological aspects of my job has included a reconnaissance backpacking trip at Aniakchak, and three weeks on the Aniakchak Vegetation project. Consequently, for the past two years I supervised a field team at Aniakchak National Monument and Preserve. I also supervise and develop funding proposals for a biotech who is earning her M.S. degree by conducting vegetation research in the Aniakchak Caldera.

Not only does this work result in scientific information, but it helps with the other facets of the job. And it gives me a respect for early rural residents who lived in this environment with no support mechanisms and hunted and packed their harvested animals over this terrain.

All of this activity boils down to two main objectives: protecting natural resources in a natural and healthy condition—which is primary—and providing for their use as was customary and traditional by rural Alaskans in the past. Without the natural resources there could be no subsistence, but preservation of cul-

ture is also part of the NPS mission. Subsistence management clearly is a complex push-me pull-me between the two objectives.

Although my job often seems perfect, there are endless struggles with getting enough support through the budget process, fending off competing interests, and rationalizing conflicting ideas on management of the program. I feel I must never become complacent about my job. While I don't spend a day a month applying for jobs anymore, I continue to develop my skills and one day in the future will reach for further responsibilities.

For now though, I am allowing myself the luxury of fulfilling my non-career goals. I will marry this spring and my partner and I are building a house on the Naknek River in the place we love.

Susan Savage is a Subsistence Specialist with the USDI National Park Service in Alaska. She has worked for NPS since 1988, first as a biologist and data management specialist in the Washington Office. She completed the NPS Natural Resource Management Training Program in 1991, then went to Alaska.

Prior to 1988 she worked for the US Fish and Wildlife Service. Her Bachelor's is from Albion College; her Master's in zoology is from Ohio State University.

Susan Savage stands at 1500 feet overlooking Black creek drainage and Aniakchak Bay on Aniakchuk National Monument & Preserve



The place I chose to work

Katmai National Park and Preserve is a 4.1 million acre unit (380,000 acres in the Preserve are open to sport and subsistence hunting) established under five different Presidential Proclamations and one Act of Congress. The first Proclamation came in 1918 to set aside the area around the Katmai and Novarupta volcanoes and the Valley of Ten Thousand Smokes. This was in response to the (1912) eruption of Novarupta (which ejected 10 times the amount of volcanic material as did Washington State's Mt. St. Helen's).

Additions were made to Katmai to protect brown bears and their habitat, red salmon, other wildlife, Pacific coastal resources, and the waters of Naknek Lake. The Act of Congress (Alaska National Interest Lands Conservation Act-ANILCA) added acreage to Katmai National Monument, changed Katmai National Monument to a Park—and established Katmai Preserve—together approximately half a million acres in size.

Aniakchak National Monument encloses one of the largest volcanic calderas in the world, approximately six miles in diameter. Aniakchak was most recently active in 1931—documented by the Jesuit Priest, Father Bernard Hubbard. Our volcanoes are part of the Ring of Fire that forms a continuous line of volcanoes all around the Pacific Crustal Plate.

Aniakchak was established to protect the geological resources, to protect habitat for, and populations of, fish and wildlife, and to interpret the ongoing geological and biological processes including succession. ANILCA legislated that all of Aniakchak is open to subsistence use.

Katmai is about 300 miles SW of Anchorage and Aniakchak is another 150 miles SW of Katmai—both units are located on the Alaska Peninsula which is the leg that connects the main body of Alaska with the Aleutian chain. Katmai is the southern edge of the

boreal forest, beyond which is mainly willow/alder shrub land, and tundra. The Alaska Peninsula is also well known for its large lakes, sockeye salmon, and large brown bears.

In tracking population biology of species that are used consumptively by rural Alaskans, we are currently concentrating on terrestrial species even though fisheries management is of concern to us because we have the largest fresh water resources of any NPS unit. Until we can get funding for a fisheries or aquatic biologist, however, the State of Alaska actively manages the fisheries. But no one doubts the fisheries' importance: subsistence, large commercial, and sport fishery depends on the Naknek drainage for salmon spawning habitat.

