



*women in*  
**NATURAL  
RESOURCES**

Volume 14, Number 1 September 1992

**Focus on the Soil Conservation Service**

**Interview: Elesa Cottrell**

**SCS Middle Managers**

**Woman's History and Current Status**

**Water Quality Emphasis**

**and**

**Senior Executive Service**

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

# Editorial

*Dixie L. Ehrenreich*

Doing this focus issue on the USDA's Soil Conservation Service was a lot of fun. The main reason was that Sharron Norris of the Idaho State Office for SCS did most of the hard work in finding the authors—mostly women—who wrote the interesting articles. She has a very high regard for the agency and her enthusiasm for it is shared by most of the people I talked to as the editing went forward.

Most of the authors in this issue have been in the business for a number of years. Several of them are District Conservationists (DCs) with geographic regions so different that their clients' problems are very unlike one another. Other authors, at higher levels in the organization, like Kathy Pielsticker, Kathleen Kilian, and Marie Marshall, have an astonishingly heavy workload. Alison Krohn and Ruthi M. Steff have jobs that appear to be (but are not) outside the SCS mainstream.

I knew only a minimal amount about the Soil Conservation Service when we started. Not much beyond the fact that, as their name declares, they worked to conserve soil and were a product of that curious amalgam of a period called the Dust Bowl, Depression, New Deal, World War II (DBDNDWWII). A lot of very basic, good, and forward-thinking legislation came out of that period along with the depressing and horrible historical events. The enabling legislation for SCS was of that era and falls, clearly, into the forward-thinking category.

SCS is still doing some of the basic things it has been doing well for more than 50 years, which is ensuring that rural America stays productive. Soil used to be thought of in terms of its productivity for producing crops or pasture, obviously, and the loss of that soil by poor management meant less fertility, thus less money for the crop, and a failed farmer. One could clearly see the domino effect of poor husbandry practices and when multiplied, the result was failing farm economies which could threaten a whole region's economy, leading to depression.

We know now, and have known for a long time, that crops are not always dependent on *good* soil, but can be dependent on a good fertilizer, a good pesticide, good and sufficient irrigation, or a good management plan. Sometimes continuing to produce poul-

try or milk depends as much on low debt, low overhead, location, engineering, and good stock rather than on good soil. Most Americans haven't thought much about it one way or another since the era when U.S. agriculture provided much of the muscle that won World War II.

American urban and suburban society, however, has begun now to think about rural capital—land, water, space, underground assets—and some basic assumptions have shifted along with that new attention. Society now has a heightened interest, not in the food or fiber that comes off those lands (because that productivity is taken for granted even as our population soars), but in the soil and water borne pollution that is *generated* there as animal waste or chemical additives before being carried off downstream. That, my friends, is the new theater of operations for the agricultural sector.

Another basic shift for an agency already in transition can be found in the personnel who will be doing the new work for them. Douglas Helms wrote a very telling history of women's tentative beginnings in SCS, typical in most ways of those of other natural resource agencies. Several other authors tell us the numbers, tell us the job descriptions, and note that the progress is slow but steady for women into middle management. SCS has offices in more than 3,000 locations, so the opportunities to head up those offices at the District Conservationist level are ample, but the percentages of women in them are still fairly low. The opportunity (and numbers of women) narrows considerably to reach the next line level of Area Conservationists. Above them are the State Conservationists—only two are women. What should also be apparent to you as you read the articles is that these are women with varied backgrounds, doing the traditional work of an ag agency and doing the wildly non-traditional work that new technologies make possible and that the new anti-pollution money mandates.

A third basic shift relates to SCS's constituencies. No one questions the fact that farmers, ranchers, and many kinds of agribusinesses are first and foremost, but I think it will come as a surprise to some to know that small towns, rivers, bays and estuaries, tourist attractions, wildlife, and a host of other enterprises are the targets for SCS attention. And SCS is collaborating with other natural resource agencies to keep this work on the front burner.

There has been another recent change in basics which bothers some of our authors

and regulation is its name. In the old days, if a farmer did not like what the SCS suggested, on occasion the farmer told SCS to take a hike or participated only in parts of a plan that was deemed suitable. SCS for the most part works on private property, not public lands, and property rights were respected. So SCS took a hike.

While the new role of regulator sits uneasily on the SCS brow, the mandate to clean up basic resources that society shares with the farming community is a hot political button: regulation now goes with some of the assistance that SCS and its sister organizations offer. It will begin to bear the onus of bad guy feds along with EPA, the Forest Service, BLM and the others as time and more regulations come down the road.

The women I talked to had valued the friendly give and take with their clients, regarded their relationship with the land itself as a calling, and did not like wielding the stick that goes with the "carrot and the stick" homily. But they also recognize the value in making some changes in the basic way things have been done so that the land will be what the agency promises in its name—conserved.

*Dixie L. Ehrenreich*

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*Dixie Ehrenreich*

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# WOMEN IN NATURAL RESOURCES



September 1992

Volume 14, Number 1

## FEATURES

4

Upon Becoming a Geologist: A Story  
*Marie Marshall*  
The ability to function independently is vital.

6

A Landscape Architect at Work in Georgia  
*Jana Adams*  
Partnerships with the NEA and SCS for RC&D.

9

Women in the Soil Conservation Service  
*Douglas Helms*  
The roots go deep in USDA and dust bowl era.

13

Kenai River Co-Op River Basin Study  
*Devony Lehner*  
Protecting a river from being loved to death.

18

Consider Middle Management  
*Kathy F. Pielsticker*  
Thinking of a promotion? Read: be encouraged.

22

California's Hillside Wine Grapes  
*Lisa Woo Shanks*  
Three problems addressed in Sonoma Valley.

25

Reformed Type A  
*Teresah A. Ponders*  
Mistakes? Not acceptable.

26

Family Values and Career in Tune  
*Sylvia Long*  
This Alabama DC melds heritage and work.

28

Interview: Elesa Cottrell  
*Dorothy Abbott-Donnelly*  
One of two SCS women State Conservationists.

33

GIS For Resource Planning  
*Sharon L. Schneider*  
Emerging map-making technology. Very fast.

## DEPARTMENTS

2

Letters & Opinions

16

Research in Progress  
*Jessie A. Micales*

21

Books Reviewed  
*Ruth Parnall*

38

People

39

Directory of  
Women Superintendents  
National Park Service

47

Publications

56

News & Notes

61

Kiosk

Outside Back Page  
Information for subscribers,  
advertisers, and contributors

Inside front cover  
Editorial

*Diane M. Calabrese*

The cover photo  
is of

*Elesa Cottrell*  
State Conservationist  
Soil Conservation Service  
Delaware

## FEATURES

35

Hawaii  
*Sandra Higa*  
Coffee trees, 200 inches of rain: not SCS' usual.

37

Not All Geologists Carry Rock Hammers  
*Kathleen Y. Kilian*  
Wonderful variety in her professional life.

40

SES Ought to Help Crack the Glass Ceiling  
*Lawrence Bembry, Robert Faithfull,  
Denise Feghali, Mario Fraire,  
Denise Meridith, Nancy Osborne*  
Has the Senior Executive Service helped diversity?

45

No Plans to Become Area Conservationist  
*Janet L. Oertly*  
Soil science is good preparation for management.

48

Eleven sites, 13 Years, Four Agencies  
*Jane Yungmeyer*  
Implying you got a job because you are a  
woman or minority really rankles.

50

DC and Texas' FWPM  
*Elisha Kuehn*  
District work and state work are good companions.

51

Mammoth Cave and RC & D  
*Ruthi M. Steff*  
Multi-faceted programs, locally controlled.

53

Balancing Act  
*Karen Cameron-Howell*  
Careers, families, relaxation: How to cope?

55

How to Organize a Meeting  
*Joan Priscilla Kilbourn, Laurie Kilbourn*  
Becoming visible in professional organizations.

I always planned on writing a letter to the editor and never did, but the focus issue (WiNR Vol. 13, No. 4) on fisheries in the west was so interesting I just had to do it this time. I liked the large and various number of jobs featured, and the spotlights on two western states' programs, too—a good indication of the wide variety of professionals who ought to be interested in this field. I agree that more women are needed in this work. And the jobs, for the moment, anyway, seem to be there.

Alison Dover, Dallas, Texas

Have you stopped doing those stimulating interviews? Over the years you have had many of the top women in the business featured.

Linnie Grace Seaton, Chicago, Illinois

*Editor's Note: We haven't had them for the last two issues, but we are still doing them. The one this issue starts on page 28.*

My company has subscribed to WiNR for approximately two years and have found the magazine to be a good tool for keeping us informed on forestry related issues. However, PruTimber (Boston) has some specific needs that perhaps WiNR could address or perhaps on which you could more effectively advise us. Pru Timber purchases and manages timberlands in the southeastern US and the Pacific Northwest. We directly employ a small professional staff as the bulk of services to our firm are provided by third party forestry consultants and property managers. The property managers in turn retain other independent contractors for specific forestry activities such as harvesting and reforestation.

Our firm is committed to providing employment opportunities for women and minority foresters, and also to firms owned by these individuals who provide forestry services. However, we have difficulty in finding such firms and individuals.

We find that 1. The Association of Consulting Foresters 1992 Membership Directory lists only five women consultants out of 472 members. Of the five, three were located in the southeast and none in the Pacific Northwest. Is there any other source for this information? 2. We have solicited state

agencies for listings of women and minority owned businesses. However, the states have been uneven in their responses and the listing doesn't readily identify forestry related firms. Do you know of any other methods of identifying these firms?

Frederick W. Blum, Boston, Massachusetts

*Editor's note: You bring up several good points. WiNR will be happy to produce a directory of consulting firms which are owned by women and minorities, and of consulting firms who regularly hire women. If your firm should be in this directory, send WiNR the name, address, phone and FAX number of the company, plus the names of the women/minorities who work in it—and the number of years each employee has worked there. Indicate also, in which region of the country your firm primarily works.*

It made my day to read Kathleen Conlon's article in your fisheries issue. I loved the subtitle: *Beach fleas, skeleton shrimps, scuds, and whale lice*. What a collection. And her wonderful description of the sex life of these critters gave belly laughs to our whole crew.

Sandra Gomez, Orlando, Florida



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## NATURAL RESOURCE MANAGEMENT IN THE AGE OF SOUND BITES—Or—NOT IN MY BACKYARD YOU DON'T\*

*An opinion by DeAnn Zwright*

The nightly news displays sincere, dedicated, and altruistic common folk and counterculture young people protesting a timber sale in a (gasp) National Forest. Their cause is righteous. Their cause is good. Credible and worried scientists bemoan the destruction of the Nation's forest ecosystems and advocate a kinder, gentler forestry or a moratorium on tree harvest altogether. Political cartoons display stumps as the ultimate symbol of human greed and shortsighted corruption. Loggers are portrayed as pigs gorging at the public trough or else as dupes of the rapacious timber barons. The Forest Service is in bed with the timber industry, and ultimately, a corrupt Congress is at fault. What can we do to save our forests? How can we stop this sickening plunder and preserve our children's heritage?

The answer is simple, America! Let's just get our wood from somewhere else! We don't live in Canada. We don't live in New Zealand, and gee, Siberia is really far away. So the simple solution in the age of 30-second sound bites is beautifully straightforward, and easy to implement. Lock hands with the politically correct and stop timber harvest on our public lands; pass laws to severely restrict harvest on private lands. Why not? Someone else pays the price.

I never realized I felt good about my job until I didn't feel as good anymore. I have worked for the Forest Service for 12 years and in that time I've reviewed hundreds of public letters and newspaper or magazine articles about forest management. Much of the public comment and virtually all of the media publications are, not surprisingly, critical of timber harvest. The negative public comments often request preservation, or "hands-off, no management" of a certain area, or modification of harvest practices. Suggested harvest modifications have yet to result in more timber volume produced. The other major type of public comment wants no harvest until a seemingly endless list of subjects are researched. What research there is, is never enough. If we don't completely understand the natural environment, we should stop all activities in the forest until we do. (I can hear the echos of "hallelujah" from America now.)

It's hard to disagree with the ideas that some places should be preserved, that our practices could be improved and that we don't know everything about everything. However, one needs to wonder who pays for this protection, these less disruptive harvest practices, and the idea that no project should go forward unless every conceivable natural interaction is completely understood.

The only people we've even heard of who will pay *directly* and immediately for saving the owl or protecting the streams or making sure the views from our summer cabins are pristine is the logger, mill workers and their families in some isolated rural communities. Perhaps despite the recession, we can even provide aid to those loggers, and those communities. That way no one pays, and our forests are park-like and everyone's happy. Right? We'll still have cheap toilet paper, redwood decks, premium molding, magazines, lumber, and plywood. They will just mysteriously appear in our homes like a frozen, skinless, boneless chicken breast. No live chicken was ever involved, and the paper the protests are written on never involved a mutilated stump.

In my home state of California, we import more than 60 percent of the timber products we use. There are about 30 million people in California and we have one of the world's largest demands for wood, lumber, and paper products. As the population in the state grew from 10.6 million in 1950 to 30 million presently, total demand increased from 4 billion board feet annually in 1950 to about 12 billion board feet annually now. While the demand for timber has been increasing, timber harvests on the National Forests have been decreasing. The United States as a whole does export some wood products, but it too is a net importer and these imports have increased dramatically from 1980 to 1990. In 1980 we imported 2.6 billion board feet from British

Columbia, and by 1990, we were importing over 7.4 billion board feet from that Province (Production, Prices, Employment and Trade in NW Forest Industries, 3rd Quarter 1991, USDAPNRS). The sharp decrease of harvest levels from the Pacific Northwest in the last two years has increased imports further.

Of all the countries that export wood to us, British Columbia has some of the most restrictive environmental laws. In British Columbia, there is no absolute acreage limit for clearcuts (in practice however, the average clearcut on the coast is 100 acres and 50 acres in the interior). The National Forest Management Act clearcutting limit applicable to California is 40 acres, and many Forest Plans have a lower specified limit. British Columbia currently requires about six percent of their lands to be reserved, pending policy will protect up to 14 percent and entry of lands (in particular, old-growth) in danger of imminent development is being deferred until their surveys are complete. These reserved lands include parks. About 73 percent, or 133 million acres, of the National Forest System is forest land, and about 43 percent, or 76 million acres, of the National Forest System is not available for regulated harvest. British Columbia is only currently obligated to protect the threatened species itself, although they are looking at expanding their policies in this area. The Endangered Species Act is applicable to Forest Service land, and the species and its habitat is protected. The National Environmental Policy Act is applicable to the Forest Service, and in British Columbia, a somewhat comparable act is still in draft form.

I do not want to imply that I think British Columbia is harming their forests or ecosystems. For example, I think clearcutting is the best thing to do in certain circumstances. (British Columbia often prescribes large clearcuts to limit road-building on steep, sensitive soils.) However, I do want to make the point that British Columbia does not have *more* restrictive laws than we do. Timber harvest on

*continued on page 49*

### Fishery Biologists

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# UPON BECOMING A GEOLOGIST: A STORY SHARED

MARIE MARSHALL

I sit at a desk surrounded by six-foot tall bookcases filled with periodicals, maps and books. Some of these publications are three times older than I am and dusty. Rocks line the outer bookcase shelves and are clustered on desk corners and on the floor. Some of those are 2.4 billion years older than I am and crumbling. Maps and photographs cover the wall and partitions, and any empty spaces are quickly filled. My computer keyboard is lightly coated with a dusting of rock debris, soil samples, and nacho cheese powder. I love my job, but worry about earthquakes.

I have worked as a geologist for fourteen years holding four different jobs in three different federal agencies. Unlike most of the people I have worked with, who have spent most of their careers in one agency, I have found that moving from agency to agency has been an interesting and fulfilling career path. I am currently the State Geologist for the Soil Conservation Service in Bozeman, Montana.

Many geologists will say that their interest in geology began when they started rock collections in kindergarten. Of course I had a rock collection too but my stronger memories are of visiting small-scale mining operations with my parents. My mother is an attorney, and specialized in mining claims at the time. When I was young she had several clients, all wildly eccentric, who operated small claims in the backcountry of southwestern Oregon. The further out into the backcountry the better for some of these people, and visiting them was my introduction to the earth and the geological processes which affect it. In between gold panning sessions and mini-geology lessons, I also developed an appreciation for the rugged and independent lifestyles these people had chosen.

Independence was a good quality to develop early. I may not be felling my own

timbers for mine supports with twigs in my beard like my mother's old miners, but the ability to function independently has been important to me. I have at various times been the only woman geologist in a group of male geologists, the only geologist in a sea of engineers, and now I am the only geologist in the Montana statewide SCS organization. I am also the first woman to hold the state geologist position here. Eight of the 65 geologists working nationwide for the SCS are women, so I am not really alone.

This is the first time I have been the first woman geologist in an organization and I appreciate the work of the few women who preceded me elsewhere. I know that the women who follow me will be anticipated and evaluated partially on the basis of my actions and I feel this responsibility to them strongly. I have developed both the experience and character and can now face the extremely high wattage of the spotlight.

I went to Oregon State University for one year in 1974, and then due strictly to my independent and mature reasoning (and not my mother's comments about OSU being called "Moo U") switched to the University of Oregon. I originally majored in meteorology but decided that I didn't want to wear white lab coats and work in small, ugly buildings for the government so I needed to change.

At OSU I had taken one introductory geology class and enjoyed it so I decided to take more once I transferred. I thought the material presented in the classroom was absolutely fascinating, the more theories requiring feverish arm-waving that we could debate, the better. Once we tied the theory to the ground with a few field trips I was hooked. While the engineers of my acquaintance who say that "geology is a language not a science" are not completely correct in their assessment, the writing, language and literature classes I took in college have helped me throughout my career.

The high point of my college experience was summer field camp. For six

weeks, we were assigned large mapping projects and sent off in small groups to do the geologist's dream job: independent field mapping. We bunked in the ski lodge at Mt. Ashland for three weeks, camped out for two more, then traveled through the Oregon Cascades. Again I wasn't alone, four of the 28 students who attended that year were women.

While at the U of O, I never selected a particular specialty within geology but I did eliminate several options. I didn't specialize in petroleum geology because working for a big oil company in Houston didn't appeal to me. I wanted to work with rocks I could see instead of fluids moving through rocks at depths of 8,000 feet or more. Then, the paleontology lab was taught Friday afternoons from 2:30 to 5:30, which eliminated that option because of scheduling difficulties later in the afternoon. They did offer a class every other year in engineering geology but that sounded so unimaginably dull I never even looked at the textbook. I temporarily became a generalist.

I graduated in 1977 and moved to Portland, Oregon. When I didn't find a geologist job immediately I got a federal job as a clerk-typist. I was lucky to be hired by the Soil Conservation Service as it could easily have been the Veteran's Hospital, IRS, or the CIA. While I worked there I tried to spend as much time as possible with the regional geologist who was a warm and inspiring mentor to me. This no doubt annoyed my supervisor, but it left a positive impression of working as a geologist for the SCS that I never forgot.

With his encouragement and assistance, after six months I transferred to the Army Corps of Engineers for my first official job as a geologist. If I had thought engineering geology was dull in college, it was because I hadn't read the chapter about being the only woman geologist out for weeks on end in remote places with the drill crews. Shining the bright light of a regular paycheck on the field of engineering geology finally changed my perspective completely.

As it turns out, engineering geologists interpret the subsurface for the engineers

who design, construct or repair structures that depend on the subsurface to hold them up. We can still do field mapping, use colored pencils and do all the arm-waving we want as long as we communicate effectively to the engineers. This usually involves graph paper in some way, and unbelievable as it may seem, most engineers truly do not care how old the rocks are. Engineering geology is applied geology, and the practical side of the profession still appeals to me.

The Corps was an interesting place to work: we built huge structures requiring hundreds of workers and massive equipment. It also required over 80 percent travel, there were people in military uniforms everywhere (do they carry guns? do I have to salute?), and each person had one tiny area of responsibility within an immense project. Finally, I was still young and naive and I could just not see myself being a career Army employee. I heard of an opening in the Forest Service in Corvallis, Oregon and applied.

I was selected and stayed with the Siuslaw National Forest for nine years. At various times I worked both for and with two other women geologists. I was eventually promoted to Forest Geologist and supervised another geologist and a two-person drill crew. We worked on every geologic aspect of road construction: alignment, slope stability, materials descriptions, and quarry management for road aggregate sources.

One particular quarry prospect our office developed was a landmark of multiple uses. Our design considered (1) quality and quantity of the rock to be excavated, (2) threatened silver spot butterfly habitat, (3) visual impacts, (4) an old military radar installation and (5) potential recreation conflicts involving an old Indian trail that wound around the ridge.

The Siuslaw National Forest, in the Coast Range, is beautiful although damp, and those were good years for me. The projects weren't as grand as those in the Corps (Bonneville Dam vs. Rigdenter Quarry) but we would work on one project from start to finish and had greater responsibility throughout the project.

Supervising several people was good experience, and I was able to get additional management experience not normally considered to be typical geologic duties by taking on the as-

signments of EEO counselor and then Federal Women's Program manager. Working in the EEO arena was challenging and often frustrating, but it gave me a concrete and positive way to deal with issues that deeply concerned me. The fine line between getting your points heard and alienating an entire white male office and a whole lot of GS-12 and aboves seemed like the Grand Canyon sometimes. I knew I had at least been partially successful when the drill crew I supervised independently, without nagging, replaced the "men working" signs with "work crew ahead" signs.

Eventually, the fact that there were really only four rock types spread over 625,000 acres became limiting rather than reassuring and I was ready for more responsibility. I switched to the SCS to keep a technical focus rather than move into the more managerial channels that higher grades mean in the Forest Service. I moved a thousand miles east to get to The West and replaced a geologist who had spent 27 years in this position.

My current job entails the fourth largest state in the nation and I can't count, let alone identify, all the rock types here. I work with soil scientists as well as engineers and perform geologic investigations for soil survey reports and small engineering projects. I predict depth and water quality of water wells drilled for agricultural purposes and study sedimentation in streams and reservoirs and its affect on water quality. I spend approximately 20 percent of my time in the field.

I worked on a project last fall which reaffirmed my choice of engineering over the disciplines I could have selected. I was on-site for most of the drilling for a stockwater well that was completed at a

total depth of 2,780 feet. If that seems a bit much for stockwater, it is, but this is an arid region. I knew my research was sound and there was a 99.9 percent chance that we would get a flowing artesian well, but during the week it took to drill it, I paced and fussed and worried and got a total of four hours sleep.

The project had a happy ending, we got 150 gallons per minute flowing at the surface. During the five hour drive home I tried to imagine myself as a petroleum geologist: drilling holes that are five to ten times deeper than this project for 10 to 20 times the cost, knowing statistically that I would be wrong half the time. I couldn't imagine it. I love my job. Perspective is everything.

In my previous jobs I had gotten satisfaction from completing my investigations on time, and summarizing them with well-written reports that were useful to the engineers. Now my responsibilities include working as an interdisciplinary team member on water quality projects in which my input can improve and protect the quality of the groundwater. Wow, a mission! I hadn't realized what I was missing before, now I feel a little like the Mother Theresa of groundwater.

Despite my enthusiasm about my job, I wish there were more women around me, both as peers in my office and as "fellow" geologists. I do see the SCS striving to recruit, develop and promote highly qualified women, and those few women I work with now are doing tremendous jobs and are well respected. I greatly look forward to the day when the spotlights come down and I am just one of many.

While there is no perfect job, most of the choices I have made have worked out for me. I enjoy the work that I do, especially when I am in the field and the weather is perfect. I think that working for several agencies has given me a broad perspective, and I almost never say "but that's the way we've ALWAYS done it." I have been fortunate in having supportive supervisors and peers who gave me the freedom to grow and I appreciate the opportunity to share my story with you. Thanks.

*Marie V. Marshall graduated from the University of Oregon with a Bachelor's in Geology in 1977. She has worked as a geologist for the US Army Corps of Engineers and the Forest Service and is currently Montana Soil Conservation Service.*



IN A SUCCESSFUL PARTNERSHIP WITH THE NATIONAL ENDOWMENT FOR THE ARTS AND SCS, RC & D WORK GOES HIGH TECH, VERY VISUAL, AND EXTREMELY SATISFYING TO ALL INVOLVED.

# A LANDSCAPE ARCHITECT AT WORK IN RURAL GEORGIA

JANA ADAMS

Alison Krohn's desk is spread with packets of photographs and papers. A corner drafting table, tilted to catch incoming light from the window, is covered with rolls of thin paper and the beginnings of a landscape design. On another table in the opposite corner, a computer hums and its cursor blinks amber color. Krohn presses a computer key and brings to screen a scanned-in photo of a green field. She presses another key, the screen view scatters and fades, then reappears with a soccer field where trees and tall grass once existed. This is image processing, just one of the tools necessary for Krohn's work.

A typical misconception about the landscape architecture profession is that those involved generally design gardens and work in an urban setting. Landscape architects do sometimes design gardens, but they may also help a community assess the historical and scenic value of its land, or assist a farmer in the renovation of a farmyard. In fact, with the infusion of ecological values and the development of new technology, landscape architects are becoming more interested in using their skills in a rural environment. This is a fairly new concept, but landscape architecture is not a limited field; it is a profession that is expanding with new ideas, and innovative landscape architects, such as Krohn, are willing to try them.

"I think my study of philosophy led to my interest in landscape design," Krohn says. Both require straightforward thinking, but design is a more concrete approach to a problem. After receiving an undergraduate degree in philosophy (Rockford College, Rockford, Illinois) a summer program at Harvard University furthered Krohn's interest in design and she returned to the University of Illinois to earn her Master's Degree in landscape architecture. "I thought about law

school, but landscape architecture comes before law in the graduate bulletin, so....," she laughs. "No, really, I wanted to do something to make a direct impact, and I had become interested in environmental ethics."

Working for the USDA Soil Conservation Service (SCS) as a landscape architect, she is at the forefront of what she claims is a "fairly radical procedure." Krohn is one of three landscape architects in the country participating in a pilot project sponsored by SCS and the National Endowment for the Arts (NEA).

Although landscape architects generally work in an urban environment and at a state level in SCS, Krohn provides her skills to rural communities in the Oconee River Resource and Conservation Development (RC&D) Area. RC&D is a nonprofit organization cooperating with SCS that utilizes funds outside the government for community projects. There are more than 209 RC&D areas in the United States, and each is organized and run by council members who represent the local community. Council members identify local needs, set RC&D policies, and coordinate public and private sector involvement in projects that conserve natural resources while diversifying the local economy.

The genesis for the project was a 1988 NEA sponsored study of design professions in the government, according to NEA Design Arts Program Specialist Peter Hawley. This study, *The State of Federal Design...Landscape Architecture*, concluded that the number of landscape architects in the U.S. government was declining because of lack of knowledge about the skills and service potential of this field. NEA became interested in promoting the role of landscape architects in different settings, beginning with exposing landscape architects to opportunities within the government and expanding the government's awareness of the skills provided by landscape architects.

Gary Wells, a landscape architect at the SCS Midwest National Technical Center (MNTC), read the report and approached NEA with the idea of placing landscape architects in a rural environment to show the value of their skills in rural surroundings. "This pilot project is intended to educate professionals and different levels of the government about the needs in rural areas that aren't being met—needs that can be met with a landscape architect's skills," Wells says.

The idea was accepted, flourished, and grew into an interagency agreement between SCS and NEA. According to the agreement, the purpose of the program based on the NEA report is to encourage "more widespread use of landscape architects by those agencies with greatest potential to assist rural communities in evaluating landscape resources and in creating strategies for their conservation, enhancement, and development."

The SCS-assisted RC&D councils were deemed a suitable vehicle for this program because of the availability of assistance from four SCS National Technical Centers and on-site RC&D coordinators. In the past, contribution to RC&D by landscape architects has been limited by the small number of professional architects employed by SCS and by the application of their skills primarily to specific engineering projects.

So not only was RC&D chosen because it is a grassroots-oriented organization that allows SCS to respond to community needs on a direct level, but also because the design equipment and knowledge used by architects to add an extra dimension to community projects were expected to be real assets to RC&D. According to the interagency agreement: "These emerging technologies and program initiatives, together with the growing interest of the councils in resource planning and management techniques, create a favorable climate for this joint NEA-SCS demonstration project."



Expectations of the program were high from all sides. The skills and equipment exhibited by the landscape architects, such as image processing, will help refine training materials and courses for SCS and will allow for more effective planning and visualization of conservation alternatives before time and money are invested. Expected results for RC&D include better resource management, expanded recreational opportunities and increased tourism, as well as expanding economic and quality of life opportunities for rural areas. The NEA staff believed SCS and RC&D offered an opportunity for their agency to become involved in the grassroots activities of America while demonstrating the importance of landscape architecture skills.

With these goals in mind, SCS and NEA proposed to establish RC&D assistant coordinator positions to be filled by landscape architects at a GS-9/11 level. NEA contributed \$150,000 in funding for 50 percent of the salary and benefits, field costs, and training-related travel to be dispersed by SCS to each participating RC&D office throughout the two-year pilot project. SCS hired three landscape architects to work with RC&D Councils in different regions of the country and planned to match the NEA grant with its own funding, equipment, and services. After working under the direction of an RC&D coordinator for two years, these landscape architects will be qualified to fill any coordinator vacancies.

A supervisory staff was established, including NEA Design Arts Program Specialist Hawley as one project manager and SCS MNTC Landscape Architect Wells as liaison between participating RC&D areas, respective SCS state offices, the four National Technical Centers, and project managers. Site and employee selections were

made and the project began. One landscape architect was placed in Iowa, another in Utah, and in January 1991, Krohn was placed in the Oconee River RC&D Area in Watkinsville, Georgia. This area covers 10 counties and is directed by RC&D Coordinator Mac Hayes and a volunteer council of mayors, county commissioners, private citizens, and district supervisors.

Krohn is learning that one benefit of exploring a new approach in her field is the wide number of opportunities available for making changes. "The good thing about RC&D is that we're only limited by our imaginations as far as projects go," she says. "As long as it doesn't interfere with the private sector, we can do anything. It's just a matter of funding."

And this was the intent of the interagency agreement for the three landscape architects—to demonstrate their wide range of skills in a variety of rural situations. This NEA-SCS project emphasizes the practice of three major skills: landscape assessment techniques, visual simulation processes (image processing), and recreation planning and design. Krohn's main case, a Madison County countryside assessment sponsored by the County Board of Commissioners and the Chamber of Commerce, utilizes some of these skills.

The purpose of the assessment is to map the scenic quality of the county, and landscape assessment is the first step. This involves encouraging a local community to say "this is what we want and this is what we care about," and then assessing the environmental needs of the area. Krohn reached out to a wide variety of the community, and those who accepted invitations to her first organized meeting helped to establish the guidelines for her study, deciding that the focus should be on (1) scenic quality, (2)

landuse, and (3) ecological and historical values. "Those community members who responded are very positive about the project," says Barbarianne Russell, executive director of the Madison County Chamber of Commerce. "As a result, we have a 28-volunteer staff." After the staff was organized and the focus areas were determined, the survey began.

Propped against a bookcase in Krohn's office are four heavy matte boards lined with photographs, some black and white, and some color shots. Each board holds 16 photos, eight of which depict typical Madison County landscapes, and eight others which are related to a major design category. "I take these boards to different organizations and ask them to fill out a written survey," Krohn explains. "There must be at least 400 responses to have a good index and a basis for evaluation."

To complete this survey, designed by Krohn and approved by a sociologist at the South National Technical Center (SNTC), community members look at the photos of open fields, small town clutter, weathered barns, and manicured houses and lawns, and rate from low to high, on a scale of 0-4 (zero for those with no opinion), the scenic quality and value of these landscapes.

The final results of the survey will indicate which landscape qualities Madison County residents wish to preserve. This information will be helpful to those involved in the new Madison County Comprehensive Land Use Plan, and to prospective developers. So when development reaches out a hand toward Madison County, as it inevitably will, county residents will be prepared, as a group, to say with certainty, "Wait a minute. We want this. We don't want this." And slap the hand back. Or accept it, selectively.





"This project opens up a tremendous door of opportunity for community involvement," NEA Design Arts Program Specialist Hawley says. And it seems that the community wants to be involved in the changes. "Most people who take the time to fill out the survey are really interested in what's going on," says Matt Otto Sunderman, an intern from The University of Georgia (UGA) School of Environmental Design who is currently working with Krohn. Besides working to increase community involvement, Krohn is also promoting UGA relationships by recruiting interns. "Alison wants to set up a permanent internship program, which would be good for UGA students and for her," Sunderman says.

