FY 1993
Annual Report

Iowa Department
of
Natural Resources

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Larry J. Wilson

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Fiscal year 1993 added the challenge of record-breaking floods to the management, protection, conservation and development of Iowa’s natural resources.

About 1,224 acres were added to the Loess Hills State Forest, making the targeted 17,000-acre land acquisition 44 percent complete. The “Trees for Kids” and “Trees for Teens” programs reached more than 417,096 students and planted more than 64,500 trees. In cooperation with the nine Resource Conservation and Development areas, the third year of the “Rural Development Through Forestry” program distributed more than $800,000 in matching federal funds to encourage economic development in rural areas through use of Iowa’s forest resources.

The department’s Waste Management Assistance Division’s WRAP Program began its third year. Using the expertise of retired industry professionals, WRAP assisted 20 companies in reducing the amount of waste they generate.

Iowa maintained its efforts in the ethanol movement by increasing the number of vehicles in its ethanol fleet to 80, maintaining its status as the country’s largest ethanol-powered fleet. The building energy management programs helped public and non-profit agencies identify cost effective energy management improvements, and in 1993 $47 million worth of improvements were installed, saving $8 million annually in tax dollars.

Even while damage assessment and repairs from the 1993 floods were begun, park renovations continued across the state. Four circa 1930 stone cabins were remodeled for year-round use at Pine Lake State Park. After three decades of planning and preparation, the development of Brushy Creek State Recreation Area finally began in March 1993, with the construction of a 690-acre lake. Once complete, the 6000-acre recreation area will offer something for everyone and will serve a large region of north-central Iowa presently lacking such an area. Renovation of Maquoketa Caves State Park continued with work completed on the new campground, shower building and modern rest room, and work begun on several of the area’s other buildings, picnic areas and trails. A new guide to Iowa’s state preserves was published.

A database of geologic information developed in conjunction with the U.S. Geological Survey’s Coal Resources Data System was completed. All DNR divisions have some Geologic Information System capabilities under development, and they are increasing investments to use the computerized technology.

Numerous sportfish improvement projects were accomplished in spite of the extremely wet conditions of 1993 and construction began on 46-acre Deer Creek Lake in Plymouth County. The DNR’s hatcheries stocked 300,000 trout, 102 million walleye, 4 million northern pike and 2 million catfish in the Loess Hills, Blank River, and Lakes Region.

Approximately 390,000 resident and 41,000 nonresident hunting licenses were sold to hunt pheasants, deer, turkeys and other small game. Funding sources including state habitat and waterfowl stamps, REAP, USFWS and private conservation organizations allowed the acquisition of more than 4,100 acres of new public land at a cost of $2.9 million. Funding from habitat stamps and the Chickadee Checkoff for the Shelterbelt Cost-Share Program resulted in the establishment of 63, 8-row shelterbelts planted on private land at a cost of about $68,000. Five young peregrines were hatched in nests from birds released through earlier reintroductions, making them the first falcons to be born in Iowa in 30 years.

Underground storage tank regulations continued to have an impact on the discovery of contamination and the closure of older tank systems. All UST sites had to have leak detection in place and be able to show financial responsibility for any release that causes contamination.

FY1994 will see the continuation of our mission to significantly enhance the quality of life for Iowans by the use, enjoyment and understanding of the state’s natural resources.
Water Quality. The floods of 1993 were some of the largest in Iowa's history. Staff from the department's water quality section, which includes the floodplain management program, worked around the clock with state and local emergency management officials, assisting in flood forecasting and post-flood recovery efforts. The department continues to work with local and state officials on recovery and mitigation projects.

Wastewater Treatment. In 1991 the DNR implemented the State Revolving Fund (SRF), a low-interest loan program, to replace the construction grants program. The construction grants program had assisted communities in constructing wastewater treatment facilities. In FY93 a total of 14 loans were awarded to 13 communities for a total of $28,131,000 (see listing at right). The interest rate to these communities varied from 4.37 percent to 4.86 percent.

Public Reports. Complaints regarding environmental hazards or violations continued at the high rate seen in recent years, totaling 1,916 for 1993. Increased public awareness and concern about Iowa's environment may be part of the reason for the high number of complaints. Water pollution and improper solid waste disposal were the most frequent reports. Complaints also included dust problems, odors, toxic air pollutants and hazardous materials.

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assist city, county and regional planners, and recycling coordinators in evaluating various alternatives to manage Iowa's business and industry wastes. More effective waste management can help to state meet its waste reduction goals. The guide provides local government officials with numerous, low-cost waste reduction opportunities for the business community or planning region.