Much of our biological work follows standard patterns. For example, we analyze state harvest data for furbearers. Another group conducts moose surveys in late November or early December in good snow cover so that the moose are seen. (On the Alaska Peninsula our weather is mediated by both the Bering Sea and Pacific Ocean and snow is not as common as in Interior Alaska). To obtain age and sex composition of the population, we survey around mid-December by small plane before the bull moose begin dropping their antlers. The survey's plane runs are limited by three factors: the size of the plane's fuel tanks, the size of the human bladder (no bathroom), and the length of the short Alaskan day (in December we're approaching the solstice and might have six hours of daylight).

In 1993 one survey took us near the glorious Kejulik peaks and their jagged beauty where researchers sighted a possible wolf den and watched a bear digging a den in the mountain slope.

To the rural Alaska culture we aim to protect, and to me, the opportunity to observe these things rates high on life's satisfaction list.

John Malone wrote a book about dogs titled *The 125 Most Asked Questions About Dogs: and the Answers* (William Morrow & Co.). He says, for example, to get very large dogs for young children because they are unafraid of children and don't mind standard rough-housing—no nipping. The gentlest breeds he suggests are Old English Sheepdogs and Newfoundlands.

Women are taught to control impulses toward violence. For them, aggression is the failure of control. Men, however, are taught to use aggression to establish control. For them, it is a legitimate way to assume authority over frightening forces. *Men, Women, and Aggression* by Anne Campbell (Basic Books) explores some of the ramifications of aggressive behaviors.

There is a 12-book series (IDG Books Worldwide, San Mateo, California) offered for computer "Dummies." Titles include *DOS for Dummies*, *Macs for Dummies*, *PCs for Dummies*. Got the picture?? Hmm??

And if that appeals to you, we are also advocating *Clutter Control: Putting Your Home on a Diet* by Jeff Campbell (Dell Trade). One of his bits of advice is to stand next to your trash can or recycling bin after getting your mail so you can throw out pieces you don't want. Now why didn't I think of that?? Hmm??

Black Feminist Thought by Patricia Hill Collins has received much acclaim and numerous awards. Lynn Weber the Director of the Center for Research on Women at Memphis State University referred to it in the Fall 1993 issue of *Center News* and said that it is the best book she had ever read. "Part of its value is that it does what very little work is doing—puts race at the center of analysis and shows us how doing so reveals the previously obscured place of other systems of dominance and subordination. We come to see that privilege and oppression do not exist—one without the other—and that any analysis that leaves out either is partial and incomplete," she noted.

The History of Women and Science, Health, and Technology: A Bibliographic Guide to the Professions and the Disciplines by Phyllis Holman Weisbard and Rima D. Apple is a core bibliography. It is updated from a 1988 version edited by Apple and Susan E. Searing. The objectives of the project are (1) to assist development of new college courses on the history of women in science, (2) integrate the new feminist scholarship into existing survey courses, and (3) guide the reading of professionals who want to explore the history of women

in their disciplines. Single copies are free (while supplies last) from Women's Studies Librarian, University of Wisconsin System, 430 Memorial Library, 728 State Street, Madison, WI 53706.

With the growth of ecotourism, travelers need not have a crisis of conscience on their next vacation. Depending on your level of commitment, you can embark on a crusade to save the earth or simply travel in a way that doesn't make too big a mess.

These sources come from Shax Riegler, writing in *Vogue*, November 1993. (1) Earthwatch (617-926-8200) asks for monetary sharing from its volunteers—some \$800 to \$2000—for a choice of 160 projects operating year-round. (2) Ocean Society Expeditions (800-326-7491) supports research on the behavior of sea mammals, costs start at \$1,100, and the trips are about eight days long. (3) Global Volunteers (800-487-1074) sends teams to rural communities to work on development projects for one to three weeks, costs vary. (4) The National Audubon Society (202-979-3000), the (5) Sierra Club (415-923-5630) and the (6) American Hiking Society (no listed phone) all welcome volunteers for trail and habitat maintenance. Companies who organize low impact vacations—charges vary—are (7) Caribbean Adventures Ltd. (800-846-6594) and (8) Harmony (800-392-9004).

Two books offer additional information for other possibilities: Bill McMillon's *Volunteer Vacations* (Chicago Review Press) and Carole Berglie and Alice M. Geffen's *Ecotours and Nature Getaways* (Clarkson Potter).