Krohn provides unique projects for a landscape architecture student internship, and in return, Allen Stovall, graduate program director at the UGA School of Environmental Design, and his undergraduate class are working with her on another community project in Comer, Georgia. The project, which originated from the Oconee River RC&D and the mayor of Comer, is intended to revitalize the downtown area and to evaluate the effects of a proposed Department of Transportation highway widening plan on the town. "I knew she (Krohn) had the ability to use video equipment and computer editing to show us the changes for downtown," says Dudley Hartel, mayor of Comer.

After a complete assessment is made of community needs and site potential, Krohn can use computer imaging to simulate a visual approximation of possible landscape changes. "This is really an effective communication tool because people can understand this more than just looking at pictures," she says. The program gives community members a before and after look at a landscape so they get a better idea of the potential visual impact of a design. Krohn pushes a computer key, the scene on-screen shifts, possibly to include downtown building facades or to erase houses and trees for the addition of a highway, and the changes in scenic quality of a landscape are clearly visible.

8 WOMEN IN NATURAL RESOURCES

Confusion from technical layouts and photographs is eliminated.

With assistance from Krohn, Stovall's students will use the image processing equipment and visual surveys to explore possible design approaches to the high-

way widening plan. Because the vast majority of the people in Comer don't want the highway, Mayor Hartel encourages the students to develop several downtown revitalization plans, some that include the highway project and some that do not.

Krohn and Professor Stovall first worked together on another rural project, a dairy farm renovation in Greene County. As chairperson of a rural land committee of the American Society of Landscape Architects, Stovall was contacted by the editor of *Successful Farming* magazine for assistance in locating a site for a farm beautification article. A \$10,000 grant from General Motors was provided for the project, and the Stewart farm in Greene County, owned and operated by brothers Richard and Charles Stewart, was chosen as the site.

Because Krohn and Oconee River RC&D Coordinator Hayes agreed the project would demonstrate functional, as well as visual, aspects of landscape architect skills locally, while gaining national attention through the beautification article, Krohn assumed a major role in the planning. Richard Stewart says, "She put her ideas on video and we picked out the ones we liked. She's been really helpful to us in making the changes." These changes include a new farm entrance, fencing, and stakes flying colored plastic flags to mark an area for planting trees. Neighbors are beginning to take notice.

Krohn is generous with her assistance to other communities, too. RC&D Coordinator Hayes and the Oconee River RC&D Council recently helped obtain grant monies for the construction of a new community center in Farmington, Georgia after the old center burned down. Edith Whitehead, secretary at the new center, says, "Mac was invited to the opening night for the center, and Alison came with him. She offered to work with us and we accepted."

Krohn used image processing to present potential landscape ideas for the center, including recreation areas for children. "It was amazing," Whitehead says, "we could see the changes taking place right on-screen.

We liked her ideas, and will use a lot of them for the final plan."

When asked about her involvement in so many different projects, Krohn laughs and says simply, "That's just the half of it." NEA wants cutting edge performance as well as basic assistance for rural areas, so Krohn and her interns may have as many as six active projects at one time, ranging from designing playground landscapes to more long-term projects such as the countryside assessment. "There's a need for designing and planning, and NEA and SCS have provided a chance for us to meet some of these needs," Krohn claims.

The Oconee River RC&D Council seems to share Krohn's enthusiasm for the program, and are pleased with the effort she has made. "The council will go to bat for her (Krohn) as long as we can keep her," says the Council President Tom Bell. "We think she's doing an outstanding job for the area and state, and we're behind her 100 percent."

So does this mean the program will expand upon completion of its two-year trial? This point is still unclear. It's doubtful that NEA can indefinitely fund the program, but it is possible that Krohn and the other two landscape architects will fill the positions of RC&D coordinators in different areas. Stovall proposes a different idea. "My hope is that NEA or SCS will increase this effort. It's a pioneering effort, one that has strong opportunity for local advocacy. It's a win-win situation for a lot of folks: RC&D, landscape architecture students, and communities."

Krohn is also looking to the future. "This is a demonstration project. We're sort of under the gun to show what we can do, and it will be interesting to see what will happen after two years. After the grant money runs out, we'll be looking for additional funds to continue the project." For now, she is concentrating on her work, projects that have added a new dimension to RC&D and are making a lasting, visual impact in Georgia communities.

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WHILE THE ROOTS GO DEEP IN USDA, THE MODERN-DAY SCS IS LARGELY A PRODUCT OF THE 1930'S DUST BOWL. UP TO NOW, WOMEN WERE SCARCE.

# WOMEN IN THE SOIL CONSERVATION SERVICE: A HISTORY AND CURRENT EVENTS

DOUGLAS HELMS

"Tama Jim" Wilson, who served for the longest tenure of any Secretary of Agriculture (1897-1913), found the importuning for jobs in the department the most vexing part of the job. "Finding places for deserving women on the request of Senators who righteously plead their cause is the greatest difficulty I meet with," he wrote to a senator (Baker, 1976).

He found the situation of the unmarried women particularly distressing, as he confided to an old friend. "This is a great national eddy where human driftwood lodges. Young ladies are begging for the cheapest kind of labor here, who should go into families and do housework....So you see I have to look at the sad side of life here and sometimes I feel like taking my hat and going home to Iowa" (Wilcox, 1930).

The few women in the early days found employment in the lower paid jobs. In March 1864, nearly two years after the creation of the U. S. Department of Agriculture, the Commissioner during the Civil War years received authority to employ women as clerks. In 1891 there were 169 women in the U. S. Department of Agriculture, constituting about 12 percent of the employees. Throughout the government about 14 percent of the government typists were women.

The Bureau of Animal Industry hired women in field offices to do routine microscopic examinations of meat, which was required by an 1891 law (Wiser, 1987). A few women slowly found their way into professional positions. Among

federal government departments, USDA was the largest employer of women scientists, hiring about two-thirds of the government total in the 1920s and 1930s. *American Men of Science* listed 19 women scientists in USDA in the 1921 edition and 61 in the 1938 edition, two of whom were in the Soil Conservation Service. The Bureau of Plant Industry was a leader in government in hiring women scientists, especially plant pathologists. The Bureau of Chemistry hired a number of female chemists. Others found employment in the Bureau of Home Economics where the bureau chief, Louise Stanley, was the highest paid and highest ranking woman scientist in the federal government. But Stanley was the exception as other women scientists did not have the opportunity to advance in rank and remuneration (Rossiter, 1982).

Women librarians worked in the Department's library, which in time became the most outstanding agricultural library in the world. During the early 20th century several women held the post of Librarian of USDA.

World War II was perhaps the high point in women's employment in USDA. Before the war, in 1939, 20 percent of the employees were women, rising to 34.09 percent in 1943, before dropping back to 21 percent in 1947 (Baker, 1976).

Probably the first female employee of the Soil Erosion Service, predecessor to the Soil Conservation Service, was Lillian H. Wieland. On September 19, 1933, Hugh Hammond Bennett transferred from USDA to the Department of the Interior to head the Soil Erosion Service. The

following day Lillian H. Wieland entered on duty as his secretary. Among the 12 employees in the Washington office in October 1933 were Wieland, Laura G. Fitzhugh, and Alberta Stanback (Geiger, 1945). Most of the early women employees of the Soil Erosion Service and the Soil Conservation Service, as it was renamed in 1935, were in secretarial and clerical positions where they were integral to the success of the operations. In the beginning, SCS consisted of a few scattered demonstration projects, working directly with farmers and ranchers on conservation problems.

During the rapid initial growth of the organization, everyone felt the pressure to make a favorable impact so that the work would continue. Frances Hershberger recalled the early office work in Maryland. "[I] think all of us secretaries felt we helped to get the project for SCS in Maryland off to a good start. We worked diligently from 8 to 5, and for the first few months worked overtime. We not only worked five full days a week but also half a day on Saturday" (Women, 1989). Though the early secretarial staff may not have worked personally on conservation practices on the farm, they enjoyed the sense of group accomplishment. Estella B. Williams started working in Waynesboro, Pennsylvania, in 1935 and later transferred to Maryland. At the age of 91 (in 1989) in a retirement home in Hagerstown she wrote, "I still love to go through the country and see the strip cropping, etc." (Women, 1989).

Some states did not have clerks for districts as late as the 1960s; the area clerk would travel to the districts to do the work. Marjory A. McTavish, the area clerk at Butte, Montana, made work trips to each of 11 district offices four times a year. Now, when she speaks to groups and encourages young women to consider a career in the federal government, she uses a story to illustrate some of the attitudes that were all too prevalent about women's role in the federal government in the 1960s. "I was making a three-day trip, spending a day at Three Forks, then Townsend, and then Helena. I stopped in East Helena for gasoline. Now—this is in the early 1960s, and I am driving an olive green government sedan with decals on the door saying USDA-SCS and displaying government license plates. I drive into this station, roll down the window as an old fellow, the attendant, approaches the car, and I say, 'Fill it up, please.' He doesn't answer, just looks at me—then he proceeds to walk around the car. When he gets back to the open window, he says, 'Does the government let women drive their cars?'" (Women, 1989).

In addition to the Soil and Water Conservation Society, SCS also has had a long association with the conservation districts and their national organization, the National Organization of Conservation Districts. Women have also played a large part in this cooperation—probably none more so in the formative period than Ellen Cobb of Spartanburg, South Carolina. While a secretary with the Soil Conservation Service, she began helping with the meetings of South Carolina's state association of conservation districts. By 1941 she regularly attended and kept notes at the meetings and assisted with the growth of the organization (Keepers, 1972). E. C. McArthur, the first head of the state association, led an effort to organize a national meeting of district officials. Cobb went to the meeting in Chicago in 1946 when the National Association of Soil Conservation District Officials was organized. Later Mrs. Cobb recalled the mood of the meeting that was so instrumental in the history of the conservation movement in the United States. It "was hot as Hades when those 17 men, plus McArthur, plus little me, sat around a table in the Morrison Hotel, and discussed the merits of a national organization, and I won't deny that some of them

were doubtful; but after much talk, that great leader McArthur sold his idea" (Sampson, 1984). The group authorized McArthur to hire Cobb as the Executive Secretary. McArthur died in an automobile accident in 1947, and Kent Leavitt of Millbrook, New York, was elected as the president. Mrs. Cobb was clearly the most knowledgeable person about McArthur's plans for the infant organization so she moved to Millbrook and lived in a rented house which served both as her home and the office of the National Association of Soil Conservation Districts. With the organization on a firmer footing Cobb resigned in June 1948 and returned to Spartanburg (Sampson, 1989).

Although most of the women in SCS during the 1930s and 1940s were in the secretarial and clerical fields, there were some women in the sciences and technical specialties. One of them was the well-regarded Lois Olson. At the urging of the Science Advisory Board, the Soil Erosion Service set up a Climatic and Physiographic Division to do research in climate, ecology, geomorphology, and erosion history. Within the division Olson headed the Erosion History Section, whose staff researched maps, documents, and records to determine the character of the natural landscape. This information could be used to establish datum points for studies in climatic change, the extent and rate of soil erosion, and changes in plant cover (Report, 1935). Olson had B.S. and M. S. degrees in geography from the University of Chicago, studied at the London School of Economics, and had worked with the American Geographical Society before taking the job with the Soil Erosion Service (American, 1968). In addition to supervising the section, Olson published articles from the research work in *Agricultural History*, *Geographical Review*, *Nature*, and *Soil Conservation*. Due to the need for geographers to help with the war effort during World War II, Olson left SCS to work for the Office of Strategic Services; later she worked with the Department of State and the Central Intelligence Agency.

During the period September 1942 through October 1943, SCS lost about 23 percent of its employees, many of whom went into military service or transferred to other government agencies. That year 32 female employees joined the military services (Report, 1943). In the civilian labor force "Rosie the Riveter" had come

to symbolize women's contributions to the war effort by working in jobs usually reserved for men. It seems SCS did not, however, hire women then. Mary C. Baltz, an exception, was a graduate of Cornell University, joined SCS as a "Junior Soil Surveyor" during the war labor shortage and continued with the agency as a soil surveyor until the early 1960s when she resigned (Women, 1989).

Technical and informational work in the early history of the Soil Conservation Service attracted capable and well educated women such as Charlotte Whiteford, later Charlotte Colton. Whiteford was elected to Phi Beta Kappa and then earned an M.S. degree in botany at Ohio State University before taking a job as a secretary with the soil science staff at the SCS office in Zanesville, Ohio in the mid 1930s. J. Gordon Steele, a soil scientist who had been in a plant ecology class with her at Ohio State, was involved in publishing SCS reports entitled "Erosion and Related Land Use Condition," concerning the various SCS project areas. In the 30's he recruited Whiteford to come to Washington as an assistant soil technologist to work on the reports. The job required both knowledge in soil science and editing so Whiteford took courses in editing and soil science in the USDA graduate school. At least one of the reports, *Physical Land Conditions on the Leatherwood Creek Demonstration Project, Lawrence County, Indiana*, included her as an author. Charlotte Colton continued to work as an editor, especially on soil surveys, and eventually became head of the publications staff of the Soil Conservation Service. She retired in the 1980s (Women, 1989).

A few women worked as public information specialists and editors during the early history of SCS; more joined in the 1960s through the 1980s. Phoebe Harrison regularly wrote and compiled the book review section of the early issues of *Soil Conservation*. Later she worked on the international aspects of soil and water conservation before retirement. Ruth Nordin headed the editing shop and from there helped women such as Georgie Keller, Catherine Blakely, and Juanita Grasty move up from lower grades to be publications editors. Nordin also taught editing in the USDA Graduate School and gave workshops on clear writing to SCS managers. Kay Mergen worked in the

area of conservation education in the 1960s and 1970s (Women, 1989).

The work of SCS in farm planning, soil surveys, and other activities has relied in part on expertise in cartography, use of aerial photography, and remote sensing. Some women found employment in the cartographic center at the regional offices and later the technical centers, although often in the lower paid jobs of cartographic aid and cartographic technician.

Probably the best known of the women who worked in the Soil Conservation Service in the late 1940s up into the 1960s was Verna C. Mohagen, director of the Personnel Division. A native of North Dakota, Mohagen went to work for the Veterans Bureau as a clerk-stenographer in 1927. In 1929 she moved to Washington, DC, to work for the Bureau of Chemistry and Soils. By attending George Washington University at night over eight years while working full-time, she earned a B.A. degree (1934) and an M.A. degree (1937) in economics. She also took courses in public administration at American University. Miss Mohagen joined the Soil Conservation Service in 1935 and progressed until she was director of the Personnel Division in 1946 (Biographical sketches).

Mohagen advanced the career development concept in SCS. It was derived from the notion that leaders in the Soil Conservation Service, especially the state conservationists and the national headquarters leaders, should have work experience in more than one state and in a variety of programs. Previously, most of the people who advanced to state conservationists had long experience in one state. The concept that state conservationists should have experience in other states was regarded as revolutionary. Also, the Personnel section often identified young conservationists who should be given opportunities to get the experience needed to advance to national headquarters or to a state conservationist's position. Mohagen had the support of the Administrator, Donald A. Williams, in this area. Mohagen also pioneered in using the student trainee program and an administrative trainee program to develop administrative professional staff for SCS offices.

Black women were limited in opportunities not only by gender but also by race. Juanita Grasty was one of the few black women—if not the only one—in the

national office of SCS prior to the passage of the Civil Rights Act. Due to administration policy, SCS had begun efforts to hire more minorities in the 1960s. This effort was greatly strengthened by the Civil Rights Act of 1964. Ermine F. Bates became the first black female hired in North Carolina when she joined the state office staff in Raleigh in 1964. She remained until her retirement in 1984. Martha Marbury joined SCS in 1967 and through her career became the first black personnel officer and the first black branch chief in the personnel division in the national headquarters. Maxine Barron joined SCS as the first GS-14 black female in SCS as a program analyst in 1980. Jackie Sutton moved from the USDA administration to become associate deputy for administration in 1983, and was the first female to occupy a Senior Executive Service job in SCS.

Legal changes in the 1960s and 1970s began to open more opportunities for women. Title VII of the Civil Rights Act of 1964 prohibited sex discrimination in employment in the federal government. Executive orders 11246 (1966) and 11478 (1969) required federal agencies to develop affirmative action plans (Civil Rights). The Equal Employment Act of 1972 (P. L. 92-261) required agencies to write EEO plans with "provision for the establishment of training and education programs designed to provide maximum opportunity for employees to advance so as to perform at their highest potential" (Federal). The Civil Service Reform Act of 1978 further stated that the policy of the federal government was to provide a federal work force reflecting the nation's diversity.

In 1973, about a year after the passage of the Equal Employment Act, women occupied approximately 11 percent of the permanent full-time positions in the Soil Conservation Service. Eighty-nine percent of the women were in clerical fields, 5.3 percent in administrative and technical fields, and a scant 0.2 percent in professional fields. The average grade was 4.86. At that time women comprised about 20 percent of USDA's work force and 40 percent of the work force of the federal government (Civil rights file).

Agencies were required to develop Upward Mobility Programs to give greater opportunities for women to move into professional ranks. SCS's plan had been approved by October 1974. Between 1970

and 1975, three years after the passage of the Equal Employment Act, the agency had made some progress in improving employment in the middle grades. Those in grades GS-7 and above increased from 24 to 44. The average grade for women moved from 4.72 to 5.24. There were 123 women in professional and student trainee positions (Civil Rights file).

Currently about 24 percent of the permanent full-time and part-time employees of SCS are women. Thus the percentage has more than doubled. Of greater significance is the fact that women have opportunities in a wider variety of jobs. The Upward Mobility Program afforded some women the possibility of using a mixture of formal and on-the-job training to move into professional positions. In November 1975 there were 64 upward mobility positions filled and another 31 advertised.

Greater emphasis was placed on hiring women to move into the technical specialties or to become soil conservationists in the 3,000 field offices, working closely with soil and water conservation districts and the agency's primary clientele, the rural landowners. This job experience was traditionally the route of advancement in SCS to management positions. Roberta Stevenson became the first woman district conservationist on October 12, 1975 at Welton, Arizona (Civil Rights file). As of July 1991 there were 185 female district conservationists out of a total of 2,478 for the agency (Employment data). Four women in the past few years have been state conservationists. Currently, the director of the Pacific Basin area is a female and there are two women state conservationists, one in New Hampshire and one in Delaware.

Various professionals in staff positions support the field operations of SCS. Among some of the professional categories, the number of female employees as of February 1992 were 85 soil scientists, 59 civil engineers, 30 range conservationists, 30 biologists, 21 agricultural engineers, 12 cartographers, 11 agronomists, eight geologists, four foresters, two hydrologists, one wildlife biologist, and one botanist (Employment data). Prior to 1984 there were no female professionals on the staff of the plant materials centers; there are now seven on the staffs nationwide.

At the national headquarters several women have been national specialists in

their disciplines. Only one woman has been a division director, while three women have been associate deputy chiefs.

Listed below are the numbers and job categories for all women in SCS. Only job series with over 50 people employed in them are included:

Number	Job Classification
595	soil conservationist
517	secretary
262	soil conservation technician
220	clerk
145	student trainee
139	computer specialist
137	clerk typist
85	soil scientist
77	personnel clerk
73	personnel management spec
67	public affairs specialist
61	budget analyst
59	civil engineer
56	computer clerk
53	contract specialist

Women numbered 3,153 of the 12,825 permanent full-time and permanent part-time employees, or 24 percent, in 1992 (Employment data). The continua-

tion and expansion of equal opportunities for women constitute not only the just and legal path to take, but also the one most beneficial to the agency. For a natural resources agency such as SCS to continue with a well-trained, dedicated work force, it will need to make even greater efforts to recruit the best of those available of whatever gender, race, or ethnic group.

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## SCS: The historical underpinnings

*Douglas Helms, National Historian, SCS*

The Great Depression of the 1930s and the New Deal under President Franklin Delano Roosevelt greatly influenced the course of soil and water conservation activities in the United States. Hugh Hammond Bennett, a career soil scientist in the Department of Agriculture and America's most vocal spokesperson on the dangers of soil erosion took the opportunity afforded by the emergency employment programs to argue for soil and water demonstration projects in erosion problem areas.

On September 19, 1933, Bennett became the chief of the Soil Erosion Service, a temporary agency in the Department of Interior. The successful results of the demonstration projects attracted attention. Congressional friends of the soil and water conservation movement then introduced bills to create a permanent service. The popularity of this work made it a point of contention over who would control projects between the Secretaries of the departments of Interior and Agriculture. Secretary of the Interior Harold Ickes wanted to keep the Service while the Secretary of Agriculture, Henry Wallace, contended it properly belonged with other agricultural programs.

President Roosevelt decided in favor of USDA and moved the Soil Erosion Service to Agriculture on March 25, 1935. Congress passed the Soil Conservation Act, which FDR signed on April 27, 1935. The law created Soil Conservation Service.

The new Service needed a means other than demonstration projects to reach all farmers. On February 27, 1937, President Roosevelt sent out the "Standard State Soil Conservation Districts Law" to the governors of the states. After each state had passed a law based on the standard law, local groups could then organize conservation districts which were units of government.

Nearly 3,000 districts, with locally elected directors, have been organized since that time and have signed agreements with USDA. The Soil Conservation Service has provided technically trained conservationists to work with the districts.

SCS works closely with another USDA agency, the Agricultural Stabilization and Conservation Service. The ASCS provides cost-sharing funds to help land owners install conservation practices on farm and ranch lands.

AN INTRODUCTION TO A COLLECTIVE PROCESS DESIGNED TO PROTECT A RIVER FROM BEING "LOVED TO DEATH."

# KENAI RIVER COOPERATIVE RIVER BASIN STUDY

DEVONY LEHNER

The Kenai River in Southcentral Alaska is in danger of being "loved to death." Rapid development along its banks, combined with the impacts of hundreds of thousands of anglers, threaten the very fisheries that draw people to the river. The Kenai River Cooperative River Basin Study illustrates the kind of collective approach the Soil Conservation Service (SCS) often promotes; an approach that brings together people who share a resource problem and gives them the information they need to find mutually acceptable solutions.

Although I consider myself a "humanist" rather than a "feminist," what I've learned from the Kenai River study, combined with what I've read (e.g., in Deborah Tannen's recent best seller *You Just Don't Understand*) suggests we can learn a lot from the experiences, strategies, successes (and struggles) of women. Research, for example, indicates that from childhood, women tend to: a) frame conversations "symmetrically" (so no one is one-up on anyone else), b) listen readily and actively, c) acknowledge interdependence, d) work to build relationships, and e) seek consensus solutions in which everyone wins.

Women (and men) with these tendencies have much to offer natural resources work—they can help build bridges between factions on opposite sides of resource problems. When limited resources are shared and loved by thousands, cooperation becomes fundamental to effective management. At least, that's what the Kenai River Study suggests.

But before discussing the study, some background on the SCS in Alaska may be helpful.

## The SCS and Conservation Districts in Alaska

This issue of *Women in Natural Resources* offers a sample of the diverse ways in which the SCS pursues its broad mission "to provide leadership and administer programs to help people conserve, improve, and sustain our natural resources and environment." I'll assume that elsewhere in this issue, you encountered those strange creatures lumped together as "conservation districts" but called different things in different states. In Alaska, there are ten "soil and water conservation districts" or SWCDs, including the "Alaska SWCD," which covers all lands outside the nine much smaller SWCDs. Since Alaska encompasses over 375,000,000 spectacular acres, even the nine small SWCDs tend to be gigantic by Lower 48 standards. The ten SWCDs are served by five SCS field offices and the SCS state office in Anchorage. Five SCS field offices for 375,000,000 acres means each has plenty of resource issues to keep it busy—from reindeer range management to forest stand improvement to wetlands mapping to water quality protection to resource education to agricultural improvements.

Districts are basically groups of citizens concerned about local natural resources who organize themselves into legal subdivisions of state government and then work voluntarily and mutually with the SCS, and others, in addressing



resource-related concerns in their SWCDs. This arrangement, in which the SCS works side-by-side with local citizens who care about their natural resources but who are usually not members of a resource-management bureaucracy, is one of the most unique, and to me—appealing aspects of working with this agency. When I'm sitting with an SWCD volunteer and we're struggling together to figure out how to address some local issue, I feel that I'm working for them and their community and the quality of their environment, not for the self-interest of an agency.

Another SCS feature I value, and which is as true in Alaska as elsewhere, is that unlike most resource agencies, SCS has neither regulatory powers nor lands to manage. In other words, SCS always provides its assistance on a voluntary basis. Land owners and managers can always say "no thanks" to the help we offer, and they, not we, implement proposed resource management actions. (Yes, the Farm Bill represents a partial exception to this rule, but its negative sanctions on farmers who are not in compliance with an SCS-approved conservation plan are still the exception, not the rule, in SCS programs, particularly in Alaska; and personally, I hope it stays that way.) The voluntary partnership between the SCS, local SWCDs, and the "cooperators" who apply our assistance means that any soils data, farm plan ideas, engineering specifications, etc. we provide had better make good sense, or land managers will just ignore them.

Working with SWCDs helps us stay in touch with the communities we serve so we can better tailor our assistance to the needs and backgrounds of local cooperators. It also keeps us humble because we constantly see how experienced and savvy about resource issues many local citizens

are, whether they're hay farmers, surveyors, elk ranchers, Native leaders, city planners, or school teachers..

Given the breadth of its mission, the SCS in Alaska usually ends up 1) serving as diverse a clientele as the local citizenry can produce, and 2) addressing as challenging a mix of resource issues as man and nature can devise. It gets particularly exciting when numerous segments of this diverse clientele (sometimes better described as "opposing parties" or "warring factions") are involved with a single resource issue. In such cases, we're likely to find ourselves seeing the issue from a number of new, surprising, and sometimes totally contradictory angles depending on whose eyes we're looking through. (This is particularly true since our mission is best pursued by treating everyone's viewpoint with consideration and respect—you don't persuade people to change how they treat resources by alienating them.) The Kenai River study illustrates what happens when the SCS-SWCD team gets involved in such a situation.

### **The river, the problem**

As I have already mentioned, it's common to hear that the Kenai River is being "loved to death." Certainly, it is the most heavily used sport fishing river in Alaska due to its accessibility (a two-hour drive from Anchorage) and more importantly, its salmon. The Kenai River supports 27 species of fish, including two annual runs of three species of salmon: chinook, sockeye, and coho (also known as kings, reds and silvers) and trophy rainbow trout and Dolly Varden. "Kenai kings" are the biggest salmon in the world, averaging as much as 40 lbs. The record, caught in 1986, is 97 lbs 4 oz. In summer, the river supports as many as 350,000 angler-days of recreational fishing.

The river traffic means lots of money spent in Alaska. In 1986, anglers spent \$38 million locally for fishing tackle, transportation, etc. The river also contributes a large percentage of the Upper Cook Inlet commercial salmon harvest, which in 1991 delivered fish worth \$14.6 million. During "king season" in recent years, 200-300 guided river boats and hundreds more private boats have carried thousands of hopeful anglers up and down the river. Boat pressure has grown so intense that the state imposed a 35-horsepower limit on boat motors, principally to improve boater safety, but also to reduce the

impacts of boat wakes on river banks, which are showing severe signs of overuse in many areas. Bank fishing can be equally intense, particularly for sockeye (red) salmon; the term "combat fishing" was coined a few years back to describe the situation. Fishing pressure often translates into damaged streambanks, but healthy streambanks are essential to healthy fish populations.

Thousands of anglers from throughout the state and nation aren't the only ones who love the Kenai River, however. Roughly 3,000 private property owners own recreational, year-round residential, commercial, or industrial parcels within one-quarter mile of the river throughout our Kenai River Study Area (basically, the lower 50 miles of river). These land owners include Native organizations, all kinds of groups and businesses, and individuals from all over Alaska and the Lower 48. They include homesteaders, many of whom still live along the river, and newcomers who only recently bought their 1-acre riverfront lot, with dirt-road access and no improvements, for upwards of \$50-60,000. Within our study area, private land owners own about 66 percent of riverfront lands. Like anglers, land owners all have their own strong opinions about how the Kenai River and adjacent lands should be managed.

Now add to this mix a variety of local governments, state and Federal agencies who are also land owners, resource managers, regulators, or all three. Local governments (including two cities, Soldotna and Kenai, and the Kenai Peninsula Borough) own 15 percent of study area lands. The state owns another 15 percent, managed by the Alaska Department of Natural Resources, Division of Parks and Outdoor Recreation. The Federal government owns four percent, all within the Kenai National Wildlife Refuge.

Kenai River management is fragmented among these and other agencies, including the Alaska Department of Fish and Game, which manages fish populations and habitats (as well as wildlife); the Alaska Department of Environmental Conservation, which is responsible for water quality; the US Army Corps of Engineers, which permits activities in the river and adjacent wetlands; and others.

### **The river, the study**

The Kenai River Study began in 1986, when the Kenai Soil and Water Conserva-

tion District requested SCS help with inventorying and mapping soils and plants along the river. By that time, rapid increases in riverfront development and recreational pressures on and along the river were causing river bank denudation and erosion, septic system failures, and other environmental problems. District supervisors knew that Kenai River lands were, for the most part, being developed and changed without reference to the kinds of data fundamental to wise land use planning. Such data were generally not available, and no comprehensive resource data base existed for riverfront lands.

The process set in motion by the Kenai SWCD's request had a simple but challenging goal, to try to answer the basic question worrying everyone who loved the river: "How can the current productivity of Kenai River fisheries be protected forever while allowing Kenai River lands to be used by everyone who wants to use them for everything they want to use them for?"

Beginning to find good answers to this kind of resource question can take years or more and involves the slow evolution of many partial answers. Trying to answer such a question *at all* means laying out an open, fair, objective, democratic, and data-based planning process agreeable to all concerned parties. It also means collecting accurate resource data that are relevant to these parties and easy for them to understand and use. Such a process requires adequate staff and support, and isn't cheap. But whatever the costs, if this process leads to the long-term protection of highly valued resources, and if it provides information that can be applied in other situations as well, costs will be well justified. What, after all, are the alternatives?

To succeed, therefore, the solution-seeking process must actively involve as many potential data users as possible. It must also keep "politics" out of the front-end of the process, when information is collected, working relationships are established, and potential solutions are still just incipient possibilities. In addition, it should bring together involved parties (i.e. "factions") at intervals so they can work side-by-side in identifying and addressing the problems they share. It should also ensure that all parties, regardless of their value systems and agendas, are listened to and treated with respect and consideration.



Once study participants and data users have agreed on the process to use, and needed data have been collected, all parties can start looking for solutions everyone can live with. That's where the Kenai River Study is right now. If we're lucky, consensus solutions will be found and effectively implemented, or at least field tested and evaluated. If we're not so lucky, politics may take over, and little more will get done (at least, cooperatively). However, since needed resource information has been collected and effective working relationships forged, future efforts are more likely to start beyond rhetoric and emotion even if politics bogs down the process now. The journey may be slow, but when many parties with different agendas and attitudes try to use and manage a single resource cooperatively, there are no shortcuts. A few examples will show the kinds of cooperative involvement that have occurred so far during the Kenai River Study, and better indicate where we are in the process.

Since field work began in earnest in 1988, the SCS has mapped and inventoried all soils and plant communities within the study area. The kinds of data needed were identified through many discussions with land owners and resource managers. Mapping was done using photography obtained by the Alaska Department of Fish and Game (ADF&G). The ADF&G has also provided boat transportation and ongoing feedback on study methods and products. The Kenai Peninsula Borough, another active participant, is now digitizing SCS inventory data in its computerized geographic information system, which will allow all kinds of clients rapid access to soils and plants information. During mapping, all landowners in the study area were contacted by mail to acquaint them with the inventory and to invite them to observe SCS field crews as they mapped nearby.

In 1990, the City of Soldotna helped fund a detailed inventory of river banks within city limits to supplement other SCS data. SCS conducted the bank study using a methodology developed in 1989 with input from a number of other agencies. The city is also currently seeking funds to field test several methods for rehabilitating eroding river banks with "bioengineering" techniques. In a 1991 workshop, bioengineering was identified by consensus as an approach meriting field trials. The workshop was coordinated by the SCS and the Kenai SWCD, hosted by

VOL. 14, No. 1

the city, and involved over 40 individuals representing agencies, private land owners, and local contractors involved with riverbank stabilization.

Using collected data, the SCS, working with the Kenai SWCD, state and local agencies, and interested private landowners, will develop a Kenai River "landowners' guide" during the summer of 1992. This guide will explain in lay terms: the basics of river dynamics (what causes Kenai River bank erosion, etc.), the kinds of data available for Kenai River lands, how data can be used by private landowners, where additional help is available. Recently, the Nature Conservancy has begun helping agencies and private citizens explore ways to promote a stewardship ethic among Kenai River landowners.

