Where Did We Come From

July 1, 2002 marked the beginning of a new era in natural resource education, research, and extension at Iowa State University. The formation of the Natural Resource Ecology and Management Department through the merger of the Animal Ecology and Forestry Departments will provide the means and facilities to continue the growth of our programs in forestry, fisheries, wildlife, and wood science; while providing the platform on which to build new programs. At this point it seems appropriate to reflect on both our past and our future as well as to assess how we compare to other programs at comparable institutions in the North Central Region.

Historians often like to say that the past is the prologue for the future. If that is true, there is little doubt that our history of achievements as individual departments provides us with a very sound and successful base on which to continue into the future. The forestry program, which will celebrate its Centennial in 2004, can trace it roots to Gifford Pinchot and the very beginning of forestry education in the United States at the start of the 20th Century. But even before that, Dr. Charles Bessey began to introduce elements of forestry into the Botany curriculum and was among the first to explore the potential impact of aorestation on the climate of Iowa and other states along the prairie-forest interface.

The seeds of natural resource conservation planted during the Presidency of Theodore Roosevelt took root, especially during the dark days of the Great American Depression as exemplified by the massive conservation efforts associated with Federal programs such as CCC and TVA. An early product of this awakening was the realization that more formalized training programs in fisheries and wildlife management were needed. Also Aldo Leopold, an Iowa native, was among those that helped to create this awareness. Even more so, the contributions of another Iowan, J. “Ding” Darling really helped to further the public awareness of natural resource issues and the need for scientific approaches to the management of fish and wildlife populations. Darling was instrumental in
establishing the federal “Cooperative Wildlife Research Units” as an aid in the establishment of formal teaching and research programs in wildlife management at the nation’s landgrant universities. Iowa State has the distinction of having been chosen as the initiating institution when this innovative program began to function in the mid-1930’s.

During the intervening years each program went through an evolution, first being a part of established departments such as horticulture and zoology, and then coming into full departmental status in their own right as both areas continued to evolve. During this time both departments were busy with the training of students, many of who went on to have successful careers and to take on significant leadership roles in government, industry, and academia. And while each program has been successful, the natural resources arena has undergone a number of changes during this same time frame and it has become increasing clear that a new approach is needed if we are continue to be successful. It is on this foundation of collective success and individual accomplishment that we will continue to build to meet the challenges of a new era.

**Where Are We Going**

So where do we hope to be when this decade comes to a close? First, we want to continue to be preferred providers of fisheries, forestry, and wildlife managers as well as top-flight wood scientists. Over the two years leading up to the formation of the department, faculty and staff devoted hundreds of hours of thought and discussion to the formulation of a vision of the new department and its goals. These visions and goals have now been formalized into a departmental strategic plan that will guide this process. Quoting from that document:

“**The Department of Natural Resource Ecology and Management is dedicated to the understanding, effective management, and sustainable use of our renewable natural resources through the land-grant missions of teaching, research, and extension. NREM’s disciplinary focus is broad in scope, ranging from individual organisms to landscapes, from natural to managed ecosystems, from wilderness to agricultural and urban systems, from local to international environments, and from resource preservation to utilization. Understanding and effectively managing our natural resources requires long-term vision and multidisciplinary approaches involving NREM personnel working with people from other diverse disciplines across the university and within federal and state agencies and non-governmental organizations. NREM reflects a diversity of disciplines, including ecology and other biological sciences, social science, economics, sustainable resource management and utilization, and human dimensions. NREM serves society through the land-grant tradition of working with undergraduate and graduate students, state and federal government agencies, non-governmental organizations, businesses, and the public.”**

In order to act on our vision, we have formulated a number of goals at the Department level. These goals are aligned and complementary to goals established at the University and College level. Again, extracting from the strategic plan, the following goals have been established at the University, College, and Departmental levels.

**University Goals:** The University’s strategic plan cites three goals that will assist Iowa State in becoming the best at achieving the land-grant mission. All three goals relate directly or indirectly to the goals and plans of NREM for continued and enhanced excellence in teaching, research, and extension.

* Enhance learning through exceptional learner-centered teaching, services, and enrichment opportunities.
* Promote discovery and innovation characterized by preeminent scholarship, including increasingly interdisciplinary and collaborative activities.
* Engage with key constituents through synergistic sharing and partnership of knowledge and expertise to address needs of communities and society.

**College Goals:** The College of Agriculture’s strategic plan states that “a healthy environment is an important part of the future economic health of Iowa” and that “the College of Agriculture must be a responsive resource for protecting and enhancing natural resources, and for developing new ways to harness the state’s abundant renewable resources for the good of society.” In support of those ideas, the college has two goals.

* Enhance training in integrated resource management for undergraduate and graduate students.
* Enhance research and extension in natural resources, landscape enhancement, and bioproduct development.

**Department Goals:** NREM is dedicated to the land-grant missions of undergraduate and graduate education, basic and applied research, and extension and outreach. Therefore, we are committed to the following:

* A strong undergraduate program serving existing majors in Animal Ecology and Forestry and the development of new integrative majors or options in Natural Resource Ecology and Management.

* A strong graduate program with majors in animal ecology, fisheries biology, forestry, wildlife biology, and wood science, as well as active participation in interdepartmental graduate programs.