Death Beat: A Columbian Journalist's Life Inside the Cocaine Wars (HarperCollins) was written by Maria Jimena Duzan, a reporter for the liberal newspaper *El Espectador*. The book is about a country that has lost its ability to protect itself—and its citizens—even though it is one of the older constitutional democracies in our region. Maria Jimena's family was a victim of that war between political parties which began in the early 1900s. By 1948 there was almost a civil war (La Violencia) between the Conservative and Liberal parties which was finally worked out in 1957 with power sharing. The next evil incarnation was narcotics trafficking and death squads.

Maria Jimena's book reminds us that, in Columbia at least, journalism is not just a profession for objective writers. You are writing about people who have your address and who are actively trying to kill you. Columbian society is so polarized that if you are not perceived as a victim, you are perceived as a perpetrator, making a journalist very vulnerable. And not just the journalists. Every

hero or heroine in her book dies whether they are government officials, supreme court justices, or family friends. Many of the gangs who murder for hire are made up of young boys from the slums.

It is a sobering book for those of us who live in a democracy which looks to be fraying around the edges a bit.

Food—Your Miracle Medicine by Jean Carper (HarperCollins) is a compilation of data from more than 10,000 recent scientific studies conducted by such notable institutions as Harvard, MIT, Johns Hopkins, and the National Cancer Institute. With chapters such as Best Foods to Block, Intercept, and Stifle Cancer, or Everybody's Cardiovascular Food Cures, this book could become a veritable bible for the health conscious. Items: a carrot a day may reduce the risk of stroke in women by 65 percent; tomatoes and watermelon are thought to protect against pancreatic cancer; one Brazil nut or three quarters of a cup of spinach could minimize depression; and shiitake mushrooms apparently boost the immune system.

There is a bird-watcher's kit for kids which comes in a fanny pack with a child-sized fixed-focus plastic binoculars, identification cards, the classic Audubon bird call, and a 110mm minicamera. It costs \$25.90 from The Nature Company, Box 188, Florence, Kentucky 41022 (800-227-1114).

Two self-help books (among the many hundreds offered) are *The Working Leader* by Leonard Sayles (The Free Press) and *Sharkproof: Get the Job You Want, Keep the Job You Love...in Today's Frenzied Job Market* by Harvey Mackay (Mackay Envelope Corp.). The first book focuses on how managers who are really good repeatedly find and implement solutions—balancing the everyday contradictions, inconsistencies and dilemmas of the workplace.

The Mackay book notes that handling of financial troubles, the things that always go wrong, and difficult people offer a career opportunity for managers who are good at fixes. Instead of complaining about troubles, look for more of them—and handle them cheerfully and with good judgment. Creative, upbeat problem solvers get ahead at a surprising rate.

Bobbe Sommer wrote *Psycho-Cybernetics 2000* (Prentice Hall) which takes off from a book written by plastic surgeon Maxwell Maltz in 1960 (Pocket Books). The basic principle is that we each go through life under the control of an internal automatic guidance system—our self-image. By following some simple steps, we can take conscious control of our self-images and program them

to help us successfully attain our life goals. According to the authors, it succeeds because it shows us specific ways to use the conscious mind to change negative images that are in the unconscious mind and that hamper success.

There are five steps: 1. Cancel the false negative image of yourself because it is just a bad habit. It is important to say—and hear yourself say, the word cancel—not just think it. 2. Replace the negative image with a success-oriented, positive picture by directing your imagination to picture yourself as competent and successful. The message will get through to your unconscious belief system. 3. Focus on an image of your success, but don't idly daydream it. Your unconscious mind works via pictures, so provide it with convincing success scenarios. Athletes do this before an event, taking themselves through a race or series of moves. 5. Train yourself for your new, successful role which is changing reality from failure to success.

But unless you have reinforced your new self-image via the other steps, success won't follow. It may take awhile to be comfortable at something you always thought you could not do. But if you act as if it were true, it will be say the authors.

News & Notes

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to be periodically introspective, collecting feedback, analyzing it and altering their behavior when necessary. They also have to learn how to manage themselves and their emotions. Inevitable feelings of stress and anxiety can profoundly affect daily functioning. Many first-timers will find themselves all too willing to revert to the familiar, comfortable "doer" role when faced with messy managerial responsibilities.

Only when managers understand why they are regressing can they begin to combat this tendency. They should make a list of whom they are dependent on to get the job done—subordinates, superiors, peers, and associates both inside and outside the organization. Then they should seek out these constituencies and learn about their expectations, priorities, concerns and preferred work styles. By so doing, new managers can begin to size up various tradeoffs to be made as work situations require them to juggle competing needs and expectations.