### The river, the future

Given the ongoing and evolving nature of the Kenai River study, it's still early to predict all the fruits it might bear. Many answers to the question of how to protect fisheries while accommodating the desires of anglers and land owners won't emerge for years. Finding answers that work for the greatest number of people requires an open and democratic process like the one outlined here. Without such a process, resource problems often end up being "solved" unilaterally by political agents, such as state legislatures. These seldom have enough time to look beyond relatively simplistic solutions that meet the



needs of only a few constituents. Laying out and implementing an open collective process, however, requires time, tolerance, and patience. It also requires people who understand the value of working together, who listen actively, who try to build relationships and reach consensus, who seek win-win-win solutions. If, as research indicates, women often excel at these skills, women in natural resources should recognize, hone, and put to use the bridge-building tools we can offer in addressing resource problems.

*Devony Lehner is a Soil Conservationist in SCS's Homer Field Office, Homer, Alaska. Her Bachelor's is in Anthropology from Stanford, her Master's in Environmental Biology, Sonoma State University, California. She began working in Alaska for the Alaska Department of Fish and Game (1978) and joined SCS as a biologist on the multidisciplinary River Basins staff located in Anchorage (1980). In 1987, she relocated to Homer.*

Photos these pages. Page 13, the Kenai River, Centennial campground. This page, Soldotna Creek Park: In the inner circle of those standing are from left: Marcia Ward, Kenai Soil & Water Conservation District; Devony Lehner, author; Sylvia Spearow, Kenai Peninsula Borough; Suzanne Little, City of Soldotna; Frank Reckendorf, SCS Sedimentation Geologist; Robbin Sotir, Soil Bioengineering Consultant; Joanne Kaiser, SCS Engineer. Below: Kenai River—Centennial Campground.



# Research In Progress Focus on: Archeology

The editor would like to thank Sandra Forney of the Forest Service who coordinated the papers

## Restoration of the 1870s Round Lake Logging Dam *Enid Van De Hoek* Forest Archeologist Chequamegon National Forest

The historic Round Lake Logging Dam, located deep within the north woods of the Chippewa Valley of Wisconsin, is the only known structure of its kind still standing. Listed on the National Register of Historic Places since 1981, the dam will undergo dismantling, documentation, and restoration and/or rehabilitation work according to stipulations set forth in a Memorandum of Agreement between the U. S. Forest Service, Wisconsin's State Historic Preservation Office, and the Advisory Council on Historic Preservation. Project work will be accomplished as a Challenge Cost-Share Agreement between the Chequamegon National Forest, The Friends of Round Lake Logging Dam, and Price County Historical Society. The objective is to halt the ravages of time and resultant deterioration which threaten to destroy this unique historical feature.

Round Lake Logging Dam and others like it in the Great Lakes region are thought to have been constructed by late 19th century pragmatists who used the methods and technology at hand rather than a set of engineering blueprints. Construction of the dam started between 1878 and 1886, and it was in use until 1909. The dam was not built

to last much longer than this. Sluicing logs through the dam from their winter storage at Round Lake expedited the transportation of white pine logs during the spring runoff. Logs were floated down the South Fork of the Flambeau River to the nearby sawmill at Fifield, and from there to distant mills along the Chippewa and Mississippi Rivers. Once the timber was depleted in the area, the dam was abandoned.

Starting the summer of 1992, the initial disassembly and documentation phase of the restoration will take place. During this time, a determination will be made on the feasibility of reusing some of the original dam elements during the restoration phase. The use of salvaged materials will conform to the Secretary of Interior's Guidelines for Historic Preservation.

As the last known survivor of its kind in northern Wisconsin, the Round Lake Logging Dam will be preserved. Future generations can witness this remnant of a bygone era when the logging industry reigned supreme.

Enhancement of the visitor's interpretive experience and long-term resource management remain the Chequamegon Forest's ultimate goal. The Forest Service and project partners obtained funding for the project—which may take several seasons to complete—from several sources: the skills and expertise of dedicated volunteers, Forest Service personnel, donated materials and dollars, and "President's Initiative" funding.

*Enid Van De Hoek has a B.A. from UCLA in Anthropology and an M.A. from Sonoma State University in Cultural Resources Management. She has worked on National Forests in California and Idaho before coming to Wisconsin.*

## The CCC's Shawnee Lookout Tower in Ohio *Ann Cramer* Archeologist Wayne National Forest

Once a sentinel built to protect a fledgling forest and now a tribute to its builders, the last lookout tower remaining on the Wayne National Forest will be restored. The Shawnee Lookout Tower was built in 1939 by the Civilian Conservation Corps (CCC). There were at least four lookout towers constructed on forest lands in Ohio in the 1930's by the CCC. The Shawnee Lookout Tower was the third tower in the country to be listed on the National Historic Lookout Register (October 30, 1990) and has been officially determined eligible for the National Register of Historic Places. Records show the Tower was staffed and utilized as a lookout until the 1970's.

It is 100 feet tall, made of steel, with a seven foot square cab and wooden steps. The original design blueprints indicate that a cabin or guard station, a latrine, and a garage, all made of logs, also existed here but were either burned or torn down. According to Roland Schaar, the first Athens District Ranger in 1935, an extensive telephone line was built to the tower utilizing chestnut tree poles which were "crooked, but durable."

The CCC was one of the most successful of all the New Deal programs established by the Roosevelt administration in the 1930's. Its purpose was to provide work for unemployed men during the Great Depression Era. The Forest Service benefited greatly from their services in a variety of ways, including fire fighting, reforestation, timber stand improvement, insect control, fish and wildlife development, as well as the construction of

roads, trails, bridges, campgrounds, and a variety of structures. During the early days of the Wayne National Forest in Ohio (circa 1930's and 1940's), the CCC served as its sole on-the-ground workforce. By 1936, there was a total of nine CCC camps within the state of Ohio. Most of the work was conducted on National Forest lands.

The main focus of the present restoration project is to restore the structure itself with hopes of developing it as a public interpretive site in the near future. A 1989 engineering study found the tower to be fairly sound, which is a tribute to the workmanship of the CCC. That study also recommended that certain repairs be made, including cleaning and replacing the four piers, replacing the ground rods, replacing the wooden stairs, replacing the cab platform, and fully enclosing the cab itself. Conceptual designs which basically follow these recommendations are currently being prepared by District engineers and landscape architects.

As the archeologist on the Wayne National Forest, I coordinate the Shawnee Tower restoration project. Our team of various specialists, consulting with the State Historic Preservation Office, is working on an interpretive plan for the site. We are contacting Forest retirees in hopes of learning more about the specific history of the Shawnee Tower and its operation. This has been a most rewarding project and has given me a new appreciation for the contributions that the CCC made to Forest Service history.

I recently had the pleasure of working with our public affairs specialist on a traveling exhibit which highlighted 100 years of our fire fighting history—of which the tower is a part. The exhibit was displayed at various museums in Ohio and



provided the public with a fascinating aspect of the past.

These kinds of projects challenge me to reach beyond my expertise as a prehistorian and enter into more public-oriented work. With its vast land holdings and as stewards of many of the public's historic resources, the Forest Service is taking the lead in many restoration and public interpretation efforts.

*Ann Cramer has a B.A. from the Ohio State University and an M.A. from Kent State University. She worked as an archeologist for the state of Ohio before joining the Forest Service.*

**The Effects of Modern Camping on Ancient Campsites**  
*Andrea K. LeVasseur*  
**Asst. Forest Archeologist**  
**Superior National Forest**

Research into the location, nature, and physical condition of archeological sites in the Boundary Waters Canoe Area Wilderness (BWCAW) has been ongoing since 1981. The BWCAW, located in north-eastern Minnesota on the Superior National Forest, is an area of 1.2 million acres which hosts approximately 180,000 recreational visitors each summer. In order to minimize the impact of human use, visitors are restricted to camping on only 2,200 Forest Service-approved campsites.

Unfortunately, such intensive campsite use, as well as the Forest Service's efforts to rehabilitate the campsites and keep them in usable condition, may damage or destroy archeological resources.

Performing archeology in the wilderness presents special challenges. The BSCAW contains about 1,200 lakes and rivers and most of the Forest Service campsites are located on shorelines. We travel as did the Indian and voyageurs: by canoe. Between lakes, the canoe and camping gear must be portaged (i.e. carried on foot). My partner and I usually take trips that last several days since our destination may require a day or two of paddling and portaging to reach.

About 90 percent of BWCAW campsites have been inventoried so far. Of these, 39 percent contain archeological resources. This means that rehabilitation crews have almost a 40 percent chance of encountering resources in their work. It also means that almost half of the campsites have been used for that purpose for hundreds or thousands of years.

There has been considerable damage done to these finite, nonrenewable resources. At least 37 percent of the known archeological sites are too badly deteriorated to merit further protection. The bulk (63 percent) of the known sites may still be undisturbed enough to qualify for NRHP protection. Formal evaluation of some of these sites will begin this summer (1992), and methods will be developed to mitigate damage and stabilize significant sites.

In this part of Minnesota, normal soil depth averages only 12–18 inches, so compaction of the shallow soils, defoliation, and erosion are clearly accelerated by the heavy visitor use and present a

severe threat to buried archeological deposits. Forest Service crews also use ground disturbing practices to rehabilitate campsites: leveling tent pads, removing rocks and roots, digging latrines, and installing fire grates. This is good for the campers, but bad for the archeological resources.

Each campsite and portage must be individually examined for the presence of archeological resources, and a decision must be made whether the resource merits further protection on the basis of its potential eligibility for the National Register of Historic Places (NRHP). Eligibility usually is determined by the significance of the site and its ability to provide information about how ancient people lived. If the site is badly disturbed or destroyed, it will be ineligible for NRHP, and no further protective measures will be taken.

*Andrea K. LeVasseur has a B.A. from Saint Cloud University in anthropology and an M.A. from the University of South Florida at Tampa in public archeology. She has been on the Superior National Forest since 1988.*

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HAVE YOU THOUGHT OF MOVING UP THE LADDER, BUT AREN'T SURE ABOUT WHAT GOES ON ABOVE YOU? THIS MANAGER GIVES YOU A SNAPSHOT OVERVIEW OF HER OWN JOB IN A VERY LARGE AND VERY PRODUCTIVE IOWA SCS AREA. IT'S ENCOURAGING.

# CONSIDER MIDDLE MANAGEMENT

KATHY F. PIELSTICKER

I have heard many shorthand terms for my position: on the hot seat, fireman, thankless, to name of few of the less colorful. Ironically, those of us in the Soil Conservation Service's middle-management position of area conservationist (AC), or those who have passed through it, see it as one of the most rewarding that the agency offers.

The AC is perceived as the one who has to do the "dirty" work of disciplining employees, is removed from our real landuser clients, and isolated from the rewards of working in the field. Consequently, few field employees see anything alluring about the AC job. The most stellar district conservationists have told me that they've considered applying for AC positions, but see the position as a loathsome ordeal they might be forced to endure to advance their career. I have startling news for them. It's like the old Peace Corps motto promised, "It's the toughest job you'll ever love."

## Scope of Area operations

The area conservationist is responsible for the technical and administrative supervision of all SCS activities within her/his Area. In my case, that is the 16 county area located in southeast Iowa. This Area, Iowa's Area 6, includes 16 field offices, two Resource Conservation and Development Areas, one Soil Survey Project, and two active Small Watershed Protection Projects (PL-566).

**Size:** Area 6 encompasses 5.3 million acres. This includes 4.7 million acres of agricultural land, of

which 3.2 million acres is cropland. Significant to the SCS's workload, 1.9 million acres of it is "Highly Erodible Land" (HEL) as defined by the 1985 Food Security Act (FSA) and the 1990 Food and Agricultural Conservation and Trade Act (FACTA).

**Staff:** In FY '92, the SCS employees who I either directly or indirectly supervise total 77. This includes: 60 permanent full-time employees, three temporary full-time employees and the full-time equivalent (FTE) of 14 intermittent or temporary staff years. Table 1 presents a breakdown of these positions by grade and series. Twenty-six of these employees are directly under my supervision. Technical support is provided to field offices by the area staff of twelve (as noted in Table 1).

In addition to the SCS employees, the Iowa Department of Agriculture and Land Stewardship's Division of Soil Conservation employs both technical and clerical employees who work within our field offices. In our Area this includes 28 full-time employees: 12 technicians and 16 secretaries.

In 1992, some Soil and Water Conservation Districts (SWCDs) in Iowa received additional funds through cooperative agreements with the SCS to assist producers in their counties with the implementation of conservation plans developed for compliance with FSA/FACTA. SWCDs in Area 6 received a total of \$111,500 which they utilized to employ the full-time-equivalent of eight and one-half staff years.

Finally, we also are very fortunate in southeast Iowa to have a strong nucleus of volunteers. In 1991 our Earth Team in Area 6 included 95 individuals who contributed 4577 hours to the conservation effort.

No. FTE	Series and Grade	Area Staff	Title ( <i>boldface indicates directly supervised</i> )
2	GS-457-12		<b>District Conservationist</b>
14	GS-457-11		<b>District Conservationist</b>
2	GS-457-12		<b>RC&amp;D Coordinator</b>
1	GS-457-11	X	<b>Resource Conservationist</b>
1	GS-457-11	X	<b>Soil Conservationist</b>
2	GS-810-11	X	<b>Civil Engineer</b>
2	GS-470-11	X	<b>Resource Soil Scientist</b>
1	GS-470-11		<b>Supervisory Soil Scientist</b>
3	GS-470-9		<b>Soil Scientist</b>
7	GS-457-9		<b>Soil Conservationist</b>
3	GS-457-7		<b>Soil Conservationist</b>
4	GS-457-5		<b>Soil Conservationist</b>
3	GS-457-5		<b>Soil Conservationist (temp.)</b>
1	GS-802-8	X	<b>Civil Engineering Technician</b>
2	GS-802-7	X	<b>Civil Engineering Technician</b>
4	GS-458-7		<b>Soil Conservation Technician</b>
3	GS-458-6		<b>Soil Conservation Technician</b>
3	GS-458-5		<b>Soil Conservation Technician</b>
1	GS-303-7	X	<b>Administrative Mgt. Assistant</b>
1	GS-303-6		<b>Program Mgt. Assistant</b>
1	GS-334-5	X	<b>Computer Specialist</b>
1	GS-318-5	X	<b>Secretary</b>
1	GS-318-5		<b>Secretary</b>
0.5	GS-322-3		<b>Clerk/Typist (part-time)</b>
13.5	GS-458-2/3/4		<b>S.C. Aids/Technicians</b>

**Budget:** In the state of Iowa, SCS budgets are not directly administered on the area level by the ACs. Allocations of staff hours for intermittent employees are issued on an area basis but total budgets are not. ACs are responsible for identifying any opportunities to reduce program and administrative costs and for making recommendations to the State Conservationist for improving the efficiency of the management of staff, budgets, property and programs in our areas. The Area that I administer operates on funds from four programs: Conservation Operations (01), PL-566 Small Watershed Operations (08), Resource Conservation and Development (11) and Soil Survey (02). During FY '91, the funding from these four sources within Area 6 totaled approximately \$2.9 million. Total staffing in the Area during 1991 was seven staff years lower than the current fiscal year.

State and county funds and funds from other local sources contribute substantially to soil and water conservation activities within our field offices. During 1991 state dollars for technical and clerical staff within the field offices in the Area totaled \$613,600. County and local funding for SWCD activities, excluding funds for cost-share practices, totaled \$134,880 for the sixteen counties in Area 6.

*Typical?* Is Area 6 typical in size and composition for other Areas? It is reasonably typical for the Midwest, but nationwide, probably not. Iowa has 12 million acres of HEL, placing it fourth in the nation for acres with approved compliance plans. Based on the complexity and combination of conservation practices in plans, Iowa has the largest conservation compliance workload in the nation.

Area 6 has 20 percent of Iowa's compliance plan workload covering 1.9 million acres. *This is more acres of HEL and tracts with compliance plans than in 32 of the 50 states.* The substantial number of personnel that we have is partially to address that large workload but also to address soil conservation needs on the non-HEL portion of the 3.2 million acres of cropland in the Area.

### **Supervision implies an opportunity to lead**

I spend the major portion of my time with supervisory responsibilities because of the large number of employees that I directly supervise. Broadly, those responsibilities include performance evaluation and appraisal, merit promotion, counseling, training, performance recognition, disciplinary actions, handling grievances, and carrying out equal employment opportunity program responsibilities.

Supervision at its best involves motivating, inspiring and leading. Most of us, myself included, strive for the best and usually fall short. Nonetheless, the reward is having the opportunity to try your best to lead. Sometimes you will fail. However, provided you learn from your failures, eventually you can still lead successfully.

Motivating field staffs faced with massive and rapidly increasing workloads is a critical issue for ACs in states with substantial acres of HEL. Chronic shortfalls of staff available to work with farmers on compliance plans, to complete plan revisions, to apply practices, and to conduct status reviews, has created job frustrations for all of our field staffs.

Additionally, as our Agency moves into a more regulatory role, our staff find themselves working increasingly with landusers who do not want to work with them. Our employees struggle with the changing perceptions of the SCS within their communities. Many joined the SCS to serve their communities but are now frequently seen as regulating participation in government programs. This struggle and the struggle with a burgeoning workload has affected morale in many offices. As a supervisor this is the most important issue that I have to address. Predictably, the solution has also been the most elusive.

There are a number of possible solutions to address the issue of motivation and morale at the field office. One approach that I have taken was derived from my experiences as a District Conservationist (DC). When I was in that position, it was a less stressful time for field employees within the SCS. Even so, one trouble-

some aspect for me was that the geographic distance between field offices made it difficult to exchange ideas face to face with other DCs. To develop a traditional network of support among colleagues simply was not very feasible. Now, in the role of AC, I reasoned that even if I couldn't alter the impact on our employees of the agency's changing role, I could at least address the morale and motivation issue by helping DCs to develop a solid network of support with their peers.

The first approach that I chose to accomplish this was to set-up subareas composed of five and six counties each. In each Subarea, I appointed a "Coordinating DC" who would serve for one year. At the outset, I told the DCs that it was my intention that the subareas would function as "quality circles" and as a focus point for the exchange of ideas. Beyond that, it was my hope that the subareas would develop into a support group within which DCs could share work-related concerns and frustrations and work through them. For this to occur, I gave the Coordinating DCs considerable latitude to set up meetings and to request, if they needed, the participation of my staff or myself.

I would like to say that this example was a raving success. To be honest, I may never know. Like so many things that I do as a supervisor, the results can't be quantified. However, once in a while, one of my DCs tells me he feels that the subareas have helped him. That is the best part of being an AC.

The worst part of being an AC also relates to feelings. If you are responsible for supervising many people for very long, you will need to take disciplinary actions, including terminating appointments. It is a part of the job, but thankfully a small part. In my four years as an AC, it is a task that I have had to perform rarely. It is without a doubt the worst of my duties. If you are considering middle management and you know that you can't handle disciplining people, this is not the position for you. On the other hand, if you can discipline employees without empathizing with the pain that they will go through as a result of disciplinary action, you are

also *not* a person who should be an AC. Above all else, an AC needs to have the capacity to "feel for" those that she/he supervises, whether the duties that are carried out are the "best" or the "worst" that the agency offers.

#### **A guide and advocate policy**

"I don't envy you one bit," a District Conservationist told me, "you're always caught in the middle between us and the state office." This is a commonly held belief, and at least partially valid. The whole truth is less dramatic. Whatever point you are at in the hierarchy, you are caught between the pressures of policies set by your superiors and implementing those policies through those who work for you.

In regard to policy, I play two roles. One is to provide guidance to the field. The other is to provide analysis and advocate solutions to those setting policy. To be effective as a guide in explicating policy, it is necessary to understand two things. The first is to understand the limitations that the field office has to work within to implement policies. This means that I try to see field office operations from the perspective of field staff, either based on my previous experience in the field or by listening to the feedback that they give me.

The second aspect of my role as guide is that I need to understand and support the basis for policy as it is developed by management. This can be the more difficult assignment. Even if I do not entirely agree with a particular policy, it is still my responsibility to see that policies are implemented as effectively as possible. To do this with the minimum of anxiety and wasted effort, it helps for me to explain to our field the reasoning behind that policy and to help them understand the broader objectives that senior management must take into consideration.

A responsibility that I particularly enjoy as an AC is the chance to provide my recommendations to the State Conservationist on policy issues. Doing this requires that I draw on my experience and background, but for



me it also means tapping the ideas of DCs, who will have to implement at the grass roots level the policies set by others. To date, the majority of my career has been served in the field office. As a consequence, I believe that if you want to know how to get a job done, or figure out how to implement a policy efficiently, you should go to field staff and ask them how they think it will work.

Naive, perhaps, but not as simple as it sounds. If I want input from DCs on policy issues, I don't ask one DC her/his ideas on the issue. I ask many, and if possible meet with one or two Subareas and ask them as a group. Discussing the issue as a group gives me access to the insight and the experience of many managers. The best ideas that the DCs bring to such discussions come from discussions that they have had with their staffs, bringing additional perspective to the discussion.

As a result, when I go to senior management with suggestions on policy issues, I carry with me not just an idea of mine, but rather a hybrid idea on which the concepts of others have been grafted. I screen the suggestions that I get, weigh and evaluate them, and develop from them a cohesive policy recommendation. Finally, I then have the opportunity to advocate that policy idea to the State Conservationist.

#### **Melding the technical into a creative act**

There is a particular portion of the AC's job, a creative one, that most would enjoy. One of the most important functions of an Area Staff is to provide input to the AC to solve the problems that arise in routine work

with the field offices. The role that technical staff can play in developing approaches to implement programs is especially valuable.

This team effort becomes most important with the arrival of new programs with uninitiated procedures. As a team, the Area staff and I develop approaches to solve problems that arise in our Area. In the end it is my job to meld their technical approaches with management priorities to create workable solutions. That is a creative process, since each staff member brings to those discussions a unique perspective. Each contributes their personal perspectives, and the orientation of their particular discipline. It is often the melding of all of their contributions that produces the most effective results.

I highly value this portion of my job because it gives me the opportunity to routinely work as a team with our engineers, soil scientists and agronomists. Integrating the disciplines is a constant challenge and an ongoing education.

*Kathy F. Pielsticker is Area Conservationist with SCS stationed in Fairfield, Iowa. Her Bachelor's is in Agronomy, soils emphasis from the University of Illinois, Urbana-Champaign. Another Bachelor's is in Religious Studies from North Central College, Naperville, Illinois. She worked (1981 to 1984) in Illinois, becoming District Conservationist, then became a DC in Monroe, Michigan. She was detailed by SCS to the Michigan Department of Natural Resources for one year as a Resource Conservationist, and then became Area Conservationist in 1988.*

Flowers. Everyone loves them. Unless a garden has blossoms all season, including some kind of "winter interest," it's not worth a glance, right? Wrong, if you like the way nature does it. Like nature, I, too, like a subtle cycle of budding flowers, growth, senescence, and dormancy. A persistent abundance of blossoming exotics (the typical perennial border) is to me like a red light district, where working women are expected to show up in rhinestones and tulle 24 hours a day.

So when I first opened the book, *The New York Botanical Garden* by Ogden Tanner and Adele Auchincloss (Walker and Company, 1991), I sighed and wondered how I could say something nice about the gorgeous photos of exotic plants. That skeptical first impression gave way, however, to interest and amazement and appreciation as I began to read. Although true to the "coffee table" genre in its glossy appearance, it is not the least bit superficial, but rather full of information. The story of the New York Botanical Garden is, from its beginnings in the 1880's, a story of science and education about the natural world.

The introduction describes the global missions of the NYBG in terms that would resonate with any environmentalist. The authors devote considerable space to discussion of the human population crisis—"the relentless multiplication of a single species"—which threatens the diversity of other life forms. (In contrast, at the recent Rio meetings, population issues were apparently avoided as they pertained to environmental health.)

There is a pictorial tour of the Garden throughout the seasons, after which the next chapter elaborates on the history of the place. Its charter in 1891 emphasized plant collection, research, and instruction. The first director, Nathaniel Lord Britton, and his wife, Elizabeth Knight Britton, were research botanists, prolific authors, and ardent native plant enthusiasts. The authors give Elizabeth Britton credit for innovative ideas: "Determined to save native species from exploitation, [she] urged a national boycott

on the collecting of American holly as a Christmas decoration, proposing that nurseries propagate plants instead." The Native Plant Garden, one of the gems at NYBG, was her inspiration.

The next two chapters are descriptions of the NYBG layout, first a general inventory of the display collections, and then a more detailed look at the fabulous Enid A. Haupt Conservatory. The remaining four chapters, a good half of the book, are about the past and present research and educational endeavors of the vast staff of NYBG scientists.

Particularly interesting to me is the work of the Institute of Ecosystem Studies, based at the Mary Flagler Cary Arboretum in Millbrook, New York. A staff of over 80 people (nearly 20 percent are Ph.D. ecologists), with two-

thirds more as summer assistants and interns, is headed by Gene Likens, best known for his work identifying acid rain in North America. Their work on regional ecosystems, for one example, looks at pollution, pests, and regeneration of forests. Their data lead to a recommendation, now adopted by the U.S. Forest Service, that "no patch of forest land in the Northeast be clear-cut more than once every 75 years in order to give it time for proper recovery."

Naturally, the output of scientific writing from IES is prodigious. Outreach to the lay public is considered an important part of their responsibility as well, so there are arboretum tours, workshops, and school programs. I have participated in some of these, and have the highest regard for the creative thinking generated there.

The final chapter of the book is about the Garden's vision for its second hundred years, a vision which includes training scientists and educating the public in systematic botany before the earth's biodiversity is hopelessly lost. I suffered a twinge of disappointment in this chapter,

however. The current president of NYBG is not a scientist, but an art historian with expertise in fundraising. The concluding paragraph in the book reads, "Lastly, NYBG seeks fresh ways...to make a visit to the Garden one that people will find rewarding not once but over and over again. After all, without those beautiful flowers, a Sunday afternoon at the New York Botanical Garden wouldn't be much fun." As if the hookers in rhinestones are what it's about after all.

A word about the book itself: if you read nothing but the numerous text insets and photo captions, you would come away with a strong sense of the Garden and its mission. At \$34.95 this is both a nice gift and good reference, though probably more interesting to those who are close enough to visit...say, east of the Mississippi.

There is probably interesting information about (1) the planning and layout of Washington, D.C. in a swamp, or (2) about evolution of the lands around the White House, or (3) about the horticultural interests of various presidents, or (4) about the agricultural background of many of our presidents as it influenced national policy, or (5) about presidents as forest managers. One would think that it would be contained in a book with a title such as *White House Landscapes: Horticultural Achievements of American Presidents* by Barbara McEwan (Walker and Company, 1992).

Unfortunately, this book touches on all of these subjects but falls far short of being either interesting or informative. In summary: the title is misleading, the writing is poor, the photos are inadequate, the layout doesn't work, the history is poorly researched, important points are often treated superficially and trivia often treated in detail. It is not worth reading unless you have time to kill and you can get the book from a library that has spent the \$24.95. For those who want a more detailed evaluation, read on.

This seems like two separate books. The first part (117 pages) is about early presidents and their horticultural and silvacultural

achievements on their own estates; the second (81 pages) is about the White House and what succeeding presidents and their wives did to it. The author seems much more interested in the former than the latter. Even at that, most of the information comes from each president's own diaries and letters, so there is great detail by Thomas Jefferson and virtually nothing from James Madison, who "kept his interests, except for politics, to himself." Only two of the eight presidents in my lifetime presumably had any horticultural involvement in the White House, because only Kennedy and Johnson are mentioned in this very short chapter called "After FDR." Perhaps the other diaries were shredded. At any rate it seems strange to have almost a quarter of White House history summarily dismissed in seven pages.

Did I learn anything from this reading? James Madison gave a speech in 1818 urging that "[man] must learn to work within the constrictions of the natural world, not act as though he was lord over it." John Quincy Adams planted a collection of American trees and experimented endlessly (apparently as a diversion from a disappointing presidency and marriage) with growing trees from seed. The plan completed for FDR by Frederick Law Olmsted, Jr., remains the framework for the White House grounds to date.

The book might be most satisfying to a verbal person, not a visual one—nearly all of the description about physical elements is in words, not maps or photos. Most of the photos and drawings that do appear are not clear as to content, and the captions, some of which are not even next to the picture, don't help much with information. It is possible that the author forgets that we are not all intimately familiar with D.C. Actually, even a verbal person will object to the graceless language, the dangling participles, and the poorly organized research of history. As if the content were not enough to condemn it, the binding is cheap, and the pages will probably fall out.

*If you are any good at deduction, you will have figured out that Reviewer Ruth Parnall is 48 years old. She is a landscape architect and a WINR editor.*

HOW DO SCS MANAGERS APPROACH SPECIFIC PROJECTS THAT REQUIRE DIFFERENT KINDS OF EXPERTISE? THIS MANAGER DESCRIBES HOW THREE PROBLEMS ARE ADDRESSED IN SONOMA VALLEY CALIFORNIA.

# HILLSIDE WINE GRAPE PRODUCTION

LISA WOO SHANKS

## Background

The two most famous wine producing regions in California are found in the Napa and Sonoma Valleys. These parallel valleys are surrounded by volcanic mountains 2000 feet in elevation, their watersheds draining into San Francisco Bay. Sonoma Valley, where I work for the Soil Conservation Service, is the western-most of the two, 20 miles long, compared to the Napa Valley's 35 mile length. Volcanic and alluvial soils and the Mediterranean climate allow premium wine grapes to flourish here.

Six thousand acres of vineyards are planted in Sonoma Valley, including 3000 acres designated as critical with 10 percent slope or greater. Wine grape production has steadily increased in recent years so grape growers have moved to the hillsides because valley land is already in production.

As development of new vineyards on steep hillsides has escalated, serious soil erosion problems result because the farming practices used on valley vineyards followed. Traditional cultivation of vineyards by disking several times a year left the slopes open to soil erosion from winter rains.

In addition to erosion, the grape growers brought with them to the hills traditional foes, the pests. One of them has not yielded to modern technology, spelling doom to vast acreages of vines.

## PROBLEM ONE: EROSION

One potential solution to the vineyard erosion problem was to change management practices and use a grass cover crop which is mowed, instead of cultivating the land. I had started my vineyard work with the Napa County Resource Conservation District (RCD) and was hired to research the subject and write a booklet on "Developing A Hillside Vineyard." Consequently, by 1982, the use of cover crops in a no-till management system began at a few vineyards in Napa Valley.

A program to introduce cover crop management with demonstration plantings was necessary to introduce Sonoma Valley grape growers to this management practice. I was hired for this purpose and started work with the Soil Conservation Service covering Sonoma Valley soon after completing the publication.

The Sonoma Valley Resource Conservation District (an elected Special District of State Government consisting of local farmers and landowners) provided \$12,000 in funding for seed and fertilizer for demonstration plantings.

## Introducing new technology

We started with a list of 150 winegrape growers in Sonoma Valley and a letter of intent was sent to each one. We received an overwhelming response—over 50 replies were received, and of those, 60 percent were interested in participating in the voluntary program. The other 40 percent wanted to be informed of the results. Vineyards were selected to cover a variety of conditions such as soil type, slope, aspect, and geographical distribution of plantings throughout the valley. We initiated a three year program to work with nine growers per year.

As we looked at the program, it appeared that the benefits of a cover crop were:

- Erosion control. Grape growers often want to plant vines up and down the slope for a number of reasons: ease of farming, to compensate for uneven topography, me-

chanical harvesting, wind direction, or sun direction. A permanent cover crop is the most effective way to minimize sheet and rill erosion on steep vineyard slopes.

- Increased water penetration. Soils are compacted in conventionally tilled vineyards.
- Reduced tillage requirements. Gas and time savings.
- Increased infiltration. Residue helps maintain organic matter in soil, which increases infiltration.

- Dust reduction. Spider mites are associated with dust laden leaves.

- Insect control. Cover crops harbor beneficial insect predators.

- Earlier vineyard access in winter months, due to less mud.

There were some disadvantages as well:

- Increased water use. Cover crops use soil moisture in the top 18 inches of the soil profile. The cover crop competes for water with new vineyard plantings.

- Weeds. Use of chemicals may be needed to control weeds.

- Pests. Rodents may live in cover crop.

## Grasses and legumes

Early maturing annual grasses were needed for a cover crop. Annuals are preferred because they set seed early in the spring. The annual grasses are mowed after they have set seed, and the dense, dead thatch protects soil from late season rains and fall rains. Perennial grasses would compete with the grape vines during the grape growing season. (Perennial grasses are used in certain conditions, when competition with the vines is wanted.)

We considered several grasses and legumes which had to grow well on different soil types. Zorro annual fescue and rose clover grow well in rocky, relatively infertile soil. Blando brome competes well in a seed mixture with other annuals on more fertile sites. Soil type, fertility, aspect, and slope were all factors to consider when choosing a seed mixture for a specific site.

