

Animals like the timber wolf, bald eagle, and trumpeter swan have been brought back from the brink of extinction to thrive.

Photo: Randy Jurewicz with newly collared trumpeter swan cygnet, Necedah National Wildlife Refuge.

Selected Chronology of Conservation Events Impacting Wildlife Management

Wisconsin conservationists Aldo Leopold (before his death in 1948), Norman Fassett, Albert Fuller, and John Curtis successfully lobbied for the creation of the State Board for the Preservation of Scientific Areas, which was established in 1951 and became the first state-sponsored natural areas protection program in the nation. Parfrey's Glen (480 acres) became the first state scientific area in 1952.

Federal Endangered Species Conservation Act passed into law, expanding protection to foreign species by prohibiting their importation and sale in the United States.

Wisconsin Endangered Species Act was enacted. Wisconsin became the first state to apply for a cooperative agreement with the U.S. Fish and Wildlife Service to protect and manage endangered and threatened fish and wildlife.

Wisconsin Fish and Wildlife Management Bureau was formed, and the duties of its waterfowl staff specialist expanded to include nongame management.

1951

1969

1972

1974

1966

1970

1973

1975

Federal Endangered Species Preservation Act was passed into law, enabling the Department of the Interior to list endangered domestic fish and wildlife.

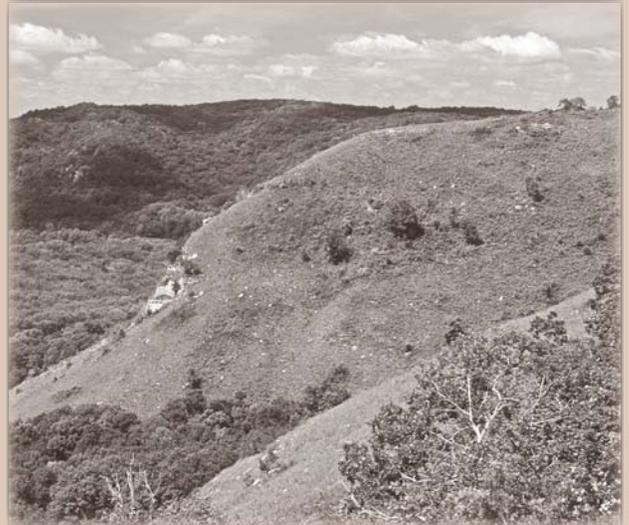
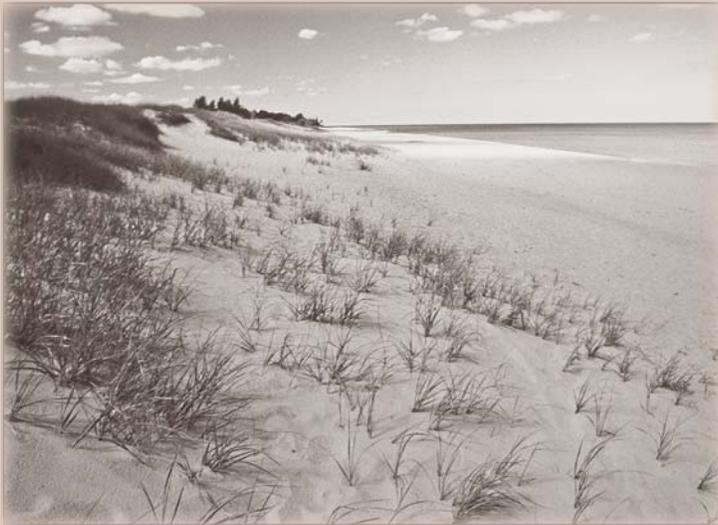
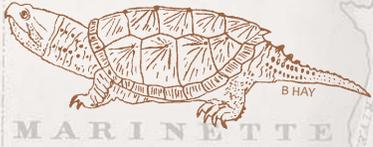
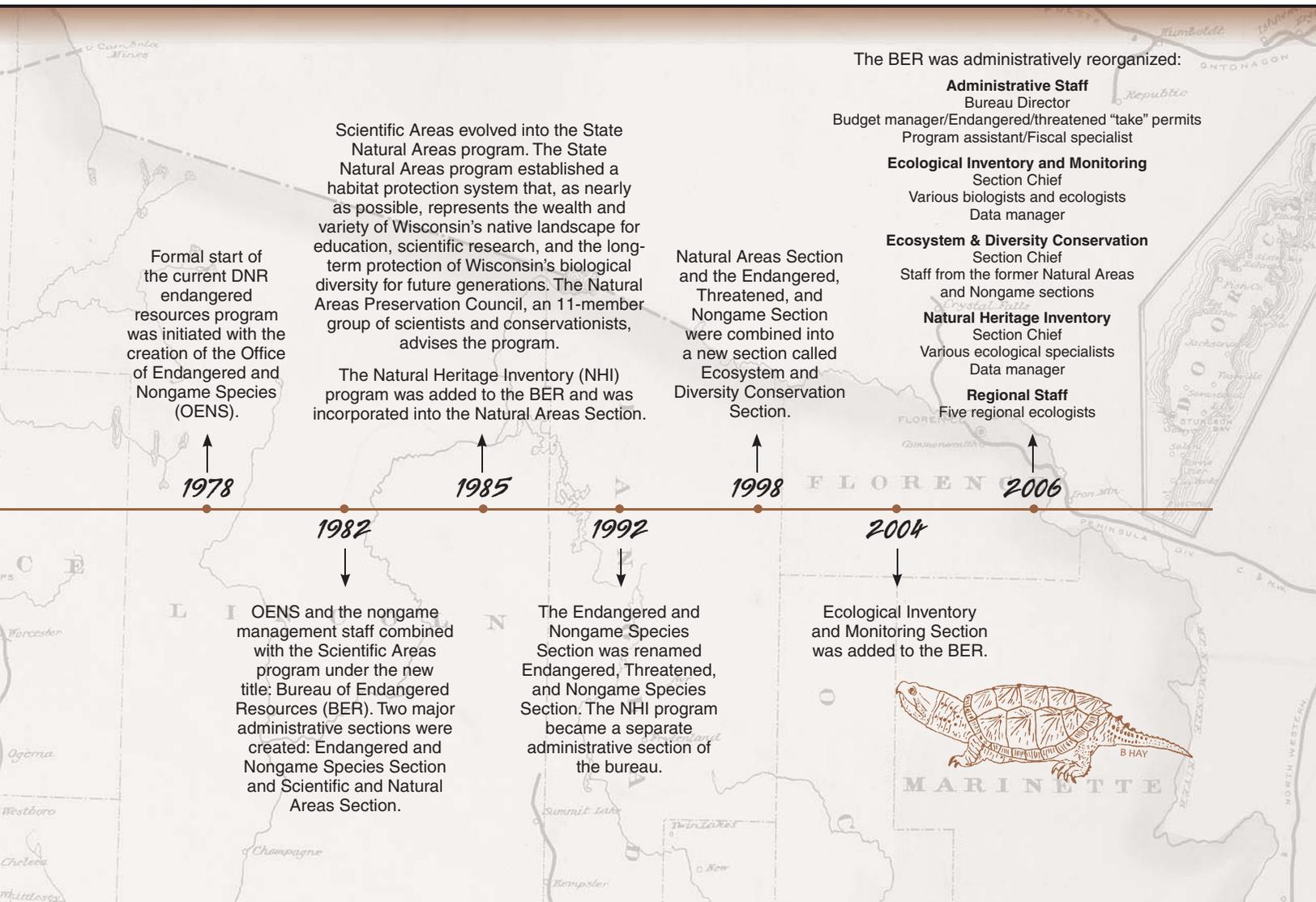
Bureau of Research initiated species status surveys to respond to federal requests. Dr. Ruth Hine volunteered to lead a newly formed Endangered Species Committee.

Federal Endangered Species Act passed into law. New provisions distinguished between threatened and endangered species, allowed listing of species endangered in just part of their range, allowed listing of plants and invertebrates, authorized unlimited funds for species protection, and made it illegal to kill, harm or otherwise "take" a listed species.

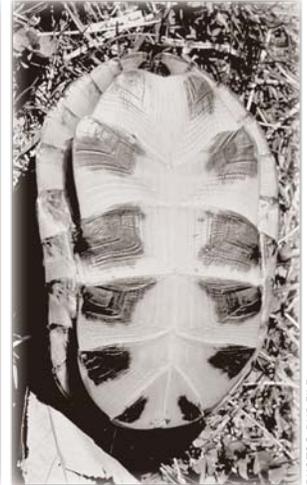
Game managers were renamed wildlife managers in recognition of the program's expanded role in nongame management. Wildlife managers became the primary workforce for implementing endangered, threatened, and nongame work assignments.



LEFT: COURTESY OF THE NATURE CONSERVANCY, RIGHT: T. MEYER



PHOTOS: T. MEYER



PHOTOS: DNR FILE

George Knudsen developed the first state park naturalist program.

