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## A PERSPECTIVE OF PAST, PRESENT, AND FUTURE EXTENSION WILDLIFE AND FISHERIES PROGRAMS

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# A PERSPECTIVE OF PAST, PRESENT, AND FUTURE EXTENSION WILDLIFE AND FISHERIES PROGRAMS

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## PAST

One of the most significant early references to the need for state and federal extension wildlife and fisheries programs was made by Smith (1936). Dr. C. B. Smith was the Assistant Director of Extension Service who spoke at the First North American Wildlife Conference. If you can locate a copy of the transactions from this conference, I encourage you to spend some time reviewing this and numerous other papers presented by some of our predecessors at this great conference. Other early references of extension wildlife and fisheries programs prior to 1950 included papers by Hill (1938), Gabrielson (1941 and 1945), and Callender (1947).

This Eighth National Extension Wildlife and Fisheries Specialists Workshop is taking place 60 years after the first extension wildlife specialist position at the Federal Extension Service and the first State Extension Service wildlife specialist position at the Texas Agricultural Extension Service were established in 1936. For a more in-depth study of this very early history of extension wildlife and fisheries work, I suggest you examine papers by Bode (1937) and Callender (1937) in the Transactions of the Second North American Wildlife Conference. It is noteworthy, as reported by Meine (1987), that among Aldo Leopold's responsibilities when he was appointed Chair of Game Management at the University of Wisconsin in 1933 was serving as a wildlife extension specialist.

From these early references, it is obvious that there was significant interest in wildlife and fisheries extension programs by some of the pioneers in the wildlife and fisheries profession. Severy and Pengelly (1956) described Montana's venture in wildlife extension, and Berryman (1959) described Utah's new wildlife management extension program as the work of wildlife extension expanded in the various states. Smith and Berryman (1962) examined wildlife extension programs—past, present, and future; and Cornwell (1967) examined the potential contributions of wildlife extension education. Many others contributed to the professional literature about extension wildlife and fisheries programs prior to 1970, including Almand et al. (1969) in the Proceedings of the 1969 Wildlife Extension Specialists Meeting at the 34th North American Wildlife and Natural Resources Conference, published by the Texas Agricultural Extension Service.

In December 1972, the First National Extension Wildlife and Fisheries Specialists Workshop was held in Estes Park, Colorado, and was attended by 46 people, 33 of whom were extension wildlife and fisheries specialists.

Several of us who attended that workshop are still involved with extension; and others like Mr. Jack Berryman, who has been a strong and effective advocate for extension wildlife and fisheries programs for over 40 years, are here with us for this workshop. For those of you who may not have found a copy of these proceedings in your university's library or in other reference sources, there were 24 papers presented in sessions; and I think there are 8 of us still associated with extension who attended that first national workshop. The majority of the others have either retired, changed five employers, or passed on.

Without going into a lot of detail about the attendees and the various sessions or papers presented at this workshop, let me note that the idea for conducting a national workshop was conceived at an extension wildlife specialists meeting held in conjunction with the North American Wildlife and Natural Resources Conference in Portland, Oregon, on 9 May 1971. A committee was formed to coordinate and develop a planning committee for organizing the program, selecting a site, and finding chairmen to host the workshop. The co-chairs selected for this workshop were the late Dick Marks, extension forester, USDA-Extension Service, and John Schmidt, extension wildlife specialist at the time at Colorado State University. A post-workshop questionnaire indicated that 97% felt the workshop subject matter was appropriate to their needs; and all participants requested another workshop in the future, with the majority suggesting that a 2- to 3-year interval between workshops would be most desirable. Unfortunately, the second of these workshops could not be conducted for almost 5 years.