The two primary grasses we selected for erosion control are Zorro annual fescue and Blando brome. Zorro annual fescue (*Vulpia myuros*) is an aggressive, early maturing,



Shanks with vines in background



drought tolerant grass that will persist and provide good erosion control cover. It tolerates highly acid soils and grows on low fertility and shallow soils. Zorro annual fescue also has an excellent fibrous root system that provides soil stabilization. Because it is a low growing grass, about 15" high, it allows better air drainage around the vine (so there is less frost damage to vines) and produces less residue.

Blando brome (*Bromus mollis*) has strong seedling vigor and has outstanding reseeding ability. It grows to 24 inches. The seed germinates more quickly than Zorro annual fescue, so Blando brome is often planted in a mixture to provide quick cover.

Rose clover (*Trifolium hirtum*), an annual reseeding legume is used as a cover crop where a low-growing, low-volume, self-perpetuating legume is desired. Annual legumes supply nitrogen. The taproot system of clovers do not bind the soil together, so rose clover is used in addition to annual grasses in a mixture. Hykon rose clover is the earliest maturing variety, so it was used.

Five seeding recommendations were developed to cover a variety of sites. Soil type, soil depth, soil fertility, and weed competition were all taken into consideration when a recommendation was made. The Resource Conservation District purchased seed and fertilizer from local businesses for the demonstration plantings. The average cost in 1985 was \$100/acre for seed, and \$50/ac for fertilizer for three to five acre demonstration sites.

#### Preparation and planting

The optimal time to plant in the Sonoma Valley is before the winter rains, before mid-October. After mid-October, the temperature drops, and rainfall increases having a great effect on cover crop growth. The plantings that were done in late October lagged far behind those planted earlier in the month.

Each vineyardist had assistance from the SCS in calibrating the seed. We developed a seeding sheet for each grape grower listing the number of seeds per square foot to aid in calibration.

The seedbed was prepared by disking, to reduce competition from weeds, and then three methods of seeding were used for this project. Those grape growers who had a tractor with a 3-point hitch used a Brillion seeder. Machine broadcasting was done by vineyardists who had a tractor with a power take off and hand broadcasting was done when machinery was not available. (Hand broadcasting is fine for small acreages, but is very time consuming when done on a large scale.)

The Brillion seeder has a roller attached that covers the seed. If broadcasting by any other method, a separate pass over the seedbed was made to cover the seed with a

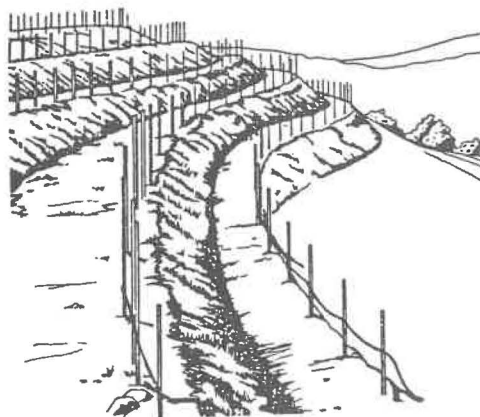
harrow, roller, or by dragging (tires, chain, etc.) for good establishment.

SCS recommended fertilizing at the time of seeding to help the cover crop grow quickly during the fall months: 16-20-0 or calcium nitrate. The recommended rate was 300 lb/ac. The 16-20-0 makes the soil more acid if used over a long period of time. Conversely, the calcium nitrate will react with the soil to become more alkaline. Most Sonoma Valley soils are naturally acidic, so a calcium nitrate fertilizer is generally preferred to produce more neutral soil reaction.

Normally, grasses grow slowly during the winter. Winter temperatures are too low to permit bacterial action which decomposes and mineralizes soil organic matter, thus releasing plant nutrients. Tests on rangeland have clearly demonstrated that supplemental nitrogen stimulates early and continued winter growth of annual grasses. Grass responds to nitrogen, even during the cold season when little growth would normally be expected.

#### Life cycle of grasses and clovers

Annual grasses and clovers have a one year life cycle. The grape grower needed to understand the plant life cycle in order to maintain the cover crop. Most importantly, the vineyardist must know when to mow, and when not to mow. Zorro annual fescue matures in May. Mowing is done later in the year than spring disking. Many growers were ready to mow their vineyard before the seed was mature. The cover crop can be mowed only before the seedhead has developed or after the seedhead has matured. When desired seedheads of the cover crop are developing, growers will damage them if they mow. Worse, if seedheads are cut off before the seed is mature, the seed source for next year's cover crop is destroyed. The seeded rate is about 12 lb/ac. When a good grass stand has established and gone to seed, there can be over 200 lb/ac of seed released for next years stand. An easy way to determine if the cover crop seed is ready is when the Zorro annual fescue seedhead turns reddish-brown.



Often, the reason growers want to mow too early is in order to eliminate the flowers of filaree, cheeseweed, mustard, and other annuals. Broadleaf weeds will grow in the vineyard when there is moisture in the soil but may be controlled by mowing at appropriate times or by spot spraying.

#### Successful technology transfer

The majority of the grape growers have kept their cover crop and have expanded this practice to other portions of their vineyards. Nine out of ten growers have changed their vineyard farming practices due to this demonstration planting.

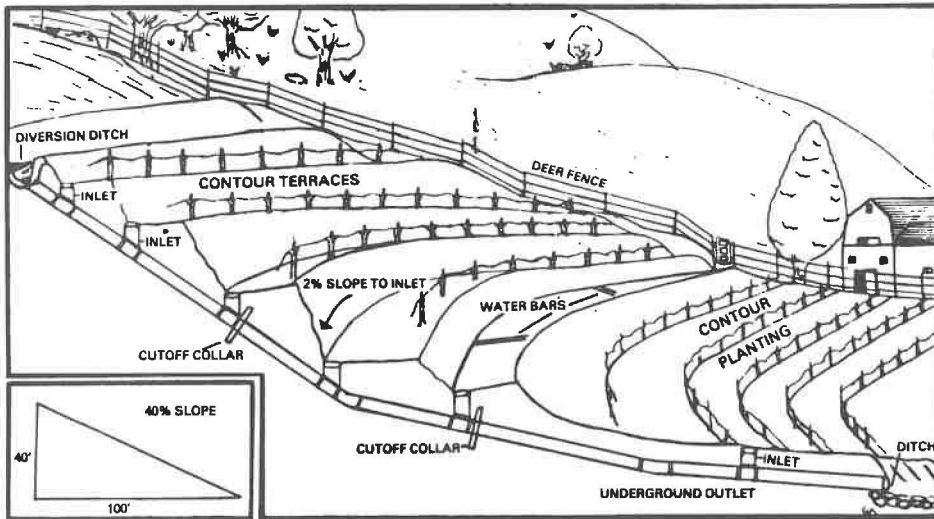
#### PROBLEM TWO: PHYLLOXERA THREATS TO THE FUTURE OF GRAPES

The plant aphid, Phylloxera (*Dactylasphaera vitifoliae*), is known throughout the world because of its destruction of vineyards. Phylloxera was introduced into California vineyards in the late 1850s, and by 1878 plantings in Sonoma Valley were destroyed by this underground insect that feeds by sucking the roots of the vine. This soil pest of the grape is largely controlled by the use of resistant rootstock.

A newly identified insect, Phylloxera B, is currently attacking grape vines in Sonoma Valley. Rootstocks have been developed to combat phylloxera, but type B is either a new mutated strain that has developed, or it is a strain that has been introduced from another part of the world. Many vines are planted on AXR1 rootstock, which is susceptible to this new strain of phylloxera.

As a consequence, many vineyardists are developing a five-year replanting plan for their grape vines. Within the next 10 years, predictions are that most of the vineyards on AXR1 rootstock will need to be replanted and the negative effects of these concentrated





efforts could have extreme impacts on erosion and sedimentation in Sonoma Creek.

Redevelopment of hillside vineyards means ripping out the vines, leveling the land, ripping and cross-ripping the soil three feet deep, fumigating, regrading, and possibly terracing. Frequently, in this kind of scenario, 150 tons of soil is lost per acre where no protection measures are used. Once management measures are installed, however, soil loss is brought to much lower levels.

The Southern Sonoma County Resource Conservation District has received (1992) preliminary approval for a \$33,333 project funded by the San Francisco Estuary program to provide technical assistance to growers. A detailed work plan is being developed for the first phase of the project. The principal tasks are establishing an inventory of all vineyards within the watershed, classifying vineyards according to slope and soil erodibility, providing site specific advice on vineyard layout and cultivation patterns, and providing workshops and fact sheets. An advisory committee will be established composed

of people drawn from agencies and organizations who have technical expertise in vineyard and environmental matters. I will be a committee member and also advise the Project Manager and technical staff.

### PROBLEM THREE: VOLES

One vineyard was losing over 100 vines per year to meadow voles (*Microtus pennsylvanicus*). The voles were eating the bark, thus girdling and killing the vines. A natural control was suggested, and one vineyard manager, Dennis Bowker, set up raptor roosts 16 to 20 feet high, then disked a sixteen foot wide swath around the perimeter of the vineyard. By keeping the perimeter of the vineyard disked, raptors were provided with easy hunting grounds—no grass to obscure their sight. During the next two years, only five plants per year were lost.

The owls and hawks normally prey on rodents but the native oak and other nearby trees are usually too bushy or too dense to provide good hunting roosts. Placement of artificial roosts encourages the raptors to hunt in the vineyards. My role here was to

provide the workable concept to growers and SCS developed a fact sheet which included the plans on how to build raptor roosts.

### Conclusion

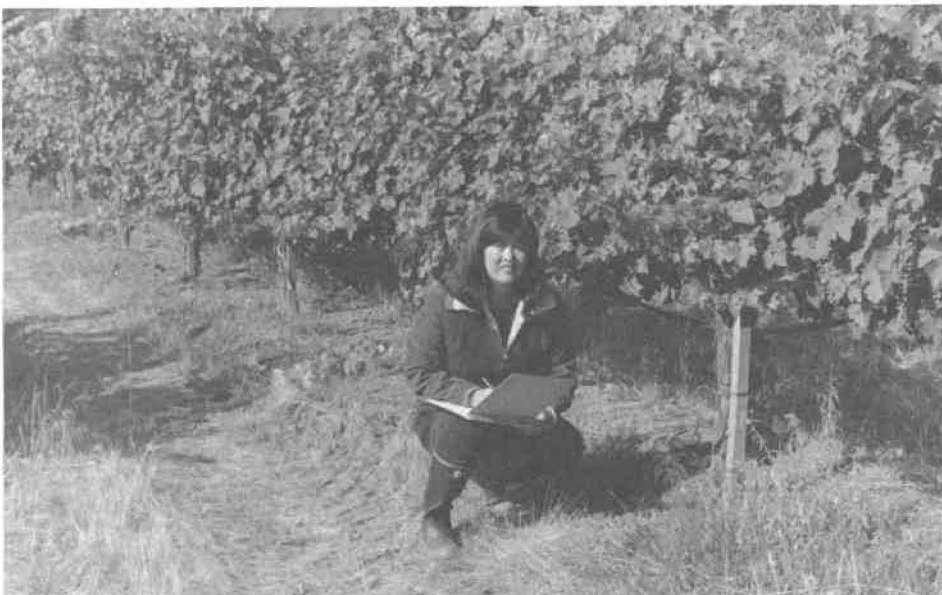
The use of cover crops and no-till on hillside vineyards has become an accepted practice in Sonoma Valley. Cover crops have been successful at reducing soil erosion, thus protecting the productivity of the soil as well as gaining downstream benefits of improved water quality.

The problem of meadow voles killing vines has been addressed with a biological control using hawks and other birds of prey. The construction of artificial roosts encourages raptor feeding forays.

The current threat to vineyards is caused by a tiny but devastating insect. The stability of the slopes is imperiled by the root louse phylloxera. Vineyard managers must reacquaint themselves with measures to control soil loss while replanting vineyards. The Southern Sonoma County Resource Conservation District is addressing the issue by obtaining funding to provide technical assistance to the growers. Through educational efforts, the hills can be redeveloped with a minimal impact to the environment.

Widespread demonstration plantings, one-on-one assistance to vineyard managers, educational efforts in the form of classes and workshops, and articles in newspapers and trade journals all have helped to establish a new way of vineyard management.

Lisa Woo Shanks is District Conservationist for the USDA Soil Conservation Service covering Marin and southern Sonoma Counties in California. In addition to vineyards, she works with dairy farmers and livestock producers. Her Bachelor's is from Humboldt State University in Natural Resource Planning and Interpretation. She has written "Developing A Hillside Vineyard," and also edited two books, The North American Indian Travel Guide, and Guardians of the Golden Gate: Lighthouses and Lifeboat Stations of San Francisco Bay.



PICTURE THIS: YOU'RE A NEW MANAGER, A FEMALE IN A NON-TRADITIONAL CAREER AND HIGHLY VISIBLE. WOULDN'T YOU FEEL DRIVEN TO SUCCEED?

## REFORMED TYPE A

TERESAH A. PONDRS



My confidence was so high in myself in May 1987, that I accepted a detail as an acting District Conservationist with barely two and one half years experience with SCS. Before accepting the assignment, I had a long conversation with myself—should I, shouldn't I, can I, what if, how? After this discussion, it was understood that I *would succeed* in this position; not only succeed, but excel. Being a Type-A personality all my life would serve me well again, I told myself. After putting my furniture in storage and filling out a forwarding order with the local post office, I reported for duty in Tylertown, Mississippi on the Louisiana state line.

Of course *how* to excel was unclear at the time, but that didn't slow me down. I came out of the gate at a dead run. Many times it was very much like a horse race. I was running fast with my blinders on so nothing could distract me. That part was easy since my family was six hours distant and my nearest friend a good one and a half hours away.

The Tylertown field office had one full-time employee (me) and a part-time clerk. This was a big change for me because the office I transferred from had three full-time employees—colleagues to discuss problems with. At that previous office in Alcorn County, Mississippi (population 30,000), we worked with a lot of row crop farmers assisting them with terraces, overfall pipes, no-till, ponds, and watershed work. Roughly 20 percent of the land area in that county was cropland and row crop farming was the major type of farm industry: there were over 1,700 farm units in the district.

The soil types farmed most in the county were sandy loam and sandy clay loam soils. There was also a lot of pine and mixed hardwood acreage.

The workload in my new assignment was very different, because I had replaced row crop farming with dairy farming and the

advent of the 1985 farm bill brought in many highly erodible land determination requests. We also had heavy participation in the Conservation Reserve Program signups.

I became the permanent DC after three months and like many other new managers, I set out to change the world. Each new program was a personal challenge and I meant to excel. So, from day one, busy was my middle name. In addition to my normal duties as District Conservationist and farm planner, I had to learn people's names and how to get from one place to another in Walthall county where the Tylertown office (population 2,000) was located. There were, however, a number of factors working against even a driven personality like mine. I was brand new at being a district conservationist; I had only two and one half years experience with SCS; I was only the third female DC in the state and the first in Walthall County. My part-time clerk had less than one year's experience and I had no full time technician to assist me with our engineering work. I really felt overwhelmed.

Many people just looked me up to check out the new girl. Sometimes it seemed I was on public display. Looking back now, I see that I was. Since there were only two other women District Conservationists in Mississippi out of a total of 81 district conservationists, I always had lots of visibility. I didn't say I wanted it or asked for it, but I certainly had it.

For the first three years I had this position, mistakes were not acceptable to me, any mistakes. Somewhere around the third year, after lots of antacid, I began to relax a

bit. Reality crept in and it said: "You don't have to be perfect to be good. Life is a lot more enjoyable when you work hard without worrying hard." This change in attitude really helped. Something else that happened was that my roots stretched deeper into the county and I began to love the area.

Walthall County is very rural with only one incorporated town, relatively unspoiled, a good place for raising families. The county's population is 14,350 living on 404 square miles of piney woods soils. The dairy industry is the largest source of agricultural income with 93 grade A dairies. SCS has become increasingly involved in water quality work, and mostly by developing waste storage and utilization plans for dairy farmers. We are also involved in the permitting procedure farmers must follow to get an operating permit from our state's office of pollution control. In recent months Walthall county was allocated \$190,000 through the local ASCS office to help take care of water quality problems in the Bogue Chitto Watershed.

There are also row crops, beef cattle, lots of tree farms, and truck crops. Our farms here are family farms averaging around 150 acres in size. Since coming to Walthall County I have seen nearly every one of our soybean farmers change crops or go under. There are, however, people farming in Walthall county who make a good income. It is not, I repeat, not easy to do, however. The farmers "making it" work very long hours, are good managers, and have a relatively light debt load. One farming enterprise in particular, dairying, requires long hours and is confining as well.

I came to know the long hours and hard work because in January 1989, David Caire, dairy farmer, widower, and father of James and Jason, became my husband. My husband is a businessman first and foremost, but he is also a farmer, electrician,

continued on page 36

WOMEN IN NATURAL RESOURCES 25

BEING COMFORTABLE IN YOUR JOB, HAVING CONFIDENCE IN YOURSELF AND YOUR CAREER, ISN'T EASY FOR SOME. FOR THIS ALABAMA DC, IT IS.

# FAMILY VALUES AND CAREER IN TUNE

SYLVIA LONG

Reflections on "from whence I cometh" inevitably take me back to the land, to my heritage. In the 1880s, my ancestors migrated from Henry County, Alabama to the "Dunwoody Plantation" in Jackson County, Florida. This plantation was located near the Appalachianicola River and Lake Seminole.

By 1900, my great-great grandfather and uncle purchased their first 80 acres of land; they used a spotted horse and a buggy as collateral. Being the determined and committed individuals that they were, this was their first step in attaining their goal of becoming owners and farmers of the land.

Their lifestyles were basic and family oriented. My grandfather's original house was constructed of the green pine that grew on the land. It was of shotgun architectural style and consisted of 2500 square feet. It also had fireplaces in every room with the exception of the kitchen, which had a woodburning stove.

The water supply came from a shallow well, which was later upgraded to a deep-water hand pump. Eight years ago, early one spring, as I watched, a coral snake slithered out of a pile of brush near that old pump site. Time stood still momentarily as I experienced "flash backs" of my childhood. This experience caused me to recall vaguely many of my

summers that were spent in this rural setting, visiting as a city-child. Among these memories were the times my grandfather pumped tubs and tubs of water for our baths. His pumping also provided my first realistic encounter in determining from where the water we utilize really comes.

The original 80 acres as well as additional land acquired over the years still remain in the family. Being the family oriented individual that I am, my first instinct was to preserve the remnants of my rich rural heritage even though I was raised in an urban setting. In fact, over a period of seven years, I restored, refurbished, and preserved the remnants of the homesite. Adjusting and adapting to this environment also served as a needed catharsis for me at the time.

Southwest Forest Industries Properties (a pine production and management company) woodlands surrounds the home site on two sides. Regenerated pine and hardwoods, pasture, and a county road joins from the third side. A natural pond (25 acres) that we fondly refer to as "the lake" circles around from the center of the pasture through the remaining side of the property. Century-old live oaks and pecan trees as well as clumps of fruit trees drape an open two-acre landscape.

A terrible hurricane and the resulting flooding in 1983 created many changes. A 200-year-old oak and the old cedar rail fence were displaced. The old farm implements of an era past were twisted apart forever. The barn,



the old corn crib and buggy were damaged beyond restoration. The quarter-mile access road to my ancestral setting was impassible as the result of flooding so a new route had to be cut. (The new road proved to be the original road "down to the mailbox" used until 1938.)

Later, after the noise of the hurricane wind had died down and the first emergency measures had been taken, a different type of noise drew my attention to the living room window where I saw the most magnificent sight: a bird—an Ivory-Billed Woodpecker—an extinct woodpecker specie. It was perched about 50 feet up a decaying tree at the outer perimeter of the yard. Although I have had to defend the sighting, *I know what I saw*. I have also seen panthers streaking through this habitat, an Eastern coachwhip snake raised to the height of a pickup truck, and 27 diamond-back rattlers coming from the same burrow. I have found 102 arrowheads and points at the same site. It doesn't matter much anymore whether the experts believe me or not, *I know what I saw*.

The current status of the property is that it is an historic wildlife habitat. Since 1983, my uncle has managed it that way. It has outstanding and diversified wildlife resources because of its undeveloped character. Philosophically, our family agrees with Pope John Paul II's statement on the subject of land stewardship: "The land must be conserved with care since it is intended to be fruitful for generation upon generation... You are stewards of some of the most important resources God has given the world. Therefore conserve the land well, so that your children's children and generations after them will inherit an even richer land than was entrusted to them."

In choosing my career, that philosophy and my interest in preserving my own heritage brought me to the Soil Conservation Service. I started as a temporary part-time employee (WAE) in

Marianna, Florida in December 1979, after completing studies in Engineering Drafting. Two years later, as a soil conservation technician, my primary responsibilities were to assist in the application of conservation practices, largely for erosion and sediment control on cropland.

Having grown up in south Florida, I was not aware of the problems associated with erosion; however, when I moved to north Florida, I saw erosion in progress along road banks, the edges of fields, and cleared lands converted to cultivation. Although soil erosion is natural, human actions accelerate erosion to severe problem levels. It is my firm belief that we must not utilize land beyond its capability to sustain itself, and SCS works hard to supply information so that those limits are known.

Though my career as a soil conservation technician was most gratifying and productive, determining feasibility and applying conservation treatment was not enough for me—I wanted to impact adequately on the problems we face as an agency. At Florida Agricultural and Mechanical University I completed course requirements for conversion to the professional Soil Conservationist Series. In order to achieve this objective, I applied competitively and was selected for the SCS Upward Mobility Program.

My primary job responsibilities entail conservation planning. I believe very strongly that as an agency we cannot be effective in arriving at conservation decisions nor sell these decisions to the public if we do not possess the skills to take environmental concerns into consideration along with our conservation planning efforts. Therefore, to encourage decisionmakers (landowners and users) toward soil and water conservation, it is imperative that we provide for them a *total* picture. In my view, the treatment should be adequate: its benefits and cost effects portrayed, social and economic factors displayed, and

above all, its environmental effects—both on-site and off-site—proven.

The basic foundation of my history—with my career added—continues to provide me with a rationale for functioning. Challenges are welcomed, because they foster the opportunity to apply expertise and achieve results. I never forget the naysayers though, nor to tell myself *I know what I saw* is to love who I am and what I do. I enjoy what I experience.

As my career journeys from one perspective to another, it seems so brief and falls so short of what I intend for it to be. Then from another view, my career life appears seamless with my family's life and full of assignments that are missions accomplished. I feel blessed to have an ancestral linkage that compliments my career aspirations.

*Sylvia Long is District Conservationist in SCS's Union Springs, Alabama office. She has worked for SCS since 1979 and before her recent promotion to DC, was a Soil Conservationist in Montgomery. Previous to that she worked in Monticello, Graceville, Palmetto, and Marianna, Florida. Over the course of years, Long has earned several awards and published several articles with SCS. Her Engineering Drafting degree is from Chipola Junior College, Marianna, Florida and her coursework in Horticultural Science is from Florida A & M University, Tallahassee.*

# ELESA COTTRELL

AN INTERVIEW BY DOROTHY ABBOTT- DONNELLY

**WiNR:** What is your position in the Soil Conservation Service and how far up the "ladder" is that? Are there many women holding this position in the Service?

**Cottrell:** I'm the State Conservationist for Delaware. I serve as the executive director of all USDA, Soil Conservation Service programs within Delaware. Each state, including the Caribbean and Pacific Basin, is headed by a State Conservationist.

There are two of us who are women—Dawn Genes of New Hampshire is the other. We also have a female Director, Joan Perry, in a comparable position for the Pacific Basin.

The State Conservationist position is the "top of the ladder" for field positions. I report directly to the Chief of the agency through his Assistant for the Northeast.

**WiNR:** How long have you worked for the agency? Was your ascent through the ranks done in the traditional way?

**Cottrell:** I have worked for the Soil Conservation Service for 18 years in numerous occupations. And my career pattern has followed what most would consider the traditional way. I started working for the Service as a student trainee while attending Oklahoma State University. After I graduated, I worked first in Arkansas where I was a Soil Conservationist in a field office. Then I was a District Conservationist, responsible for the staff and field office programs in another location in Arkansas. Next, I took a position in Maryland, working as the Resource Conservation and Development Coordinator with co-lateral responsibility as the SCS Federal Women's Program Manager for the state. After two and a half years in this position, I became the Assistant State Conservationist for Field Office Production for Maryland. In 1989 I became the State Conservationist for Delaware. So I moved around some as I was being promoted and that is typical.

**WiNR:** What is SCS's mandate? Describe the work it is tasked to do and how that has changed over the years.

**Cottrell:** The mission of the Soil Conservation Service is to provide leadership and administer programs to help people conserve, improve, and sustain our natural resources and environment. We help individuals, organizations, cities and towns, and county and state governments reduce the costly waste of land and water resources and put these national assets to good use. We also work towards building coalitions and voluntary partnerships with

other natural resource agencies to find the best solutions for soil and water conservation. We are not unlike the Park Service, the Forest Service, BLM, and US Fish and Wildlife Service in that regard. Most of our clients, however, are not users of public lands like theirs are. Ours for the most part are private landowners.

**WiNR:** Some of the legislation of the 80s moved the agency in new directions. Can you describe those?

**Cottrell:** Historically, we were an agency created out of the 1930's dust bowl disaster to concentrate efforts on helping farmers and ranchers control wind and water erosion. Recent changes in national legislation, the 1985 Farm Bill and Food, Agriculture, Conservation, and Trade Act of 1990, changed somewhat our relationships with the local agriculture and urban communities. We have become a stronger advocate for our traditional work of assisting these communities conserve soil and water, and moved into natural resource surveys, and community resource protection and management. Water quality improvements, whether ground or surface water, is a major and vital component of our outreach programs. The help SCS provides is technical and in some cases financial.

**WiNR:** So we're not talking mainly western or midwestern farm and ranch concerns?

**Cottrell:** No, we are all over the country, in every state. We also provide technical assistance to other countries. We have SCS employees stationed or on technical exchanges in some 40 foreign countries. I am going to the United Kingdom soon, for example, for a scientific and technical exchange regarding water quality on farmlands. But our main focus is on non-Federal U.S. lands and we work through some 3,000 offices throughout the nation supporting the local community. Our staff come from a wide variety of professions: soil conservationists, engineers, soil scientists, agronomists, biologists, economists, foresters, geologists, landscape architects, plant material specialists, public affairs specialists, cartographers, environmental specialists, recreation specialists, social scientists, and archeologists. The first two listed—soil conservationists and engineers—are probably our two largest professional hiring specialties.

**WiNR:** Tell us something of your early life and education and how that made you interested in doing the work you are doing now. Was your education traditional for SCS?

**Cottrell:** When asked how long I've been with the Soil Conservation Service, I can honestly say, all my life. My father worked for the Service so I was an

INTERVIEW

"agency brat." In order to climb the SCS career ladder he had to be very mobile, so I was raised all over west Texas. In 1968 we transferred to Indiana where I attended high school and Ball State University. Although we never lived on a farm, my parents always had rural property or "the farm" where we'd spend weekends and summers camping, fishing, and gardening. That background and interest directed me to major in natural resources.

After spending my first college summer dipping ice cream and working in a steak house, I decided to look around for a summer job that was more closely related to my field of study. The Soil Conservation Service student trainee program afforded me that opportunity and gave me a push in the agency's direction. After two years at Ball State University, I transferred to Oklahoma State University where I majored in horticulture and landscape design. This was not the "traditional" field of study for a soil conservationist, but that background allowed me to fill a new niche within the agency. In the early 70's the Service was beginning to direct some of its focus towards urban conservation concerns, such as erosion and sediment control on construction sites, storm water management, and conservation education. My college background allowed me to move with that new focus.

WINR: How large is SCS nationwide and where does it fall in rank in employees and budgets in the USDA? How large is SCS in your own state?

Cottrell: USDA has approximately 111,000 full time equivalents. SCS has 12,836 of those employees. The Soil Conservation Service staff in Delaware where I work totals 38 employees. For fiscal year 1992 (October 1, 1991 to September 30, 1992) USDA's budget is approximately \$60 billion, and of that, SCS received about \$848 million. Here in Delaware, my budget is approximately \$2 million, or .2 of one percent of the whole agency's budget.

WINR: Are you experiencing fluctuations in your budget due to program cutting or program expansion? Which programs are going which way? Who determines your state's budget?

Cottrell: Many factors influence the budgeting process, including new initiatives such as water quality special projects. Each year each state submits a budget proposal to our national office, much of which is tied to Long Range Plans for soil surveys and watershed planning activities. Allocations are made to the states based on congressional appropriations and the agency's priorities for that fiscal year. Mandates of the Food Security Act of 1985 and the Food, Agriculture, Conservation, and Trade Act of 1990 *redirected* funds to those states with the greatest workloads—those states with the most highly erodible farmland, for example. Delaware has benefited most from new water quality initiatives.

WINR: What are your "core" programs which clients expect you to deliver in your state?

Cottrell: For the last three to five years the focus of conservation programs in Delaware has been and remains water quality. There is intense use of our water resources, and the entire state is covered by one of three national estuary projects: the Delaware Bay Estuary Program, the Inland Bay Estuary Program, and the Chesapeake Bay. SCS is funding about \$3.2 million into the Indian River Watershed, part of the Inland Bays. The watershed covers some 117,000 acres, and through the project, landowners are receiving technical and financial assistance to install water control structures, manure management systems, and poultry carcass composters. The project also includes working with farmers and landowners in the areas of wetland management, putting in buffer strips, and planting trees.

Water quality projects have been part of Delaware's conservation efforts since the mid 1950s, but the approach has changed. In addition to large-scale projects like the Indian River Watershed project that target specific areas, there are numerous on-the-farm practices that address the issue of water quality. These include putting in sediment ponds, grassed waterways, and enhancing wildlife areas. Water control structures are being retro-fitted in previously created drainage ditches so that farmers can raise or lower the water levels at different times of the year. Conservation plans are now incorporating nutrient and pest management.

WINR: But not every state is like Delaware. How do the programs vary across the country?

Cottrell: They vary widely, but let me use Delaware again as an example of why they vary. The poultry industry is king in Delaware and many of the environmental concerns associated with that industry dominate our program. Delaware has been credited with the first commercial broiler production facility in the nation beginning in 1923. The industry topped 210 million birds produced last year (1991) in Sussex County, Delaware. Broilers are the backbone of the agricultural economy and account for approximately 63 percent of the cash farm income in the state. By-products of the broiler industry, along with the alluvial nature of the soil and a high water table, compound water quality problems and that's where a significant percent of our effort is directed.

When one looks at the national picture, however, one sees that SCS programs are as diverse as the states across the nation. The topography, climate, crop varieties, types of livestock, timber production, water supply, and local economic needs all influence the type of programs pro-

*Elesa Cottrell  
is SCS's  
State  
Conservationist  
for  
Delaware,  
one of two  
women in  
that position  
nationwide.  
She has  
worked for  
SCS for  
18 years.*





vided in that locale. SCS programs are largely under local control and extend from natural resource surveys to soil and water conservation efforts affecting cropland, pasture land, rangeland, woodlands, fish and wildlife, environmental education, recreation, and plant materials.

In Arkansas, for example, I worked closely with rice and soybean producers, catfish farmers, and forest products interests. In Maryland, the programs I was more involved with included the resource conservation and development program (RC&D). RC&D is the rural development initiative of USDA. One of our projects demonstrated, tested, and evaluated the "saw-dry-rip" method of hardwood construction lumber production. The idea was to quickly saw low grade hardwood logs into four to eight-inch-thick round-edge boards, called flitches. They are dried at high temperatures equalizing the internal stresses which cause warpage ordinarily, then sawed into 2x4s, 2 x 6s and others. The program was created so that local citizens could develop a hardwood lumber processing plant to utilize these grade 4 logs and sell them to local mills.

**WiNR:** Describe the hierarchical arrangement of SCS. And in Delaware particularly.

**Cottrell:** SCS has almost 3,000 field offices throughout the nation typically headed by District Conservationists. Delaware has three field offices. In larger states those field offices are grouped by geographical regions and the District Conservationists report to an Area Conservationist, who in turn reports to the State Conservationist. Smaller states, such as Delaware, do not have Areas. Our District Conservationists report to our Deputy State Conservationist, who then reports directly to me. All members of the principal staff also report directly to me.

This structure varies from state to state, but the line officer arrangement of District Conservationists, to Area Conservationists, to State Conservationists, to the Chief is standard throughout.

**WiNR:** Are you constrained in any way from interacting with state or federal legislators? Is it in your best interest to be visible to them?

**Cottrell:** I interact quite frequently with those individuals involved in our political arena. It is a very important responsibility of my position. I work with the congressional delegation and their staffs keeping them informed as to the status of programs, the status of legislative implementation, and the impact of proposed legislation. One way I keep both state and federal delegations informed of agency activities which might impact their constituents is through our bi-monthly newsletter titled, "Congressional Notes." In addition I work hard to establish and maintain personal relationships with state representatives of potential coalition partners such as the Farm Bureau, Organization of Farm Councils, and others.