Five solid waste management videos were professionally produced. The videos, targeted to Iowans from ages five through adult, promote reduction and recycling of general household, household hazardous wastes and business wastes. Each video offers a unique, dramatic waste management video provides local governments, schools, hospitals and private colleges with information that will save tax dollars, and continued its efforts to diversify the state's energy resource base.

Progress On Efficiency. Iowa's building energy management programs helped public and non-profit agencies across the state save tax dollars through saving energy. At the end of FY 93, $1115 million worth of cost effective energy management improvements had been identified in state facilities, local governments, schools, hospitals, and private colleges. Of the improvements identified, $47 million worth had been installed which save $8 million annually in tax dollars.

Public sector agencies in Iowa are encouraged to complete life-cycle cost analyses on all new construction or major renovation. Life-cycle cost analysis is a comparison of the lowest first-cost saving options versus higher first cost building options over the life-cycle of the building. This comparison will show the total costs of the building including the initial cost, energy costs and maintenance costs for all of the options. During FY93, 15 life-cycle cost analysis reports were reviewed. The reports indicated that as a result of constructing the public buildings based on lowest life-cycle cost rather than lowest acquisition cost, savings of $3.67 million will be realized during the next 25 years.

Energy savings continued to pay for themselves, as in the case of the Iowa Department of Transportation Ames complex. The DOT was using a million dollars worth of energy every year, and needed more than a million dollars worth of improvements. With the assistance of the energy management programs, DOT made the improvements and is now saving $265,000 per year - a reduction of 25 percent.

During FY93 the building energy management program's concentration was on customer service. Customer input and focus groups helped to refine and improve all phases of the program and allowed the DNR to specifically target those approaches that appeared the most promising. This new evaluation process and remarkable results, almost doubling this year's enrollment in the program.

New partnerships have been formed with the Iowa Energy Bank Program, particularly with Iowa investor-owned utilities and municipal utilities. For example, in Spencer the municipal utility worked with the Energy Bank to provide audits, technical assistance and rebates to the city, county, school district and municipal hospital.

Iowa Grown Fuels. In FY93 Iowa-grown fuels were enhanced when the energy bureau helped to launch the Governors' Ethanol Coalition, a 19-member council created to provide input into national energy policy on behalf of ethanol. Iowa's own policy on ethanol has served as a model for the group's efforts to formulate a national ethanol policy. Being a national leader will provide input into national energy policy and confirms there are alternatives to traditional energy use. The wind turbine serves the double purpose of being an energy source and an educational tool.

Planning For Energy Emergencies. A regional conference brought together utilities, state and local governments, federal emergency officials for the purpose of teaching officials how to better handle emergencies, should they arise. The affair included simulations of emergency events to enhance the preparedness of those participating.
Bareroot conservation tree plantings. A total of 338 training and educational sessions for Iowa wood and owners and businesses were conducted. District foresters promoted the division's forest stewardship program through management planning, promotion and cost-share assistance administration with a focus on conversion of CRP lands into permanent forest cover.

The telephone's urban forestry program, in cooperation with the Iowa Urban and Community Forestry Council, provided technical assistance to 247 Iowa communities, including completion of 50 comprehensive community tree inventories and management recommendations. An estimated 117,000 trees were planted in Iowa communities. Under contract with the division, Trees Forever, a special program of the Iowa Natural Heritage Foundation, provided community volunteer coordination for 265 citizen groups across the state.

Iowa State University Extension, also under contract, provided up-to-date publications on tree varieties and community tree ordinances in addition to continuing the "Master Urban Tree Manager" training.

The forestry division cooperated with the Iowa Department of Economic Development (IDED) for the second year in distributing, within the state, more than 163,800 in tree planting 50-50 matching grants funded by the U.S. Small Business Administration. Using 65 Iowa small businesses, this popular program assisted 83 community, county and state projects in planting 2,800 landscape-sized trees on public areas. The division also distributed an additional $108,000 in Iowa Forest Service grants to 10 Iowa communities to develop neighborhood forestry programs and to plant trees on public areas.

The "Trees For Kids" program, a cooperative tree education and planting program for elementary and middle schools, successfully completed its fourth year, and the companion program, "Trees For Teens," reached more than 480 high schools. The Iowa Nursery and Landscape Association, Iowa Resource Conservation and Development Councils, Pioneers and Peoples Natural Gas joined the DNR in providing educational materials for classroom use and landscape trees to plant free of charge. More than 5,240 teachers and 417,096 students participated and planted more than 64,500 trees. "Trees For Kids" was honored by receiving the National Arbor Day Foundation's only 1993 National Education Award.