In March, 1977, a special session held at the 42nd North American Wildlife and Natural Resources Conference, chaired by Harlan Brumsted and co-chaired by the late Bill Wick, was titled "Resource Management Information for Decision Makers and Users." Shortly after this landmark session, in April 1977 in San Antonio, Texas, the Second National Extension Wildlife and Fisheries Workshop was conducted, which was the first opportunity for many of us to meet Merrill L. "Pete" Petoskey, later to become the first Deputy Administrator for the Natural Resources Unit of USDA, Extension Service. Obviously, at this time, some 5 years after the first National Workshop, most of us who served as state specialists were conducting programs directed at state-specific needs; some of us were quite involved in the development of a national planning effort called the Renewable Resources Extension Act (RREA). We all had

great hopes that such a plan could be legislatively authorized with appropriations at the \$15 million level annually to expand extension natural resource educational programs in five resource areas. These were:

(1) forestland management, (2) rangeland management, (3) fish and wildlife management, (4) outdoor recreation, and (5) environmental management and public policy. Clearly, the impetus for this legislation had its roots with our colleagues in forestry but, at this point, had gathered badly needed support and momentum from a broader natural resource constituency. For more specifics on the groundswell of support for expanding extension natural resources programs, I encourage you to examine several of the papers from the previously mentioned Special Session conducted at the 42nd North American Wildlife and Natural Resource Conference. Two papers particularly called for a stronger national program in wildlife and fisheries, one by Gus Swanson (1977) titled "Imperatives for Action" and the other by Jack Berryman (1977) titled "A National Approach to Fish and Wildlife Extension Education." One of the actions that Jack Berryman defined as needed in this presentation that he personally followed through to fruition was establishment of an Office of Extension Programs in the U.S. Fish and Wildlife Service (FWS). In fact, as most of you older heads know, he became the first chief of that office in 1978 prior to his retirement. He also stimulated development of a Memorandum of Understanding (MOU) between the FWS, U.S. Department of the Interior, and what was then called the Federal Extension Service of the U.S. Department of Agriculture. This MOU has served both agencies and state Cooperative Extension Services well and has been revised, updated, and supported by several different Directors/Administrators of the FWS and Extension Service since then, with the most recent version signed in 1995.

Among my regrets about past National Extension Wildlife and Fisheries Specialists Workshops is that, for whatever reasons, the proceedings of that second workshop were never published. There were many excellent papers presented and a great deal of support and enthusiasm generated from this workshop that significantly influenced future direction and programs. Among those who played significant roles and who are with us today are Jack Berryman and Pete Petoskey.

Since I consider both these great professionals as mentors, friends, and heroes, I am going to try not to duplicate some of the same history or perspective that I anticipate they will address. However, clearly, they have both contributed significantly to the past and present status of extension wildlife and fisheries programs and to many other areas of the natural resources profession. I salute them and numerous others who have preceded us in our profession for their vision, proactiveness, dedication, tenacity, hard work, and their many positive and lasting contributions.

## PRESENT

Let me emphasize at this point that I acknowledge this effort to provide a perspective on present programs will be woefully inadequate. Unfortunately, it is impossible to comprehensively describe the diversity, magnitude of impact, and benefits of the contributions made by extension wildlife and fisheries education programs nationwide. Even if we had the resources, willpower, and your personal interest in reporting all of the annual impacts and accomplishments, direct and indirect, we still would not be able to document the majority of the benefits your programs make to people and the resources they care about and manage. However, to attempt to provide some perspective of present programs, we still must look back to about 1978 when RREA was authorized, which created some increased national attention and interest for extension natural resource programs both within and outside of extension. Some of what happened over the next few years has been alluded to in many references such as the RREA five-year plans; papers presented in previous National Extension Wildlife and Fisheries Specialists Workshops, particularly the Third, Fourth, and Fifth of these; and in papers presented at a variety of conferences and workshops. Some examples of these include Miller (1981), Decker and Miller (1988), and Miller and Craven (1993), as well as papers many of you have presented at various regional and national conferences and workshops.

I suggest to you, however, that in 1979, with the establishment of the Natural Resources Unit (NRU) in what was then USDA-Science and Education Administration (SEA)-Extension Service, for the first time, there was increased recognition by the Cooperative Extension System and USDA that natural resource programs were expected to become an integral, not adjunct, part of the System. Merrill L. "Pete" Petoskey was selected to head up that unit as the Deputy Administrator by the Administrator of SEA-Extension. We were extremely fortunate to have his strong leadership during the next several years as RREA was further developed and finally provided with some meager appropriations in 1982. After establishment of the NRU in 1979, the first professional position filled under Pete's leadership was the fish and wildlife position which had been filled previously in 1936 for less than 1 year and again in 1969 for less than 1 year. Having previously served as an extension wildlife specialist in Arkansas from 1967 through 1978, I was recruited by Pete for this position from the U.S. Fish and Wildlife Service, where I had been employed as a management biologist in the Office of Wildlife Assistance after leaving the specialist position in Arkansas. With the encouragement of numerous state specialists and other agency professionals, I moved into the position in October 1979; and, as they say, the rest is history. For better or worse, I have enjoyed working in this position during the good times as well as