**WiNR:** Does SCS have the usual problems associated with the dichotomies between professional positions and technicians' positions? How do you handle the ceilings created as experienced people try to move up or sideways?

**Cottrell:** Our soil conservation technician position usually caps at the GS-7 level. I have seen the frustration you refer to created when individuals in those positions become the trainers for new Soil Conservationists and District Conservationists who are at a much higher grade even at the entry level.

Technicians perform valuable work and many of them do the jobs of professionals but are not qualified academically to be promoted into managerial positions. We try to provide our employees with a clear understanding of the educational requirements for each position so that misunderstandings about how far up one can go are avoided.

We also utilize numerous career enhancement programs to allow as much flexibility and upward mobility as possible. One

person I know, Rhonda Hazzard, for example, started with us as a part-time clerk-typist, became a secretary, served as the state's Federal Women's Program Manager, then took an upward mobility position as an administrative assistant. She took business courses for long periods of time with SCS's blessing and at times they provided funding for them. She is now a contracting officer, intends to become a state administrative officer, and to that end is continuing her training.

Another example is Jeff Tenley who started with SCS in 1988 while he was in the Air Force, and at the same time was working on an AAS program in Architectural Engineering. SCS hired him as a co-op education employee, paid for some of his courses toward a Bachelor's after he finished the associate degree, and he will probably stay on with us as an engineer after he finishes. These programs aren't for everyone, but if there is talent and a real desire to get ahead, the agency looks around for ways to assist. We know they work, and I know they work because I started in one of them myself as a student trainee.

**WiNR:** Is SCS moving people around as much as they used to?

**Cottrell:** Not as much, but mobility is becoming a limiting factor for many of our employees who have dual career considerations. When my Dad worked for the agency, we moved 11 times in 20 years. Relocation was also our own family's expense at that time. Today, of course, relocation services are available and mobility requirements are not as strong a factor in opportunities for advancement. But we're aware that the inability or lack of interest in uprooting a family in itself can create a ceiling. In some cases we have been successful in job placement for both working members, but it isn't easy.

**WiNR:** You've won several prestigious awards over the years, including being selected one of ten outstanding young women in America. Since there were 15,000 entries, it must have been for rapid advance up the management ladder. What is your management style?

**Cottrell:** I think most people develop their management style through trial and error, and by following models. Through the years I've made a mental note of those styles that I saw fail miserably and I've tried to learn from that. It's important to treat people with respect. Most employees want to do their best and be part of the team. It's vital to give them the opportunity to participate in the decision making process—to the fullest extent possible. We have begun to implement

## MINORITIES

- 1% Native American Female
- 2% Native American Male
- .5% Asian Female
- .5% Asian Male
- 1% Hispanic Female
- 2% Hispanic Male
- 2% Black Female
- 5% Black Male

December 1991



total quality management training within SCS and I think it's great. All employees in Delaware have received training and we are seeing some positive results.

In a nutshell, TQM focuses on customer satisfaction. We think of it as a strategic, integrated management philosophy requiring that all of us think about continuous improvement, preventing problems, measuring and monitoring what we do, being open during decision making, doing things right the first time. Being a good manager means getting to know your people and learning what works in different situations.

**WNR:** Do you have a sense of how SCS is doing in hiring women and minorities for mid- and top-level positions? In which jobs and grades?

**Cottrell:** Well, I had to have help locating the data, but here it is: as of March 1992 the total SCS workforce numbered 12,836 employees. Females comprised 24.4 percent or 3,136 of the total workforce. Professional positions (e.g. soil conservationists, engineers, soil scientists) totaled 7,792 staff of which 12 percent of those are female. Of this 12 percent, 851 employees are white and 41 black. (Black male professionals are fully represented at all grade levels, but we lack hispanic and asian employees, both male and female, in all categories.) Administrative positions (personnel, accountants, computer specialists) total 850 employees. Females makeup 53.5 percent or 455 of these positions, while black females make up only 9.1 percent of the total female administrative positions.

Technical positions (survey field crews) are the second largest group in the Service. We have 2,959 staff members who are classified as technical; females comprise 20.4 percent or 605 of them. Of this only 1.7 percent are black female. The remaining female positions are clerical. We have 1,143 female in the clerical field, or 36 percent of our women employees.

**WNR:** Do you have litigation or internal difficulties due to affirmative action, promotion, or discrimination activities? How do you regard the federal government's role in diversity issues?

**Cottrell:** In order to minimize litigation, we make every effort to resolve issues informally at the lowest level. Get the parties together, confront the behavior, resolve the concerns. We also require a lot of training on equal opportunity, civil rights, sexual harassment. And all employees know that they will be held accountable because these are a *critical element* (meaning that this element gets double weight in their performance appraisal). To date, we have not

Percentage of workforce representation by grade December 1991

	SES	13-15	9-12	1-8
White Male	84	81	76	47
White Female	4	7	13	36
Minority Male	12	10	9	9
Minority Female	0	2	2	8

experienced any litigation or external difficulties in Delaware.

I was a member of the conference planning committee and a member of the implementation task force in the nationwide SCS Workforce Diversity process. With the ever present demographic changes taking place in our society we recognized the need to address these changes in our SCS workforce. I've spent a lot of management time on these issues and I take them seriously personally as well.

**WNR:** Have you yourself experienced discrimination?

**Cottrell:** The main type of discrimination I felt throughout my career was having to work twice as hard to prove I could do the task. But that challenged me and probably made me a stronger individual. I believe that "being a woman" in my critical job is of little importance. Focus on gender takes away from the true meaning of my work. I know it's dangerous to generalize, but I think the women at SCS are proud to be members of a world wide team committed to making our planet a better home for all. This satisfies me, too.

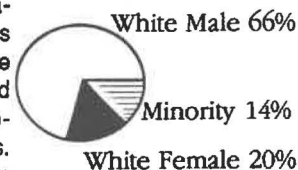
**WNR:** How will SCS handle the growing environmental concerns being mounted by private citizens and environmentalists against your clients? "Cow free in '93" and other slogans of that kind must not resonate well for you.

**Cottrell:** You've got to remember that most of SCS' clients' land is private property. Private property rights infer certain rights. Of course our clients know very well that if they accept USDA money we (and others) have the right to insist on certain practices. For years SCS didn't insist. Historically, we were invited in to help, the help was generally appreciated and followed, but nobody had to follow our advice or take our money if they didn't want it.

Now, with new directives and more regu-

lations, we are beginning to take on regulatory activities with all the accompanying penalties. This transition has been hard on us because we had always enjoyed the knowledge that we were there on a private farmer's land as invited and valued experts. And it has been very hard on our clients as our relationship evolved.

In 1991, the Soil Conservation Service initiated a vigorous and comprehensive strategic planning process. Our strategic plan includes initiatives to help us position the agency to lead rather than respond to events. Public interest in the environment



SCS Workforce December 1991 is high, and society needs resource protection measures that are both environmentally and economically sound. Through our network of field offices and our resource inventories, we can provide information that policy makers need to accurately monitor conditions and use and then develop appropriate protection programs.

We really need to understand the environmental direction that society is taking. We have to build coalitions that look for consensus and for ways to solve problems.

We have to take the high ground on good stewardship and good economics. The alternative is to head into a repressive relationship with our clients, a situation nobody wants.

**WNR:** In your years with SCS is there a program or project with which you have been associated that has had satisfyingly good results?



Cottrell in Arkansas 1973.



**Cottrell:** Due to the small size of Delaware, the success of any project relies literally on everyone pooling their resources. The Inland Bays Estuary is a reflection of that cooperative kind of effort from federal, state and local sources. All the acronyms associated with it spelled out WE CARE and that is what we called the Indian River project. Heavy use of nitrogen fertilizers and the land application of poultry manure on farm fields was a significant contributor to water quality impairment in the Indian River Bay. Consequently, in order to undo a worsening problem, some 48,400 acres of cropland and 245 farms—mostly poultry producers—required heroic collaboration and about \$2.5 million in accelerated technical and financial assistance.

We set about installing best management practices: nutrient management, integrated crops, poultry waste storage structures, dead bird composters, waste management systems. We spent (and are spending) the money on GIS detailed base mapping, cross training the participating agency per-

sonnel, packaging already existing systems from universities and other USDA agencies, and planning to implement 150 WE CARE projects. Since poultry producing is so economically important to the state, we have to find a way to make it non-polluting.

**WNR:** If we were to poll average farmers/managers (your clients) in your state, would they say that SCS is doing a good job? What kind of an image do you all want to project—friendly consultant, regulator of good practices, economic saviors, what?

**Cottrell:** I'm happy to report that as part of implementing the philosophy of Total Quality Management into our strategic planning process, we have conducted customer surveys. Our clientele in Delaware rely heavily on the technical expertise we have to offer and appreciate the services we provide.

But SCS has traditionally operated in a voluntary role and our clients are somewhat concerned about the regulatory aspects of

new programs and how our agency will be involved.

**WiNR:** Have you made some personal sacrifices as you have moved up and around in SCS? Is your personal life keeping up with your professional one?

**Cottrell:** It's keeping up pretty well. But moving often has made developing roots in a community difficult. And I miss seeing my family very often. On the other hand, I have friends all over the country.

**WiNR:** What is next for you?

**Cottrell:** I'll stay here—I'm enjoying the work. There are opportunities out there, however, to move to other states, three of which are senior executive positions. I plan to dedicate a full career with SCS, so there is plenty of time for everything. And for that reason, it's good that I value the same things the agency does.

*Interviewer Dorothy (Dot) Abbott-Donnelly is Public Affairs Specialist for Delaware's state SCS office. She began her work for the Kent Conservation District in Dover as a soil conservationist (1980) to develop erosion and sediment control programs. She began work with SCS the following year and has spent her career in Maryland and Delaware in soil conservation or public affairs. Her Bachelor's is in Forestry from West Virginia University. She is also the recipient of the Daughters of the American Revolution Conservation Medal (1992).*



*Photos this page: (Upper Left), Cottrell with the governor of Delaware and their agency personnel. (Far Left) doing field work in Delaware. (Left) Cottrell and Jeffery Tenley, Engineer Draftsman. (Above) Cottrell and James Green, Surveying Technician.*

MAP MAKING AND USING HAS BEEN SOMETIMES FRUSTRATING IN THE PAST. A RAPIDLY EMERGING TECHNOLOGY SPEEDS UP THE VITAL WORK OF COMPLICATED, MULTI-LAYERED INFORMATION PASSING.

# GIS FOR RESOURCE PLANNING

SHARON L. SCHNEIDER

Resource planning requires using maps as most natural resource professionals know. Much of my Soil Conservation Service career has been spent either making or using maps. This was true as a Soil Scientist classifying soils, as a Soil Conservationist analyzing fields to determine whether or not they were highly erodible, and as a District Conservationist managing a program to convert 112,000 acres of cropland to grassland. It is still true today in my current position as a Resource Conservationist on SCS's Water Resources Planning Staff for the state of Oregon.

## Maps as tools

As Resource Conservationist, I gather and analyze data on all the resources that could be impacted by or have an impact on the project that is being planned. These resources might be soils and vegetation or they could be species and season of fish use in streams. Specifically, I might gather data on replacing earthen irrigation ditches with a gravity pressure pipeline to increase the amount of water in a river for fish, or I might assist farmers to improve their management of fertilizers, animal waste, and agricultural chemicals in order to reduce water pollution. In another instance I might analyze data leading to building a water control structure to decrease flooding.

I share the same frustrations with maps that all users have. Paper or mylar maps get lost. They get dirty and torn in the field. If there is an error, the entire map must be redone. Many times users need the information to be gathered at one scale for accuracy, but displayed at another



scale for ease of use. This means making two different maps, becoming very labor intensive. It is also time consuming to get acreage or other spatial information from them. Generally a manager is interested in combining information different ways and analyzing the result. This is extremely difficult to do even with mylar overlays, particularly when combining more than two layers.

## GIS

Making and using maps is changing as computer technology opens new horizons. I now use Geographical Information Systems (GIS) regularly: the software packages used by SCS nationwide include LTPLUS, GRASS, and MAPGEN. This is computer software that spatially displays information that is geographically referenced. Various layers of data can then be combined and analyzed.

GIS functions like any other computer information. You input information you develop using a keyboard, digitizing table, or scanner. Information from other agencies or sources can be added from a disk or tape. The data is processed, analyzed, stored, or retrieved. The output can be tables of numbers, paper maps, or images on the computer screen.

GIS in resource planning involves four steps. The first step is to determine what end products are needed. This will assist in the next step, identifying and developing the data layers. The third step is to conduct the

data analysis and the last step is to develop the output products.

## The Nestucca River Basin Study Example

The Tillamook (Oregon) Soil and Water Conservation District was interested in targeting its conservation efforts where they would have the greatest impact. One of the end products desired was a *priority list* of the subbasins within a watershed and their potential to degrade water quality. As often happens, SCS is collaborating with another agency to develop the information; I am jointly coordinating the Nestucca River Basin Study with Forest Service personnel from the Hebo Ranger District.

In order to develop this priority list, parameters had to be determined. The parameters chosen were percentages of the subbasin area in tree stands less than 20 years old, density of roads, and number of dairies. The data layers identified for just this part of the study were (1) boundaries, (2) subboundaries, (3) year of origin for forest stands, (4) roads, and (5) dairies in the study area. Other data layers used were (6) major ownership, (7) public land survey—meaning section, range, and township, (8) soils, (9) elevation, (10) streams and rivers, (11) tree species, and (12) landuse.

Eighty percent of the cost of implementing a GIS system involves this kind of data layer identification and development. In general, it is expedient to obtain data from external

sources rather than developing it yourself. Some major considerations, however, when using external data are to insure that the underlying assumptions in developing that data are in harmony with your project. The scale at which the data was developed must be appropriate and the format compatible with your system.

In the instance of the Nestucca project, the year of origin and species for the forest stands were the most complicated to obtain. They required obtaining data from two federal agencies, one state agency, and a private consultant. Each relied on different GIS systems, used different definitions for similar data, and developed the data at different scales. These differences increased the cost of developing accurate information.

In the river basin study, we did several types of analysis. The year of origin data was grouped into five categories: 1991-1981, 1980-1971, 1970-1961, 1960-1951, 1950 and older. This information—combined with the subbasin layer—determines which subbasins harvested had exceeded the sustainable cut level. The sustainable cut level was based on a 60 year rotation. Exceeding this level is associated with an increase in peak flows and sedimentation. A similar process of regrouping and combining with the the subbasin layer was followed on the roads and dairy layers. All of this data was essential in prioritizing potential degradation to water quality by subbasin.

#### Typical methodology

Many times data layers need to be developed internally. For example, a data layer I typically develop for all the projects is the tract and field boundary of the farms in the area. In order to develop this layer I start with a database that contains information on ownership, farm number, tract number, field number, current crop, and irrigation status. Using orthophotoquads as a base, I ink in the tract and field boundaries on a mylar overlay. These boundaries are compiled from data drawn on aerial photos maintained at the local Agricultural Stabilization and Conservation Service office. These mylars are scanned, edited, and attributed in

LTPLUS. Attributing refers to assigning a unique number to the polygon, line, or site on the data layer. This number is linked to a data dictionary that defines the number. For example, in the field data layer, the number 9 might refer to wheat, while the number 8 could refer to an onion field.

The step following data layer development is data analysis. This generally involves regrouping the information and/or combining data layers. GRASS is the software used for this analysis.

Determining where potential nitrogen leaching might be greatest within a study area is another example of how I use GIS for analysis in resource planning. In this situation, the soils layer was reclassified according to its potential to leach and the crop layer was reclassified according to the amount of nitrogen typically applied. These layers were combined to determine the areas that had the highest potential for leaching and the greatest amount of nitrogen applied. This new layer was then combined with the farmer-producer layer to establish ownership and prioritize monetary assistance requests. This information was also useful in locating bore holes for vadoze zone sampling to determine the rate of nitrogen leaching.

#### Output and the users

The final step in using GIS is developing the output products. Products for use during the project such as simple maps, images on the computer screen, and tables of numbers can be done in GRASS. Maps for publication or public distribution are composed in MAPGEN. All digital data is archived for future use.

The reports, maps, and digital data generated by project work are generally available to other agencies and the public from any SCS office. Other GIS data available from SCS are a national soil map at 1:250000 scale and limited coverage of detailed soil surveys at 1:20000 scale.

#### Advantages and disadvantages of the system

GIS expands the flexibility, accuracy, and detail of analysis. In Oregon, we are just scratching the surface of that potential.

Some valuable lessons I have learned, however, are that a long view is needed and commitments of several kinds should be understood. Developing the data layers is expensive and/or time consuming. The data should be needed often and used repetitively to make the expenditure of funds or startup time worthwhile. Significant user training is required. Different types of computer equipment or programs may be needed from what is already used and understood. These can be expensive and can become obsolete very quickly.

There are many obvious advantages to GIS, however. There is unparalleled flexibility in analyzing, evaluating, revising, and updating information. The data are then current rather than investing months or years to develop. The rapid analysis and dissemination of the maps seems almost miraculous when one compares old methodologies.

GIS is in the future for everyone who works with natural resources. I believe someday it will be as fundamental a tool to resource specialists as the word processor is to anyone who prepares correspondence and reports.

*Sharon L. Schneider is Resource Conservationist, Water Resources Planning Staff, SCS, Portland, Oregon. Since coming to work for SCS in 1983 as a soil scientist student co-op, she has worked in six Oregon counties. Schneider has been a District Conservationist and a Soil Conservationist. Her Bachelor's is in Soil Science from Oregon State University.*



COFFEE TREES, SUGAR CANE, AND 200 INCHES OF RAIN A YEAR, ARE NOT THE AVERAGE CONCERNS OF MOST SCS SOIL CONSERVATIONISTS.

## HAWAII

### SANDRA HIGA

I grew up on a ranch in northern California, in the old mother-lode country near Sonora. It was located in Vallecito just below the snow line among scrub oak and pine. This was a 150 acre cattle ranch and included 15 acres of irrigated white clover and vetch. As I was growing up, the Soil Conservation Service assisted in installing a considerable number of conservation practices on our family ranch: among them, two stock water ponds and a large reservoir for pasture irrigation. Since high school, because of my background, I knew that protecting natural resources was the type of work in which I would be involved and, now, it seems natural to do it with SCS.

During my senior year of high school, I applied for the forestry program at Lassen Community College in California, but was turned down because women were not accepted into this program. Instead, I joined the Army, at that time known as the Women's Army Corps. Rejection certainly wasn't a problem with them.

During my enlistment, I was the first woman accepted into the Army Intelligence School for Image Interpretation (photogrammetry) training, where I learned to identify cultural and natural features of the land by studying aerial photos. Subsequently, three other women were selected, and we formed what was called a "test" group. All members of this test group graduated in the upper half of the class, and because of our success, today, many women in the Army are trained as image interpreters.

In 1984, I heard about what SCS was doing here on the Big Island of Hawaii. Since from my youth I was familiar with their assistance and in tune with their mission, I applied for a position and was selected as an intermittent Soil Conservation Technician at the GS-3 level in the Papaaloa office.

Papaaloa is in the heart of the island's sugar plantation land, and is home to both Mauna Kea and Hamakua Sugar Companies. The Hamakua district also has many large and small ranches, orchards, and truck crop farms. While I worked there, the 1985 Food Security Act (FSA) went into effect, requiring conservation practices to be implemented on their lands by 1995 if they were farming annually tilled commodity crops or sugar cane on highly erodible lands. This meant that thousands of acres of land had to have highly erodible land (HEL) determinations done and an acceptable conservation plan developed before the January 1990 deadline.

The 1995 implementation deadline is especially problematic where sugar cane crops were involved. The optimum growing cycle for sugar cane is two years, but in marginal growing areas may require as long as 42 months. A second cycle is produced by ratooning, or propagation from shoots, from stalks left in the ground after the first harvest. Ploughing, tilling, and planting occurs only in the third crop cycle, 48 to 84 months after the previous planting.

This means that in some cases, conservation practices can not be implemented for over six years, taking some fields beyond the 1995 deadline for compliance.

During my employment with SCS, I have continued to pursue my degree in agriculture. Upon completion of the required amount of credits in ag and soils, I moved into a Soil Conservationist position in the Kealahou Kona SCS office on the other side of the Big Island in 1991. This particular office is in the heart of the Kona gourmet coffee country as well as having other diverse agriculture such as Macadamia nuts, avocados, and Protea flowers.

Coffee has traditionally been farmed in what is referred to as "clean culture," which means keeping the fields of coffee trees free of other plant growth through the application of herbicides. But the resulting lack of ground cover allowed serious soil erosion, and the farmers often joked that "the rocks appeared to be growing" as the soil around them was washed away exposing more and more of the rocks with every rain. It is only in the past few years, with the new soil conservation awareness and measures, that coffee farmers have planted their new tree rows with enough spacing to allow for a nice grass cover strip to be permanently established in their orchards. The results have been very favorable, and even a lot of "clean culture" farmers are accepting this as the new standard. Whether by mechanical or manual methods, harvesting coffee beans is much easier on level grassy ground than on uneven rocky fields. And the grass cover aids productivity by conserving both the fertile topsoil and precious moisture during drier seasons.

Land use in Kona is rapidly changing. Development is changing the face of the land and it is essential to maintain a close working relationship with state and county agencies as well as land owners to watch water quality issues. The Kona Soil and Water Conservation district works hand in hand with the county on grubbing and grading permit applications, and works hard to insure that water runoff problems are addressed in a timely manner to reduce the incidence of flooding in the districts.

Here we also have a unique and limited area of Anchialine ponds near the district north end shoreline. Brackish in nature, the ponds visible along the coast are just the tip of the pond system. They extend underground and it isn't yet known how vast they are. These ponds are home to life forms that have not been found elsewhere and are a rare and limited resource being threatened as development encroaches upon these remote areas.

In Hawaii, the concerns about nonsource point pollution are becoming a major priority. Our receiving body of water is the Pacific Ocean and all of the unique and valuable gifts of the sea are effected by what enters from our shores. SCS is spending



time and money to make sure staff receive training and feedback about pollution from many different interests. In January 1992 I attended our third annual interagency water quality training and met with local government agencies including the State Department of Health, the University of Hawaii Extension Service, County Planning Departments, and other federal agencies such as the Environmental Protection Agency (EPA) and the Army Corps of Engineers.

The Kona area has a small town atmosphere, and you know when things with SCS in Kona are going well when you pull into the local gas station, and the owner tells you, "Hear you're doing a good job out there, Sandy." Kona is a very culturally diverse community, and working here challenges my people skills as much as my technical skills. I can honestly say I have not encountered difficulties working with farmers or ranchers. They have never refused to "work with a woman," which I think many people in SCS, as well as other agencies, perceive as a problem for women in the field. I find that they are happy to see an interested and professional SCS person help them with their farm plans and conservation concerns regardless of gender. I had a rancher tell me last week that he can't be bothered working with SCS people or other agency folks when the person doesn't have a working knowledge of ranching: "If you have never raised a cow, or put up a fence, how can you tell me about the right and wrong way to do things up here." Thank goodness for my ranch background.

On my own time, I maintain a five acre ranch in Kurtistown. I have been raising quarter horses and cattle since 1979 on this land and can raise two head of cattle and two head of horses. Average annual rainfall is 100 to 200 inches in this area. In 1990 however, I had a record breaking 233 inches of rain. With this kind of rainfall and proper grazing management, it's easy to maintain one animal unit per acre. I normally raise the cattle for house meat—I sell three quarters and keep one. It's never difficult to sell because people are always looking for good grass-fed beef that contains no chemical additives.

In 1979 my two sons and I moved to this undeveloped, forested land and started from the bottom up, building our house and barn, and establishing the pasture. It was quite an adventure and an excellent learning experience for my teen aged boys. Two miles from the nearest neighbor, electricity, and water, I have an 8,000 gallon water catchment system as my water source. Propane and a generator run my normal household items. Today it is my "refuge" on an island that most consider a refuge in itself.

It isn't always tranquil, though. One morning, while three of us were out working on land along a highway, we came upon a crippled wild pig. We approached cautiously, intending to corner and catch this poor, unfortunate creature (we thought), but the wily old sow proved to be more able than we expected. She ran straight for us, and, completely terrorized, we ran pell mell across the road, dodging the early morning traffic, and leaped up into the nearest guava trees. We conceded amidst the laughter that the very fit pig should have her way, and patiently waited, high in our leafy refuge, for her to trundle on down the road.

*Sandra J. Higa was in the Women's Army Corps from 1961-1964. After leaving the army, Higa married and moved to Honolulu, Hawaii. She will soon receive her Bachelor's in Agribusiness from the University of Hawaii. She is a Soil Conservationist in Kealahou for SCS.*

## Reformed Type A continued from page 25

plumber, welder, conservationist, mechanic, and bookkeeper. He can also cook, hang out the wash and he serves as president of the Parent Teacher Organization.

I moved from my spacious two bedroom, two walk-in closet apartment in town to the farm, which is about 20 minutes from town down a narrow dirt road. It consists of 140 acres of rolling land, 160 holstein cows, one dairy barn, various pieces of farm equipment, a two bedroom house, one husband, two boys, one hired hand, the dog, and me.

More and more I respect the men and women who farm, because its a tough business with no guarantees or overtime pay. For the most part, the farmers I know are decent, morally upright, hard-working people. They are proud and independent, trying to make a good life for themselves, their families, and the generations to come. Needless to say, after my marriage I began to view my SCS work through the eyes of a farmer.

That view of life, however, came naturally to me. I was reared in rural north Mississippi, the oldest of four children, and the only girl. Holding my own amongst three brothers was no problem. I attended the county schools where my family lived. Even in grammar school, I tried to do well and make good grades. I was a serious child. Once when I was about seven years old, I told my mother that "I wouldn't marry until I was 26 years old and that I was getting a college education." A rather bold statement considering we were poor and none of the family before me was college educated. Being Type A helped me through high school and college, and into my beginning years with SCS.

I still work very hard like the farmers around me, and like them, I strive to produce quality work. But I'm more relaxed now—my roles as conservationist, farm wife, and mother have made my life richer, made it ever-so-easy for my roots to grow deep in this Mississippi soil.

*Teresah A. Ponders is District Conservationist for SCS in Tylertown, Mississippi. She began work with SCS in October 1984 as an intermittent employee. Her Bachelor's is in Agriculture from Mississippi State University.*



THIS STATE GEOLOGIST TALKS ABOUT HER JOB, HOW SHE GOT THERE, AND THE WONDERFUL VARIETY IN HER PROFESSIONAL LIFE.

# NOT ALL GEOLOGISTS CARRY ROCK HAMMERS

KATHLEEN Y. KILIAN

As a member of the Spokane chapter of the Association for Women Geoscientists, I find my position atypical to other members in many respects. Most geologists in the Spokane area work in mining, and the women of our organization tease me about having a sharp, rarely used, shiny, rock hammer; how can I be a real geologist if I don't go around banging on rocks? Field work for me, however, doesn't mean spending a week in a tent, alone in some remote area. My field work is defined by a trip to the Olympic Peninsula to evaluate sediment in streams and bays, to the San Juan Islands off the coast in the Pacific Ocean to investigate a wildlife pond site, or a trip to the vineyards of the fertile Yakima Valley to study irrigation erosion. As the State Geologist for the Soil Conservation Service in the state of Washington, I have state-wide responsibility for the geologic program for our agency from my office in Spokane on the east side of the state. My job keeps me on the road (or in the air) about 40 percent of the time. In the office I write reports, make maps, develop schedules, and provide assistance over the phone.

The state of Washington is interesting for a geologist to work in because it is quite complex, with a seemingly unlimited variety of rock types ranging from some of the oldest Precambrian formations to the very young Quaternary volcanics, such as those from Mt. St. Helens. In addition to the complexity of the rock types, Washington has a most unique geologic history. We have an active subduction zone just off the coast, responsible for the serious earthquakes that have shaken up the Seattle region in the past. Mt. St. Helens is still a very active volcano that reminded us back in 1980 how vulnerable we humans really are to the forces of our mother earth.

Washington not only is diverse geologically but also climatologically. From the lush rain forests of the Olympic Peninsula to the arid interior, the landscape varies like none other. These diverse conditions account for the extremely large variety of agricultural products grown and produced in our state.

Any geologist must become as familiar as possible with all of the geology for an assigned work area, and for me it is a large state. There are numerous recognized geologic specialties such as petroleum, engineering, groundwater, geophysics, geochemistry, mining and so on. When asked what 'kind' of geologist I am, I often jokingly reply that I am an agricultural geologist. What makes that position unique in SCS is that surface and subsurface geology has to be mastered and then added to a working knowledge of agriculture. Because the Service has a field office in all but three of the state's 39 counties, I must understand cropping patterns, farming practices, irrigation applications, and stockwater requirements to give some examples. I provide assistance to all of these offices as well as special project offices located primarily on the west (Seattle) side of the state.

Requests for my assistance often involve the following kinds of questions. Where can I drill a well that will supply 500 head of cattle with enough drinking water during the summer? Where's the best place to construct a manure storage pond? Is my neighbor's manure storage pond contaminating my domestic drinking water? How much sediment is being eroded from a 90,000 acre watershed and how much of it is entering the stream and interfering with the spawning of several species of trout and salmon?

In addition to my "regular" geology duties I represent SCS by serving on two multi-agency state-wide committees: The Groundwater Vulnerability Task Force and the Agricultural Pesticide and Nutrient Impacts of Groundwater Committee. These are important assignments as we are making decisions that will affect future groundwater policies in our state.

The strategy for the Ag Pesticide and Nutrient committee (EPA funded) was to work with EPA, other governmental agencies (local, state and federal) and representatives from the farming community to identify existing problems and develop solutions regarding pesticides and nutrient management. This committee worked congruent with the groundwater vulnerability group. Together these groups have developed guidelines to determine areas where certain pesticides and nutrients will be restricted. If EPA determines a chemical is hazardous they have the authority to restrict or ban its use nation-wide.

Not all chemicals are a threat to all areas under all conditions. Under certain conditions in certain localities, by mutual agreement, local restrictions and controls can be established to protect sensitive areas and still use the chemicals without negative impact to the environment where they can be of great benefit to the farmers. We feel confident that future restrictions will be imposed only in those environmentally sensitive areas and that most farmers will still be able to use the chemicals necessary to provide the country with edible, affordable products.

Besides being the only geologist for SCS in Washington, in the past I served as our state EEO counselor which provided a new kind of challenge. Most recently I have begun another collateral duty assignment as one of several TQM (Total Quality Management) facilitators for our agency. This has been—so far—more trying than I imagined, and trust that after I have received more specialized training I will become better and more effective. These positions provide experience beyond what comes only with my geology job and will help to prepare me for what ever position I choose to seek in the future.

In an average year I am an instructor at four SCS technical workshops or training sessions. Over the years I have also taught in other states for SCS where there were no available female instructors. It's good to get around and meet staff from other states; I learn a lot from these teaching experiences. Although the number of women participants is steadily increasing, commonly I am the only woman instructor.

When I chose to seek a degree in geology I had no idea what I would do once I graduated. As a young girl I wanted to be a

math teacher like my aunt. My dad was an electrical engineer but I didn't know what he *did*. My mother was a homemaker and it didn't take me long to decide that wasn't for me. Perhaps growing up near Yellowstone National Park and going on visits to other national parks like the Grand Canyon, Yosemite, Bryce, and Zion had the biggest impact on my choice. My parents didn't encourage their only daughter to attend college, so following high school I attended a trade school to learn to be a dental assistant so I could have something to do until I had a family. Realizing my career as a dental assistant had come to a plateau at the age of 21, I decided to shoot for the top, go back to college, and become a dentist. The next semester I applied for a student loan and went to school full-time. To break up the required core classes I took a class titled Geology of the National Parks. It would have helped had I had a basic geology class first, but I quickly became excited, earned an A anyway, and was hooked.

To help support myself and two small children, I worked for the Corps of Engineers as an Engineering Aid part-time while in college and full-time after graduation. Five years and a divorce later I completed my geology degree. There appeared to be little chance that I would find a career position in geology in the Corps so my supervisor encouraged me to apply for a position as a hydrologic technician for the SCS on the snow survey staff. I spent two years in Portland, Oregon, and gained a lot of valuable experience. When the SCS opened up four geologist trainee positions throughout the country, I applied and was offered one in Des Moines, Iowa. Being originally from a cattle ranch in Montana, I was reluctant to leave the west, but I did. With my two elementary-school-aged kids, I moved almost 2000 miles east to begin my long awaited career as a geologist. Not knowing much about what a geologist for the SCS did I soon found that much more than four years of college was necessary to feel competent in my new job.