The division, in cooperation with Iowa State University Fire Service, provided $119,000 in grant funds to rural fire districts across the state. In addition, the division assisted in acquisition and distribution of excess federal military vehicles and equipment for rural fire protection. Finally, the division, in cooperation with the nine Resource Conservation and Development (RCD) areas, has completed its third year of the "Rural Development Through Forestry" (RDTF) program.

This program distributed more than $800,000 in matching federal funds to encourage economic development in rural areas through use of Iowa's forest resources. Some of the RDTF projects included the development of a southeast Iowa business to manufacture cottonwood timber bridge kits for use in Iowa's secondary road system, aquaculture development and marketing of walleyes in southern Iowa farm ponds, a five-county tourism and recreation program in northeast Iowa, log cabins from different species grown in southeast Iowa, and the utilization and marketing of red cedar in western Iowa.
As flood impacts occurred, staff began assessing damage and undertaking repairs. Another consequence of the flooding was a significant downturn in park use and revenues. The inaccurate perception that all areas were flooded combined with cool wet weather to keep many outdoor recreationalists at home.

While the weather and its effects were on the forefront of everyone’s thoughts this past year, several positive things did occur. For example, after three decades of planning and preparation, the development of Brushy Creek State Recreation Area finally began. Construction of a 690-acre lake began in March of 1993.

Shortly after, a new road system was begun. A final master plan for campgrounds, trails, picnic areas and water access was approved and a development schedule was put in place. Once complete, the 6000-acre recreation area will offer something for everyone and will serve a large region of north-central Iowa presently lacking such an area. In a first-of-its-kind effort, volunteers worked with the DNR to finance, design and construct two large wooden playground structures. Each structure encompasses nearly an acre and has a completed value of more than $40,000 but was built at a fraction of that cost. Committees of volunteers raised funds and organized work days for the projects. The finished playgrounds, located at Big Creek and Lake Manawa state parks, are now attracting greater numbers of young families to those parks. An unexpected outcome of these projects was a new-found sense of community spirit and pride for those who participated. The parks also became a focal point and source of interest and pride for the communities around them as a result of the playground projects.

Pine Lake State Park was the site of another major construction project. Four stone cabins constructed in the 1950s, but abandoned since 1980, were completely remodeled and adapted for year-round use. Now equipped with heating, air conditioning, fireplaces and new furnishings, these cabins sit along the beautiful Iowa River within the Iowa River Greenbelt in Hardin County. Springboarding off the popularity of the new all-season cabins at Backbone State Park, it is expected that the Pine Lake cabins will become very popular.

Renovation of Maquoketa Caves State Park continued this year. Work was completed on the new campground, shower building and modern restroom and work began on several of the area’s other buildings, picnic areas and trails. Many of the trails along the creaggy rock formations, which are underlain by the area’s famous caves, had been so overused that they were unsafe. These trails are being reconstructed with railroad tie stairs and raised boardwalks.

Work began on a major restoration project for Lake Ahiqabi. The work includes repairs to the dam and spillway, shoreline and water-shed protection, and eventual dredging of removal of silt. Work of this same type was completed at Lake Wapello and continued to be done at Lake Keomah.

State Preserves. A new guide to Iowa’s State Preserves was published and is now available. Twenty new preserves have been added to the system since the previous guide was printed. The guide, free from the DNR, contains specific details on each preserve and basic information on its ownership and management.

Natural Areas And Threatened And Endangered Species. The Iowa list of threatened and endangered species was revised in 1993. Based on field research and species recovery efforts, the list is the department’s main tool in identifying species in need of special protection. The department produced and printed a 23-page brochure and poster highlighting species native to Iowa that are on the Federal list of threatened and endangered plants and animals. A new administrative rule governing the harvest and sale of ginseng was promulgated, establishing new classes of permits and corresponding fees.

Boating Access And ATV And Snowmobile Recreation. The Water Recreation Access cost-share program continued to assist local entities with the funding of nine boating access sites across Iowa. Several other major boat access projects were started including major new ramps at George Wyth State Park, in Stoner Lake and in Marquette. Registration fees from snowmobiles and ATVs were distributed to local clubs and political subdivisions to provide for the acquisition, development and maintenance of 4400 miles of groomed snowmobile trails and three ATV riding areas.