during the budget cuts, downsizing, changes in leadership, reinvention, reorganization, and different political administrations that have moved in, reorganized, and moved on since 1979.

I will avoid trying to review my work in this position over the past 17 years and leave that to you folks and those who will follow us to judge. Generally speaking, regardless of my efforts, good or bad, the increased recognition of extension natural resource program impacts nationwide has occurred because the educational programs you and others conduct in your state, and elsewhere, benefit people and the natural resources people care about. I have enjoyed working for you, and with you, in trying to improve communications, liaison, coordination, funding opportunities, awareness and visibility, and the national and international credibility of extension educational programs in wildlife and fisheries.

As indicated earlier, there are numerous published references in a variety of professional proceedings, journals, bulletins, and other documents highlighting some of the contributions of extension wildlife and fisheries programs over the past 20 years to both adult and youth audiences, in urban and rural communities. Most of you know full well that even with these references, many of your professional contributions and those resulting from programs you have developed have never been extensively evaluated or documented. This is partially because of the diversity of your work and partially because of the lack of time, resources, and interest by our agencies and institutions. And, admittedly, much of what you do is a cooperative effort with other partners and may not always be well defined as one of your major responsibilities.

Speaking of partnerships and cooperation, the direct and indirect impact of cooperative programs with the FWS, Office of Extension Education, since 1978-79, to the expansion of extension wildlife and fisheries educational programs across the nation is unlikely to ever be adequately recognized and quantified. Many of you individually have not only participated, but have utilized the cooperative support of FWS to leverage additional funds and develop educational programs, materials, and products that without such support would have probably been impossible to attain. The FWS support for starting up such programs as the National 4-H Wildlife Habitat Evaluation Program and their support for the development of numerous handbooks, videotapes, etc., has been instrumental in making such programs and products possible. In fact, based on some recent figures provided from Dan Stiles and Duncan MacDonald (Stiles 1996), since 1979 some 290 different extension wildlife and fisheries projects have been supported by FWS at a cost of \$3,057,410, matched by in-kind extension support or leveraged funds to the amount of \$2,216,050. This totals \$5,273,460 that has been spent on direct extension wildlife and fisheries educational projects. Without this cooperation and sharing of resources, many exemplary educational program and products that have been

developed since 1979 simply would not have been possible. The indirect benefits/impacts of this cooperation and other cooperative efforts it has helped generate, as noted earlier, are impossible to estimate. For example, most of you are aware of the National 4-H Wildlife and Fisheries Volunteer Leader Recognition Program conducted at the North American Wildlife and Natural Resources Conference each year. You might not be aware that the FWS has provided funding for that program since 1982. This past year made the 16th consecutive year for this cooperative support, which goes far beyond just providing funding. Extension wildlife and fisheries educational programs nationwide have benefitted from this partnership, cooperative funding, and support. I want to take this opportunity to thank my colleagues in the FWS who are present for their strong and continued support and cooperation over the years. I can honestly say they have been great cooperators and collaborators, respected professional colleagues, and honored friends through the years. The FWS, however, is also being reorganized; and hopefully Duncan will share more about this with us later.

In November 1981, our Third National Workshop was very capably hosted in Baton Rouge, Louisiana, by Jim Fowler and the late Larry de la Bretonne. For those of you who never had the pleasure of meeting and working with Larry, he was a respected professional colleague and good friend. This workshop was a crossroads event. It was the first of these since establishment of the NRU in the USDA-Extension Service (effective on 17 June 1981, USDA had announced a reorganization which eliminated the SEA), and was the first attended by >100 natural resource professionals. It was also the first of these workshops where we had participation of the Chairman of the Extension Committee on Organization and Policy (ECOP) Sub-Committee on Agriculture and Natural Resources, numerous representatives from FWS and the International Association of Fish and Wildlife Agencies (IAFWA), and where it appeared there was a glimmer of real hope of some appropriations for RREA. I can't speak for those of you who attended, but I remember leaving this workshop with more confidence than in the past that extension natural resource programs had a bright future, and that ECOP and the System were becoming more aware of the need to support strong natural resource educational programs.