Extensive timber harvest, wildfires, and market hunting were devastating to a wide variety of birds and mammals in the nineteenth century. Although habitat loss was instrumental in producing the extinction and extirpation of many abundant wildlife species like the passenger pigeon, the hunter's gun was given a disproportionate share of the credit. Practically all the devastating hunting losses of birds and mammals were caused by unregulated market hunting rather than the regulated hunting seasons of the time. The resultant bad image has remained with the hunting fraternity through current times.

The evolution of a formal program to inventory, protect, and manage endangered and threatened animals (including nongame species), plants, and plant communities is an integral part of Wisconsin's wildlife management history. (See Appendix Q for a chronology of nongame research and regulations from 1844 through 2006.) The establishment of federal and state laws to protect endangered and threatened species of vertebrates, invertebrates, and plants has been key to the development of that program; the strategic laws created between 1966 and 1978 had a profound effect on Wisconsin DNR involvement.

The DNR's censusing of native flora and fauna had its origin within a small Bureau of Research steering committee in 1970. The statewide effort that followed is a remarkable story of agency success and public support. Numerous individuals were responsible for expanding the program over the years in an ever-changing series of events outlined in this chapter.

First Nongame Project

Research of a former game species ironically became the first nongame project in Wisconsin. As discussed in Chapter 2, Alfred O. Gross, a university professor at Bowdoin College in Brunswick, Maine, was selected to lead a prairie chicken research project in 1928 through the volunteer Research Bureau attached to the Division of Game of the Wisconsin Conservation Department. Prairie chickens had been hunted in Wisconsin for hundreds of years, but because of decreasing prairie chicken numbers, closed seasons were applied to an increasing number of counties from 1905 to 1928 until it was apparent that total protection was needed. The hunting season was closed permanently in 1929.

The first prairie chicken report, entitled *Progress Report of the Wisconsin Prairie Chicken Investigation*, was completed by Dr. Gross in 1930 and presented to the Conservation Commission. The commission chair, William Mauthe, wrote in the preface of the report, "with science replacing sentiment and efficiency replacing expediency in the administration of conservation affairs, it is becoming increasingly more important to know and use the facts in formulating policies and directing programs."

The study continued into the 1930s, and F.J.W. Schmidt was hired to assist Dr. Gross on January 10, 1932. A tragedy affected the research project in 1935 when



F.J.W. Schmidt (left) and Alfred O. Gross (right).

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Schmidt was killed in a fire at his home. All of the prairie chicken files and records were destroyed. Interest in continuing prairie chicken research ended for a while as the Research Bureau refocused on game species after Pittman-Robertson funds were created in 1937.

The Great Depression was having its impacts, the Civilian Conservation Corps was active, and the Resettlement Administration created in 1935 had undertaken a wildlife habitat restoration project that would have a remarkable, historic effect on prairie chickens. The man hired for that project was Frederick N. Hamerstrom.

Working for the Resettlement Administration from 1935 to 1937, Fred was getting his early wildlife management exposure, along with his wife, Fran. Mapping and inventorying wildlife and its habitat clued them to the plight of declining species and locked them into what would become their true calling: saving prairie chickens from disappearing from the Wisconsin landscape. Fran and Fred both studied under Aldo Leopold at the University of Wisconsin. In 1940, Fran earned her master's degree, and Fred obtained his Ph.D. the following year with a thesis entitled *A Study of Wisconsin Prairie Grouse (Breeding Habits, Winter Foods, Endoparasites, and Movements)*. The war took him into the service as an aviation physiologist from 1943 to late 1945. He returned to civilian life as curator of the University of Michigan's game preserve through 1949.

Prairie chickens were fading from the landscape in the 1940s, but no state agency had done much about finding out why. Dr. Hamerstrom was hired by the Wisconsin Conservation Department (WCD) to head up a Prairie Grouse Management Research Unit on August 15, 1949. The agency got a package deal in the process by hiring Fran a short time later. It was believed to be the first husband-wife hiring in the agency's history. The pair would produce meticulous research over the next 20 years crucial for saving the species. Fran would also write numerous books related to the couple's experiences.

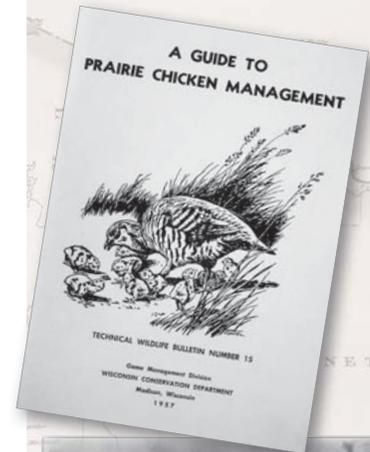
Other Nongame Activities

Not much wildlife attention was given to any nongame species in the WCD throughout most of the 1950s beyond occasional *Conservation Bulletin* articles. Public interest no doubt increased along the way as game managers made wildlife presentations in schools, and park rangers talked about nature in state parks. Research interest was mostly confined to obscure graduate studies at colleges and universities.

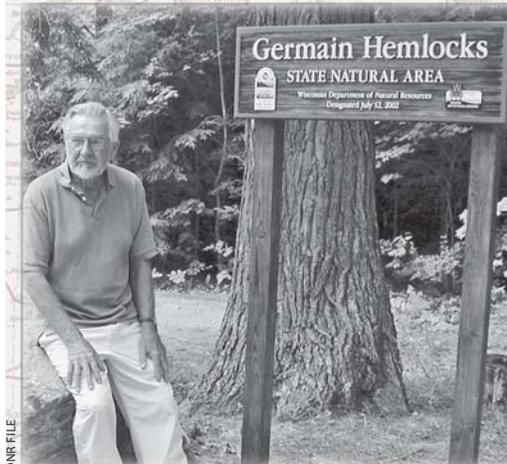
In the late 1950s, WCD naturalist and researcher George Knudsen noted declines in the Blanchard's cricket frog. About the same time in the private sector, Daniel Berger was banding ospreys on the Rainbow Flowage in Oneida County. Other independent researchers including Charles Sindelar, Don Follen, and Sergei Postupalsky did limited surveys and banding of ospreys in the 1960s. Alexander Sprunt III of the National Audubon Society initiated eagle egg contaminant research in 1960. The U.S. Forest Service began eagle surveys in the Chequamegon and Nicolet National Forests in 1963. Charles Sindelar also began banding nestling eaglets in 1965 on a limited scale.

The State Parks and Forests Division hired WCD researcher George Knudsen in 1962 as its first state naturalist. He developed the first naturalist program for the park system and initiated a labeled nature trail project that had a lasting effect for the Wisconsin park system. Knudsen's numerous articles on various animals over the years introduced the public to ecological principles and sparked aesthetic interest in wildlife.

Former game manager Clifford Germain was hired as the Scientific Areas ecologist in 1966 and at the time was the only spokesperson in the agency for protecting rare plant communities in Wisconsin. Germain served for 20 years in that capacity and was personally responsible for protecting thousands of acres of endangered, threatened, and rare plants that would have otherwise been lost. He spoke out strongly against public and private land managers bent on applying management practices that could be damaging to some rare plants and worked diligently with them to create compatible compromises. Initially, DNR property managers were resentful of habitat protection strategies because it interfered with traditional game management activities. Germain's persistence and friendly persuasion eventually prevailed.



Prairie chicken investigations were the first wildlife research effort in Wisconsin.



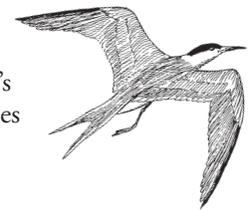
Clifford Germain led the Scientific Areas program.

The Gamekeepers

Department inventory of ospreys began with limited aerial surveys in 1967 through 1969, mostly by DNR staff and pilots. Formal eagle inventories were initiated by the DNR in 1973 using the interest and talents of game manager Ronald Eckstein in the North Central District. Wildlife technician Ray Vallem in the Northwest District joined Eckstein's efforts in 1974. Charles Sindelar obtained funding from the Wisconsin Society for Ornithology and the U.S. Fish and Wildlife Service (FWS) and began systematic aerial surveys for eagles statewide in 1973. That same year, Sindelar and David Evans of the Hawk Ridge Bird Observatory in Duluth, Minnesota, began statewide efforts to band nesting eaglets. DNR's Eckstein also joined in the banding project, and the combined work accounted for over 3,000 eaglets banded in Wisconsin over a 20-year period. The results established a national banding record.