Geology. A database of geologic information developed in conjunction with the US Geological Survey’s Coal Resources Data System was completed. The database comprises 33,700 detailed records for 2,806 sites, and has been used to provide detailed geologic information for engineering consultants and geologists as well as for exploration and evaluation.

A preliminary investigation of the potential for coal bed methane resources in deep coals in the Forest City Basin of southwestern Iowa was completed in conjunction with coal geologists from states which share the basin: Kansas, Missouri and Nebraska. The results showed the potential for significant quantities of coal bed methane within the Forest City Basin. Tests on coals recovered in Missouri and Kansas showed that methane is present. It may be possible to recover methane from these coals, a situation that is favorable to Iowa where multiple thin coal seams are characteristic of the coal-bearing strata. Although no samples were available from Iowa to test, similar geologic conditions warrant further investigation of the potential for coal bed methane.

Drainage Wells. Historically, in order to facilitate farming of former wetland acres in several Iowa counties, agricultural drainage wells (ADW) have been installed to solve drainage problems. When the practice was instituted, there was little or no consideration given to the impact of ADWs on groundwater quality. However, with the increased use of agricultural chemicals over time, ADWs were determined to have a major potential for contaminating groundwater and degrading rural water supplies. During the reporting period, DNR published an authoritative guide to facilitate farming of former wetland acres in several Iowa counties, agricultural drainage wells (ADW) have been installed to solve drainage problems. When the practice was instituted, there was little or no consideration given to the impact of ADWs on groundwater quality. However, with the increased use of agricultural chemicals over time, ADWs were determined to have a major potential for contaminating groundwater and degrading rural water supplies. During the reporting period, DNR published an authoritative...
Geographic Information System. The Natural Resources Geographic Information System includes 60 statewide or regional geographic databases on resource topics, and 336 county-wide databases on roads, rivers, topography and sections (Public Lands Survey System). This collection is increasingly available to DNR staff and is increasingly being used for various programs.

Fisheries. Vegetation control, shoreline riprap, and placement of stave beds, pallet structures and brush piles were some of the methods used to complete aquatic habitat improvement projects at 18 lakes during FY93. They were South Prairie Lake, Lake Anita, Mormon Trail Lake, Orient Lake, Indian Lake, Lake Smith, Center Lake, Beeds Lake, Big Creek Lake, Spring Lake, Blue Lake, Lake Maubride, Hawthorn Lake, Coralville Lake, Diamond Lake, Bennett Lake, Rogers Lake and Lake-of-the-Hills. Lake Wapello in Davis County received 28 large scraper tires, 80 cedar trees and the shoreline was deepened at two locations. In addition, riprap was placed at key locations, two earthen reefs were rocked and one sediment/nutrient dam was constructed during the final phase of this rejuvenation project. Construction began on 46-acre Deer Creek Lake in Plymouth County. Habitat enhancement work at Deer Creek involved the incorporation of approximately 50 trees into the lake basin, construction of two underwater rock covered reefs, one jetty, three spawning beds, four underwater islands and riprap for approximately 2,500 feet of shoreline. Approximately 400 pallets and 800 cedar trees were placed at five locations within the lake basin.

Lake Aqhoubi was drained and repair work on the spillway and outlet structure began. The lake bottom was cleaned of debris, tires and old catfish spawning tiles, and some shoreline work was completed. Three tire piles were covered with dirt and rock to form reefs. Additional work will be undertaken in 1994 and 1995.

The extremely wet conditions throughout much of 1993 significantly restricted trout stream habitat improvement work. Four bank hides encompassing 170 linear feet were installed in Spring Branch Creek with assistance from the Hawkeye Fly Fishing Association (HFFA). Three cut-banks (1,160 feet) were stabilized with riprap and seeder with long-stem grasses on North/Middle Bear Creek (EPA-319 project) and Spring Branch Creek. Woody, streambank vegetation was removed and banks reseeded with prairie grasses on portions of Coldwater, Coon, French, North Cedar, Roy Magill and Trout River trout streams. The fisheries bureau culture facilities reared and stocked more than 100,000,000 walleye, 4 million northern pike, and 2 million catfish.