The 4th National Workshop, hosted by Bob Ruff and Scott Craven in October 1984, will always be one of my favorites for a variety of reasons. Clearly, having the Administrator of ES-USDA and the Director of the U.S. FWS speaking to the group and other honored guests participating, plus having finally achieved some funding for RREA, was of special interest. For those who couldn't attend, or could have but didn't, you missed a great workshop. I can't speak for others; however, I have some incredible memories indelibly etched in my mind. For example, the afternoon gathering at Leopold's "Shack," the professionalism and sense of urgency in the

presentations, and the professional bonding to move forward with increased cooperation, support, and enthusiasm. I left this workshop with a stronger sense of professional pride and commitment that we must continue to find ways to support extension wildlife and fisheries educational programs, regardless of what happened with budget cuts, downsizing, and changing administrations.

Our Fifth National Extension Wildlife and Fisheries Workshop at Jekyll Island, Georgia, was conducted in October 1987. The theme of this workshop was "Extension Natural Resource Programs in Changing Times." Admittedly, if you looked back to the origin of extension in 1914 with passage of the Smith-Lever Act and examined the diversity of programs and their focus until the present time, you would find that the manner in which extension programs have been conducted and delivered has changed significantly, with periodic shifts in emphasis and delivery techniques. I doubt that any of us would suggest that they shouldn't have changed as society has changed, technology has advanced, and our customers have expanded and become more diverse and better educated. Realistically, I think we all recognize that change is essential. Note, I didn't say it was always easy, but it is essential for survival and for progress. Our capability to identify needed changes and to effect those changes in a timely and efficient manner to better address present and future educational needs will be a significant determinant as to our programs' long-term survival and sustainability.

How well have we adapted, or proactively made the necessary changes, to take advantage of the opportunities to ensure that our programs are relevant, beneficial to society, and likely to continue to be needed? You be the judge at the state and local level. Nationally, I believe extension wildlife and fisheries educational programs are needed more today than ever before; yet, admittedly, this program area at the national level, with an emphasis on helping private landowners and managers, does not currently seem to be perceived as a very high priority with the present administration.

As to the present status of extension wildlife and fisheries programs nationwide, we currently have fewer states with extension wildlife and fisheries programs today than we did in 1987. According to my count, today we have 33 states with wildlife and fisheries programs whereas in 1987, 35 states had programs. Obviously some state CES's have added or refilled positions, while others have lost programs as a result of budget cuts, retirements, and apparent loss of interest or clientele support. Currently, there are unfilled positions and programs in Arizona, Arkansas, New Mexico, North Dakota, Ohio, and South Dakota where previously strong extension wildlife and fisheries educational programs existed. In other states, there either is no recent history of a viable program effort in wildlife or fisheries nor seemingly any strong interest or organized support for such programs.

Unfortunately, even though I continue to try to provide as much programmatic effort and support as possible, my responsibilities have been expanded to include oversight for research programs as well as extension. The reinvention of government and reorganization of Extension Service and the Cooperative State Research Service into the Cooperative State Research, Education, and Extension Service (CSREES) has reduced the available time National Program Leaders in our currently defined Natural Resources and Environment Unit can devote specifically to extension education programs. This is not a complaint but is merely a statement of fact. In essence, my position has become a joint appointment with a 50/50% research and extension split.

Some of you may have wondered last fall about the reason for the Resolution adopted by the IAFWA in support of maintaining strong natural resource education program capabilities in the CES and in the FWS. For your information, the development of this resolution was encouraged by interested parties and people outside of the Extension System. Obviously, although I was deeply concerned about what I saw happening to extension and attempted to alert the System, there seemed to be only minimal support at either the State CES or ES administrative level for maintaining strong natural resource educational programs. The fact is that they were all appropriately concerned about the survival of all extension programs with major budget cuts proposed along with the administration mandates to reinvent government and reorganize agencies and departments.