One manager got into the habit of taking 10 minutes every Friday to note mistakes made and key lessons learned. Another kept a detailed journal. Such simple tools help managers confront their misconceptions and help identify a set of benchmarks by which to gauge their own progress.

New managers should also recognize that it cannot be handled alone. Those who have a more extensive and varied network and are willing to ask for help find it easier to cope the first year. Talking with peers, both past and current, can be invaluable, since such discussions tend to be more informal and managers can feel free to explore ideas and disclose problems.

Unfortunately, new managers are often reluctant to ask for help; it doesn't fit their conception of the boss as expert. One manager explained that she avoided participating in the company training program offered to new managers because "if they

realize how little I know, they will think I am a promotion mistake." In response to such anxieties, new managers often embark on a futile search for the perfect mentor to help them navigate their new assignment. Instead, the first time manager's goal should be to cultivate and be open to a network of relationships (superior and peer, internal and external) for different types of support, feedback and advice.

Bosses of new managers need to provide constructive and timely feedback, not simply on what she has been doing, but also on how she has been doing it. The bosses most helpful are those who adopt a stance of supportive autonomy and a problem-solving approach plus a kind of Socratic dialogue.

Remember that new managers will not necessarily seek out feedback; bosses often have to initiate contact. They should encourage new managers to seek out others, to develop a resource base consisting of previous bosses, current and former peers, and the human-resources department.

Bosses should consider: first-line management is the level in the organization that generates the most frequent reports of incompetence, burnout, and excessive attrition. The human and financial costs are staggering for both those who fail to make the transition and the businesses that promote them. Moreover, the first management assignment is a key developmental experience for the company's future executives. It is the time during which basic management philosophies and styles are profoundly shaped.

....Linda A. Hill, *Working Woman*, February 1994

Is genital mutilation of girls and women a violation of human rights or none of the West's business?

It is surely a violation of human rights, no matter whose business it is. Torture and other forms of barbarity, including remorseless discrimination and slavery, are traditional in many cultures and remain conspicuous today. That is one reason why uncritical versions of multiculturalism are educationally irresponsible.

....Edwin J. Delattre, *Newsweek*, January 1994

Ecotourism

In 1987 and 1988, massive bleaching affected Bahamian and Caribbean coral (and even reefs as distant as Fiji). If global warming is the culprit, as many suspect, then reefs may be coalmine canaries warning of disaster. Our Earthwatch group—an amiable dozen, mostly academics and professionals from the northeast U.S.—was spending a week in San Salvador to start gathering data about reef conditions. We'd succumbed to Earthwatch's brochures, which shrewdly marry a missionary zeal for tending the planet to glossy photographs of faroff lands.

We had a ragbag of private agendas—marine biology, public service, an unvacuous vacation, a politically correct tan—but our ostensible purpose was to help investigator Tom McGrath begin finding answers. It hadn't quite worked out that way. Scudding northwest winds had roiled the two established research sites, so our first days were spent mostly in the lab. Many of us grew mildly aggrieved at paying

\$1,195 plus airfare for this tropical shop class (only 54 percent of Earthwatch volunteers' payments go toward local expenses; the rest goes to overhead and recruitment costs like those snappy brochures).

The weather happily cleared and I was supposed to be helping Elsa a chipper grandmother from New Hampshire, measure water visibility at Linsay's Reef. A surge carried me once more onto the sharp, shallow coral. My arms had already been needled by tiny translucent wasps and by a stinging brush with the reindeer-velvet of some fire coral, and now my shins were gouging blood. Our blundering was damaging the reef far more than any visible bleaching.

At one reef we found a black nylon stocking the tides had tied round the finger coral like a bow. Nearby I noticed blanched coral—half bleached—and felt a flick of competence. None of us could make head or tails of the work, which involved using gel electrophoresis and restriction fragment-length polymorphisms to unpuzzle the coral's White Band disease, but we'd learned to distinguish coral types and to take the necessary measurements.

Ashore, the beach was dotted with briquette-like tar balls from Venezuelan oil tankers that had vented their holds at sea, as well as a gaudy jumble of cans, bleach bottles, spars, truck engines, swollen champagne corks from cruise ships—ah celebration—and a glinting carpet of broken bottles, now emptied of the notes sent months ago by hopeful children on the beaches of Florida, of Maine, of Majorca. "The flotsam of the world arrives here via the Atlantic gyre," Tom said. The wind freshened, carrying more garbage our way.

