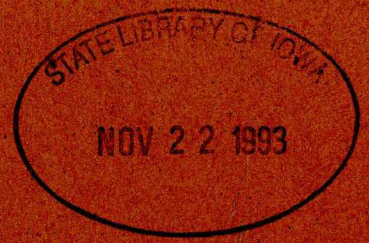


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Iowa Department of Natural  
Resources

FY 1992 Annual Report



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**FY 1992  
ANNUAL  
REPORT**

■

**I O W A  
DEPARTMENT  
OF NATURAL  
RESOURCES**

■

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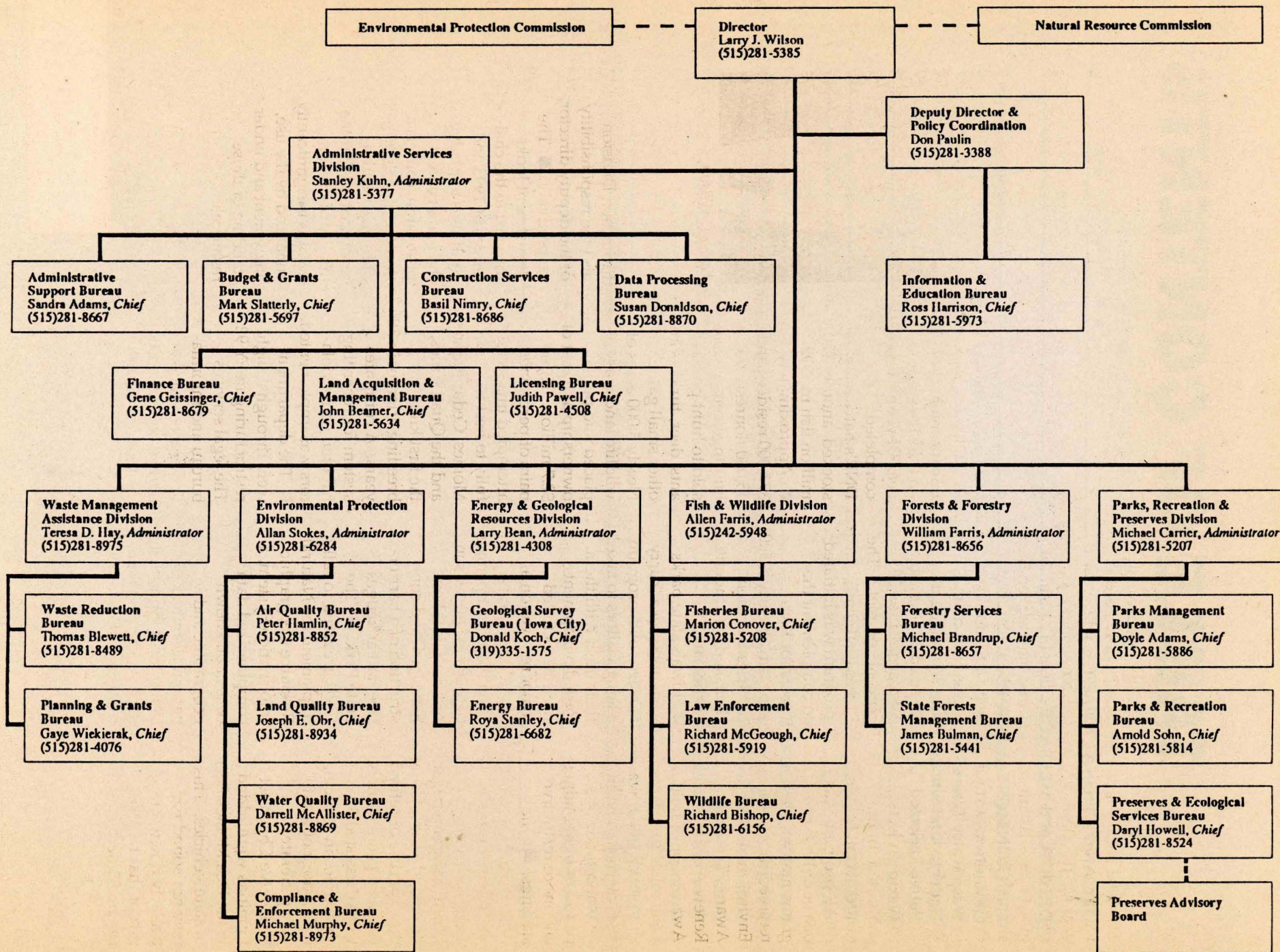