I was not the first woman to be a geologist for SCS but within months I became the only woman geologist for the agency. In Iowa I received excellent, well rounded training. Upon completion, I was offered the position of State Geologist for Washington and I was pleased to come back west, away from the tornados. I was the first woman (1987) to hold this title for the agency. Now a little more than five years later, we women state geologists number four, with four more women in other geology positions throughout the agency. It is wonderful to see our numbers continue to grow. It wasn't so long ago that I was the only female at agency workshops and meetings with attendees numbering 80 or more—I didn't need a name tag; I stuck out in the crowd dramatically. (The only advantage to those days was that I didn't have to share the rest room.) Interestingly, I find today that if I want to talk to another SCS geologist, I'll call one of the other women first. Although we all have very different personalities and backgrounds, we have that common bond that sets us apart from our male counterparts.

There's still so much I want to accomplish for the state of Washington. Soil erosion, sedimentation and water quality concerns will keep me challenged for a long time. But I know that sometime in the future, when the kids are out of high school and the challenges at home have significantly decreased, I will be ready to explore new opportunities. Perhaps I will seek a position in one of our regional offices where I can travel more extensively (like to Hawaii, Guam, and Alaska) or maybe I will move on to management and away from geology.

*Kathleen Y. Kilian is the State Geologist for SCS, Washington. Her office is in Spokane. She was an Engineering Technician for the Corps (1980-82) in Dredging and 404 permits; an Hydrologic Technician for SCS (1982-87) and has held her current position since 1987. Her Bachelor's in Geology is from Portland State University, Portland, Oregon.*

Marie Rust, an 18-year career employee with the National Park Service, has been appointed Director of the Service's North Atlantic Region, headquartered in Boston, Massachusetts. In her new post, Rust becomes the highest ranking woman in the National Park Service. She is being promoted from Deputy Regional Director, replacing Gerald Patten, who is now in charge of the Service's Office of Strategic Planning in Denver. As Regional Director, Rust oversees 41 areas. She has been Acting Regional Director since January 1992, and in June 1992, she entered in the Federal Senior Executive Service. A native of New York City, her Bachelor's is in Economics and French from Marymount Manhattan College and her Master's is in Public Administration from Columbia University.

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Christine L. Nota of the Minarets District, USDA Forest Service, was named Ranger of the Year by the National Forest Recreation Association. She was cited for her efforts to develop a town plan, diversify a dwindling timber-based economy, and capture grants to pursue those goals. As District Ranger she manages 100 employees and 300,000 acres in the Sierra National Forest of California. She has worked for the Forest Service since 1973 after graduating from Humboldt State University in natural resource management.

Marcia Kelly Nelson is a research biologist for the National Fisheries Contaminant Research Center (USFWS) and is currently developing a pesticide biomonitoring program for the Western Oregon Refuge Complex in the Willamette Valley. Other research activities include developing methods to measure the ecological effects of ultraviolet light to freshwater aquatic communities, as part of a project investigating effects from the

depletion of the ozone layer. She also has been an integral part of developing sediment toxicity test methods for the bioassessment of contaminants persisting in the environment. Nelson has worked for the Fish and Wildlife Service since 1987.

Chrysandra Walter (left below) who has 22 years of National Park Experience with extensive background in urban park management, has been appointed national Capital Region's new deputy regional director. She comes to the position from the superintendency of Lowell National Historical Park.



The Bureau of Land Management provides very interesting work for botanists. Lynda Smithman works seasonally and her husband Jay comes along as a volunteer. In 1989, Jean Findley, Vale District botanist, hired Lynda (and her husband in a two-for-one salary) to inventory the smooth blazing star, a rare plant found only on ash deposits near Succor Creek. The two Smithmans are Idahoans, and Lynda was first introduced to plants while taking classes under the College of Idaho's renowned botanist Dr. Patricia Packard. The couple (pictured to the right) have been doing this sort of work in Idaho and Oregon for 20 years.





**ALASKA REGION**

Anne Castellina  
Kenai Fjords National Park

Michelle Hellickson  
Sitka National Historical Park

Karen Wade  
Wrangell-St. Elias  
National Park

—3 out of 12 = 25%

**MID-ATLANTIC REGION**

Maria Burks  
Fredericksburg and  
Spotsylvania National  
Military Park

Cynthia Macleod  
Richmond National  
Battlefield Park

Marilyn H. Parris  
Fort Necessity  
National Battlefield

Mary Victory Green  
Booker T. Washington  
National Monument

Martha B. Aikens  
Independence National  
Historical Park

—5 out of 20 = 25%

**MIDWEST REGION**

Joann Kyrat  
Scotts Bluff National Monument  
and Agate Fossil Beds  
National Monument

—1 out 31 = 3%

**NATIONAL CAPITAL REGION**

Kitty Roberts  
George Washington  
Memorial Parkway

—1 out of 12 = 8%

*Data courtesy of  
Magaly M. Green  
Harpers Ferry Equal  
Opportunity Office.  
Updated April 4, 1992*

**Directory**

**Women in Superintendent's Positions in the  
USDI National Park Service.**

*Women in Natural Resources*, from time to time,  
publishes directories of women in administrative,  
faculty, or management positions.

The percentages indicate women Superintendents out  
of the total number of positions in that NPS Region.

**NORTH ATLANTIC REGION**

Marianne Peak  
Adams National Historic Site

Chrysandra Walter  
Lowell National Historical Park

Diane Dayson  
Morristown National  
Historical Park

Cynthia Pollack  
Salem Maritime National  
Historic Site

Linda Canzanelli  
Women's Rights National  
Historical Park

Georgette Nelms  
Manhattan Sites

Meredith (Ann) Belkov  
Statue of Liberty National  
Monument/Ellis Island

Maryanne Gerbauckas  
Edison National Historic Site

Sarah Olson, Supervisory  
Museum Curator\*  
Weir Farm National Historic  
Site (new area)

—9 out of 25 = 36%

**PACIFIC NORTHWEST  
REGION**

Cindy Orlando  
Fort Clatsop National Memorial

Maureen Finnerty  
Olympic National Park

—2 out of 15 = 13%

**ROCKY MOUNTAIN REGION**

Barbara A. Booher  
Little Bighorn  
National Monument

Susan K. McGill  
Timpanogos Cave  
National Monument

DeNise Cooke  
Natural Bridges  
National Monument

Kate Cannon  
Jewel Cave  
National Monument

Debbie Bird  
Devils Tower  
National Monument

—5 out of 37 = 14%

**SOUTHEAST REGION**

Judy G. Forte  
Horseshoe Bend National  
Military Park

Carolyn Link  
Abraham Lincoln Birthplace  
National Historic Site

Dusty Shultz  
Moores Creek  
National Battlefield

Suzanne Lewis  
Fort Caroline  
National Memorial

Mary A. Peckam  
Stones River National  
Battlefield & Cemetery

—5 out of 45 = 11%

**SOUTHWEST REGION**

Linda Stoll  
Pecos National Monument

Melody Webb  
Lyndon B. Johnson National  
Historical Park

Mary J. Karraker  
Capulin Volcano  
National Monument

—3 out of 32 = 9%

**WESTERN REGION**

Phyllis Shaw  
John Muir National Historic Site

Doris Bowen  
Lava Beds National Monument

Carol Kruse  
Chiricahua National Monument

—3 out of 37 = 8%

**Women Superintendents  
Totals**

Alaska Region	25%
Mid-Atlantic Region	25%
Midwest Region	3%
National Capital Region	8%
North Atlantic Region	36%
Pacific Northwest Region	13%
Rocky Mountain Region	14%
Southeast Region	11%
Southwest Region	9%
Western Region	8%
<hr/>	
37 out of 266 =	14%

\*Supervisory Museum Curator  
is a superintendent position—  
reports directly to the  
Regional Director.

"WE CAN'T FIND ANY!" AND OTHER MYTHS HINDER DIVERSIFICATION AT THE EXECUTIVE LEVEL IN FEDERAL AGENCIES. THE SENIOR EXECUTIVE SERVICE IS SUPPOSED TO ASSIST WOMEN AND MINORITIES, BUT DOES IT?

# SES OUGHT TO HELP CRACK THE GLASS CEILING

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## INTRODUCTION

It has been five years since the Department of Labor (DOL) published its Workforce 2000 report, which exposed changes taking place in the economy and the composition of the workforce. Since then, many studies and articles have appeared about the "glass ceiling." This glass ceiling is defined by the DOL as "those artificial barriers based on attitudinal or organizational bias that prevent qualified individuals from advancing upward in their organization into management level positions." Women and minorities are commonly impacted by this ceiling.

Most of the focus has been on private industry, especially Fortune 500 companies. Little research has been conducted to see if a glass ceiling exists in the Federal government, but a look at the composition of the Federal Government's Senior Executive Service (SES) ranks would seem to indicate that there are still barriers impeding progress of women, minorities and the disabled.

Here, in 1992, the SES remains almost as exclusive of women, people of color, and disabled individuals as it was when it originated as a result of the Civil Service Reform Act passed in 1979. The Office of Personnel Management's (OPM)'s last report on the SES in FY 1990 showed that the average senior executive was *still* a 51 year-old Caucasian male with 22 years of Federal service.

This paper, prepared by an interagency group of women and minority members with many years of Federal service, will:

•Define problems facing government in diversifying the workforce

•Describe and dispel common myths which hamper recruitment and retention of women and minority executives

•Give advice to Federal executives on how to improve workforce diversity by identifying:

1. Sources of good candidates
2. Effective recruiting techniques
3. Barriers to retention of women and minority executives and suggestions for overcoming them.

## WHAT'S THE PROBLEM?

According to private sector polls and surveys, there appears to be a widening gap in the perceptions of what has been accomplished and what is needed in the way of cultural and gender diversity in the leadership of today's work force. For example, surveys indicate that white men generally see the level of accomplishment and the present status of people of color and women in leadership positions as progressing adequately. From another vantage point—that of people of color, women, and the disabled—the picture is not nearly as acceptable.

To understand the depth and seriousness of the problem, it is important to take a snapshot of the race and national origin of current Senior Executives and the GS/GM-13, 14, and 15 employees who are in the pipeline as potential candidates for Senior Executive positions.

According to the Office of Personnel Management's (OPM) statistics, in 1990, within the SES ranks, there were:

- 7590 Senior Executives totally
- 851 women (11%) vs 10% in FY 1989
- 574 minorities (8%)
  - 349 African-Americans (4.6%)
  - 104 Hispanics (1.4%)
  - 69 Asians (0.9%)
  - 52 Native Americans (0.7%)
- 273 executives with disabilities (3.6%)

Interestingly, there was greater diversity among noncareer Senior Executives than among the SES population as a whole or among career executives. In 1990, almost 26

percent of noncareer Senior Executives were women and 10.4 percent were minorities.

The pipeline (whose demographics are described later) of GS/GM-13, 14 and 15 potential candidates for the Senior Executive Service is as nonrepresentative of people of color and women as are the ranks of the Senior Executive Service.

*Why should we be concerned about this poor representation and the bleak outlook for gaining any more diversity in the SES ranks in the near future?*

•**Retirements:** Given the expectation that members of the Senior Executive Service will retire in unprecedented numbers in 1993 and 1994, concern has been voiced about the impending "brain drain." Familiar faces, institutional knowledge and expertise may be missed; however, we haven't yet scratched the surface, much less cornered the market, on brain power. Indeed, this challenge of finding new leadership may provide an excellent opportunity to take advantage of creativity, brainpower and perspectives we have not utilized to best potential in the past. But we are not prepared to take advantage of this opportunity and time is running out.

•**Future Pool of Job Seekers:** If we fully appreciate Workforce 2000 projections, we must also acknowledge that the pressure of demographics and the fact that, with or without our participation, change will occur. By the end of this decade, only 15 to 30 percent of our new hires will be Euro-American males. The remaining 70 to 85 percent will be women, African-Americans, Hispanics, Asians, and Native Americans. A larger percentage of the workforce pool will be disabled as medical and technological advances allow greater participation. To remain competitive, it will be absolutely necessary for employers not only to embrace diversity, but to utilize all available strategies to make diversity work.

**•Competition from the Private Sector:** The race to hire the most talented of this new majority will be intense. Communicating from a "business-as-usual" stance, while perhaps easier and more comfortable, will not make the grade in developing a multicultural leadership. The Federal government is not the only organizational entity that has become aware that the workforce of the future is not the workforce of the past. We are in a highly competitive market. Private industry commands more dollars and, often, functions more flexibly in developing strategies to recruit their new workforce. The Federal sector needs to make harder and more creative choices about how to attract and retain, even communicate with, women, minorities and the disabled.

#### BUT WE CAN'T FIND ANY!

Perceptions, myth and ignorance are hindering our ability to get women, minorities and the disabled into the pipeline. Excuses run the gamut from "We don't have any jobs a disabled person could perform" and "Budgets are tight; we don't have any vacancies" to blame-the-victim reasons, such as "Minorities are not interested in public service" and "no qualified women ever apply." Executives, who are aggressive, innovative, relentless and creative when it comes to finding solutions to research problems in their technical fields, shrug and throw up their hands when it comes to finding and hiring diverse candidates. An executive who wouldn't think of looking for *Strix occidentalis* (the spotted owl) in a coastal estuary will act very irrationally by recruiting for an Asian-American Ph.D. in biology within commuting of his/her office in Utah.

*It is time to stop finding excuses and start finding more effective communication and recruitment techniques. Let's start by identifying some sources of candidates.*

**•Educational Institutions:** The educational sources we must look to first are the institutions that produce the main core of Native American, Hispanic, African-American, Asian and disabled individuals. The 117 Historically Black Colleges and Universities (HBCUs) produce almost a third of all African-American undergraduate degrees. The Hispanic Association of Colleges and Universities (HACUs), Haskell College, Galludet University and numerous women's colleges are readily available sources of Hispanic, Native American, disabled and women graduates. Despite various incentives (e.g. a 1989 Executive Order President Bush signed to encourage relations with HBCUs), the Federal government still seems to lag behind private industry in actively interacting with those schools most likely to provide diverse candidates.

An OPM study conducted in 1991 indi-

cated that Federal recruiters tend to bypass HBCUs. Of about 5300 students at HBCUs who were surveyed, 70 percent said that they were unaware of any visits to campuses from Federal recruiters and 75 percent said they had never seen any Federal recruitment literature. Obviously a new and more aggressive approach is needed.

Many predominately white universities also share our problems and goal of diversifying their applicants and graduates and could be important allies in attracting and steering students into public service.

*Those are good sources for future entrants to the pipeline; what about the SES vacancies which are imminent?*

**•Inside Our Organizations:** We tend to overlook those under our noses. Though they are few, there are very talented women and minorities in our agencies.

In 1990, among the approximately 146,000 employees at the GS/GM-13 level:

- 69% were white men
- 17% were white women
- 14% were minorities (9% men and 5% women)

At the GS/GM-14 level, of the approximately 81,000 employees:

- 76% were white men
- 13% were white women
- 11% were minorities (8% men and 3% women)

Finally, at the GS/GM-15 level, among 46,000 employees:

- 79% were white men
- 11% were white women
- 10% were minorities (8% men and 2% women)

So, while there are not significantly more women and minorities in the pipeline, it is one place to start. Use of training opportunities for diverse employees, such as the SES Candidate Development Program and Federal Executive Institute, need to be stepped up and expanded (e.g. to lower grade levels) in light of the pending SES exodus.

**•Outside Our Organizations:** We also need to overcome our reluctance to recruit "outsiders" into high-level career positions. About 88 percent of SES jobs are filled within the agency. Positions remain advertised and described as highly focused in technical managerial and local fields, as opposed to overall executive skills, ensuring internal selection. Recruitment to academic and private sectors is focused on obtaining individuals for the pipeline rather than having them take on executive responsibilities.

Measures are taken to limit noncareer executive appointments; yet, as stated ear-

lier, the Federal government is successfully placing more women and minorities into political and noncareer SES positions.

*This trend in diversifying noncareer SES ranks should be maintained and encouraged, but career appointments are going to have to follow suit.*

**•Potential sources:** A whole range of potential candidates for employment who have not come up through the system in the traditional way, include:

•Presidential Management Interns who show promise of becoming tomorrow's leaders

•Post-doctorates who are eager to demonstrate their capacity to contribute to our science programs

•Experienced people in the private sector who wish to contribute to public service on a temporary or term basis

•Interagency Personnel Agreements (IPA's) which enlist more university administrators and faculty members to take two to four year assignments with government

•Community leaders, state and local legislators, nonprofit organization directors and others with strong public administration and management skills

•Executives leaving the downsizing Department of Defense.

A diversity of individuals with executive skills are in every private and public organization around us. The ability to attract them to the Federal sector as an "employer of choice" will depend on calculated risk-taking. Internal talent must be identified and nurtured quickly. Goals, values and organizational culture must send out a clear message of welcome and retention to talent outside our agencies. How we attract and keep good candidates are the next challenges.

#### HOW DO WE ATTRACT THEM TO THE SES?

*It will take more than knowing whom to approach to effectively build a new workforce.*

**•Education of Current Executives:** First there must be an understanding of the need for and advantages of diversity, as well as a commitment throughout the management ranks to break down institutional and mental/emotional barriers to achieve it.

Myths still abound about the interests, capabilities and desires of women, minorities and the disabled. Discrimination and sexual harassment still plague our executive and management ranks.

Lack of information continues to feed misconceptions. A survey of the literature reflects the present problem, i.e., the literature addresses subject matter related *either* to diversity *or* to the Senior Executive Service, but not both diversity *and* the Senior

Executive Service. There is a paucity of literature (a barrier to dialogue and understanding) on both the composition of our workforce and the sociological aspects of our technical work (e.g. how should we change our management techniques to address new demands of our demographically-changing public). Groups, such as the Senior Executive Association and professional societies, can begin contributing to the literature on the subject matter of diversity in the Senior Executive Service.

**•Education in the form of more intensive training, discussion and research is needed:** It is vital for executives and managers in cultural diversity, affirmative action, recruitment and other human resources issues.

Exposure is the best teacher. Special assignments within minority organizations and communities, details to EEO offices and research projects should be incorporated into management training.

**•Accountability:** While we can improve the type and amount of information disseminated to executives, we also need to improve accountability for using that information. Executive accountability for technical programs has been fairly comprehensively addressed by the performance appraisal process.

In fact, appraisal standards have, on occasion, even been enforced down to the process level, including the nitty-gritty details of controlled correspondence. This performance appraisal process records the failure of Executives to perform in program areas. Senior officials have not been as rigorously assessed in relation to human resources management.

For any system of accountability in the area of human resources to maximally work, there must be a clear commitment at the very highest echelons of the government. Achievements in human resources development must result in palpable rewards and non-achievement must trigger consequences.

**•Broadening Opportunities for Existing Personnel:**

There has been a good deal written about the glass ceilings that allow people of color, women, and the disabled to look up beyond where they are without having the available means and support to reach leadership positions. We must also look to the glass walls that can keep qualified individuals from moving laterally in order to get the variety of experiences that contribute to movement into leadership positions that require a broader management perspective. As the senior leaders, we are the temporary architects of this glass house. One student of this problem noted that "Women (and others) tend to be placed in staff and support positions in areas such as public relations and human resources and are often steered away from jobs in core areas. . ." Glass walls can be one of the barriers that create two separate and unequal tracks of opportunities—one for men and one for others—in the workforce. Broader management expertise across organizational lines becomes one of the most critical elements for the development of qualified candidates for movement into senior positions.

**•Current training opportunities can be expanded:** The Office of Personnel Management's Executive Potential (EPP) and Women's Executive Leadership (WEL) Programs need to be fully utilized by all agencies. Such programs are particularly valuable because they provide opportunities for work experience in areas where employees are not expert, i.e., lateral assignments across the organization that shatter glass walls and emphasize management, leadership, and individual initiative.

When it isn't possible for these kinds of experiences to occur within a program, we can create similar developmental assignments within and between our agencies and with other organizations to accomplish the same end. In all cases, we have to make sure that successful participation is recognized and adequately supported.

We can make sure that access to advanced education, training courses, internal and external professional meetings is available to all. We need to consciously and continuously check to ensure that people of color, women, and the disabled are clearly a part of the action. We have opportunities to create programs for career counseling and mentoring that support individual development.

**•Communication:** Communicating these opportunities will require all of our capacities to listen and to translate the perspectives and the talents of our employees into understanding and leadership. We need to improve our internal methods of disseminating information about jobs, training, task force/committee and volunteer opportunities. "Word-of-mouth" tends to favor traditional networks; equal access must be provided to all.

Externally, we must be even more creative and aggressive. We can no longer afford to wait for people to come to us.

Younger people know little about public service and what little they have heard is probably negative in an era where it has been "in" and profitable to criticize and run against government for the past 16 years. We need to reach the non-traditional outside sources mentioned earlier with innovative and modern techniques.

Up-to-date video (including multilingual and closed captioned versions), radio, advertising in minority and private sector publications, contracted headhunters, professional displays and brochures at non-government-only job fairs are some suggestions.

**•Partnerships:** Private companies, non-profit organizations and higher educational institutions can help improve communication networks. For example, BLM has recently signed agreements with major universities in the east and mid-west to facilitate internships, IPAs, cooperative education and outreach opportunities, with emphasis on women and minorities.

**•Educational Opportunities for Potential Personnel:**

We need to take full advantage of the current cooperative education and other program authorities to introduce talented students to Federal service in both entry and mid-level professional positions. We should work with OPM to increase Federal authorities to become more competitive with the private sector.

The government also needs to increase contributions to the enhancement of the infrastructure of traditionally minority and disabled educational institutions. Faculty exchange programs, partnerships, cooperative projects, curriculum articulation, and the like is a sample of activities that, although seemingly indirectly related to the diversity of the Senior Executive Service, could pay big dividends down the line. Profitable long-term relationships with these schools could provide us a steady supply of well-qualified and interested applicants. Various agencies have developed formal agreements with schools with diverse populations to initiate such relationships.

**•Outreach Activities:**

There are several excellent examples of innovative outreach initiatives. The USDA Forest Service's Commencement 2000 pilot in Oakland involves relationships with parents, children, and faculty of Oakland City Schools—from kindergarten through high school. The schools have developed programs in natural sciences which enhances the interests of students and provides opportunities for on-the-ground learning experiences through field trips and work. Built into the program are opportunities for additional cooperative education, mentorship of students, and other work experiences with the Forest Service. Commencement 2000 also ties the elementary, middle, and high school program to working agreements with a community college, the University of California, and other community organizations and groups.

The BLM and the Forest Service have used recreational fisheries as a vehicle for developing

partnerships with private firms to sponsor Fishing Days for inner city and disabled youth. Before and after the event, they receive materials and instruction about natural resource management and environmental protection.

BLM is also improving its communication techniques. It has developed a natural resource video series (in Spanish and closed captioned) for use by teachers, the "BLM Rap" video for use in schools and fairs, and a recruitment video geared towards HBCUs. The underlying theme of all outreach efforts should be to tie the government agency closer to the community from which it hopes to gain more interest, respect, support and potential employees.

#### HOW DO WE KEEP THEM?

In a 1989 study of employee retention, the Merit Systems Protection Board (MSPB) reported that 25-30 percent of all attrition occurs within the first year of employment. In order to receive a significant return on any investment the Federal government makes to recruit women and minorities, and ensure that it continues to be a viable employer of well qualified and successful leaders for tomorrow, we must focus on the retention of these employees. High turnover rates can be both psychologically and economically costly.

*How do we keep them then? Are barriers to the retention of women, minority and disabled executives any different than those that are common to all Federal executives?*

Factors contributing to job satisfaction for all Federal executives include:

- career and professional development challenges
- quality of assignments
- quality of agency goals and priorities
- quality and attitude of agency peers (favorable organizational culture)
- ability to participate in projects and task forces
- ability to accomplish agency goals
- ability to manage with independence
- family-friendly policies, respect, recognition, and empowerment.

What are those factors? Formal exit interviews are needed to determine specific problems at each agency, but we will discuss some common barriers here.

**•Working Environment:** First, there are barriers based on the agency's climate or culture. A permeable organizational climate that provides for exposure to key developmental opportunities, inclusion in key versus support positions, mentoring programs, access to high profile mainstream assignments, and inclusion in formal, as well as informal, communication networks removes many of the retention barriers for women and minority executives.

An organizational culture that is flexible and values the differences that women, minority and disabled executives bring to an agency, will rate high on a list of desirable employers. One that formally dispels, through training programs and, by example, preconceptions and stereotypes of minority, disabled and female abilities and desires will come out ahead in the quest to retain valuable executives.

*A clear statement from top management articulating the goal of creating a culture where women and minorities can work to their full potential is imperative.* An atmosphere of welcome and inclusion must be established right away through formal orientation programs and echoed throughout the early stages of employment through word and deed.

**•Life-Style Policies:** Second is the subject of policies that accommodate career and family obligations. Although the concept of a "family-friendly workplace" is a gender-neutral one, many of these issues emerged as more women joined the workforce. With increasing numbers of women in executive positions, agency policies may need to focus on the issue of support for managing career

and family responsibilities. This includes policies that address issues such as flexible and innovative work arrangements, child care, elder care, spousal assistance with job searches in the event of relocation, and parental leave. These policies need not be targeted solely at women, but at all managers attempting to balance their family and work needs. Investments in programs and policies that help executives manage career and family pressures will pay long-term dividends with respect to retention and career commitment.

Some major corporations have established progressive policies to aid in the retention of their valued employees. For example, IBM provides an unpaid parental leave with full company benefits of up to three years. The employee must be available to work part-time during the second and third years and is guaranteed a comparable position upon returning to work. Johnson and Johnson employees can negotiate flexible work arrangements with their supervisors in order to care for a child or another family member. Managers and supervisors receive family-focus training, which uses case studies to illustrate both flexible schedules and paren-



PZ 7/92

tal leaves. At Ghubb & Son, Inc., a New Jersey insurer, a sponsor gets his assigned female middle managers projects in a variety of areas so that she attains the breadth of experience essential for top jobs. Apple Computer is in the process of developing more formal telecommuting guidelines and a telecommuting pilot program. All of these creative strategies enhance an organization's ability to keep in step with the human needs of its employees. Astute managers understand that such strategies are in fact investments which serve to create a sense of loyalty in employees that usually pays off later in terms of increased retention and greater productivity.

#### CONCLUSION

The Federal government just now seems to be engaging itself for the competition to attract "the best and the brightest." The Federal government is only beginning to collect data on the recruitment effort. In mid-June 1992, OPM Director Constance Newman released OPM's plan to increase recruitment from HBCUs. In September, 1992, MSPB is due to release a comprehensive study of barriers women face in attaining SES positions in government. Various agencies, such as BLM and the Forest Service are developing specific executive recruitment plans.

*The question is "Is it too little too late?" Some agencies will be facing retirement rates as high as 40 percent in the next few years. We seem to have problems even retaining the talented women and minorities we have now. It is time to stop talking and start acting. The time is now, the place is here and it is up to the current cast of Senior Executives to solve the problem.*

We need to create a Federal leadership which is more reflective of the work force and the publics the Senior Executive Service is intended to serve. It becomes imperative that we must find the ways to bring people of color, women, and disabled individuals into the leadership of the Service in the 1990s and beyond.

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IS DOING SCIENCE GOOD PREPARATION FOR BECOMING A MANAGER? THIS MANAGER SAYS, YES, THE SKILLS LEARNED AS A SOIL SCIENTIST HAVE TRANSFERRED WELL TO MANAGEMENT.

## NO EARLY PLANS TO BECOME AN AREA CONSERVATIONIST

JANET L. OERTLY

I used to work as a soil scientist and now I am an area conservationist. A career change from a soil scientist (a technical position) to an area conservationist (a management position) is not that common in the Soil Conservation Service. I really hadn't planned to jump from soil scientist to area conservationist. As with many career field changes I have seen, circumstances and unanticipated factors played a dominant role in determining the outcome.

My career with the SCS began in January 1979. Prior to this, I worked as a student intern, on a voluntary basis, on the SCS soil survey staff in my home county in Pennsylvania. The western Pennsylvania landscape has a lot of relief and is dominated by forested hills. Industry there centered more around forest products, including paper production, carbon plants, and coal mining, while agriculture played a minor role. It is an area that normally gets over 40 inches of rainfall in a year. Life moves at a fast pace.

In 1979 I reported to work as a Soil Scientist in Faulkton, South Dakota. My parents felt like I was moving to the Arctic circle or somewhere just as remote and desolate. I was exactly where I wanted to be, however. I had fallen in love with the Dakotas at the age of 12 on my first trip west.

It is an understatement to say that South Dakota is very different from the mountains of western Pennsylvania where I grew up. It has an entirely different type of landform, with natural resources, commerce, and cultural development unlike that of the eastern states. South Dakota's beautiful landscape varies from the basically flat plains in the eastern part of the state to the rolling range country and the mountains of the Black Hills in the western part of the state. You can see for

miles. Humidity is rarely a concern, as the average rainfall for a year is half that of western Pennsylvania. It definitely got colder in the winter, but it was a dry cold. With few trees and the wide open spaces there was a lot more wind. Agriculture and tourism are the prime industries in the areas in which I worked. Life moves at a slower, less harried pace.

South Dakota's survey was conducted like those of other states where I have worked: the soil survey areas were generally established on a county basis, and the local county government contributed funds to get it done. The survey provides soil maps for the whole county and are often used as a basis for property taxes. In addition to the maps, the survey contains interpretative and engineering data about each of the soil types. While the agricultural community is a primary user, the survey is also widely used by engineers, private consultants, developers, real estate agents, planning commissions, and individual home owners. It can be utilized—among other uses—as a source for basic soils data, possible crop yields, suitability for dwellings with basements, and recreational development.

I thoroughly enjoyed the six years I worked in South Dakota. My last duty station was at Wall, South Dakota (home of the famous Wall Drug Store). While at Wall, I had the opportunity to map in the Badlands National Park Sage Creek Wilderness Area because it fell within the boundaries of the survey. Motorized vehicles are not allowed in the wilderness area, so I had as much as a four-mile hike in and out of the area everyday. In the wilderness area I had to contend with a herd of buffalo on the open range and even greater numbers of rattlesnakes.

Mapping the wilderness area also had its moments of sheer delight. Two experiences in particular come to mind.

The first occurred when I was working in the park after a few days of rain. The soils in the park are dominated by swelling clays. This characteristic and a little rain will transform them into something akin to axle grease. On this morning, a small group of antelope were staying just ahead of me as I hiked—like Bigfoot with sticky soil stuck to my boots—into the park. In order to keep their distance from me, they needed to cross over one of the smaller, barren badland hills. I watched these normally sure-footed animals attempting to maintain their footing on the slick hillside. Hooves were sliding in all directions and a few of the antelope even took a stand-up slide back down the hill. It was real slapstick, fall-down comedy. The second incident occurred when I was hiking out after a particularly hot, dusty, and trying day. I had been following the Sage Creek valley out to the road, late in the afternoon. The sun was just sinking low on the horizon, casting that golden glow of the late fall to everything it touched. As I stopped to look back at the splendor, the coyotes started howling. The howling started way down in the valley and continued moving up the valley towards me as more coyotes joined in. It really was an indescribable sound. I loved every spirit-lifting minute of it.



The process a soil scientist goes through everyday while mapping is the same. I would start out by looking over the aerial photography of the area to pick out any tonal changes or patterns that could indicate changes in soil types or in the landscape. I then began working across the landscape probing holes as often as needed to verify the soil types I was crossing. The type of vegetation growing on the soils was also noted. If the area had any relief to it the slope of the ground was also measured.

I made decisions about which soil series and mapping unit best described the area. The area was drawn out on the aerial photograph and labeled. I kept notes about different observed conditions; certain soil borings were described in detail and sampled for future reference.

During the spring, summer, and fall, I worked alone, outside. In the winter, I worked in the office on the written portions of the soil survey manuscript. Soil scientists are staff positions, doing scientific work.

The work of a soil scientist on a soil survey provides the basis for everything we do within SCS. As much as I enjoyed mapping soils, however, I began to get restless. I was looking for more responsibility and even more variety in my work. At the time there were not many opportunities for advancement as a soil scientist in South Dakota, so I began to look elsewhere. I was offered (and took) a position as Soil Scientist on an area office staff in Maryland in May 1984. I had greater responsibilities, in that I now worked with eight counties in an area targeted for special conservation assistance, and there was a definite increase in variety.

All of the counties in this area of Maryland had completed soil surveys so most of my work involved conducting on-site investigations and making specific soil interpretations. There was not a day to day routine for this soil scientist job. I provided technical data not only to the eight field offices I covered but also to consultants, local government, developers and individual landowners.