Other nongame projects undertaken during the 1970s included the following:

- Dr. Ray Anderson of the University of Wisconsin-Stevens Point first implemented frog surveys in central Wisconsin about 1970. Biological supply house personnel reported national declines in leopard frog populations, and Ruth Hine and Dick Vogt documented the same thing occurring at several locations in Wisconsin during the early 1970s.
- Two Cornell University graduate students, George Archibald and Ron Sauey, established the International Crane Foundation north of Baraboo, Wisconsin, in 1973. Their work to restore whooping crane populations as well as conservation efforts directed toward sandhill cranes eventually led them to become world leaders in preserving all 15 crane species through research and education programs in more than 20 countries.
- Sumner Matteson and Jim Harris conducted the first systematic survey of colonial waterbirds along the Wisconsin shore of Lake Superior in 1974 and Sumner has continued that effort at five-year intervals.
- University of Wisconsin grants during the 1970s funded student research projects on terns (Sumner Matteson), red-shouldered hawks (Bob Welch), Cooper's hawks (Bob Rosenfield), wolves (Dick Thiel), and reptiles and amphibians (Dick Vogt).



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Federal Law Development

The federal laws leading up to complete protection of endangered and threatened species nationwide had their start in the 1960s. Inspired by the plight of the whooping crane, Congress passed the Endangered Species Preservation Act 1966. The law gave authority to the secretary of the interior to:

- list endangered domestic (native) fish and wildlife,
- allow the FWS to spend \$15 million per year to buy habitat for listed species,
- direct federal land agencies to preserve endangered species habitat "insofar as it is practical and consistent with their primary purpose", and
- encourage, but not require, protection of endangered species by other federal and state agencies.

The 1966 law was not very effective. It wasn't until 1968 that the FWS bought the first endangered species habitat: 2,300 acres in Florida to protect Key deer. Federal listings of species were very incomplete, and state participation in the program was almost nonexistent.

In 1969, whales, another species experiencing survival peril, captured public sentiment. The resultant political pressure to create laws to protect worldwide resources led to expansion of the 1966 law to become the Endangered Species Conservation Act in 1969. The new law expanded the secretary of the interior's authority to list foreign species and prohibited the importation and sale of products made from them. Interestingly, the Pentagon, which used sperm whale oil as a special lubricant for its submarine fleet, protested the listing of sperm whales as endangered because they thought the

evidence indicated the species wasn't in any immediate danger of extinction. The secretary of the interior listed the species anyway, but the rift convinced the Department of the Interior staff that a stronger law was needed.

In 1973, an international conference in Washington, DC, led to the signing of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Twenty-one nations signed the convention to restrict international commerce in plant and animal species believed to be actually or potentially harmed by trade. CITES participation would include more nations over the years, and conferences were held on a regular basis into the next century.

Congress passed the Endangered Species Act (Federal Register *CFR* 50, part 17, section 11) in 1973. This new law incorporated the laws of 1966 and 1969 into a much improved regulations framework that would serve as a base for plant and animal protection into the next century. Its purpose was "to conserve the ecosystem upon which endangered and threatened species depend." "Endangered" meant a species in danger of extinction in all or a significant portion of its range. "Threatened" meant a species likely to become endangered in the near future. The secretary of the interior remained the administrator for the new law, and the FWS was in charge of the regulation and management of the new program nationwide.

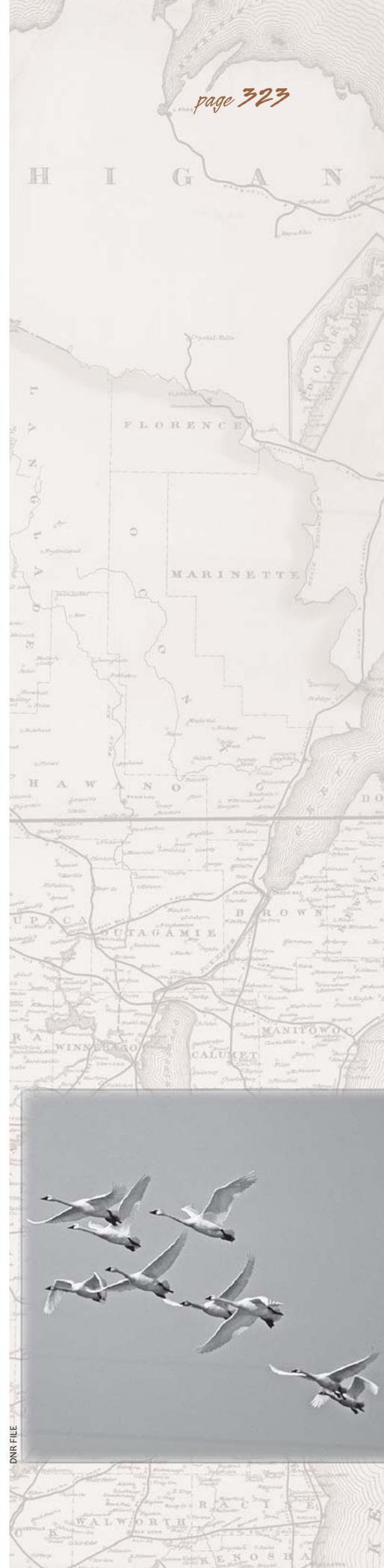
The 1973 law was complex and encompassed the following summarized regulations and benefits:

- United States and foreign species were combined into one list, with uniform provisions applied to both.
- Categories of endangered and threatened were defined.
- Plants and all classes of invertebrates were eligible for protection (as they were under CITES).
- All federal agencies were required to undertake programs for the conservation of endangered and threatened species and were prohibited from authorizing, funding, or carrying out any action that would jeopardize a listed species or destroy or modify its "critical habitat."
- Broad "taking" prohibitions applied to all endangered and threatened animal species.
- Matching federal funds became available for the states with cooperative agreements (to inventory and manage endangered and threatened species).
- Authority was provided to acquire land for animals and plants listed under CITES.
- U.S. implementation of CITES was authorized.

Endangered Species Program Evolution

Surveys initiated by the FWS started a nationwide effort to assess all fish and wildlife populations to determine their status in the late 1960s. In response to those early federal requests, Bureau of Research director Cyril Kabat formed an Endangered Species Committee, composed of Dr. Ruth Hine, who served as committee chair, Don Mackie, Lyle Christenson, James Hale, Clifford Germain, and Tom Wirth, to provide special attention to a growing list of endangered species needs.

The Endangered Species Committee sent an annual letter requesting species status information to game managers, wardens, fish managers, park superintendents, and research biologists. This field assessment was the first statewide attempt to inventory Wisconsin's native fauna and identify population weaknesses. Committee members analyzed the annual field reports and assembled a "Watch List" of species showing signs of decline. Annual reports were passed along to the FWS and became the basis for the federal protection list. Wisconsin continued its reputation for being a pioneer in progressive wildlife management by becoming the first state to pass its own endangered species law in 1971 (it became effective in 1972). Administrative rules (DNR-enforced regulations) soon followed identifying species to be protected. Wisconsin



The Gamekeepers

became the first state to sign a cooperative agreement with the FWS to inventory and manage endangered and threatened species.

As the public and professional concern for endangered species mounted and funding became available, more time demands were made on the Endangered Species Committee. Kabat proposed the appointment of a full-time coordinator to meet these needs. Dr. Hine volunteered in addition to her duties as chief editor for the Bureau of Research. She became very involved over the next decade, gathering species information and creating public awareness about the new DNR activities.

Into the 1970s, Dr. Hine gathered data from the University of Wisconsin and DNR field activities to obtain the overall picture of Wisconsin wildlife health. In particular, Dr. Hine noted the poor nesting success of bald eagles and other birds of prey. She also discovered that mutations were occurring in several frog species. Because none of the limited funding sources was designated for field studies, incidental observations were her only source of information.

Dr. Hine responded to the growing public interest in declining wildlife through the news media and publications. She developed a series of informational talks about rare and declining wildlife and gave numerous talks statewide to the public as well as to DNR staff. Her efforts laid down an enduring foundation for the progressive endangered and nongame program that followed.

A 1973–74 department reorganization reduced the number of central office bureaus from 24 to 21. Two of the affected bureaus were Fish Management and Game Management. When the two bureaus were consolidated, the new name became the Bureau of Fish and Wildlife Management, likely because of its expanded nongame responsibilities. In August of 1974, the Wildlife Section (as it was called then) of the new bureau created a position consisting of a half-time waterfowl biologist and half-time nongame biologist. Ronald Nicotera was appointed to the position under the title “waterfowl and nongame specialist.” His individual efforts brought new emphasis to the nongame aspects of traditional game management.

In 1975, with the initial input from Nicotera, the administration changed field titles from “game manager” to “wildlife manager” (wildlife staff specialist positions were created at each district office after April 1975). For various reasons, including awkward communications and staff cohesiveness, the fish and wildlife functions were restored to individual bureaus in 1976.

Dr. Hine continued to coordinate regular Endangered Resources Committee meetings and to conduct public awareness efforts. Nicotera joined the committee, took over wildlife survey coordination, and participated in informing other DNR functions about the new law and its impacts on department management activities. The Bureau of Law Enforcement also took interest, and its deputy director, Harold Hettrick, joined the committee to coordinate conservation warden participation.