* An excellent research program that spans basic to applied sciences, as well as the human dimensions aspects of natural resource management. Meeting the research needs of Iowa citizens, governmental natural resource agencies, and other constituents is of the highest priority.

* Highly respected extension and outreach programs and activities that address the many and growing expectations and needs of our stakeholders around the state and nation.

**How Do We Compare**

An important factor in controlling our future are the resources we have to work with, both financial and human. In some respects we compete with other universities in the region for both students and research funding. Therefore it is important to assess where we stand relative to other institutions in the region. In the North Central Region administrators annually share information on enrollments, faculty FTE's, and financial resources. Since different programs report these data in different ways or do not report them at all, these comparisons are more reflective than indicative, but are nevertheless useful for comparative purposes. Universities in the region with programs comparable in mission and focus to ISU include Michigan State, Minnesota, Ohio State, Purdue, and Wisconsin-Madison. From an undergraduate enrollment perspective, ISU at 408 is second to Ohio State (425) with Wisconsin-Madison the lowest with 170 students based on 2002 data. Michigan State and Minnesota have the largest graduate programs with 160 and 150 students respectively. ISU has the smallest graduate program (60) but is similar in magnitude to Purdue (69) and Ohio State (69). Faculty FTE's devoted to teaching range from 7.5 to 13.7 with ISU having a value of 10.2. Research FTE's range from 9.9 to 16.3 and Extension FTE's range from 1.4 to 4.2. In all three FTE categories Ohio State is the leader. ISU has 9.9 and 2.2 FTE's devoted to research and extension, respectively. Financial resources are somewhat difficult to compare directly because they are a blend of state/federal support and external research and extension grants. The University of Minnesota has the largest total budget at $12.7 million compared to $7.6 million at ISU. However, the higher budget at Minnesota reflects in part the assets of a college vs. those of a department. Ohio State, which is more comparable in terms of department status and enrollment, has a total budget of $6.7 million. Again, it is important to recognize that more than 50% of these institutional totals represent "soft funds" from external sources. In summary, ISU appears to be in a competitive position in most areas, with graduate enrollment and Extension resources being the two areas where we are at the lower end of the distribution. All in all this places us in a very reasonable position as we begin our new program.

**How Do We Get to the Next Level**

If we are to improve our position we must begin with strong efforts to recruit new faculty, staff, and students. During the next five years a number of faculty retirements will occur and we must use these retirements as an opportunity to build new dimensions into our programs while at the same time holding on to all aspects of our existing program that are viable and productive. New faculty hires will be key to our success both short and long-term. We have already begun this process as we seek to fill two positions in 2003. We have given careful thought to this process and have developed a staffing plan that will take us through a series of hiring efforts over the next few years. We have been fortunate to be able to fill two key staff support positions, one in student services and a second in computer support. Recruiting of both undergraduate and graduate students will play a very important role in our success as well. We must maintain
or even grow our undergraduate enrollment if we are to compete effectively within the College and University for available resources. As more emphasis is placed on tuition as a funding source, we must have sufficient student numbers in order to claim a larger portion of new funding and to protect those funds we already have. It is also essential that we increase our graduate student numbers, especially those in doctoral programs. In a department as heavily committed to teaching as ours, we need graduate students to assist with the teaching program and to provide the hands and minds that develop and publish new research findings. In an attempt to make our program more attractive to potential graduate students we have increased our graduate stipend to a level that is at the top of the range offered by our peer institutions. We are also improving our recruiting materials to make students better aware of what we can offer. And finally, we are in the process of improving our research facilities. While the latter will take some time to bring to full bloom, we have begun the process and hopefully this will begin to pay dividends.

Our efforts in extension and outreach have suffered in recent years due to budget cuts. We have taken steps to counter some of those cuts through the implementation of cost recovery programs and by making greater use of funds obtained from external sources. We must continue to seek external funds to support the growth of our program, as there is little likelihood that state or federal support for extension will recover to former levels. We can also compensate for the loss of extension funding by including more funding for outreach efforts into our research programs. The department has had very good success in attracting external funding for research. In fact our research efforts are now somewhat space limited. However, it is essential that we make a commitment to grow this aspect of our enterprise to the point that we become a recognized provider of information in certain topic areas. This will help us to garner national attention and provide a means to be more competitive for future grants. We must therefore stay on the cutting edge of research as well as being timely in the publication of our findings. We must also redouble our efforts to establish partnerships, with both public and private organizations, in order to better meet the needs of those we seek to serve.

Finally, our strong suite has always been our teaching program. We must seek to both preserve and enhance that effort. For the past five years NREM faculty have been leaders in the development of innovative approaches to teaching. We need to strengthen our commitment to learning communities given the very positive results we have seen to date. We also need to place more emphasis on experiential learning and the creation of partnerships with the public and private sector to provide more high quality internship opportunities. High quality training supplemented with practical experience will help to make our graduates even more attractive to future employers.

The road ahead will not be an easy one. However, we already have a good start on what we would like to become. With careful management of the resources that we have and a skillful focus on the opportunities that the future will bring, we can position ourselves to continue the traditions of success our forbears established for us. This will require a collective effort, but with the help of alumni and friends we will be equal to the challenge.