When we summed up a few nights later, sitting in the laboratory with salty hair and modest tans, the mood was cheery. We were reconciled to our minimal achievement—establishing baseline measurements and discarding a few faulty techniques—because we'd learned that at least three years of weekly mea-

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New USDA Forest Service Chief **Jack Ward Thomas** announced recently that **Joan Comanor** has been appointed as Deputy Chief for State and Private Forestry and that **Barbara Weber** has been appointed as Associate Deputy Chief for Forest Service Research.

Joan Comanor, pictured top right, has been with the Forest Service since 1986 as Director of Land Management Planning for the National Forest System. She was also acting Director of Ecosystem Management. In previous assignments, she served as Assistant Director, Cooperative Forestry, and as Natural Resource Specialist and Budget Coordinator for the Range Management Staff. Prior to that, Comanor worked 12 years for the Bureau of Land Management in Nevada, Washington DC and in Virginia. Comanor's degree is from the University of Reno-Nevada in natural resource management.

Barbara Weber, pictured right, has been Director of the Pacific Southwest Research Station in Albany, California for three years. She has been with the Forest Service since 1975 working as Research Entomologist and Project Leader at North Central Forest Experiment Station in Carbondale, Illinois. Other posts have been at Washington. Weber's Master's is from the University of Minnesota in Entomology and her Ph.D. in Zoology is from Southern Illinois University.



Service Director Mollie Beattie during a visit to Kodiak National Wildlife Refuge in Alaska.

Diana Freckman, associate professor of nematology at the University of California, has joined the College of Natural Resources faculty at Colorado State University as associate dean. She earned her Bachelor's and Ph.D. from the University of Kentucky. Her work in cold desert ecosystems is supported by the National Science Foundation. Freckman currently serves as president of the American Institute of Biological Sciences.

Kevin C. Foy has been named editor of *Forest & Conservation History*, Durham, North Carolina. He replaces David O. Percy who is now executive director of Historic Cold Spring Village in Cape May, New Jersey. Foy has been the journal's managing editor for the past three years.

Winifred B. Kessler began a new position as Professor and Program Chair of Forestry in the College of Natural Resources and Environmental Studies, University of Northern British Columbia-Prince George. As Canada's newest publicly funded university, UNBC will open its doors in September 1994 to students at the undergraduate, masters, and doctorate levels. Kessler's prior position was Principal Rangeland Ecologist for the USDA Forest Service in Washington DC.

Mollie H. Beattie, pictured left, is the new Director of the US Department of Interior's Fish and Wildlife Service. Beattie came to the Service from the Richard A. Snelling Center for Government in Vermont, an institute for public policy and service, where she was executive director.

Prior to that, she served as deputy secretary for Vermont's Agency of Natural Resources from 1989-90 with responsibility for fish and wildlife, forestry, public lands, water quality, and energy issues. Earlier, she was program director for the non-profit Windham Foundation, taught resource management to private landowners for the University of Vermont Extension Service, and served as project director for an experimental game bird habitat

program. Beattie holds a Bachelor's in Philosophy from Marymount College, a Master's in Forestry from the University of Vermont, and an M.P.A. from the Kennedy School of Government at Harvard. She is the first woman to head the 9,000 person agency.

Renee Askins is the Executive Director of The Wolf Fund which she founded in 1986 with the singular purpose of restoring wolves to Yellowstone National Park. Askins has worked on ornithology and ichthyology projects for the Academy of Natural Sciences of Philadelphia, researched black-footed ferrets, bald eagles, whooping cranes, and great gray owls, and served as camera assistant for National Geographic and Survival Anglia films. Her Bachelor's is in Biology from Kalamazoo College and her Master's in wildlife ecology is from Yale University.

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surements were needed for a useful data base, and even then that data might not illuminate. "The actual process of science is boring and repetitive," Tom McGrath said, deadpan as ever, "and we're teaching people that." On a deeper level, we had to consider that bleaching could turn out to be part of coral's natural life cycle, as the crown-of-thorns starfish that's devouring Australia's Great Barrier Reef is now believed to be. In other words, our entire project might be based on a whopping error. In this spirit I'd even begun to think of the bad weather as a reminder of man's helplessness before nature, our risible foolishness.