Nicotera recalled later that early efforts to obtain support and compliance from other DNR functions “were far from smooth.” Already carrying heavy workloads, field



Dr. Ruth Hine provided early endangered species program leadership and continued her support long after her retirement in 1986.

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The Endangered Species Committee of the late 1960s served to provide early endangered species decisions. From left to right: Donald Mackie, Lyle Christenson, Dr. Ruth Hine, Cyril Kabat, and James Hale (Tom Wirth and Cliff Germain missing).



DNR FILE

personnel initially weren't very receptive to more responsibilities, especially when it prevented them from meeting their primary obligations. Adding endangered species to mandatory environmental assessment requirements caused work project delays and more employee frustration.

It should be noted that no formal endangered resources program existed at this time. Nicotera spent considerable time establishing staff rapport with the FWS regional office in Minneapolis. It became obvious through discussions with the FWS and the Wisconsin Endangered Species Committee that his role was going to increase. He envisioned his parent bureau was going to have the lead in expanding activities from the inventory stage to management. He also recognized that public awareness would be a crucial ingredient.

Throughout most of the 1970s, no endangered resources field staff existed. As a result, most field personnel pitched in, but fish and wildlife managers did much of the work involving special surveys and land management. Because of Ruth Hine's skilled groundwork and Nicotera's arrival, later cooperation from wildlife managers was unbridled even though the work was considered an *add-on*. During work planning sessions, wildlife managers commonly called endangered species work "a good add-on."

Slowly, endangered and nongame activities were becoming a part of routine management statewide. Some individual wildlife managers developed special expertise in various aspects of the program. Ron Eckstein became the state's expert on bald eagles and ospreys. Fred Strand became very active with Lake Superior shorebirds. Other wildlife staff with special expertise in endangered and nongame species would materialize over time.

With his responsibilities as both waterfowl and nongame biologist, Nicotera balanced dealing with the controversy over goose management at Horicon Marsh and other waterfowl issues with developing a new endangered species program for his bureau. He was appointed to the federal Wolf Recovery Team and maintained that responsibility until his retirement. The majority of his staff time was committed to the needs of the nongame program.

Nicotera also spent a considerable amount of time at the state capitol in 1977 stirring up interest in expanding the coverage of the endangered species law to include broader nongame protection. He also pushed for inclusion of plants, but such expanded authority drew significant opposition from lawmakers leery of giving a powerful agency even more authority. Fortunately, an influential Assembly representative named Tom Loftus agreed to sponsor a bill and influence support from his peers.

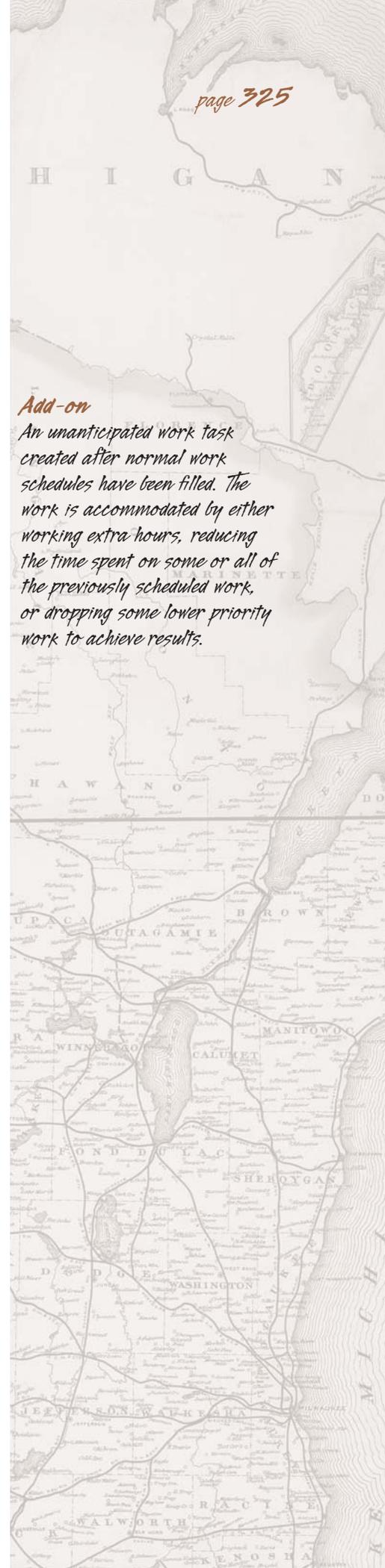
In May 1978, the state law was amended to protect vanishing plants in addition to broader animal protection provisions. The following month, Nicotera hired Inga Brynildson as an LTE to help with the increasing responsibilities. In August, he hired Randle Jurewicz, also as an LTE. Both individuals were recent graduates of the University of Wisconsin-Madison's Department of Wildlife Ecology and rapidly became known as program stalwarts.

Add-on

An unanticipated work task created after normal work schedules have been filled. The work is accommodated by either working extra hours, reducing the time spent on some or all of the previously scheduled work, or dropping some lower priority work to achieve results.



DNR FILE



New Office Created

The department administration was now convinced that endangered and threatened species didn't quite fit in any of the traditional programs and that it warranted separate bureaucratic consideration. The new Office of Endangered and Nongame Species (OENS) was created, and in September 1978, longtime chief of Wildlife Research, James Hale, was appointed to direct the program. By making the program a formal part of the state bureaucracy, the agency made a strong commitment to changing the traditional fish and game focus of natural resources management. It was a fortuitous occurrence in many respects, chief among them that priorities did not have to be subservient to hunting and fishing programs.

The first annual budget for the fledgling OENS was \$100,000 provided by hunting and fishing license revenues. Hale's limited staff still consisted of LTEs Brynildson and Jurewicz. Working with data and reports collected by Dr. Hine and Nicotera, they assembled Wisconsin's first official endangered and threatened species list consisting of 102 plants and animals. Simultaneously, effort was extended to work with DNR property managers to identify and protect important habitat including nest sites and spawning grounds of declining species. The Scientific Areas program continued to operate under Cliff Germain as an independent entity in the DNR. Germain was a staff of one starting in 1966 but was able to hire a University of Wisconsin student LTE, Bill Tans, who was an expert in plant identification. Bill worked for Cliff for three to four years in the late 1960s and was later hired to become part of the Bureau of Endangered Resources staff in the 1980s.

Brynildson spent considerable time working with the Bureau of Law Enforcement staff to train field wardens in identifying the species they were expected to protect. This was a challenging task in that they were already overburdened with new, complex environmental laws. Further, protecting plants and rare animals wasn't exactly the machismo activity these rugged individuals were used to doing. Brynildson also had to deal with gender credibility issues. Women were just appearing on the conservation scene in leadership positions. Having a new female employee show up at statewide warden meetings to teach new vocabulary and species identification was hard for field veterans to take seriously. Brynildson overcame these difficulties quickly, and an identification handbook she developed soon had wardens prepared for the task.

Hale saw the early need to address human behavior as an important aspect of protecting animals and habitat. Because Brynildson also had a degree and training in life science journalism, she was assigned the task of developing what was later entitled "the human dimensions" of the OENS program. This included public awareness activities involving publications, slideshows, videos, property signage, and numerous talks to outdoor recreationalists, captive wildlife license holders, county agents, garden clubs, schools, park naturalists, and a host of organizations throughout the state whose actions impacted wildlife and its habitat.



The Timber Wolf Recovery Plan, a first for the DNR, was completed in 1978.



DNR FILE

Simultaneously, Jurewicz coordinated the myriad federal and state laws impacting endangered and threatened species. Rule drafting and preparing the necessary documents for Natural Resources Board approval, public hearings, and legislative review occupied a great deal of his time. He also represented OENS on numerous DNR committees and served as a liaison to the Bureau of Wildlife Management to keep wildlife managers informed about new regulations and to encourage habitat management on state wildlife areas.

The federal Wolf Recovery Plan was completed in 1978, setting the stage for several other species plans to follow. Recovery plans became the standard vehicle for addressing the restoration of endangered and threatened species nationwide.

By March 1980, Hale was successful in obtaining permanent staff positions for Brynildson and Jurewicz. This was an important step for building the endangered species program. However, it was very apparent that limited program funding would prevent the hiring of an adequate field staff. Cooperation with wildlife managers and other department personnel remained an essential ingredient of work planning objectives.

Early OENS Accomplishments

During the first biennium (1977–79), OENS staff completed status and distribution surveys for many animals and plants, including fishes, mussels, frogs, terns, and ginseng; undertook censusing and habitat management projects for bald eagles, osprey, and double-crested cormorant; and continued the program begun in 1975 to reintroduce American martens in the Nicolet National Forest by developing a recovery plan. Other projects included computerization of bird records, a public awareness program based on the philosophy “before we care, we must be aware,” and Wisconsin Administrative Code revisions.