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The 1992 fiscal year was an award-winning year for the DNR. We received the prestigious EPA Administrator's Pollution Prevention Award for Iowa's "Agriculture-Energy-Environmental Initiative," selected from 840 projects submitted for the award. And, Iowa's REAP program was one of only 20 programs nationwide that received the National Environmental Awards Council's Renew America Award, from a field of 1,600 other programs submitted. ■ It was also a year for continued innovation in a period of tight budgets and more restrictive staffings. ■ The department's Waste Management Assistance Division's WRAP Program began its second year. Using the expertise of retired industry professionals, WRAP assisted 30 companies in reducing the amount of waste they generate. ■ Twelve Chevrolet Lumina's were added to the Des Moines fleet of state vehicles. This may not sound particularly noteworthy, except that the cars run on 85 percent

ethanol -- increasing energy efficiency by using a renewable energy resource. In addition, 42 Ford Taurus's which use 85 percent ethanol joined the fleet of cars at the three state universities.

■ About 650 acres were added to the Loess Hills State Forest, making the targeted 17,000-acre land acquisition 38 percent complete. The "Trees for Teens" program was initiated to complement the "Trees for Kids" program. Nearly 2,500 teachers and their thousands of students participated.

■ Iowa's state parks system began a "carry in, carry out" program, asking visitors to take their trash with them. Park development projects included major renovation at Maquoketa Caves State Park, the opening of four new all-season cabins at Backbone State Park and construction of a barrier-free trail at Ledges State Park. ■ The DNR prepared to fully implement the Natural Resource Geographic Information System, a computerized data base of all known geographic and natural resources of the state. ■ Sport fish improvement projects were completed at 22 lakes and nine coldwater streams. Construction on the

Big Timber Habitat Rehabilitation and Enhancement Project on the Mississippi near Davenport was completed. The DNR's hatcheries stocked another 120 million fish in 1992. ■ Approximately 377,000 resident and 45,000 nonresident hunting licenses were sold to hunt pheasants, deer, turkeys and other small game. Nearly 5,000 acres of wildlife land was placed into public ownership at a cost of \$2.7 million. Three pairs of peregrines attempted unsuccessfully to nest in Des Moines, Cedar Rapids and the Quad Cities, the first known breeding attempt in 30 years. A computer system for recording habitual game violators was implemented. ■ The department went through a slight restructuring in FY 92. The legal services bureau and information and education bureau became part of the Environmental

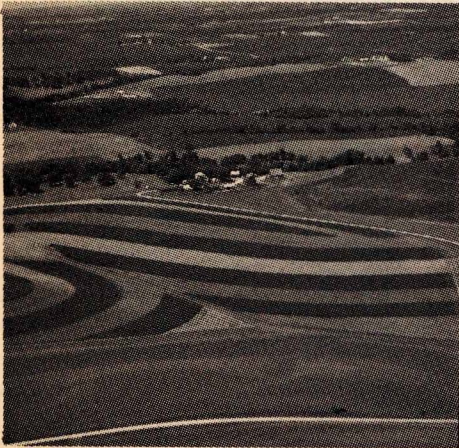
## DIRECTOR'S MESSAGE



Larry J. Wilson

Protection Division and the responsibility of the deputy director, respectively. ■ The department looks forward to the challenges of 1993 and continues to pledge the management, protection, conservation and development of Iowa's natural resources, so that the quality of life for Iowans is significantly enhanced by the use, enjoyment and understanding of those resources.

# ENVIRONMENTAL ISSUES



G. Mohrhauser

**GROUNDWATER.** In 1992, the DNR received one of the prestigious Environmental Protection Agency Administrator's Pollution Prevention Awards. The award, which recognizes excellence in work toward a cleaner environment, was presented for Iowa's "Agriculture-Energy-Environmental Initiative." The Iowa program was selected from 840 programs submitted by EPA Regional Offices from throughout the country. The award was presented to the department on behalf of the interagency Iowa Consortium on Agriculture and Water Quality. This interagency team has implemented the wide-ranging programs of the Initiative, including the Big Spring demonstration project, the integrated farm management demonstration project and the model farm demonstration project, and has participated in

the DNR's nonpoint source program.