As most of you know, I expended a lot of effort and took some fairly significant risks personally and professionally to fight for and support keeping the name extension in the title of our reorganized agency. I mention this only because during the throes of reinvention and reorganization, some of the proposed changes seemed to lack both intellectual integrity and loyalty to a tried and proven educational delivery system that is the envy of other nations as well as other agencies. During these deliberations, I had some members of ECOP tell me they didn't think it was worth fighting for to keep extension in the name of the Agency. We can argue the point later; but, fortunately, at least for the present, there is still a viable extension presence in the reorganized agency.

I want to emphasize that I am not opposed to change when it is in the best interest of the people being served, the resources being managed, or for improved effectiveness or efficiency. I am, however, adamantly opposed to changes made only for the purpose of helping some political appointee make points with the administration, regardless of how they impact or eliminate effective and efficient programs. Unfortunately, these battles are not over and done with. Extension budgets at the county, state, and national levels will be under attack again and again as well as justification for its continued existence. For what it is worth, in my opinion, the only

effective way to combat this is to proactively take the offensive with a long-term plan. To do this, however, will require stronger administrative leadership than we have had in the past, a commitment to become proactive rather than reactive, and a commitment to better evaluation and quantification of the impacts of extension educational programs that are relevant to society's needs. I am firmly convinced that extension educational programs related to natural resources and environmental issues are extremely significant to the needs of society, now and in the future.

Stepping down off my soapbox and returning to the present status of extension wildlife and fisheries programs, what are our measurements of success? How can we determine if the programs we conduct are more productive than they were in the past? I have already mentioned that our clientele have changed; our total FTE commitment to extension education has changed; like many of you, we now have split appointments at the CSREES level. We need to do some self-evaluation and ask ourselves some questions such as: Are our programs still needed or are we merely duplicating services provided by other agricultural and natural resource agencies? Are the educational programs we conduct relevant to the needs of society? Have we really examined and identified the primary audiences we need to be reaching? Have we periodically reevaluated our priorities and changed our focus and the way we conduct our programs? These are questions we have addressed in the past and will have to address in the future if the programs we believe in are to survive.

Recognizing fully that no two state CES wildlife and fisheries programs are exactly the same and that some programs do not fully utilize nor serve the County Extension System, I still submit that no other agency or organization has the delivery system that extension does. No other agency or organization has the capability to access and translate research into useful and practical educational programs that can be delivered efficiently, understood, and implemented by private landowners that extension does. And, in my opinion, no other agency or organization has the commitment to help people help themselves and improve the management of natural resources on private lands through educational programs that extension has. What about our credibility? To be perfectly honest, I'm afraid the overall credibility of the Extension System and the Land Grant University System has taken a beating in recent years for a variety of reasons that we don't have time to go into here today. In a nutshell, however, part of this is because they have continued to focus most of their resources and commitment toward production agriculture and have dragged their feet in addressing environmental concerns, therefore, becoming more reactive and less proactive.

On the positive side, however, professionally I think there is clear evidence that extension wildlife and fisheries programs and the people who conduct them are held in high esteem by cooperating agricultural and natural resource agencies, organizations, and professional

societies. Some examples include: the support by the IAFWA which passed the Resolution of support unanimously last September; the strong support demonstrated by the National Association of University Fish and Wildlife Programs (NAUFWP) over the past several years; the acceptance by the Program Committee of the Wildlife Management Institute for a Special Session on Extension/Outreach at the 1997 North American Wildlife and Natural Resources Conference; the cooperative programs we conduct with USDA Animal Plant Health Inspection Service-Animal Damage Control and other federal and state agencies; the increased leadership, participation, and visibility in continuing education conferences, workshops, and training sessions by extension wildlife and fisheries specialists; and the increasing participation of extension wildlife and fisheries professionals in professional societies. Obviously, these examples are noteworthy and have occurred because your programs are solid, urgently needed, beneficial, and you have been proactive.