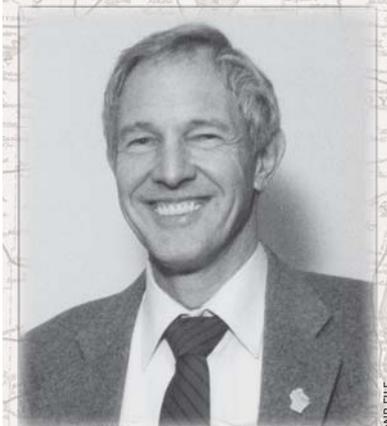
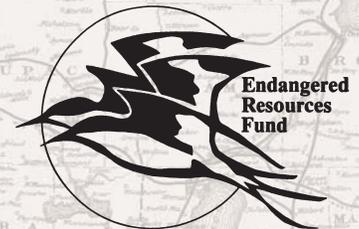
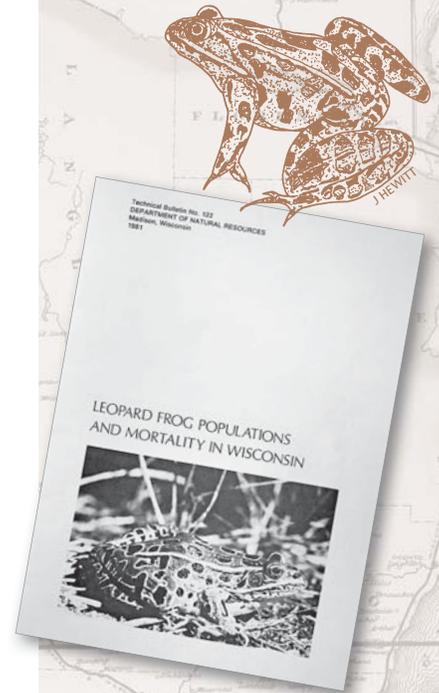
Dick Thiel, who had been hired as an LTE, initiated a gray wolf project in 1980. Program staff also conducted surveys and life history studies of rare mussels, hawks, and amphibians. In 1981, a notable leopard frog study was published as Technical Bulletin 122, *Leopard Frog Populations and Mortality in Wisconsin, 1974–76*, by Ruth Hine, Betty Les, and Bruce Hellmich.

Reorganization and New Leadership

In August 1982, OENS and the nongame management staff were combined with the Scientific Areas program under the new title “Bureau of Endangered Resources” (BER), and the Endangered and Nongame Species and Scientific and Natural Areas programs became formal sections under Randle Jurewicz and Clifford Germain, respectively. Consolidation strengthened each of the components with uniform budgeting and planning as well as improved the efficiency of its daily operations. The creation of the new bureau marked the start of more comprehensive protection of non-harvested plants and animals as well as rare plant communities; in 1982, the endangered and threatened list included 42 animals and 87 plants.

Hale retired in 1983 and was replaced by Ronald Nicotera, who had been serving as the assistant division administrator the past four years. By this time, the BER staff had grown to six permanent workers and four LTEs with an annual budget of about \$270,000. However, federal funds for program support were unexpectedly reduced, and program viability came into question. Fortunately, Nicotera was successful in introducing a new tax check-off law that Hale and others had worked on over the past three years. The new law passed in the 1983–84 legislative session, effective for the 1983 tax season. It enabled Wisconsin residents to contribute a portion of their income tax refund to the state’s Endangered Resources Fund.

Getting the new funding source law passed didn’t create money for the program in itself. For the law to be effective, the public had to be informed about it and encouraged to contribute money. Promotion and public awareness of the tax check-off opportunity became a top priority for the bureau. Nicotera spoke about it at every opportunity, and Brynildson used every available media to get the information to the public.



Ron Nicotera led the Endangered Resources Bureau from 1983 to 1992.

Major 1980–1984 Activities

The Endangered and Nongame Species Section of the program involving Brynildson, Jurewicz, and Thiel continued to enlist the cooperation of researchers, wardens, foresters, park superintendents, fisheries biologists, and wildlife managers to complete most fieldwork. Thiel designed and conducted the primary wolf surveys, but northern wildlife managers participated as well. Michael Mossman and Sumner Matteson were hired as ornithologists to coordinate and conduct tern, shorebird, and other nongame bird surveys, and to write recovery plans. Other bureau activities included the initiation of an annual frog and toad survey, the ongoing American marten stocking program in the Nicolet National Forest, surveys of raptors, information and education efforts, and mussel studies.

The Scientific and Natural Areas Section was responsible for administering 181 Natural Areas (46,081 acres). (Today, more than 650 State Natural Areas exist in Wisconsin.) Important accomplishments included the following:

- Acquisition of five new scientific areas
- Review of about 600 waterway modification applications
- Completion of the third and final phase of the initial statewide natural area inventory
- Completion of 23 scientific area management plans
- Inspections of 167 scientific areas for determining management and use needs
- Development of 37 small projects for improving scientific areas
- Development of a critical plant species population verification program
- Review of 70 DNR master plans
- Coordination with numerous private, municipal, state, and federal agencies to protect significant natural areas



P. PEETERS

***Double-crested
Cormorants***

In 1965, only 30 pairs of double-crested cormorants were found in the state.

In 1985, the department achieved a major goal by removing the double-crested cormorant from the endangered and threatened species list. This success story grew out of wildlife manager Tom Meier's construction of cormorant nesting platforms using telephone poles on Mead Wildlife Area in 1980.

Wildlife manager Norm Stone had actually been the first to use the technique earlier on Phantom Flowage located within the Crex Meadows Wildlife Area, but he didn't get much recognition. Eventually, more nesting platforms were constructed on Crex Meadows, and construction of nesting platforms expanded to other state wildlife areas including Green Bay West Shore and Grand River Marsh. By 1985, the cormorant population, primarily bolstered by the nesting platforms constructed by DNR wildlife managers, had increased to over 2,200 pairs.

Major 1985–1990 Activities

The 1985–87 biennial report noted that “the endangered resources program [is] still in its infancy and that the program needs substantial nourishment to properly grow and develop. Indeed, the credibility and continued success of the highly successful game management program [is] related to the agency's willingness to develop a more integrated approach toward managing the wildlife resource for consumptive and non-consumptive uses. Future emphasis will be placed on watching and enjoying wildlife for their intrinsic value and because they provide an important contribution to Wisconsin's quality of life.” The 47th Midwest Fish and Wildlife Conference, held December 17, 1985, in Grand Rapids, Michigan, demonstrated that nongame programs were now recognized as formal programs in most states: its published proceedings were entitled *Management of Nongame Wildlife in the Midwest: A Developing Art*.

The law creating the tax check-off for the Endangered Resources Fund was essential to the growth of the endangered resources program, but it contained a provision that required the DNR to pay back the Conservation Fund (the segregated Fish and Wildlife Account) all of the money that had been used since OENS was created in 1978. With the recognition that the requirement would bankrupt the new Endangered Resources Fund for years, the provision was repealed from the law in 1985.

Other important legislation implemented in 1985 established Wisconsin's Natural Heritage Inventory (NHI) as part of The Nature Conservancy's national network of biological inventories. (Latin America and Canada were eventually added to the network.) The inventory is a computer-generated program of all species in Wisconsin and both enables data entry as new information becomes available and permits rapid retrieval of information as it is needed. The technology was essential for tracking what was becoming a huge natural resources database.

The Nature Conservancy also executed a contract with the DNR to provide personnel to run the NHI program. The new program was incorporated into the Scientific and Natural Areas Section of the Bureau of Endangered Resources. Data entry

was very labor intensive, and the amount of information to be collected on a statewide basis was massive. Later, it was also necessary to hire ecologists to collect some of the field data because of gaps in the information base.

Dr. Ruth Hine's name continued to be synonymous with endangered resources up to and following her retirement in January 1986. After retirement, she remained very active in promoting the program. She incorporated endangered and threatened plant and animal management principles into the Bethel Horizon environmental education program taught each summer at their facility near Dodgeville.

Cliff Germain retired in June 1986 completing an illustrious career with the agency dating from his first job as a game manager in Woodruff working for Ralph Hovind. After serving as a game manager at Waterford in charge of the program in Racine and Kenosha counties from 1956 to 1966, he accepted the ecologist position for the Scientific Areas program in Madison and remained in charge of that program until retirement. He acknowledged that land acquisition for both wildlife management and the Scientific Areas program were career highlights and that the entire Scientific Areas program was a delight, especially protecting Rush Creek and the "Big Block" portion of the Flambeau State Forest.