....Shax Riegler, *Vogue*, November 1993

I don't know whether to laugh or cry. The statistics show that men should live with families for the national good. Do we get a vote?

A paperback book, *The Index of Leading Cultural Indicators* is a volume of tables, charts and graphs assembled by William J. Bennett, former secretary of education and drug "czar" who is now toiling at the Heritage Foundation, a conservative Washington think tank. This is the second consecutive year that Bennett has gathered the figures on crime, illegitimacy, divorce, abortion, and other troubling social phenomena. The numbers in this volume are not much different from the 1993 edition.... The numbers need no sermonizing; they are appalling enough in themselves: the average teenager spends 1.8 hours a week reading; 5.6 hours on homework and 21 hours watching television. The number of unmarried, pregnant teens has doubled in the past 30 years; the number of teenage suicides, tripled.

A more policy-oriented treatment of these social trends has been published more quietly by another Washington think tank, the Brookings Institution. *Values and Public Policy*, a collection of essays edited by Henry J. Aaron, Thomas E. Mann and Timothy Taylor, is a more significant development. It shows how concern about social trends and the values they represent has moved from the conservative precincts where Bennett works into liberal academia—and, through that route, into the thinking of the Clinton administration on such issues as welfare reform and family policy.

It is no longer possible to pretend that the values by which people live their lives don't matter. The public no longer buys that, if it ever did, so "experts" who cling to that belief are increasingly marginalized in the policy debates. We need to understand why crime and illegitimacy rates have soared. David Popenoe of Rutgers cites social scientists from Margaret Mead to James Q. Wilson as demonstrating that folk wisdom is right in

believing that "as families go, so goes the nation. Every society must be wary of the unattached male," he writes, "for he is universally the cause of numerous social ills. The good society is heavily dependent on men being attached to a strong moral order centered on families, both to discipline their sexual behavior and to reduce their competitive aggression."

Today, he points out, almost a quarter of all men between 25 and 34 live in non-family households, either as singles or with formally unattached others. The proportion of the average American's adult life spent with spouse and children has declined from 62 percent in 1960 to 43 percent, the lowest in our recorded history, today. "This trend alone probably helps to account for the past 30 years," Popenoe writes.

Such knowledge is only the beginning of the search for remedial policies. But it certainly directs attention away from such popular gimmicks as "three-times-and-you're-out" mandatory lifetime sentences and toward policies that require males to take responsibility for children they have sired and measures that make it sharply preferable, in both financial and social terms, to be part of an intact family, not flying solo.

....David Broder, *Washington Post*, February 15, 1994.

Women who run with the trends

Judging from the *New York Times* best-seller list, women have shifted their unending search for self-improvement from their bodies to their souls (where fortunately for *A Woman's Worth* author Marianne Williamson, it is significantly more difficult to measure the results). From *Embraced by the Light*, an account of a near-death experience, to *Care of the Soul: A Guide for Cultivating Depth and Sacredness in Everyday Life*, psychic primers have become a growth industry. And those neo-spiritualist tomes aimed at feminists lost in a wilderness of political correctness are the biggest sellers. *Women Who Run with the Wolves: Myths and Stories of the Wild Woman Archetype*, a dense anthology of folk and fairy tales by a Jungian analyst named Clarissa Pinkola Estes, has been near the top of the list for more than 65 weeks. A lot of women, it seems, from burned-out baby boomers to dazed-and-confused waifs, are on a quest for kinder, gentler, more meaningful answers. Even if it means plowing through 500 pages of pseudo-Jungian analysis.

This spring will produce a whole new crop of similar books: *The Courage to Raise Good Men*, by Olga Silverstein and Beth Rashbaum, addresses mothering and the way we think about male and female roles, while *Isis and Osiris* is Johathan Cott's account of an actual goddess cult. And the

genre has legs. Literary agent Sandra Dijkstra reports that she has recently sold several similar titles, including Marilyn Yalom's *History of the Breast*, which traces the ultimate symbol of female power through the ages. Knopf will publish it next year.