Providing these services usually involved a site visit for soil borings and descriptions. The number of borings would vary with the size of the site and the type of data that was needed. I provided soil interpretations for everything such as the depth to the water table or whether a site would leak if a pond or an animal

waste lagoon were constructed in it.

In 1985, I transferred to Indiana as a soil conservationist. Since the statewide soil survey had just been completed, there were no soil scientist openings available. A year later, I was promoted to District Conservationist. The DC is in charge of the operations of a field office which works with the local Soil and Water Conservation District (whose boundaries usually match the county's). The DC may supervise a staff of one or many, depending upon the activities, and deals with agricultural landusers as the primary client—but they also work with urban concerns in the more urban counties. The DC needs to be a good manager as well as a technical expert in the fields of agronomy and soil conservation.

In order to be successful, both a soil scientist and a district conservationist need to master the same good communication skills. In most mapping situations, soil scientists talk with landowners with a wide range of temperaments and opinions of the government and the government's employees. They need to be able to explain what they are doing, along with why and how it would benefit that landowner to allow government personnel to map on their land.

Area soil scientists often find themselves in the middle of differing factions who may or may not want development, for instance. The soil scientist needs to be diplomatic, to not take sides, to just present the facts regarding very delicate situations.

An area conservationist needs good management, communication and people skills, too. I was promoted to that position in December 1989. An AC is a line position, considered to be middle management, involved in the process of setting policy and procedures for the whole state. I manage agency operations covering 19 counties in Indiana and supervise 31 employees. Seventeen of the individuals under my supervision are District Conservationists. The remainder of the area staff are in various scientific, technical and clerical positions.

There definitely isn't daily routine for this job. The AC is manager, "boss," coach, advisor, counselor and sometimes mentor for the employees in her Area. The AC serves as the communications link between the state office and the field offices and back again, but also needs to maintain a level of technical competency

in order to provide answers to the technical questions that come up.

The bulk of my days are spent on the road visiting the Area's field offices answering—or asking—questions, or going to meetings. The meetings cover everything from training to setting policy to briefings on the latest programs and concerns from national headquarters. While in the office, I spend a typical day like most mid-level managers: on the phone solving problems, trying to catch up on all of the mail, and writing reports. Each day's mail and almost every phone call bring new opportunities and variety.

The years I spent working as a soil scientist gave me some good experiences with people; they also gave me the opportunity to think on my own and to be responsible for my decisions. As a soil scientist, I was out there, on my own, day after day. The job demanded that good decision making skills be used frequently. The move from a soil scientist to an area conservationist, (or from any scientific position to a management position), even if it is a little unusual, shouldn't be uncommon. Time spent in scientific positions can provide a solid technical base to build upon. It can also help you to have more empathy with the people you supervise and for their concerns.

*Janet L. Oertly is Area Conservationist for SCS stationed in Rensselaer, Indiana. Her Bachelor's is in Geology from Thiel College, Greenville Pennsylvania and her Master's is in Agronomy from The Pennsylvania State University. She began her career with SCS in 1979.*



*Inward Bound: Exploring the Geography of Emotions* by Sam Keen (Bantam Books) has as its theme, one might say, that we are seldom too tired to do what we really want to do. So the key to living—fatigue and hassle-free—is to become fascinated and purposeful about our work. Make sure to choose the job well, concentrate on it, and enjoy it.

In an effort to live a healthy life, many people set their goals too high and then quit completely when they don't make the grade. John Travis and Regina Sara Ryan, coauthors of *Wellness: Small Changes You Can Use to Make a Big Difference* (Ten Speed Press) counsel breaking the impossible goals into more possible increments. Example: Every tense situation—or even memories of tense situations—causes a change in breathing. The more tense, the shallower the breathing. To relieve stress, do breathing exercises. Another example: Don't chase strong emotions away. Befriend them and accept them as valuable feedback telling you that something is in need of attention. Then attend to it.

Ann M. Morrison wrote *The New Leaders: Guidelines on Leadership Diversity in America* (Jossey-Bass Inc. Publishers) to

identify the nation's best practices for encouraging the advancement of the new leaders: white women and people of color. She is the author of the best-selling *Breaking the Glass Ceiling*. She and her colleagues interviewed 200 managers at 16 workplaces for the book.

The Society of American Foresters (SAF) released a survey August 24, 1992 showing that the number of degrees granted in forest resource programs increased from 2,958 in 1990 to 3,246 in 1991 after a decade of decline. Statistics also show that the 46 SAF-accredited schools enrolled 18,988 students (both graduate and undergraduate) in forestry, recreation, wildlife, fisheries, wood science and technology, natural resources conservation, environmental science, and similar programs: a 16 percent increase from 1990-91 to 1991-92.

Forestry remains the most popular with 7,155 students, showing a 20 percent increase. The percentage of women in forestry in the nation's universities is at 28.9 percent. For a copy of the complete survey, send \$15 to SAF Enrollment Survey, Dept. of Science and Education, 5400 Grosvenor Lane, Bethesda, MD 20814.

In a book about kids *Smart Kids, Stupid Choices* (Dell Publishing) author Kevin Leman reveals that adolescent put-downs are really a show of children's own feelings of inferiority. These kids can't see the good in themselves and so refuse to see good in anything or anyone else. Another book on parenting *I'll Never Do to My Kids What My Parents Did to Me* by Thomas Paris and Eileen Paris (Lowell House) tells us to admit mistakes and apologize to our children for overreacting to the small stuff. It is not the mistakes parents make that injure children, it is the denial of those mistakes.

The *Explorabook* (Klutz Press) has an interesting and fun collection of basic scientific concepts, projects, and experiments (magnetism, lightwaves, optical illusions, biology) with materials included.

The American Ornithologists' Union and the Academy of Natural Sciences of Philadelphia put out the first installment of *The Birds of North America*, a comprehensive, up-to-date reference on nesting birds. Thirty to 40 accounts will be published in a year with profiles of the remaining 700 species released as completed over the next 10 years. The Office of Migratory Bird Management and the National Fish and Wildlife Foundation are supporting the series. To subscribe, contact *The Birds of North America*, PO Box 687, Holmes, Pennsylvania 19043 (800-345-8112).

The National Council for Research on Women has a number of useful directories such as abstracts of research projects and books, opportunities for research and study, women's organizations, and others. Write: NCRW, 47-49 E 6th St, New York NY 10021 (212-570-5001) for their order form and information.

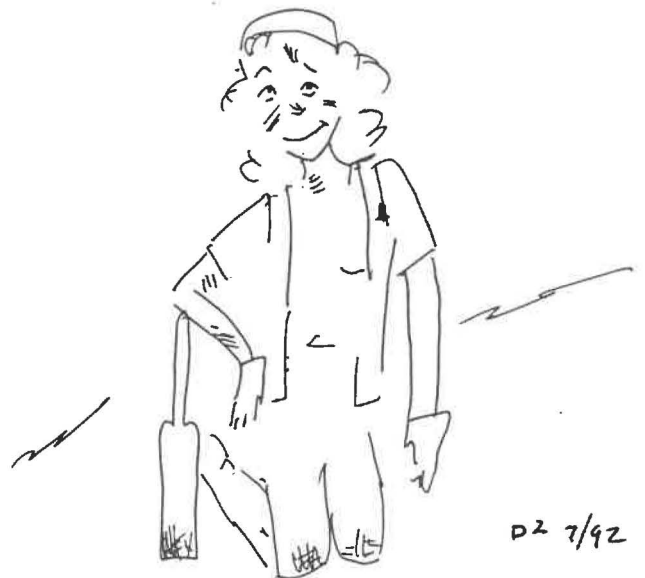
Gender discrimination by faculties in this nation's universities is a grim reality on too many campuses. Affirmative action has helped, but most imbalances have not been redressed. The good news: in the 1980s, the number of women earning doc-

torates rose significantly. The bad news: these women increasingly held part-time and adjunct positions, and earned much less than their male counterparts. Mary M. Dwyer, Arlene A. Flynn, and Patricia S. Inman wrote "Differential Progress of Women Faculty: Status 1980-1990" in John C. Smart, ed., *Higher Education: Handbook of Theory and Research*, (Agathon Press) to synthesize research on the topic by a number of scholars.

The North Dakota Wildlife Viewing Guide (with a handsome buffalo cover) details 81 of the best places in the state to find everything from white-tailed deer to white pelican. For information: North Dakota Game and Fish Department write: Outdoors Library, 100 N. Bismarck Expressway, Bismarck ND 58501-5095.

Making a World of Difference is a directory of Canadian women who specialize in international affairs, some of which are environmental. There are 250 women profiled. Get information on prices from the Canadian Council for International Cooperation, University of Toronto Press, 5201 Dufferin Street, Downsview, Ontario, M3H 5T8 Canada.

The Glamor! The Acclaim!  
The International jet-setting  
World of Soil Science!



IMPLYING THAT BECAUSE YOU ARE A WOMEN OR MINORITY YOU WERE GIVEN THE JOB REALLY RANKLES.

# ELEVEN LOCATIONS, THIRTEEN YEARS EXPERIENCE, FOUR GOVERNMENT AGENCIES

JANE YUNGMEYER

I have listened to many unsolicited opinions on how easy it is for women and minorities to get in, move up, and write their own ticket in the federal agencies these days. From my own and others' experiences in the natural resource fields, however, I have found that most of us have had more than our fair share of obstacles to overcome in the agencies. In the nontraditional employees that I have met, I have observed a special determination to succeed and a real effort to get along in an environment that is not always receptive of them.

I am presently a district conservationist (DC) with the Soil Conservation Service (SCS) in Wyoming. A typical Wyoming DC could be described in the following terms: white, male, married, lives to hunt. I'm sure most of us who are of the "atypical" wave of employees in the traditionally male fields have asked ourselves at one time or another, "How did I get here?" "Will I ever be accepted here?" and "Do I want to stay here?"

My work experiences have more often than not taught me what I did *not* want to do for a living. I started college and was considering ways I could be involved with the ranching industry, short of inheriting a ranch (very unlikely), when I was hired for a work study position with the Animal Science Department at the University of Wyoming. I found out why there had been so few applicants for the job the first time I had to fill a thermos with the rumen contents of a fistulated steer. It took a strong stomach to pull that plug, which was my job on a weekly basis. I looked into other fields and decided on Range Management, which has an emphasis on vegetation.

My first work in the field was the unglamorous job of searching for toads at night. I had the distinction of *not* finding a rare and endangered toad for the Wyoming Game and Fish Dept, but it wasn't for lack of effort. Our crew of nine "toad hunters" covered every hay field, wetland, shoreline and riparian area in the Laramie Basin, only known location of this species. While not really expecting to see any at night, we listened for

a distinct "toad call" to surface above the other sounds of the swamp. While only two toads were located that season, a population was eventually found and is thought to be on the increase. Good news for the toad loving community.

The summer after graduation I was hired by the Medicine Bow National Forest as a forestry technician in Esterbrook, Wyoming. Not exactly my field, but a foot in the door for seasonal work. I anticipated tree hugging and painting but on arrival found out I was to be crew boss for a thinning crew. We were each issued our own chain saw and sent to the woods. The only time we didn't have to cut was when we fought fires. This was my first time on an all male crew and the hardest physical work I had ever done. It took a month or so but by "bucking up" and learning to chew long cut tobacco I was accepted as well as any of the guys as an "Esterbrook Timber Pig."

The first couple of winters following graduation, I was able to fall back on some of my "pre-range" skills and find work either bartending or waitressing. The next two summers I continued to do range technician work for the Forest Service. I spent a summer headquartered in a trailer with eight men on Thunder Basin National Grassland, 90 miles from anything remotely resembling civilization. This area is used almost exclusively

for wildlife, livestock grazing, and oil and gas. Opportunities for recreational activity were extremely limited (thank God for three day weekends and roads out of there) but I couldn't have asked for a better area to study range.

A break came for me the winter I was hired to collect data for a Big Horn Sheep Habitat Improvement Study for the University of Wyoming Zoology Department. By this time, the thought of moving to the end of the North Fork of the Shoshone River Drainage to live 50 miles from Cody, Wyoming, in a cabin all winter didn't even phase me. My dog, Daisy, and I lived for two winters on a big game winter range, surrounded by wilderness. I tracked and radio collared Big Horns, recorded census surveys and weather data, conducted forage transects on the side of cliffs, determined forage preferences and habitat types. I also helped capture several Big Horns and a Mountain Goat. Located in a steep canyon where the sun went down at 3:30 p.m., I read a *lot* of thick books and hunted mice in the cabin with a BB gun in the evenings. Sometimes you have to make your own fun.

I worked two more seasons for the Forest Service on the Laramie District, habitat typing high altitude sheep allotments in the Snowy Range and continued to update my application for the range and soil federal registers.

I was hired as a soil conservationist with the SCS in 1987. I worked for a year in Pinedale, Wyoming, a small ranching community of about 800 people, and then was transferred to Farson (population 300) to be the planner for a Colorado River Salinity Project. The community was very receptive to the project as we cost shared pivot sprinkler systems, a luxury most of the Wyoming part-time alfalfa farmers could not have afforded on their own. The sprinklers replaced flood irrigation, a practice which caused salts to percolate into the river system eventually ending up in the Colorado River.

A year later I volunteered to take on a collateral assignment as Wetland Coordinator and moved to Greybull, Wyoming. I



traveled the state to provide assistance to the field offices in the wetland inventory process as part of the "Swampbuster" provisions of the 1990 Farm Bill.

Before this inventory was completed, a hold was put on the wetland inventory because of possible revisions to the Federal Jurisdictional Manual for Delineating Wetlands, the interagency publication which outlined criteria which defined a wetland. Changes in the criteria could mean starting the inventory over, a massive workload for an already overextended SCS workforce.

As wetland inventory work was winding down, I applied for a district conservationist position in Sandpoint, Idaho. Although reluctant to leave Wyoming, I felt it was the only way to gain enough work experience to compete for some of the higher grade DC positions. I moved to Sandpoint (near the Canadian border), sight unseen, to work in a completely different resource area that received more precipitation in one year than I had seen in the last five.

I moved back to Wyoming after successfully competing for the DC position in Lander in 1991. Lander is one of the busier offices in the state, with a staff of six people, an active conservation district board, a water quality project, and a heavy engineering workload. One of the things I like about working for the Soil Conservation Service is the variety of work we do helping landowners with all resources—not only range but irrigated pasture and cropland, restoration of riparian areas, dryland cropland, and enhancement of wildlife habitat.

The work I have done in different disciplines, agencies, and locations has been invaluable in the planning of resources and understanding of landowners' objectives. My experiences are not much different than others' who are determined to work in the field of their choice. While there will always be those who claim we are where we are because of "quotas," the important thing is having confidence in your own abilities. We need to keep in mind that the more varied the background, whether culturally, racially, gender-wise, or geographically, the more an individual brings to the job. Diversity in a workforce is not only necessary to serve a diverse clientele, it is more interesting and brings new ideas and ways of viewing the world.

*Jane Yungmeyer is District Conservationist in the Lander, Wyoming field office. Her Bachelor's is in Range Management from the University of Wyoming.*

## OPINION: Continued from page 2

National Forest land provides *at least* as much environmental protection as the countries from which we import, and usually more, if one assumes that environmental protection in areas like Siberia or some of the emerging nations is not likely to be strong.

Last Sunday in the San Francisco *Chronicle*, I read an article about Alice Walker. I have enjoyed Ms. Walker's books for many years. In the article she spoke of her support for demonstrators protesting logging in the Enchanted Forest, which is on privately owned land in north coastal California. How could any right thinking person not support protest against logging in something as wonderful-sounding as an "enchanted forest?" She compared the struggle to save redwood trees to the struggle inherent in the Rodney King verdict. The article contained a picture of her in her "paradise estate in Mendocino County." Her large home was impressive. Wood floors, wood paneling, and what looked like a redwood deck. Neither Ms. Walker, nor the reporter apparently saw any irony in that.

I thought about saying that I didn't want to pick on Ms. Walker, but perhaps picking on her isn't so bad. I don't expect much from the mouthing of a celebrity who is considered suitable to be an issue spokesperson solely on the basis of white teeth or compelling biceps. But I'd like to expect more from a celebrity who makes her living from thinking and writing. I do admire Ms. Walker, and that's what makes her comments particularly annoying. If asked, she might say she isn't against logging, but she does want to protect the special pristine places from destruction.

Well, I guess I do too, but stopping harvest in the Enchanted Forest puts more pressure on other places, and Ms. Walker did not comment on that. Judging from her home, she certainly isn't trying to use less wood. Preservation without thought of the consequences on other places would be like if solving social or racial problems in Los Angeles caused an immediate and comparable increase in oppression someplace else. We'd think about the problem in different terms wouldn't we? But looking at world consequences is harder than just saying logging should be stopped. When one considers global implications, the location of the moral high ground isn't so clear anymore, is it?

I too like the idea of a kinder, gentler forestry. I also like wildlife and wild lands. But I'm not willing to sacrifice the world to "save" the ecosystems only in my backyard. Natural resource management is not as easy as prohibiting use. It's not as easy as a campaign speech or a TV show where all is resolved before the last commercial.

It involves more than rhetoric and it needs to start with our pledge *to use only what we produce*. And we can produce what we use. What we can't continue to do is pass off our problems on other, often poorer countries. All those who cry for a holistic view of nature need to start looking beyond their backyards for the ultimate effects of their escalating use of natural resources and their short-sighted concern to lock up the forests from timber harvest.

There isn't one answer. There is no simple answer, and we may not be able to redesign forest management in fifteen minutes. I hope these are not insurmountable constraints. If we truly want less timber harvest, or want timber harvesting done in a different way, we all need to accept the costs.

We can start by limiting wood imports, and end by stopping them altogether. We can recycle, and pass laws to require use of recycled materials. We can have fewer children. We can require building designs that use less wood. We can explore alternative materials, with a requirement that these alternative materials not use non-renewable resources, or use less energy. (For example, aluminum supports take more energy and are more environmentally degrading to produce and are non-renewable.) We can increase our utilization of harvested trees. We can research genetically improved trees. We can live in smaller homes. We can form alternative housing cooperatives where communal space is used, and structures are more efficient. We can let supply and demand do its job and accept the higher price for all wood products.

Higher prices for wood products—and believe me prices would be higher—would occur and occur soon. These increased prices would not only help the communities dependent on timber harvest, but more importantly, it would help spread the costs of managing our forests responsibly. Are we willing to do this? Or do we want it all for free, and let the rest of the world pay?

I like my redwood deck, my paper and my 2,500 square foot wood house. Just make sure the wood products for all this don't come from my backyard.

*DeAnn Zwright is an employee of the Forest Service, Pacific Southwest Region, San Francisco. She has a degree in Forest Management from the University of Missouri. She has worked for the Forest Service for 12 years in northern California and Arizona. Her Forest Service experience is in timber sale planning, silviculture, appeals, and training and implementation of the National Environmental Policy Act. She is currently working on guideines for management of the California spotted owl.*

\*Opinions expressed are by the author and do not represent the position of the Forest Service.

A REPORT ON HOW THE FEDERAL WOMEN'S PROGRAM IS DOING IN TEXAS, AND HOW THAT GIVES A DC NEW PERSPECTIVES, AND ACRONYMS. WOMEN ARE NOW 16.7 PERCENT OF THE SCS WORKFORCE IN TEXAS

# DC AND TEXAS' FWPM

ELISHA KUEHN

The job of District Conservationist is rewarding because you are given the opportunity to make a difference in a community. You work with individuals, groups, and other units of government. In my case, our office provides conservation services to all of Collin County, approximately a half million acres, keeping our office in McKinney, Texas busy.

**Collin County and the District Office**  
Collin County is situated in the Blackland Prairies resource area and roughly 50 percent of it—or 290,000 acres—is considered prime farmland. The soils formed under grass vegetation and are dominantly dark colored and clayey. The most common soil series is Houston Black clay which makes up 34 percent of the county and is considered a prime farmland soil. Primary landuses include non-irrigated cropland (214,000 acres) and pasture/hayland (188,000 acres).

Although agricultural income in 1990 for Collin County was estimated to be \$26.9 million, it is currently the sixth fastest-growing county in the United States and the second-fastest growing county in Texas. I direct an active information program, designed to keep our various clients—recently arrived or long settled—up to date on what we provide. Newspaper articles are published in the 10

local newspapers. Television and radio programs are done on timely agricultural issues. Each year, the Collin County Soil & Water Conservation District, with assistance from the SCS staff, publishes quarterly newsletters and an annual report in a calendar format to highlight their conservation activities. The Office also participates with other agencies such as the Extension Service to hold tours and educational programs for the public.

In my current position, I serve as the SCS representative to the Collin County Soil & Water Conservation District. The SCS provides its programs to the public through the District. The most common services provided include: conservation planning, implementing the 1985 and 1990 Farm Bills, and installing conservation practices such as terraces, waterways, and erosion control structures. The staff provided assistance to 774 landusers on 71,054 acres of land in fiscal year 1991.

The 1985 Farm Bill placed a large workload on the McKinney Field Office—over 600 conservation compliance plans developed in the county. The Office is responsible for assisting farmers in revising these plans as needed. The staff will also have to service all of these plans prior to December 31, 1994, to certify that the conservation systems have been installed on each tract as planned.

The SCS provides assistance to the District and Collin County Commissioners

Court (local sponsors), to operate and maintain 100 floodwater retarding structures located throughout the county. These structures were built under Public Law 566 by the SCS and local sponsors to reduce flooding and prevent siltation of Lake Lavon, a public water source. Most of the structures were constructed during the late 1950's to early 1970's. Due to the aging of the structures, maintenance is essential in order to continue receiving the maximum benefits.

As District Conservationist, I supervise a staff of two full time SCS employees, one full time county employee, and two seasonal part-time district employees. Training plans must be maintained on employees to insure that their training needs are being met in order for staff to respond to the heavy and varied workload.

## Texas Federal Women's Program

In addition to my position as DC, I accepted a three year collateral position as Texas' Federal Women's Program Manager for the SCS this past October. Approximately 20 percent of my time is spent keeping the State Conservationist informed on issues impacting the employment and advancement of women in Texas, and to serving as an advisor to the Texas SCS Equal Opportunity Committee.

Texas has an active Federal Women's Program (FWP). Nationwide, the Federal Women's Program was established in 1967 as a result of Executive Order 11375 signed by President Johnson. The Order had a purpose: to increase the number of, and provide career advancement for, women in the Federal workforce. SCS developed an FWP Committee to assist the FWP Manager to identify barriers to employment and career advancement. The Committee consists of two members from each of the five identified zones in Texas, the State Office Coordinator, FWP Liaison, Associate FWP Manager, and the FWP Manager. The Committee meets quarterly in different locations across the State. We review recruitment and career

continued on page 53



"THE PLACE TO BE IS RC&D" IS THE CATCHY SLOGAN OF THOSE WHO ENJOY WORKING ON LOCALLY CONTROLLED, MULTI-FACETED PROGRAMS. HERE IS AN OVERVIEW OF THE WORK RC&D DOES NATIONALLY, AND A LOOK AT ONE KENTUCKY PROGRAM.

## MAMMOTH CAVE AND RC&D

RUTHI M. STEFF

The world's largest underground cave system, Kentucky's Mammoth Cave, has 1990s environmental problems. One of the seven natural wonders of the world, the cave has a drainage area of approximately 296,000 acres that have surface and subsurface pollutants—both point and non-point problems. These pollutants come from the same sources plaguing other places in this country: crop fields, critically eroding areas, construction sites, animal waste from concentrated feed and loafing areas, municipal sewage effluents, septic tanks, old abandoned oil and gas wells, and others.

No intense studies have yet determined the extent of the water quality impairments. This miracle of nature may not continue to be enjoyed by the public and studied by scholars unless the pollution problems are addressed.

In light of such dire predictions, local citizens have formed an oversight committee to address these issues now, using the Resource, Conservation and Development Program or RC&D. This program is new (authorized in 1991) to the 10 county region it serves in south central Kentucky and is known as the Mammoth Cave RC&D Area.

### RC&D nationwide

The RC&D program nationwide, however, is not new. It was authorized by Congress in 1962 to develop, improve and conserve natural resources and provide employment opportunities to a designated physical area.

RC&D is a multifaceted program with emphasis on community development that includes social, economic, and environmental concerns. The program provides a coordinator along with technical and financial assistance for various projects.

Outside money provides the bulk of funding for the RC&D projects. Funding comes from assorted federal, state, and local agencies, private and corporate foundations, gifts, and fund-raising activities. Currently there are 238 areas nation-wide that cover 1772 counties.



Projects, goals, and objectives of the individual RC&Ds are directed by each RC&D council. Council members are representatives from county and city governments and the local soil and water conservation district. These councils are responsible for directing the program and are the driving force for planning and implementing projects that the RC&D area initiates.

RC&D projects are referred to as measures. Measures are planned and implemented according to an area plan. This plan is a combination of available resource data, goals and objectives that reflect resource problems. The needs and projected workload goals are determined by local community leaders, concerned citizens and others.

### The Mammoth Cave RC&D

In addition to The Mammoth Cave RC&D there are seven other authorized RC&D councils in Kentucky. The other seven are: Pennyrite, Green River, Licking River Valley, Cumberland Green Lakes, Cumberland Valley, Heritage and Big Sandy. Other councils seeking authorization include Lincoln, Kentucky River, and Thoroughbred.

The Mammoth Cave RC&D Council works from a pro-active standpoint with conservation issues. The Council is committed to use local people with a group of technical advisors to make recommendations and make programs work.

Technical advisors are representatives of local, federal and state agencies that inform and assist the council in their

respective area of expertise. Some examples include: Kentucky Flood Control Commission, Cooperative Extension Service, US Forest Service and the Kentucky Division of Conservation. The role of the Soil Conservation Service in all of this, is that of a partner allowing the councils to use the SCS services of the coordinator, clerk, technical assistance such as engineering, agronomic and geologic recommendations, office space, and equipment.

In the case of the Mammoth Cave RC&D, the councils authorized: purchase of a Bermudagrass sprig planter for planting hybrid bermudagrass used for hay, improving summer pastures, filtering solid waste effluents, and spreading areas; assistance to the Kentucky Pride Haygrowers Association with a marketing brochure and some equipment; design and fund assistance for parks; technical assistance for closing solid waste landfills; and funds for seeding spoil areas.

### Mammoth Cave Karst Area Water Quality Project

Karst is a name for a landscape where all the surface drainage is directed under ground through sink holes and crevasses in the rock formations below the soil surface. There are no surface streams or creeks. Normally, water in groundwater aquifers moves through soils about one foot each year. In a karst system, groundwater may move miles within just minutes. With this movement, little filtering is taking place. If pollution is a problem, outlets for karst systems like rivers or lakes have a higher risk of becoming contaminated.

Concerning the ground water situation surrounding Mammoth Cave—which suffers from the pollution negatives of the karst system—the RC&D council has approved the Karst Area Water Quality Project for a number of reasons. The council wants to know: 1) what the factors are in the relationship of agricultural practices on groundwater quality in the karst area; 2) what will encourage landowners to install best management

practices regarding animal waste and erosion; 3) how best to educate and inform landowners and the general public about the problems associated with non-point source pollution.

The council plans to supplement this plan with a Water Quality Management plan that addresses all non-point pollution sources and then seek funding for implementation of these plans. This project is not typical because of the unique karst topography.

#### Lost River Water Quality Management Plan

A related project in the Mammoth Cave RC&D Area is the Lost River Water Quality Management Plan. A 35,000 acre watershed in Warren County feeds this smallest, deepest river in the world.

This plan is in some aspects very hard-headed in its determination to restore acceptable water quality, and rather romantic in other aspects as it employs myths and public relations devices to stimulate tourism. In addition, there will be components of a public education program, a pesticide testing center for Western Kentucky University—with a five-year water quality monitoring plan, and funds for implementation of best management practices on all landuses in the basin. Total funding for the project is estimated at 1.4 million dollars.

The cave valley area is actually a karst "window" which allows the public to see groundwater on the surface then go down again underground. The council is assisting the "Friends of the Lost River" with funding to restore the cave valley area and re-open an underground tourist center with an old mill and gift shop.

The council is publishing "Tales of the Lost River," a collection of romantic short stories written by the so-called "Spirit of Lost River," who adopts the persona of a native American whose friends have left the cave over the past 200 years due to pollution problems. In the Tales, the Friends of Lost River and the Mammoth Cave RC&D Council, Western Kentucky University, and the Warren County Conservation District are new friends of the old "spirit." The new friends will clean up his beautiful home.

#### Being atypical is typical for RC&D

These projects are not typical SCS projects. RC&D is program neutral, it serves as a catalyst for meshing programs and areas of expertise from a multitude of sources and agencies. That is the beauty of RC&D. The Soil Conservation Service is committed to partnerships in solving resource problems. RC&D is just a tool, but it is user friendly, and is a "win" opportunity for those who choose to implement it. The best part of my job is that I am contributing to conservation of this country's natural resources that include social and economic benefits. The place to be is in RC&D!

*Ruthi Steff is a Resource, Conservation and Development Coordinator for the Mammoth Cave RC&D. She has worked for SCS for nine years in various locations in Kentucky as a Soil Conservationist and as District Conservationist. Her Bachelor's is in Agriculture from Western Kentucky University with areas of concentration in agronomy, soils, and economics.*

#### DC and FWPM continued from page 50

advancement information on women, develop a Three-Year Work Plan, and identify training needs. The committee develops programs for one day FWP Zone Meetings which are open to both women and men employees in the agency to enhance their careers. The Zone Meetings are generally held the day after the Committee Quarterly Meeting in the same location. Some topics covered during the past meetings have included information on the merit promotion system, retirement systems, and recruitment.

Women make up 16.7 percent of the workforce for the SCS in Texas currently compared to 10.3 percent of the workforce in September 1986. Since 1986, the number of women in professional occupations has increased from 14 to a total of 48 and the number of technical occupations has increased from 12 to a total of 38 as of the end of fiscal year 1991. The number of women employed rose from 98 in 1986 to a total of 151 as of March 1992. The average grade of women is GS-7. The most frequent grade of women is GS-9. However, the average grade of women in 1986 was GS-6 and the most frequent grade of women was GS-4. One of the primary goals of the Committee is to increase the number of professional and technical occupations held by women and continued efforts need to be placed on their recruitment and retention.

The committee is also developing an FWP slide history program, a FWP Pamphlet, and a list of correspondence courses offered by colleges and universities which would aid in self development.

I know from experience that one of the biggest challenges in the SCS is the ability to accept change. Every year, new programs are developed and existing programs change. Flexibility and knowledge in all areas of agriculture is a necessity. As FWP Manager, I feel that diversity in the work force enhances delivery of our always improving services.

*Elisha Kuehn is District Conservationist in McKinney, Texas, near Dallas-Ft. Worth. Her Bachelor's is in Range Science from Texas A & M University. Kuehn has worked for SCS since 1984 in several locations in Texas.*

Former District Conservationists from the Bonner Soil Conservation District in Idaho gathered for their photo in 1991. These four represented all the DCs who had held the position from the time the office opened in 1946 to 1991—45 years.

From left to right: *Jane Yungmeyer (1990-91), Vern Bromgard (1974 to 1990), Tom Wilson (1959 to 1974), Ed Nurmi (1946 to 1959).*



MANY WOMEN ARE TRYING TO BALANCE JOBS AND CAREERS WITH FAMILIES AND RELAXATION. THIS MANAGER DESCRIBES HER OWN SITUATION AND WHAT HER COPING STRATEGIES ARE.

# BALANCING ACT

KAREN CAMERON-HOWELL

My job is very interesting, absorbing, and challenging. The job is, however, only one part of my life, a life which is a complicated process of balancing home and career together, and making each one of them fairly successful.

Several years and two field office positions after beginning my career with SCS, my husband and I adopted our first son. The SCS is, and was, very accommodating to adoptive parents. We received less than 24 hours notice from the adoption agency that we had a baby. The adoption agency required that I stay at home with our new son for a six-week period for emotional bonding and adjustment. My immediate supervisor, the area conservationist, generously said: "No problem. You'll be gone for six weeks?"

## My career

In 1978 I earned my Bachelor of Science in Soils from Michigan State University College of Agriculture and Natural Resources. I've always taken an interest in natural resource disciplines so I had plenty of electives in forestry, water quality, ecology, and wildlife, plus my strong soils emphasis.

I looked into Master's programs at various universities including Purdue, Montana State University, and South Dakota State University (SDSU). SDSU offered the best "practical" program in plant science. Even before my graduate work, I had envisioned a career as a soil conservationist with the SCS so I was elated when I was hired to work for them in South Dakota.

In my current position as an SCS District Conservationist in Brookings County, my job overall is to provide assistance to farm landowners and operators. That mandate is to be carried out in the peculiar topography of our "Prairie Pothole Region"—land that isn't depressional wetlands (potholes) is floodplain. There are four major tributaries here of the Big Sioux River, one of the larger rivers in the state. Most of this land area is underlain by a large, shallow, aquifer which serves as a drinking water source for many rural farms and homes, including Sioux Falls, the largest city in the state.