Other accomplishments contributed to the continuing growth of the program:

- An American Marten Recovery Plan was completed in 1986. The plan established a goal of 300 martens for the Nicolet National Forest (northeast Wisconsin) and 100 martens for the Chequamegon National Forest (northwest Wisconsin). The 172 martens released in the Nicolet between 1975 and 1983 were followed by 139 martens released in the Chequamegon from 1987 to 1990, achieving the recovery goal soon after 1990.
- In 1986, Mike Mossman helped organize the Bluebird Restoration Association of Wisconsin.
- In 1987, the BER staff began releasing peregrine falcons and trumpeter swans. The peregrines were released in Milwaukee from 1987 through 1989. Twenty swan eggs were acquired in 1987, and 15 eggs were obtained in 1988 for a cross-fostering experiment using mute swans as foster parents.
- In 1989, Randle Jurewicz and Sumner Matteson flew to Alaska to collect eggs from wild trumpeter swan nests under a FWS permit and Pacific Flyway approval. They returned with 40 eggs, 38 of which successfully hatched at the Milwaukee Zoo. The egg-collection program continued through 1997, with 385 eggs collected, of which 92% hatched. By 1998, nearly 400 trumpeters had been released into the wild.
- Dick Thiel identified 30 wolves associated with six different packs, completed the state's timber wolf recovery plan, and had it approved in November 1989. The same year, bald eagle and osprey were upgraded from endangered to threatened. Sixty-one plants, mussels, snails, fish, and other species were added to the threatened and endangered list. The state's first Biodiversity Team was created in the bureau.
- Chuck Sindelar conducted eagle nest surveys until 1989 and Regional DNR staff began eagle nest surveys starting in 1990.
- DNR staff continued osprey nest surveys including Ray Vallem, Lowell Tesky, Patricia Manthey, and Ron Eckstein.
- Adrian Wydeven, a wildlife biologist stationed at Shawano, was hired by the BER in 1990 as a mammalian ecologist. Stationed at Park Falls, he directed the timber wolf program and monitored the state's growing wolf population.



R BRADY



DNR FILE

The Gamekeepers

Another Leadership Change

Ronald Nicotera retired January 13, 1992, and Chuck Pils became bureau director. The new budget for 1992–93 was \$1,825,000, from the following sources of income:

- Tax check-off – \$660,000
- General Purpose Revenue (match grant) – \$450,000
- General Purpose Revenue (other sources) – \$142,000
- Other program revenue – \$115,000
- Gifts and donations – \$100,000
- Federal grants – \$358,000

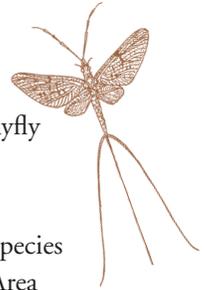
With expanded funding, the permanent staff had grown to 23 employees including three employees under contract from The Nature Conservancy. The BER section leaders were Randle Jurewicz, Endangered and Nongame; Betty Les, Natural Heritage Inventory; and Paul Matthiae, State Natural Areas Section.

Major 1993–1994 Activities

Natural Heritage Inventory

Several hundred records of rare plants, animals, and communities were added to the inventory base to bring the total to more than 14,000 species. NHI accomplishments for 1993–94 included the following:

- Establishing new records for several rare snails
- Continuing studies on the winged mapleleaf mussel
- The discovery of two new locations for the Pecatonica River mayfly
- Completing the two-year study of the Hines emerald dragonfly
- Completing the annual frog and toad survey
- Completing the 22nd annual bird survey, which recorded 208 species
- Monitoring great egrets on the Four Mile Island State Natural Area
- Surveying the massasauga rattlesnake
- Initiating a study of the ornate box turtle
- Continuing surveys of the Karner blue butterfly and initiating surveys of southeast Wisconsin butterflies and moths
- The discovery of two new populations of rare prairie white-fringed orchids
- Field crews surveying 135 natural communities in 30 counties



Chuck Pils directed the Endangered Resources Bureau from 1992 until his retirement in early 1999.



The Natural Heritage Inventory section, 1996.



State Natural Areas

Nineteen new natural areas (1,930 acres) were purchased, and 21 others were designated State Natural Areas (4,305 acres). Other accomplishments included revising the Administrative Code to provide increased rare plant recovery efforts, initiating research on wild ginseng harvest impacts, and the Biodiversity Team writing management strategies on six types of natural communities. During this period, the staff responded to 1,102 requests for information about natural areas from the public, DNR staff, and other agencies.

Species Management

A volunteer Partners in Flight program initiated by Sumner Matteson in 1993 with the FWS to “keep all common birds common” was a highlight for the year. The program promoted conservation of neotropical migrant birds in the state through the establishment of a Wisconsin Working Group for the Conservation of Neotropical Migrants. The highlight of 1994 was the creation of the endangered resource’s license plate, a funding idea of Bureau director Pils. A number of wildlife species were considered for the license plate logo, and the timber wolf was selected based on the support generated by the public through a statewide art contest to determine the featured



License plate sales revenue became a significant BER funding source.

endangered species license plate logo. The DNR worked collectively with The Nature Conservancy to introduce in the Legislature the bill that created the license plate funding source. Over \$6 million was added to the Endangered Resources Fund from sales over the next ten years. The program also received \$21,000 through the Adopt an Eagle Nest program.

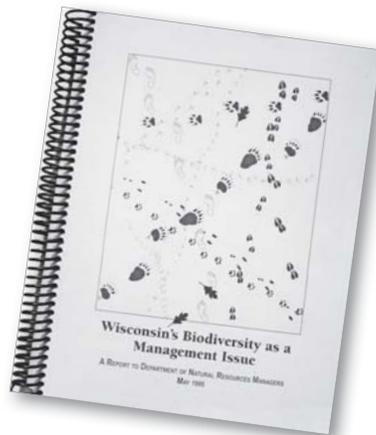
Using DNR staff and other cooperators for fieldwork, accomplishments for 1993–94 included the following:

- Continuing the trumpeter swan recovery effort (103 birds)
- Releasing 16 peregrine falcons in La Crosse
- Surveying and identifying 464 active bald eagle nesting territories and 364 osprey territories
- Initiating eagle nesting studies
- Publishing and distributing winter eagle management guidelines for land managers
- Completing the annual prairie chicken booming surveys documenting 505 cocks on the breeding grounds
- Surveying and identifying 308 breeding pairs of common terns and documenting a 65% decline in Forster's terns (from 1,117 to 387 pairs)
- Completing 2,458 miles of timber wolf track surveys and identifying 45 wolves in 13 packs
- Initiating the Ornate Box Turtle Recovery Plan
- Surveying mussels in the lower St. Croix River

Major 1995 Activities

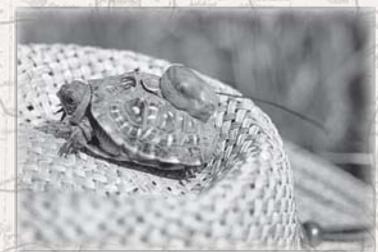
The budget in 1995 was \$1,824,534, from the following sources of income:

- OENS Fund – \$575,098
- General Purpose Revenue match – \$500,000
- Section grants – \$71,624
- Federal funding – \$266,207
- License plates – \$167,100
- Other General Purpose Revenue – \$195,100
- Miscellaneous – \$49,405



Work accomplishments included the following:

- Generating about \$340,000 from about 14,000 endangered resources license plates;
- Purchasing 3,900 acres of the Spread Eagle Barrens State Natural Area;
- Purchasing an additional 650 acres at the Lulu Lake State Natural Area;
- Continuing Karner Blue Butterfly Habitat Conservation Plan progress;
- Working with the City of Superior on its airport runway to protect an area containing several rare plants—the BER staff successfully created a plan that protected the plants and enabled the runway extension to take place;
- Helping other DNR employees complete *Wisconsin's Biodiversity as a Management Issue – A Report to Department of Natural Resources Managers*;
- Documenting increases in trumpeter swan, timber wolf, and bald eagle populations (the timber wolf population goal of 80+ was reached with 83 wolves inventoried in 18 packs);
- Creating the Wisconsin Breeding Bird Atlas (WBBA) project. Coordinated by the Wisconsin Society for Ornithology and supported by the DNR, it was the first of a five-year survey of all breeding birds in the state.



Ornate box turtle research: community ecologist Mark Jaunzams (top) and herpetologist Bob Hay (center).



Wildlife manager William Ishmael (left), Sumner Matteson (center), and technician Meghan Ziegler, trumpeter swan cygnet round-up, Juneau County.



LEFT: E. BOYD, RIGHT: S. MATTESON

Major 1996–1999 Activities

New Incidental Take Law

The “incidental take” provision to the state’s endangered species law became effective on May 13, 1996. This new law allowed state threatened and endangered species to be taken in conjunction with other legal activities. The important aspect of this legislation was the heightened awareness it gave to public agencies (including the DNR), private citizens, and various organizations about the existence of the legal mandate to protect those species in the face of legal yet harmful activities (e.g., highway construction or DNR habitat management).