Meanwhile, Estes, Williamson, and others continue to cash in on the current postfeminist confusion, in which Camille Paglia and Naomi Wolf share opposite ends of the same bookshelf, and Katie Rolphe incites this year's backlash with her book *The Morning After*. Some of these newer books claim to celebrate female power, but their popularity sends a disturbing message: Feminism is no longer a battle for equal opportunity in a male-dominated society, but a kind of 12-step recovery program for wounded women. Even Gloria Steinem, the pioneering equal-rights activist, got the spirit in her latest book, *Revolution from Within: A Book of Self-Esteem*, which includes a long section on meditation.

"There's an endless appetite for self-help books," notes writer Katha Pollitt. "And right now everybody is interested in Jungian myths. They want to see their lives in grander, more poetic terms. Women look everywhere for ways to help themselves feel better in a culture that doesn't aid them. These books are saying to people, 'Your life is interesting. You can be a wolf and be a strong, wild spirit'."

Not usually a Pollitt proponent, Camille Paglia agrees. "I applaud these books, even if they are a little new age. It's good to get back to roots, to myths, to return to a longer view of human history." Maybe. But while most of these books are based on a similar premise—a dysfunctional culture, the answer lies within—they do not offer women still struggling in an unfair world any kind of clarion call to arms. Instead, they encourage women to redefine their inner lives. In other words, if you can't have an equitable relationship with the powers that be, at least you can make peace with yourself....

Cosmetics queen Georgette Mosbacher's bestselling book *Feminine Force*, is a kind of *Sex and the Single Girl* for the 1990s. Mosbacher simply has no time for pre-Christian myths or new-age sermonizing. She's too busy turning feminism into getting and spending. She makes no bones about being retro. For her, "feminine force," is like a credit card in the great department store of life. You use it to get what you desire and deserve, whether it's a job, a man, or a new fur coat. Her mating advice sends feminism hurling backward in time, through the decades, "When you practice the Art of Conversation, a man's answers will always provide you with the clue to your next question."

Karen Finley wrote *Enough is Enough: Weekly Meditations for Living Dysfunctionally* which parodies the self-indulgent pampering

inherent in most of the new philosophies. "I strongly encourage you to blame your inner child for just about everything you do," writes Finley. "When you've just screamed at your boss—blame your inner child.... When you've just polished off two boxes of Ring Dings—blame your inner child. Tip: Don't bother doing this alone. This is the type of behavior that needs a public..."

Finally, Merrill Markoe, onetime head writer for David Letterman who's since made a career trashing questionable trends, has contributed an essay called "Women Who Honk with the Geese," which Viking will publish in Markoe's *How to Be Hap, Hap, Happy Like Me*. "Those of us who hear the calling of the goosewoman know she is beside us...at our aerobics class, feeling in our hearts we could possibly get work as a fly girl because we have some real natural dance ability, unlike that poor person over there who looks like Baby Huey in a leotard. And then we realize we are looking in a mirror and that Baby Huey is us."

Perhaps there's hope if the grandiose wildish woman is already the stuff of parody.

....Phoebe Hoban, *Harper's Bazaar*, January 1994

Domestic violence: the cost to society

It's the leading cause of injury among women ages 15 to 44 reports the surgeon general's office. Yet until recently, corporate America was oblivious to the workplace repercussions.... Unless we truly understand the costs and make it a top priority, domestic violence won't get the attention that AIDS or breast cancer have. One estimate of cost is \$3 billion to \$5 billion annually according to the Bureau of National Affairs, which in 1990 calculated the loss in productivity due to absenteeism, employee turnover, and health-care expenses. But because domestic beatings are rarely mentioned by employees as the reason for missing work or seeking medical attention, many consider the figure low.

A battered woman is most often a working woman: in a 1992 study of residents at a women's shelter in Tulsa, Oklahoma, 69.5 percent were employed when abused, and nearly all reported having problems on the job as a result of abuse at home. In the past, women were unlikely to get much help from employers, partly because few employee-assistance programs (EAPs) tracked these cases. Now the EAP associations are beginning to do it. Congress passed the Violence Against Women Act and many companies are beginning to act to save themselves employee down time.

....Lucretia Marmon, *Working Woman*, April 1994.

Fuji Super-G 800 film is designed to stop action at high speeds, even in weak light—without the usual trade-off of a grainy image. It ain't cheap at \$8.55 for 36 exposures.

Private messages sent through E-mail via computer may not be deemed private by the courts. And they are easily intercepted. Treat E-mail like letters to the editor. OK?