The SCS is involved in numerous programs, all aimed at reducing nutrient and chemical inputs to the aquifer. These innovative programs are following on the heels of a very extensive land implementation and monitoring program called the Rural Clean Water Program (RCWP). As one of 22 such programs in the nation, ours was among the most successful from the Best Management Practice (BMP) Implementation Phase to the Comprehensive Monitoring and Evaluation Phase. For the past one and a half years, I have been on the final report writing team trying to wrap up all the major findings and accomplishments of the 10-year program. The major findings are voluminous—they take up 300 pages in the report.

My office also serves as a training location. I am training a soil conservationist who is new to the state and to the SCS and I currently am responsible for training

two students enrolled in the Cooperative Education program with the SCS and South Dakota State University.

Since SDSU, a Land Grant University, is located in the same town as our field office, I am frequently asked to speak to various classes. One recent semester I presented a program on conservation planning for water quality to a range science class. I also presented an overview of SCS to a plant science class at SDSU and instructed a section on problem solving using an integrated approach in conservation planning. Each fall I make presentations to a wildlife class (upland game) on federal program impacts on the wildlife community, particularly the increase in habitat brought about by the Conservation Reserve Program.

In addition to this work, I administer the standard programs for which the Soil Conservation Service is well known: providing technical assistance to landowners and operators. These are practices typically targeted at controlling water and wind erosion, such as critical area seedings, range seedings, rotations, waterways, terraces, and tree plantings (farm, field, and wildlife), and also, such programs as the Water Bank Program which is aimed at providing habitat for migratory waterfowl.

## Family life

I was in the graduate program at South Dakota State University when I met my husband, Kent. After our marriage two years after graduate school, I began to look for suitable employment within a reasonable commuting distance—

50 miles—to our farm home near Volga in the east central part of South Dakota. Kent is an owner/partner of a farrow-to-finish hog farm which markets 4,500-5,500 finished head annually. Moving the farm for my career was an unreasonable and impractical request. The SCS employment offered a wonderful solution to my professional dilemma. I have moved to several different office locations as I have taken new assignments and promotions, but I always get home at night.

After the adoption of our first child, and after I went back to work, SCS related stresses and office time management paled in comparison to home management issues like who would take the baby to the doctor for his ear check, who would coordinate the baby sitters, and where do we find biodegradable diapers?

Two years and one more field office location later, we were placed with our second son. (I had decided I was a “boy mommy” and we chose to have boys only). Things went along at their usual breakneck pace until we began to notice that he wasn't reaching certain developmental milestones. This finding set off an entire series of appointments with specialists and trips to medical centers. Many neurological and metabolic tests later found us frustrated at a lack of positive diagnosis. Emotionally, our outlook improved at two-plus years of age when he began walking. Physical, occupational, and speech therapists work with him each week to help him gain control of large muscle responses. A recent “biochemical” development has left us hopeful that we will soon know what's wrong and how to provide treatment for it.

The past couple of years have been very difficult coping with and trying to solve my youngest son's medical puzzle. I make all efforts to be there when my boys need me; when they're ill; when my eldest son's pre-school needs a mom to help; when therapists

need a “second hand.” When they just need some special time to show them how much I care, I'm always available.

But I am certainly not immune to the guilt that most working mothers feel regardless of how gratifying their work is or how much time they spend with family. The media seems to be focusing on professional career women giving up rewarding careers to stay at home with their children. Recently, I've seen less and less supportive mainstream articles for the benefits of the “balancing” act. Several articles from national magazines also have had stories relating how tough it is to stay at home or to work part-time. Part-time doesn't seem to solve the guilt trap.

I have come very close to giving up my career. But my strong sense of (and need for) a professional identity coupled with very flexible and compassionate supervisors showed me that balancing roles of career and mom are possible.

#### **Coping strategies**

I really think my strong ability to focus on each task is to be credited. The minute I step in the door at work each morning I leave my home life behind. I do not mix the two. The same type of response occurs at home. I am so well focused on spending “quality” time with my husband, boys, dogs, garden, etc., that it takes me a moment to “shift gears” if a co-worker calls about a problem at work.

In addition to my already busy household, I am active with plenty of outside interests, such as competing in American Kennel Club (AKC) shows with my dogs. All my dogs have conformation titles and are clear of any genetic diseases. I condition, groom, and show them myself. They are Airedale Terriers and their coats are hand “stripped” which requires a lot of

time. I find this time to be very therapeutic and a good way to unwind after the boys are in bed.

I minimize time spent on tasks that are repetitious such as house-cleaning, laundry, and correspondence. I have hired a college student to vacuum, dust, wash floors, and change bed linens. Every spring, I re-seed some of the lawn, try to grow more trees, and search for more garden space, but from now on, I'm hiring someone to help with the lawn and plant the trees. This will allow me more time to enjoy the kids and time to enjoy the yard and outdoors.

Another thing that has helped me is to deliberately go through a “self-searching” process. I have realized that I do define myself by what I am or what I do. I know that this is not right, but I realize that I need both family *and* career to feel fulfilled. My job does confirm my self worth beyond that of being a mother or wife. Work helps me to see the “big picture” and family keeps work in perspective.

Feeling guilty about the amount of time I'm not spending with my family is self-defeating, so I consciously fight guilt. It's wasting time that I could spend with them or time that I could use just enjoying what life has to offer. I try to take the ups and the downs in stride and cope with it all as best I can. Keeping a positive attitude and focusing totally on the tasks at hand keeps my work caught up and my life under control.

*Karen Cameron-Howell (left) is District Conservationist for SCS located in Brookings, South Dakota. Her Bachelor's is in Soils from Michigan State and her Master's is in Plant Science from South Dakota State University. She will travel to Orlando Florida for the national Rural Clean Water Program Symposium in September 1992 to present the Brookings County findings about their 10 year program.*





BECOMING VISIBLE IN PROFESSIONAL ORGANIZATIONS IS A GOAL WOMEN SHOULD CONSIDER ON THEIR WAY UP THE LADDER. HERE IS ONE WAY TO DO IT SUCCESSFULLY.

# HOW TO ORGANIZE A MEETING

JOAN PRISCILLA KILBOURN  
LAURIE KILBOURN

Women should be taking an active role in organizing national and local level conferences in their professional societies. The more active, involved, and visible women are, the more encouraged others will be. In 1992, however, many women are still considered outsiders to their professions. In an effort to include ourselves in our established organizations, we suggest women begin by infiltrating the establishment, and once in, making it their own. One way for women to become visible is to take an active role in organizing meetings, seminars, symposia, or other kinds of workshops.

## Getting started

Each organization has its own unique procedure for creating the format for meetings, seminars, conferences, and symposia, but learning the rules is fairly easy, and national offices of professional organizations are often enthusiastic about new people and new ideas. Before speaking with the national-level office, however, some preliminary footwork should be done. First, pick a good topic: be sure that enough time has passed since a seminar or conference was held on this subject. Alternately, if one was held recently, determine if sufficient new information exists or has been published to make another worthwhile.

Second, prepare an outline of your topic. In the outline, specifically define the topic, decide who you want to address the group and in what format the information will be presented. Be sure to invite some of your female colleagues to be speakers, and make efforts to include diversity—both cultural and of opinion.

Third, submit the outline for approval. Most national associations and societies have program committees that approve seminar topics for their annual meetings.

Program committees respond in two fashions:

1. Yes - idea approved
2. No - idea not approved

Always first consider the "no" statement to mean *yes, please modify the outline so that it will be acceptable*, rather than a complete rejection of the topic. In some cases though, "no" means "no." There are some legitimate reasons for saying "no." Phone the program committee chair and find out the reason. Begin with a statement of your concerns: you felt the topic was acceptable; you were very disappointed to learn that it was not. Ask if someone from the committee would be available to explain their decision-making process. Don't antagonize the program committee representative, but rather try to display willingness to understand their point of view.

You may be told by the representative: 1) someone else has already submitted the idea or 2) someone else has already submitted an outline that is not quite the same, but the committee felt the similarities between the proposals were

close enough that there would be duplication. If this is the case, ask how to contact this other person and ask that person if you could be the co-chair of the seminar. Ask if they will modify their outline so that you can include your thoughts in their seminar and take an organizational role.

There is a third possibility for no—there have been too many submissions for the time available. At that point ask which outline is closest to yours and the responsible person's name. Contact that person and see if modifications can be made in the outline so that you can include your thoughts in their seminar and play an active part.

In summary, the goal is to get your outline accepted either solo or with someone else as co-chair. With your first seminar, being a co-chair might be the most desirable solution because then you could learn from someone else while running a seminar, receiving attention, and earning credit.

## After the topic is approved

If you have your outline approved then run with it. Get the speakers you want, make the decisions and take the credit. If you choose to piggy-back on someone else's outline, then you will need to learn how to become a team player.



Team player is a fancy way of saying what boys used to have to become while participating in sports. In the 80's and 90's girls were included in some sports and many of us learned the technique. Some of us, however, did not play sports as children so it is encouraging to know that team playing can be taught and learned rather simply by watching children play competitive sports, by watching family members work on business deals, or by doing some experimenting.

While learning, concentrate on this thought: If I want someone to work with me on a project, what can I do to show the other person that working with me would be in this person's best interest?

*Getting to Yes: Negotiating Agreement Without Giving In*, by Roger Fisher and William Ury, explains the art of being a team player. A team is defined as two or more people working together toward a common goal, such as winning a game. In this case as team members, you are working toward a common goal, preparing a successful seminar. Initially, you may agree explicitly the common goal is the seminar, but then you need to define how you are going to accomplish "the win."

Define projects for each member of the team so that no one feels left out or neglected, and all are participating members. Examine participating members' strengths, identify learning opportunities, and then enthusiasm should guide the division of tasks. When you're the new team player trying to piggy-back your outline on another person's outline, double check to insure you're not overly threatening existing members. Tactfully make suggestions of things that would be helpful for you to do to make the seminar go easier. Help solicit speakers on revised topics. Because the outline has changed to include your outline, this will be especially needed. Be genuine in your request for projects, realistic in your offers to help—then carry them out. For example, ask if you can notify people of the seminar, decide how to accomplish this, and then do so.

### The planning

There are two levels of organization to a seminar. The visible level includes the traditional Who, What, When, and Where and the second focuses on behind-the-scenes details to help the seminar go smoothly.

Who? Speakers. Pick them wisely but don't forget to have a mix of genders, races, and opinions.

56 WOMEN IN NATURAL RESOURCES

What? Topic. This is the outline approved by the program committee. At this stage you're working with the non-structured idea and casting it in concrete.

When? Time. This time may already have been established. If this is a new seminar within a larger meeting, however, you may have some flexibility in picking the time. For example, microbiologists in the American Society for Microbiology get together once a year for an annual meeting. At the annual meeting, numerous more narrowly focused seminars are planned to attract members. Other groups that link large annual meetings with seminars are the American Association for the Advancement of Science, and the American Association for Clinical Chemistry. Try to determine a time which would be convenient for most people and not conflict with other programming.

Where? Location. The location of most large meetings are determined and scheduled years ahead, so this will not be your problem. If you are organizing a small seminar within the larger group for a select group, then deciding the location will probably be your responsibility. Select a location which will be convenient to most of those attending the larger meeting.

The second level of organizational involvement for a seminar is more logistic than significant. If these tasks are not done right things will not go as well as they might.

First, plan the platform format. When the seminar occurs, volunteer to either introduce or summarize the speakers—don't forfeit either of these valuable exposures. You should be able to determine which one the chair wants to do, but try not to let him or her do both. This second level of responsibility also includes the following: arrange meeting rooms and equipment for speakers; advertise the conference or seminar; prepare registration material for registration packets or handouts if desired; arrange for transportation and hotel accommodations for the speakers if needed; determine if coffee breaks, luncheons, and dinners are appropriate; obtain additional financial support if required; plan where the conference proceedings will be published after it is completed; include recreational activities if appropriate. (An example of recreational activities is the Gertrude Cox Scholarship Run, which provides financial support to women entering graduate training in statistics. The run is held in conjunction with two annual meetings:

The Caucus for Women in Statistics, and the American Statistical Association Committee on Women in Statistics.)

### After the meeting

The next project is to publish it. There may be an automatic procedure for doing this or you may have to initiate it. Again, be sure your name is included as co-chair. Once published, get enough copies so that you can distribute them to people who will find it interesting. They may think of you when they do their next seminar or symposium.

With the publication of your seminar, consider sending it to a select list with requests for input on making the next one better. Ask who you should invite as speakers next time and what topics might be included that you didn't include with this one.

Finally, if this seminar works, prepare the next one and get it lined up. Keep good records, repeat the things that work, and discontinue things that didn't work. Consider including more women. When women become visible in professional organizations, then women are encouraged to get involved.

*Joan Priscilla Kilbourn, also known as "Perky," pictured preceding page, is the President and Laboratory Director of Consulting Clinical and Microbiological Laboratory, Inc. which she started eight and a half years ago. After obtaining a B.S. in General Science, and a M.S. in Microbiology from the University of Oregon, she earned a Ph.D. in Microbiology from Oregon State University.*

*Laurie Kilbourn (Perky's older daughter and pictured below) graduated in 1990 with a B.S. from the University of Oregon in Journalism and a minor in Communications Studies. Currently, she is working at Powell's Books in Portland and the Portland Chapter of the American Institute of Architects. She is also a freelance photographer and frequently helps her mother with her articles and a laboratory newsletter.*



**Boredom: the Bane of Self-Esteem**

We read frequently about the financial costs of smoking or substance abuse in the workplace, but we rarely hear about the costs of boredom. Bored individuals are not stimulated to go to work, to get there on time, to do the job promptly or well, or to remain loyal. People who are bored because they feel their skills or talents aren't being adequately used often become resentful toward their employers.

Boredom is also a classic cause of stress because no stimulation is stressful, and not having the opportunity to work on challenging problems is stressful. To realize you are not growing or developing or reaching goals you set for yourself causes one to become a spiritless, listless zombie, whose mind is on hold.

What are the solutions? First, admit you are bored, and then take personal responsibility for overcoming your boredom. 1. Create a log and chart the activities that you find stimulating and those that are deadly dull. Include contextual information that

might help identify whether you're truly bored or simply tired or depressed. 2. Analyze your activities and look for patterns after several weeks of the log. If meetings bore you, but you feel stimulated while preparing for a presentation or publication, it may be that you need to perform, to persuade, to be creative. Ask yourself how you can do more of this in your job. 3. Reenergize your job. Balance routine, repetitive tasks with work that you find more stimulating. Shuffle the order, break boring patterns, change locations. Reward yourself after mind-deadening tasks. Question whether all routine tasks are really necessary. Take work breaks, rotate jobs, swap responsibilities to break monotony. 4. Ask for a new assignment, or transfer, if you have mastered your job so that it no longer uses your full talents and abilities. 5. Welcome positive problems at work that add spice to the job. Finding solutions keeps us emotionally and intellectually alive. 6. Do something new. Read new relevant books, attend seminars, create new products or systems and then try to "sell" them to management. 7. Develop a life outside your job that provides a mental escape from boring work. Coaching, working on a political campaign, volunteer work, sports, hobbies, and others are good for providing excitement and fulfillment.

If it is impossible to eliminate boredom—and you have honestly tried—it is time to move on.

....Alf J. Mapp, Jr. and Louis I. Jaffe, *Bottom Line: Personal*, September 15, 1992

**Why isn't there an International Men's Day?**

Perhaps because some men have traditionally always been on top of the hierarchy of life. Our communities mark

the days (and years sometimes) of women, elderly, children, homeless, handicapped—those who do not attain *ordinary* human rights as a matter of course.

....Joan Hooper, *Shalom Magazine*, No. 1, 1989.

**A Question: What should be done to the Endangered Species Act?**

The Act was originally designed as a shield to protect species from extinction. Unfortunately, it has been used by some as a sword to further their own political or environmental agenda. This is not what Congress intended. As we look at possible amendments, we should consider peer review of the scientific data used to determine listing. Peer review is a very common and important technique used in the scientific community. In the development of recovery plans, economic ramifications should be well-known and understood before those plans are finalized.

....Asst. Secretary for Fish and Wildlife and Parks, Mike Hayden, *Fish and Wildlife News*, Spring 1992

**Payments in Lieu of Taxes (PILT)**

The U.S. government pays to states annual payments, commonly referred to as PILT payments, which are distributed to eligible units (counties) of general local government by the Interior Department's Bureau of Land Management (BLM). These payments are designed to help offset the loss of tax revenues caused by certain tax-exempt Federal land located within the jurisdiction of local governments. The monies help with fire and police protection, roads, and other categories of expenditures especially in sparsely-populated counties that contain large acreages of

tax-exempt federal lands. BLM manages these payments because they are the largest single federal land management agency, but the payments go to lands owned or managed by BLM, Forest Service, National Park Service, US Fish and Wildlife Service, military installations, and others. These monies are in addition to revenues from oil and gas leases and sales of minerals, timber, and other materials and products derived from public lands, which the feds share also. The FY 1992 top receivers of payments are in the states of: New Mexico (\$10,492,453); California (\$10,194,587); Utah (\$8,860,477); Arizona (\$8,400,142); Montana (\$7,701,030); Idaho (\$7,245,410); Wyoming, (\$7,159,740).

....BLM *News*, August 1992

**Orthophotography**

For 50 years the Soil Conservation Service has used traditional aerial photographs. Soil scientists mapped soils with them. Conservation planners plotted farm field lines, wetlands, highly erodible lands, and other resource data on them. Aerial photographs served their purposes well, but are being replaced in a joint effort by SCS, the Agricultural Stabilization and Conservation Service, and the National Mapping Division of the US Geological Survey with digital orthophotography. The mapped resource information will be organized on a common, accurate base map. USGS will use it to revise the 1:24,000-scale National Digital Cartographic Database. A digital orthophoto is made by scanning an aerial photograph to convert the image into digital information in the form of pixels. Digital elevation models, camera parameter information, and horizontal coordinates of ground points

are then related to the pixel coordinates and a transformation of the pixels is carried out in a high-speed processor. The transformation removes the image displacement and scale inaccuracies of an aerial photograph; in doing so, it creates a digital orthophoto image at 1 meter ground resolution.

Storage of the digital orthophoto can be read on CD-ROM disks. An average of six disks will cover one county of orthophoto digital imagery. Commercial mapping companies will begin production in 1993. One-fifth of the country will be mapped each year until 1998, then a 10-year repeat cycle is planned to keep the orthophotos current.

....George M. Rohaley, *Soil and Water Conservation News*, July-August 1992.

### **Yes indeedy: We now have a study showing that women and men think women make good supervisors**

Although many men and women say that they would prefer not to work for a woman, studies show that men and women alike are satisfied with women as supervisors and are more satisfied with them than with male supervisors. Alice H. Eagly, professor of psychological sciences at Purdue University, analyzed 368 studies of leadership that examined leadership styles of men and women, evaluations of men's and women's styles, how leaders emerge in small groups, and the effectiveness of men and women leaders in increasing workers' productivity and satisfaction with their work.

She concluded that men and women are *equally* effective as leaders. Women were more likely, however, to encourage subordinates to participate in decision-making and spent more time on activities that enhanced interpersonal relationships such as improving morale.

....*About Women on Campus*, Spring 1992

### **Dead chicken composting**

As chicken production increases, the high mortality rate of chickens on the farm creates a disposal problem. Poultry producers are looking for cost-effective, environmentally sound methods of dead bird disposal.

One method many producers have discovered is composting in wooden bins: a natural process in which a mixture of organic material is broken down by aerobic bacteria and fungi into a rich humus-like material or compost. The composter contains layers of chicken manure, straw, and dead birds. It is cost-effective especially for larger producers, and is environmentally sound according to studies.

The poultry industry in Alabama, for example, accounts for 45 cents of every agricultural dollar earned in the state. The natural death rate for broilers is three to five percent. A farm with 100,000 broilers will lose as many as 5,000 during a seven-week growing period. This equals more than 30 tons of dead birds that must be disposed of every year. Throughout the state of Alabama about 730 tons of carcasses must be disposed of each week.

The process doesn't create any more smell than dry litter. One farmer's compost was analyzed for nutrient content by Auburn University. The results indicate that it is slightly richer in nitrogen than regular broiler litter and acts like a slow-release fertilizer; the process takes an undesirable product and turns it into a fertilizer and soil amendment.

The composter costs about \$3,000 to \$4,000 for a shed-type structure for a small flock.

....Victor W.E. Payne, Jr., Larry Blick, Lisa Sizemore, John Caviness, Kim Berry-Brown, *Soil and Water Conservation News*, May-June 1992.

### **National Park Service visitation is up**

Nationwide, NPS visitation was up 2.7 percent in 1991 to 267,778,583 million visitors. But in the six-state Rocky Mountain Region, it is up seven percent to 29,601,800 visitors or roughly four times the region's population. This compares to a more usual one to one ratio in the rest of the country. In the Rocky Mountain Region, Glen Canyon National Recreation area was first in the number of visitors with 3,181,144 visitors, Yellowstone was second with 2,920,537, and Rocky Mountain National Park was third with 2,751,781. Zion National Park and Glacier each had over two million visitors, while Badlands National Park, Curecanti National Recreation Area, Grand Teton, and the John D. Rockefeller, Jr. Memorial Parkway each had more than a million.

....Ben Moffett, National Park Service, January 1992

### **Forfeited land given to Forest Service**

On December 18, 1992, William Braniff, US Attorney of the Southern District of California, announced the transfer of 7.6 acres of forfeited property in Mt. Laguna to the Forest Service, the first time real property has been transferred to any agency in this judicial district since the equitable sharing program began in mid-1985. The seized property and another piece of real property, \$78,000 in cash, and five motor vehicles were forfeited because they were the proceeds of a marijuana smuggling conspiracy.

....USDAFS Pacific Southwest *Newslog*, March 1992

### **Has Title IX helped women's sports?**

Since the passage in 1972 of Title IX which required schools to spend an equal amount per capita on male and female programs or risk losing federal funds, the women's athletics movement has changed. But public perception often hasn't.

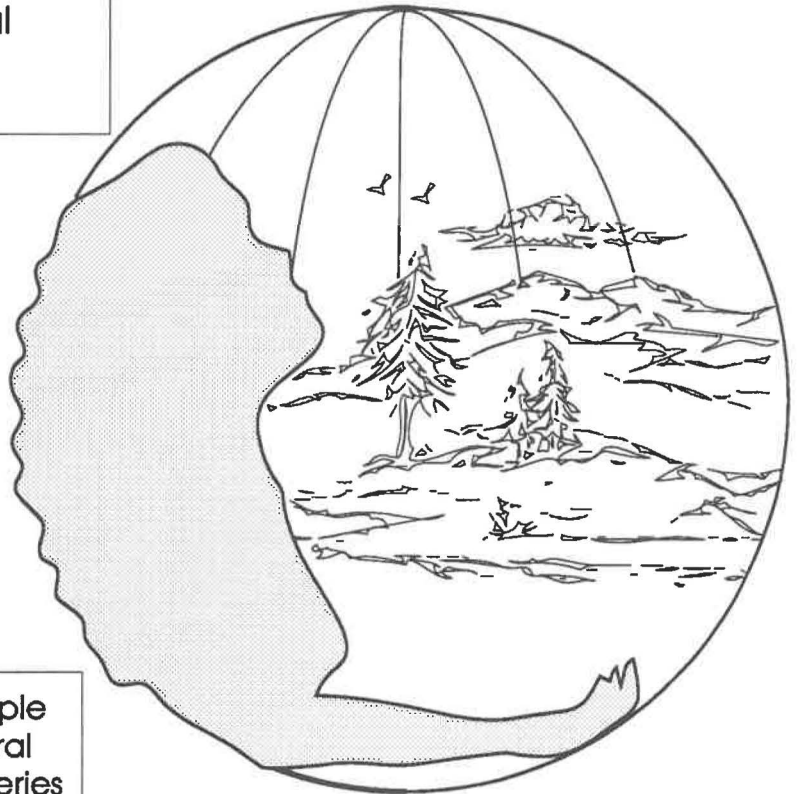
"Women haven't come close to men when it comes to college sports," said Tamara Flarup, women's sports information director at the University of Wisconsin. "Things now are completely different than they used to be. But equal? No way." When federal investigators found inequities between the men's and women's programs at Wisconsin, "a few sports were cut from our athletic program, including baseball. These sports were dropped so that Wisconsin could come into compliance with Title IX." Such cuts in high-profile men's sports don't always sit well with fans and coaches.

Many conferences such as the Big Ten and the Big Eight, waited almost a decade after Congress passed Title IX to bring their schools' women's teams into league competition. And when they did, many merged the two athletic departments. Some women say it was not a merger, but a *submerger*. Women's teams get overlooked as departments are overwhelmed by responsibilities related to the men's teams said Chris Volz, athletic director for a separate women's department at the University of Minnesota. Another bad effect was that women who were coaches or trainers were laid off or reassigned posi-

We provide information and ideas for, from, and about women professionals who specialize in fisheries, forestry, wildlife, range, recreation, and the social sciences as they relate to natural resources.

*Women in Natural Resources* is a 14-year-old quarterly journal in a magazine format. We combine the best elements of a technical journal with the informal elements of a newsletter.

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Our contributing authors are women in management, on faculties, in labs, and women who do field work. They write about themselves, their research, their workplaces, their jobs.

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tions subordinate to men who had previously been their counterparts. The one bright role model is Barbara Hedges at the University of Washington who is the *only* female director of a Division I athletic department. Her football team, the Huskies went to the Rose Bowl.

Promotion of women's sports is very low compared to men's and the resulting attendance shows it. Flarup said that "Men's teams have that 'automatic mention factor' for the media that women's sports don't have. If the university won't promote, and the media won't report, then nobody's going to trek on out to the stadium," she said.

....Rachel Alexander, *Daily Northwester*, in *Student Body*, May 1992

### Dr. Allen pontificates on poorness

Right now, the economy is strapped by strong, opposing forces. On the negative side, the huge overhang of corporate and personal debt built up in the 1980s is reducing spending and thereby slowing the economy. Consumers are worried because they see their friends and neighbors being laid off—and they fear for their jobs. On the positive side, companies have been downsizing and restructuring for several years now, and the fruits of these painful efforts are starting to show up in improved profits. That's occurring even though sales aren't picking up. Unfortunately, we will have two or three more years of slow growth. That means unemployment won't come down very much in coming months. The economy must grow at an annual rate of 2.5 percent to 3 percent for several quarters just to absorb new workers (college graduates, high school graduates, etc.) coming into the work force. It must grow by 3.25 to 3.5 percent to begin absorbing the large pool of unemployed workers. But the growth rate in the second quarter of 1992 was only 1.4 percent. That helps to explain why unemployment has been high and consumer confidence has been dropping.

....Deborah Allen, *Bottom Line*, September 30, 1992

### About ethics and the job: How to handle the tough calls

Sweat the small stuff. There is a way to prepare yourself for making complex ethical judgments on the spot. It sounds corny, but the best way to meet these big challenges is to practice on the small ones you face every day. If you've been at a job for more than a week, you know the sorts of routine compromises that go with your professional territory. With just this information, you are well equipped to begin to establish where you feel comfortable drawing the line between personal standards and professional duty. How did you handle it when someone pressed you to charge for more hours than you actually put in? Did you accept that gift from someone that you regulate? Where ethical behavior is concerned, definitely sweat the small stuff—it's what will help you deal with tougher, more ambiguous situations later in your career.

....Nancy K. Austin, *Working Woman*, September 1992

### Biotech industries have glass ceiling, too

In recent years, large numbers of both men and women have taken positions in industrial research for a variety of positive, as well as negative, reasons. The poor track record of universities in offering academic positions and tenure to women has led many to move to industry, particularly to the young biotech industry, hoping it will be more egalitarian.

However, while the bioscience industry is egalitarian in hiring, the same does not necessarily apply to policies of promotion to managerial levels. Bio-science companies are "PhD-heavy" with most research departments consisting of 30 to 50 percent PhDs. Consequently, these scientists compete fiercely for the limited number of managerial positions, which are the key to career growth, greater responsibilities, and higher pay. Women in these companies encounter the *same* obstacles to promotion as they do elsewhere.

....Rivka Sherman-Gold, *AWIS Magazine*, September/October 1992

# K I O S K

Two week-long sessions of the Natural Resources Communication Workshop (sponsored by the Western Section of the Wildlife Society) will be held January 4-8 1993 and January 11-15 1993 at California State University, Chico. Application deadline is November 6, 1992. Information on fees, credits, and course content can be obtained from Dr. Jon K. Hooper, Dept. Recreation and Parks Management, CSU, Chico CA 95929-0560 (916-898-5811 or 898-6408).

The Northwest Office of the Society of American Foresters and the Oregon Society will sponsor "Applying New Forestry in Pacific Northwest Forests" on October 20-21, 1992 at the World Forestry Center in Portland, Oregon. For information contact them at 4033 SW Canyon Road, Portland OR 97221 (503-224-8046).

Managing Riparian Areas: Common Threads and Shared Benefits is for riparian land managers, land owners and riparian users. The focus is on coordinated management of riparian areas flowing through several jurisdictions. Contact

Water Resources Center, University of Arizona, 350 N. Campbell Ave, Tucson, Arizona 85721 (602-792-9591) for fees and materials information.

The next meeting of the North American Wildlife and Natural Resources Conference will be March 19-24, 1993 at Washington DC. For information on papers, posters, registration, contact: Lonnie Williamson, Wildlife Management Institute, 1101 14th St. NW, Ste. 725, Washington DC 20005 (202-371-1808).

Astronomer Carl Sagan will deliver the keynote address at the Society of American Foresters convention in Richmond, Virginia on October 26, 1992. On October 27th, there will be a women's breakfast meeting at 7:30 in the Maymant Room of the Richmond Centre. There will be no charge for the continental breakfast for those registered for the convention. For registration materials or more information about the meeting, contact Richard Reid at 301-897-8720.

Fire in Wilderness and Park Management: Past lessons and future opportunities will be held March 30 to

April 1, 1993 at the University of Montana, Missoula. The symposium has seven sponsors. For information contact Conferences and Institutes, Continuing Education Center, the University of Montana, Missoula MT 59812.

The Practicing Foresters Institute Trust Board has authorized two \$1,000 assistantships to forestry schools. The money will be used for students to attend the Consulting Foresters meeting June 20-23, 1993 in Flagstaff, Arizona. For details, contact ACF at 5410 Grosvenor Lane, Suite 205, Bethesda, Maryland (301-530-1786).

**Wildlife Ecology:** Purdue University seeks an individual who has a demonstrated record as an outstanding teacher in environmental science, applied ecology, or wildlife ecology, as well as a demonstrated record of excellence in research in wildlife ecology or closely related area of applied ecology. He or she would teach two lower-division courses, one in environmental conservation and the other in wildlife ecology, both serving a university wide student population as well as an upper-division undergraduate course in conservation biology on an alternate-year basis with a graduate course in wildlife ecology, conservation biology, restoration ecology, or similar subject. His or her research responsibilities would be to develop and conduct a research program in wildlife ecology or some closely related area of applied ecology. A Ph.D. in ecology, wildlife science, or a closely related area is required. Position is tenure-track and will be filled at the associate professor level. Confidential nominations and applications, curriculum vitae, transcripts, copies of publications, and names of five references should be submitted to Dr. Dennis C. Le Master, Chair, Search and Screening Committee, Department of Forestry and Natural Resources, Purdue University, West Lafayette, Indiana 47907-1159. Closes November 30, 1992 or until a suitable candidate is found. *Purdue University is an EO/AE. Women and minorities are encouraged to apply.*

## Need Help With Affirmative Action hiring?

WiNR mails position announcements twice monthly. See outside back cover for details.

### Consulting Firm Directory

*Women in Natural Resources* will publish a list of forestry consulting firms which are owned by women and minorities, and of consulting firms who regularly hire women. If you or your firm should be in this directory, send name, address, phone and FAX number of the company, plus the names of the women/minorities who work in it—and the number of years each employee has worked there. Indicate also, in which region of the country your firm primarily works. Mail to address on cover.

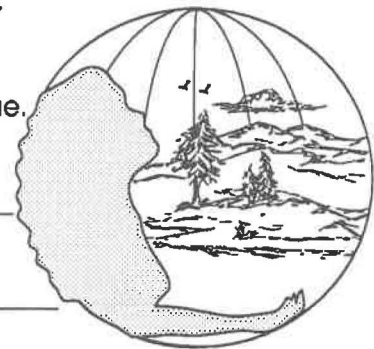
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## INFORMATION FOR CONTRIBUTORS

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

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