Program Funding Pursuits

Bureau director Chuck Pils spent a great deal of his time during the mid-1990s traveling to Washington, DC to generate congressional support for proposals that would create a stable revenue source for BER. He also worked to enlist the support of various Wisconsin organizations like the Audubon Society and Ducks Unlimited along with Wisconsin’s Congressional delegation to support such funding.

The first attempt to create new federal funds was entitled “Teaming With Wildlife.” This proposal was a tax on birdseed and recreational equipment like binoculars and canoes. The idea received a considerable amount of discussion around the country but didn’t receive the necessary support for legislation.

Another proposal surfaced called “Conservation and Reinvestment Act of 1999” (CARA). This proposed legislation redirected a portion of the off-shore oil and gas revenues from the Gulfs of Mexico and Alaska into a special nongame fund earmarked for the states. It was a huge source of potential funding with Wisconsin’s share alone amounting to up to \$27 million annually. This proposal also met resistance in Washington and was rejected.

Organizational Changes

Pils reshaped his central office staff structure in 1998 by combining the separate Non-game and Natural Areas sections into one section entitled “Ecosystem and Diversity Conservation” to reflect the new management philosophy brought about by biodiversity discussions. The new title was more than a cosmetic change for the bureau. The principles identified in the 1995 report *Wisconsin’s Biodiversity as a Management Issue – A Report to Department of Natural Resources Managers* were now being applied in a variety of programs. The new concepts made the old administrative structure appear obsolete, so staff reorganization was justified.



Stan Druckenmiller led the Endangered Resources Bureau in 1999.

DNR FILE

Pils retired in January 1999, and the former assistant to the secretary, Howard (“Stan”) Druckenmiller, replaced him as director. He served in that capacity until his retirement on January 7, 2000. Signe Holtz became his replacement and would serve in that capacity beyond 2005.

North American Bird Conservation Initiative

Early in 1998, the FWS and the International Association of Fish and Wildlife Agencies, working with nongovernmental organizations as well as state and provincial agencies, started to develop an effort that would later be named the North American Bird Conservation Initiative (NABCI). This project was designed to unite North American game and nongame bird conservation efforts under one program. One primary objective of the NABCI was to link United States bird efforts with Canada and Mexico through existing initiatives such as the North American Waterfowl Management Plan, Partners-in-Flight, the U.S. Shorebird Conservation Plan, and the North American Colonial Waterbird Conservation Plan.

A draft plan for NABCI was completed on September 7, 1999. The national initiative goal was “to deliver the full spectrum of bird conservation through regionally based, biologically driven, landscape-oriented partnerships.” A framework for planning and implementing the NABCI was envisioned to include collaboration with the North American Waterfowl Management Plan Joint Ventures. Joint Venture efforts had achieved wide support across the continent for waterfowl habitat management and conservation for the previous 15 years. A fundamental part of the proposed NABCI framework was the establishment of bird conservation regions that would provide a flexible system for integrating bird conservation efforts on an ecological scale depending on the local and regional context.

On September 7, 1999, the Wisconsin Steering committee of the Upper Mississippi River and Great Lakes Region Joint Venture invited several organizations and individuals to a half-day meeting in Arlington, Wisconsin, to discuss NABCI and its implementation. Sumner Matteson proposed that the Wisconsin initiative be named the Wisconsin Bird Conservation Initiative (WBCI), and a separate ad hoc committee was formed to further discuss program development.

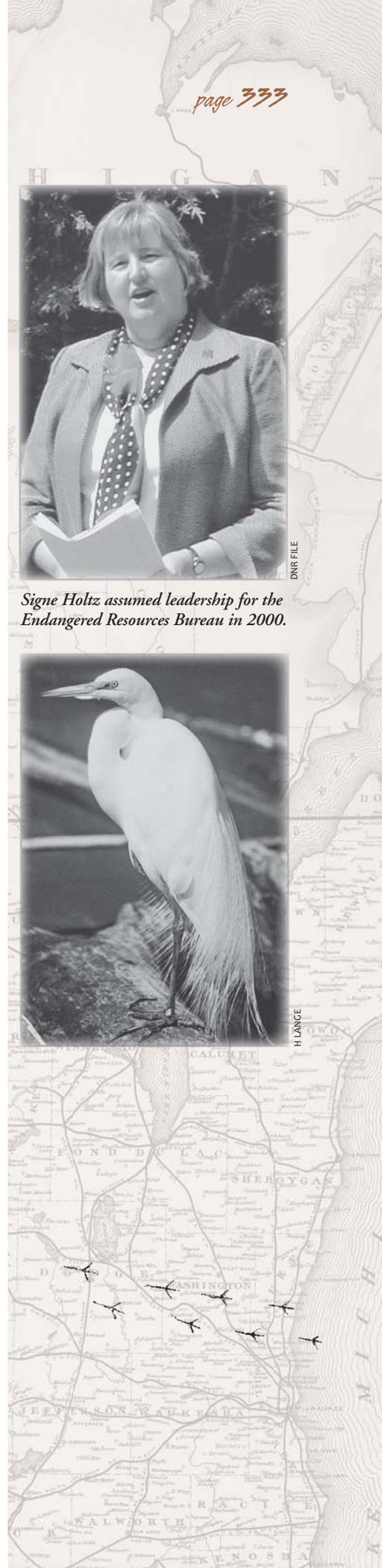
The WBCI ad hoc committee was composed of Karen Etter Hale (Madison Audubon Society), Tom Hauge, Gerald Bartelt, Sumner Matteson, Jim March, Lou Locke, Bill Volkert, and Craig Thompson. They met on November 8, 1999, and soon agreed that a draft framework with goals and objectives should be developed and ready for distribution at the next Partners in Flight meeting in February 2000. The committee’s strategy was that the WBCI draft be accepted and endorsed by state agencies and most organizations by May 13, 2001, International Migratory Bird Day. The objectives of the ad hoc committee were met, and the plan was approved on schedule. It can be viewed on their web site, www.partnersinflight.org.

A Butterfly Success Story

Nineteen ninety-nine was a special year for Bureau of Endangered Resources staff, who had been charged by the FWS with the responsibility of developing a plan to protect the Karner blue butterfly, a federally endangered species. This small butterfly was only found in portions of central and northeast Wisconsin. On September 27, 1999, after five years of meetings, staff deliberations, and plan drafting, the final version of the Karner Blue Butterfly Habitat Conservation Plan was approved and signed by U.S.



Signe Holtz assumed leadership for the Endangered Resources Bureau in 2000.



The Gamekeepers

Department of the Interior secretary Bruce Babbitt. The labor-intensive effort by the DNR and 26 partners composed of various agencies and citizen participants came to a successful conclusion.

An innovative portion of the new planning procedure was to allow private landowners to legally “take” (remove) these protected butterflies from their property if such action would not effect the overall Wisconsin Karner blue butterfly population. This resolved a potential conflict with the law, and the plan itself ensured that this special resource would continue to exist on the Wisconsin landscape.

New Millennium Activities, 2000–2006

Comprehensive administrative rules were established for the first time in the state’s history on June 1, 2000, to protect native amphibians, lizards, and snakes. Herpetologist Bob Hay should get special recognition for the dedicated work he accomplished during this period. His unseen and unpublicized activities were instrumental in protecting these very unique natural resources.

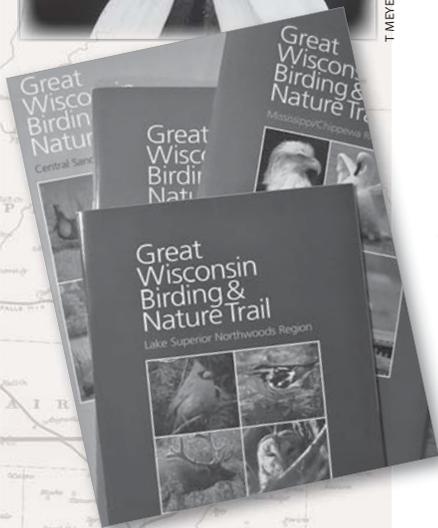
Wisconsin was in the national news again in May 2001 when eight reintroduced whooping cranes departed the Necedah National Wildlife refuge to begin a 48-day, 1,218-mile journey to Florida following an ultralight aircraft. The destination was the Chassahowitzka National Wildlife refuge on Florida’s west coast. Seven birds made it safely to the wintering area, and five returned to Wisconsin in the spring. The ultralight experience was extremely successful and was repeated in 2002 and 2003. In 2004, the fourth ultralight-led whooping crane migration was completed at the Chassahowitzka National Wildlife Refuge on day 64 of their journey. Thirteen cranes made the trip safely, bringing to 48 the total of birds surviving to date.