Drinking too much and then walking home is very dangerous. A survey last year by the National Highway Traffic Safety Administration reported by the Centers for Disease Control and Prevention in Atlanta turned up the fact that more than one-third of pedestrians killed by cars last year were legally drunk.

The American Fisheries Society conference will be held in Halifax, Nova Scotia, Canada on 21-25 August 1994. The theme is Managing Now for the 21st Century: Food, Recreation, Diversity. For information contact AFS at 5410 Grosvenor Lane, Suite 110, Bethesda, Maryland 20814 .

The Alliance for Environmental Education is presenting Environmental Education 2000 on June 20-22, 1994 in Tysons Corner, Virginia. Attendees will share experiences and exchange information on proven and experimental environmental education activities, communications techniques, and related initiatives. For registration information contact them at 51 Main Street, PO Box 368, The Plains, VA 22171 (703-253-5812).

The Minorities in Agriculture, Natural Resources, and Related Sciences (MANRRS)

announces A Mosaic in the Making conference, on April 7-9, 1994, at Sacramento, California. For information contact them c/o R Durrah, 4768 Park Granada, Ste. 107, Calabasas, CA. 91302 (818) 222-4750

The Society of American Foresters/Canadian Institute of Forestry Joint National Convention will be held in Anchorage Alaska September 18-22 1994. Call 301-897-8720x111 for registration information.

The 5th International Symposium on Society and Resource Management will be held June 7-10, 1994 in Fort Collins, Colorado. For brochure, call Jennifer Pate at 303-491-2077. Reduced rates and some scholarships are available.

Three ornithological societies will combine for a conference to meet June 21-26, 1994 at Missoula, Montana. On June 21st. there will be a workshop for women in the profession. Call James Kushlan 601-232-7203 for registration materials.

The Institute for Social Ecology has a brochure for their 1994 summer programs, including a Municipal Democracy conference in Montreal in May. Call 802-454-8493 for it.

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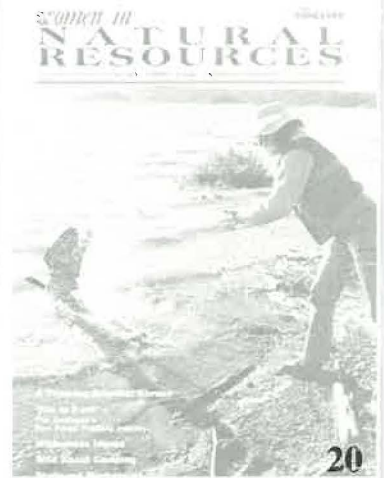
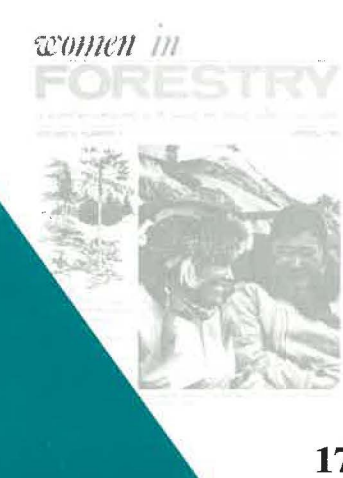
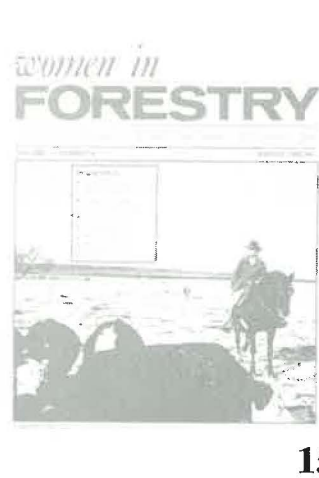
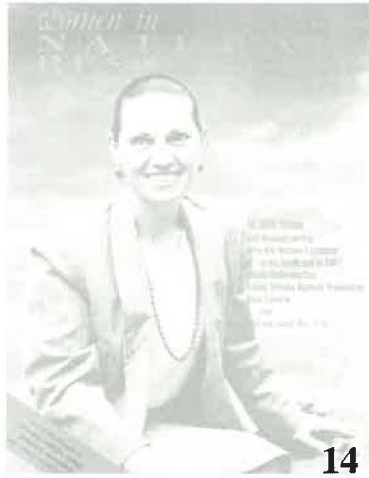
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