Fish population renovation projects were completed at Prairie Ridges Park, Franklin County; Hadacek Pit, Winneshiek County; and a five-acre pond within the Deer Creek Lake basin in Plymouth County. Gizzard shad were eliminated from Hawthorn Lake in Mahaska County. The 160-acre impoundment was treated at a rate of 0.126 ppm with 2.8 percent synergized rotenone. Approximately four pounds per acre of gizzard shad, ranging in size from three to fifteen inches, were killed in the partially dewatered lake. Fall gill netting samples showed no evidence of shad survival.
Fisheries and Wildlife

views were presented during the year. Approximately 374 acres of land was purchased for the Lost Grove Lake site in Scott County and an 18-acre flowage easement was purchased for a future silt pond.

An additional 235 acres of land was purchased in the Lake Sugema watershed in Van Buren County, for construction of a silt pond. 

Wildlife. About 2,900 acres of wetland and upland habitat were purchased and placed into public ownership through the Prairie Pothole Joint Venture. The cooperative program included funding of more than $1.2 million from the U.S. Fish and Wildlife Service ($800,000 from state habitat stamp, $175,000 from county habitat stamp, $100,000 from state waterfowl stamp, $500,000 from the Resource Enhancement and Protection Program and $375,000 from private conservation organizations). The Iowa Natural Heritage Foundation, Pheasants Forever and Ducks Unlimited and many other organizations made additional contributions through cost-share programs. The Iowa Natural Heritage Foundation, Pheasants Forever and Ducks Unlimited, Conservation Program and Conservation Reserve Program. This involved 36 basins on 34 tracts of land, most of which were located on land enrolled in the Conservation Reserve Program. Another 400 acres of wetlands were restored on public wildlife areas.

Major wetland developments at the Spring Run and Kewa Marsh wildlife areas were funded through Ducks Unlimited. Acquiring land for wildlife habitat and recreational activity is an important objective of the wildlife bureau. Fiscal year accomplishments include the acquisition of more than 4,100 acres of new public land at a cost of $2.9 million. Funding sources include state habitat and waterfowl stamps, REAP, USFWS and private conservation programs.

The Shelterbelt Cost-Share Program resulted in the establishment of 63, eight-row shelterbelts at a cost of about $86,000. Funding for this program is from habitat stamps and the Chukakes Checkoff. All shelterbelts are planted on private land. Wildlife management personnel are responsible for conducting population and harvest surveys and developing and maintaining 355 public wildlife areas totaling more than 800,000 acres.

Wildlife research personnel conducted pheasant winter mortality studies, population and harvest surveys, waterfowl production surveys, as well as ongoing research involving deer, turkey and nongame wildlife. Iowa’s wild-life populations continue to attract resident and nonresident hunters. Approximately 390,000 resident and 41,000 nonresident hunting licenses were purchased to pursue pheasant, deer, turkey and other small game. The pheasant harvest totaled about 928,000 birds making Iowa one of the top three states in the nation. Hunters took 74,000 deer during bow, shotgun and muzzleloader seasons. Turkey hunters took 10,700 birds during the spring and fall seasons. Deer and turkey hunter success rates remained among the highest in the country. Waterfowl production increased for most duck species in Iowa. Many of Iowa’s wetlands experienced excellent water conditions during the spring of 1993 due to excessive rainfall across the state.

Nongame programs also continued to fulfill their long-range objectives. Three peregrine falcon nests were confirmed from birds released through earlier reintroductions in the state. Five young peregrines were hatched in these nests, making them the first falcons to be born in Iowa in 30 years. 

Law Enforcement. Through Iowa’s Turn-In-Poachers (TIP) program, a total of 393 TIP calls were processed during the year. These calls, from private citizens, resulted in 35 successful cases and 106 citations were issued.

A total of $7,500 was approved for reward payment by the private TIP group, TIP of Iowa, Inc. The computer file system of habitual or repeat violators of fish and wildlife laws was continued. The department has authority to revoke and suspend the license privileges of those subjects who have accumulated a minimum amount of violation points. To date, the habitual offender file has information on 8,400 individuals, and of this number, a total of 304 will have had some type of license suspension action taken against them by the DNR.

Education and Recreation Classes

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<th>Boating Safety</th>
<th>Fur Harvester</th>
<th>ATV</th>
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<td>483*</td>
<td>833*</td>
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*Home-study course
In its continuing effort to promote recycling and wise use of Iowa’s natural resources, the Department of Natural Resources’ annual report is printed with soy ink on a recycled paper (60# Incentive 100DP) containing 100-percent de-inked newspapers, magazines and catalogs with a 100-percent post-consumer recycled (80# Quest) cover.

Approximately two-thirds of this total is provided by the DNR to other agencies to carry out their parts of these programs.