Other accomplishments of 2004 included the following:

- A new section entitled Ecological Inventory and Monitoring Section was created, led by Erin Crain. Her position was previously in the Bureau of Science Services and was moved to the BER.
- Regional ecologists became part of the BER program that year as well.
- On May 12, the Lake Superior/North Woods Birding and Nature Trail opened, the first of five regional trails that make up the Great Wisconsin Birding and Nature Trail, a mapped auto trail of the state’s best mammal- and bird-watching sites.
- Pat Manthey and Sumner Matteson documented 83 nesting pairs of trumpeter swans in Wisconsin.
- Fred Strand and Sumner Matteson documented 303 common tern nesting pairs on Lake Superior.
- Ron Eckstein and the bald eagle/osprey monitoring team documented 992 eagle nest territories and 437 osprey nest territories.



T. MEYER



OPERATION MIGRATION USA, INC.

The Endangered Resources Program, 1970-2005

page 335

The gray wolf's removal from Wisconsin's endangered and threatened species list on August 1 was another 2004 highlight. Because the wolf population was at the planned goal of 350, the DNR immediately outlined a plan for future hunting seasons to sustain that number. A buzz saw of controversy led the Natural Resources Board to deny the DNR's plan. The wolf controversy became even more complex when the federal government relisted the gray wolf from threatened to endangered in 2004 because of a federal court decision invalidating its 2003 delisting. This meant future hunting of wolves was prohibited, and removal would only be allowed under a special permit for depredations.

In 2005, the first nesting attempt by introduced whooping cranes was documented. That fall, the fifth consecutive whooping crane migration was led by the ultralight aircraft, and 19 birds winged south. Four young "whoopers" were released later in Wisconsin by project biologist Richard Urbanek, who was testing an autumn release technique with the hope they would migrate with wild sandhill cranes. As the sandhill cranes lifted off the ground on Thanksgiving Day and began circling higher and higher, seeking favorable thermals a thousand feet up, the four young whooping cranes joined them and headed south. The ultralight experiment was a success, and Urbanek was confident that future flocks of Wisconsin whooping cranes would no longer need this migration assistance.

By July 2005, the wolf population was estimated between 425 and 455. It was the fourth consecutive year exceeding the population goal of 250 outside of Indian reservations. The DNR staff estimated that 108 individual packs and 14 lone wolves occupied 44 of 72 counties. Damage complaints were increasing as livestock predation rose from eight farms in 2002 to 14 in 2003 and 22 in 2004. The DNR staff trapped and euthanized 17 wolves in 2003, 24 in 2004, and 22 in 2005. Bear hunters added to the complaint volume, reporting more of their hunting dogs injured or killed by wolves. The conflict between those who would protect the wolf at all times and those supporting an annual removal of surplus wolves by hunting and trapping was getting more intense.

Wisconsin DNR's endangered resources program received a national accolade in 2005 when the highly acclaimed *Smithsonian Magazine* recognized the DNR's 1999 Karner Blue Butterfly Habitat Conservation Plan as one of the top ten endangered species success stories in the United States. Special recognition was given the practical features of the plan: "This Habitat Conservation Plan provided a private property-owner friendly, flexible, and practical method of protecting the federally endangered Karner blue butterfly."

In 2005, the annual frog and toad survey that had been initiated by Dr. Hine and Mike Mossman in 1981 became the longest running amphibian monitoring program in North America. And, in fall 2005, Kim Grveles and Sumner Matteson launched a major program to protect Great Lakes migratory bird stopover habitats: the Wisconsin Stopover Initiative (www.wisconsinbirds.org/migratory/).

By the end of 2006, Sumner Matteson and Pat Manthey had documented 98 nesting pairs of trumpeter swans in Wisconsin.



DNR FILE



OPERATION MIGRATION USA, INC.

Wisconsin Bird Conservation Initiative

With over 60 partners endorsing the plan, the WBCI was launched as scheduled on May 13, 2005, at ceremonies conducted at Horicon Marsh Wildlife Area. By now, 120 organizations had joined in the bird conservation effort through voluntary stewardship. WBCI goals include the following:

- Keep common birds common
- Promote bird-based recreation and the enjoyment of birds
- Develop broad-based partnerships
- Manage communities of birds at a regional and landscape level
- Conserve and restore endangered, threatened, and rare bird species and their habitats
- Identify and prioritize management opportunities and needs for birds and habitats in Wisconsin
- Coordinate existing bird conservation initiatives for Wisconsin
- Provide private landowners and land managers the best available ecological information
- Use voluntary approaches when working with public and private landowners
- Develop management strategies that consider the social and economic impacts on people throughout planning and implementation

WBCI works to help people understand how they can be better neighbors to birds. Their recommendations include keeping cats indoors, making windows less reflective, avoiding pesticides, and controlling nonnative bird populations.

The WBCI agenda includes the study of various types of habitat including lake-shores, forests, prairies, grasslands, farmlands, wetlands, and urban areas to assist local leaders make bird friendly decisions. A comprehensive statewide monitoring system is being designed by ornithologists to keep track of bird populations. Research priorities are also being categorized to ensure the most important needs are addressed in a prompt manner.

Comprehensive Wildlife Conservation Plan

Funding for endangered and threatened species was always a national concern because of the limited sources for its funding, competing governmental priorities, and sagging economy. Chuck Pils continued trips to Washington, DC after retirement to lobby for endangered resources funding. Federal legislation created a Conservation Trust Fund in 2001 that established the State Wildlife Grants Program to prevent wildlife from becoming endangered. The new grant funding was established at \$65 million in 2003 and was allocated to each state based on its size and population. Because the funding level was markedly reduced from the original Conservation and Reinvestment Act that had been rejected in Congress, the moniker "CARA lite" was used to describe the new program. To remain eligible for funding, each state was required to prepare a Comprehensive Wildlife Conservation Plan (CWCP) focusing on "Species of Greatest Conservation Need."

More than 3,000 groups made up of hunters, anglers, environmentalists, and nature-related businesses organized under a "Teaming With Wildlife" coalition and successfully lobbied to increase the State Wildlife Grants Program funding to \$70 million in 2004. Wisconsin DNR staffers worked through 2004 preparing an outline for the plan to protect wildlife and their habitats with three major objectives:

- Ensure that Wisconsin remains eligible for federal grant funding
- Establish priorities for the allocation of Wisconsin grants
- Provide guidance and information including a reference database for governmental agencies, Native American tribes, and the full range of public and private partners to support their conservation efforts



R. QUEEN



H. LANGE



The plan was designed to include all animals currently listed as state or federally threatened or endangered species. The list included additional nongame species that often are overlooked because of funding limitations. The plan draft was placed on the DNR's Web site and presented to the public in early 2005 at a series of informational meetings conducted at several locations to receive public comment. The DNR staff incorporated the resultant input into the plan, and the revision went through a similar process in June. The final plan was completed and submitted to the FWS in August and approved in October.

The results of this extensive review produced a list of species divided into five taxa groups: birds, fish, herptiles, mammals, and invertebrates. Each group was further divided into three categories of relative abundance: High, Moderate to Low, and Very Low. Table 19 gives the reader a general view of the Wisconsin planning challenge for Species of Greatest Conservation Concern (SGCC). Details of the plan can be seen on the DNR's Web site.

Table 19. *Species needing attention.*

Taxa Group	Number of Species	SGCC ^a
Birds	284	84
Fish	147	30
Herptiles	56	24
Mammals	69	14
Invertebrates	unknown	530

^aSpecies of Greatest Conservation Concern.



Summary

The evolution of the endangered, threatened, and nongame species protection in Wisconsin is not complete. Many challenges have been conquered over the past 30 years of activity but, similar to many state endangered resources programs, full funding remains elusive. Consequently, the agency must focus on the most critical non-game conservation priorities.

Although there continue to be those who question the basic validity of protecting rare and endangered resources, the scientific community views this program as a tremendous success story. Animals like the timber wolf, bald eagle, and trumpeter swan have been brought back from the brink of extinction to thrive. Numerous vulnerable plant species have been saved. Unknown and underappreciated species varying from insects to bats now get public and scientific attention. Vigilance is needed to prevent existing laws and funds from being eliminated. In the interim, the public needs to donate generously at tax time to support the program with a portion of their refund check. Individuals also need to become a regular correspondent to their state and national legislators regarding funding levels for this vital natural resources program.

Aldo Leopold thought out the consequences for us years ago and tried to educate us to accept the principle that we were just one part of the whole and that it was vital to "above all, save the parts." Moreover, he constantly strived to teach us about conservation principles to keep us from the abyss. It's appropriate to end this chapter with some of his guidance:

Conservation is a state of health in the land-organism. Health expresses the cooperation of the interdependent parts: soil, water, plants, animals, and people. It implies collective self-renewal and collective self-maintenance.

When any one part lives by depleting another, the state of health is gone. As far as we know, the state of health depends on the retention in each part of the full gamut of species and materials comprising its evolutionary equipment.

Culture is a state of awareness of the land's collective functioning. A culture premised on the destructive dominance of a single species can have but short duration.



Aldo Leopold advocated "above all, save the parts."

WCD FILE