I would be remiss, however, if I failed to give credit to some great leaders who believed in what you do and have continued to provide needed support over the years. Fortunately, some new leaders with different management styles and backgrounds, who are recognizing the benefits of these programs, are stepping forward. We must acknowledge their support and be responsive when they ask hard questions and request impact data. These are some of the reasons I requested the Voluntary Accomplishment Reports in Fiscal Year 1994 (FY) and have asked you to provide this information again for FY96. I think we have demonstrated that it will be used in a positive and effective manner; and I assure you we will make it available not only to you and to your administrators, but also to support groups and to Congress when requested. We want the information gathered to be useful to you as well as to the agency and institution that supports you. The justification for collection of this information is to highlight some examples of the accomplishments of your state programs. If we don't collect it in this manner, it is not possible to obtain it in any other way. However, I cannot and will not attempt to create evidence of your accomplishments without your help and input. So this is an urgent request for your submission of Voluntary Accomplishment Reports for FY96.

## **FUTURE**

Like most of you, I don't consider myself much of a prognosticator or futurist; therefore, you may wish to take this for what it costs you. However, clearly, some of the things I've already said have implications for the future. I will attempt to delineate in bullet format some of the things I think are needed for extension wildlife and fisheries educational programs of the future. However, since many of you had input into the development and/or

review of what began as a National Program Policy document for Extension Wildlife and Fisheries but evolved into a National Program Guidance Statement (Miller 1991), I encourage you to go back and review this document which clearly highlights some of our future goals, some vision statements, and recommendations. If some of you do not have a copy in your files or have misplaced copies sent to you earlier, I still have some copies that I will be willing to share with you at your request. I encourage you if you haven't examined it lately to do so after you return from this workshop and let me have any feedback you are willing to share positively or negatively. Maybe it is time to update and revise this for future use.

Now to my bullets on future extension wildlife and fisheries programs and needs in response to past and recent changes:

- We must improve the research/extension interface, both the identification of research needed to address emerging issues and the translation and implementation of research to end users for implementation of useful technologies.
- We must utilize new technologies such as e-mail, distance education, and interactive videos to reach some audiences, yet retain the capability to continue to address clientele needs through proven education and demonstration methods.
- We must prioritize our program efforts, do a better job of evaluating program effectiveness, and make needed changes in a timely manner to improve program efficiency.
- We must recognize and proactively use our capabilities to be effective in an outreach capacity as well as being effective educators (e.g., representing our agency and institutions, becoming the grass roots voice for your department to help people understand and find practical uses for research being conducted, etc).
- We must recognize the importance of providing research-based, educational programs to a changing, more diverse, and expanding clientele, in urban and rural environments.
- We must improve and maintain strong cooperation and coordination with other natural resource and related organizations and agencies.
- We must become better at providing effective public issues educational programs and determine our most efficient role in assisting this process.
- We must expand our capabilities to leverage limited resources and to train and support volunteers to assist in delivery of educational programs to some clientele.
- We must maintain our credibility as a nonregulatory, nonadvocacy, educational system committed to help people help themselves through research-based education.
- We must maintain a strong extension education presence, even though we may have split appointments and multiple responsibilities within our institution or agency.
- We must maintain a strong commitment of continuing education for ourselves and our agency to maintain high professional standards.
- We must participate actively in professional societies and work cooperatively with advisory and support groups.
- We must participate in and contribute to the development of multidisciplinary research and extension approaches to address some of the emerging complex environmental issues facing urban and rural communities and individual private landowners.
- We must interact with and utilize the full capabilities of our institution and our agencies' delivery system, while concurrently recognizing and taking advantage of the opportunities to use the delivery systems available to cooperators.
- We must be adaptable and flexible to change the way we do business to meet the changing needs of society, the resource base, and our institution and/or agencies' mission, and ensure that our programs are addressing a defined need, yet are not duplicative of other agencies' or organizations' principal responsibilities.
- We must build improved liaison and coordination with nontraditional agencies, organizations, and communities to leverage limited resources, address changing needs, and serve nontraditional clientele.
- We must be willing to adapt new technologies to accomplish needed work; we must be committed to phasing out nonessential, comfortable, traditional programs that have outlived their effectiveness or require too much of our time and resources, yet result in minimal impacts.
- I question our capability to do all these things without a significant administrative commitment by both State CES's and the Land Grant University System to make needed changes. For example, let me share with you

some thoughts that were voiced by Neil Sampson in an address to the Futures Task Force of ECOP on 5 June 1987 (Sampson 1987). I should caution you that some people may consider these thoughts as heresy, and I'm confident many of the people in the audience he was speaking to did in 1987. I share them with you for your consideration now and in the future. Note, these examples have been combined; I have paraphrased some of what Neil said to condense and focus on his statements relating to natural resource interests and programs.

- Instead of needing extension to teach ignorant people how to farm, we need extension programs geared to teach educated farmers how to survive, remain profitable, and effectively address environmental concerns. How to live with the natural world instead of constantly fighting it. How to benefit from Farm Bill conservation programs and how to improve conservation practices to meet their stewardship/landowner objectives.
- Extension needs to expand and strengthen its focus on natural resource programs and their proper protection under human use and management. Extension cannot maintain its past credibility by teaching primarily production technology with farmers as its only audience/clientele.
- Extension needs to focus more attention on nontraditional crops and services. It needs to focus more of its educational efforts on total resource management systems and teach people how to relate their management choices to all of the soil/water/crop/livestock/forest/wildlife factors that might be affected.
- There has been too much promotion of monoculture and single-crop systems. We need strong, public educational voices pointing out that complex ecosystems are more stable than simple ones; mixtures of crops, pastures, woods, brush patches, and odd areas are not only more consistent with the physical needs of the land, they create more complex ecosystems that are resilient under the stresses of weather and pest population cycles. Extension could lead those voices if it chooses to do so.
- Extension needs to be teaching farmers, ranchers, and landowners that a barren landscape is a liability, and that diversity and an abundance of living things on the land is a sign of health.
- At the national level, extension should become more aggressive in seeking resources to do its job. The current natural resource commitment by extension of total FTEs and funding is grossly inadequate.

- At the state level, you must build natural resource capability. You need to develop your role as a source of research-based, natural resources information that is available to, and used by, policymakers. This is made harder when extension specialists are so tied to their university departments that their perspective is not broad enough on policy matters.
- At the local level, extension must strengthen its capability to deliver conservation and natural resource information with its entire staff, not just specialists. It is a matter of priority, training, and culture within the agency.
- If extension is to have a strong future, it must increase significantly its support and credibility among nonfarm Americans. The numbers and demographics are simply overwhelming. You have the skills, the delivery, and outreach capability and could develop the capacity. But nonfarm Americans don't need advice on controlling downy brome in winter wheat. They need to know about lawn and tree care; the basic principles of good land management; of ecosystem thinking; how to manage their woodlot or weekend property so that wildlife will thrive and an improved forest can be grown. They need to know how to prevent chemicals from getting into their drinking water, how to manage their fish pond, or how to make their 40–100 acre weekend retreat/investment pay its taxes and maybe help get the kids through college.

To do this will not be easy, it will demand change; and change demands strong leadership and commitment.

I could provide you with more of Neil's concerns, but I'm sure you recognize where he was coming from, whether you agree or not with his thoughts and concerns. I can only hope that we continue to hear the concerns expressed by professional leaders like Neil who care enough about what it is we do or should be doing to challenge our leaders and the administration. It is important that we have people who care enough to advise, rebuke when necessary, and provide counsel and support when needed. I am extremely fortunate to have the opportunity to work with professionals like yourselves, with university faculties, and with the leaders of a number of cooperating natural resource agencies, organizations, and professional societies who care deeply about the work we do.

For those of you wondering about when this old man is going to retire, on 1 October 1996, I will have worked 29 years for the federal government; and I am now 55 years old. However, God willing, I hope to be able to continue to work with colleagues and friends whom I respect and admire for at least 3 or 4 more years. If this is possible, I plan to continue to strive to contribute in an effective and honorable manner to our mission; to the

people of this great nation; to the sustainability of a strong and viable natural resource base; and to a sustainable, profitable, and environmentally responsible agricultural system for present and future generations of Americans.

I will close these comments with a rarely referenced quote from Aldo Leopold in *A Sand County Almanac*, "We shall never achieve harmony with land, any more than we shall achieve absolute justice or liberty for people. In these higher aspirations, the important thing is not to achieve, but to strive."

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