■ These programs use a large and varied network of on-farm demonstrations and an aggressive information marketing program to speed up farmer adoption of management practices that reduce environmental impacts, enhance energy efficiency and improve profitability. As a result, Iowa farmers have reduced the rate of nitrogen fertilizer on corn by nearly 20 percent since 1985, with no decline in yield. That means greater profit in addition to environmental benefits.

■ Statewide data shows that Iowa farmers reduced total nitrogen application by more than 650,000 tons, between 1985 and 1991. Not only has this reduced environmental loading, which will improve water quality, but the reduction has saved the equivalent of more than 300 million gallons of diesel fuel in energy used to produce the nitrogen, and in turn, saved Iowa producers nearly \$200 million.

■ Agencies, in addition to the DNR, that have cooperated in this effort include Iowa State University Extension and the College of Agriculture, Iowa Department of Agriculture and Land

Stewardship, the U.S. Soil Conservation Service and the Agricultural Stabilization and Conservation Service, and the Leopold Center.

**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 FY92 a total of 15 loans were awarded to 14 communities for a total of \$16,351,000 (see listing below). The interest rate to these communities varied from 4.64 percent to 4.86 percent. ■ Since the beginning of the SRF program there have been 28 loans awarded to 25 communities for a total of \$42,587,000.

■ During FY92, 90 percent of municipal and 95 percent of the

non-municipal major wastewater facilities with National Pollution Discharge Elimination System (NPDES) permits were in compliance with their effluent limits.

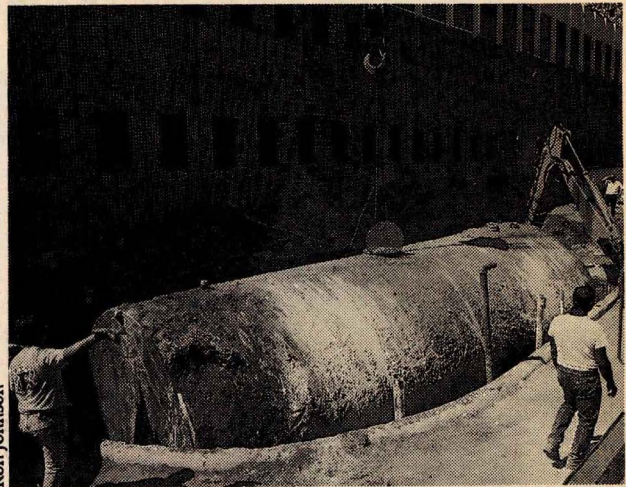
**UNDERGROUND STORAGE TANKS.**

The number of reported leaking underground storage tanks confirmed to date total 4,458.

■ At the end of the year, there were approximately 12,809 active regulated tanks registered and about 4,169 active farm and residential tanks, under 1,100 gallons,

registered. ■ The underground storage tank regulations have had an impact on the discovery of contamination and the closure of older tank systems. Many tank owners permanently closed their older tanks rather than upgrade them. Approximately 13,832 tanks have been removed since October 1988.

■ Major changes in the UST program occurred due to legislation signed into law late in FY91. Rules were adopted that established requirements for site cleanup reports, corrective action of contamination, secondary containment for new USTs



Ron Johnson

installed at contaminated sites and the registration of groundwater professionals. Reports of 152 site cleanups were received in 1992 under the new legislation.

**PUBLIC REPORTS.**

Complaints regarding environmental hazards or violations totaled 1,995 for 1992, up .55 percent over the previous year. Increased public awareness and concern about Iowa's environment may be part of the reason for the increased number of complaints. Water pollution and

**Wastewater Treatment Loans**

The following is a list of the communities awarded construction grant loans for wastewater treatment facilities and the loan amounts.

COMMUNITY	LOAN AMOUNT
Adel	\$1,056,000.00
Anita	225,000.00
Ankeny	925,000.00
Avoca	415,000.00
Coralville	5,055,000.00
Des Moines	4,908,000.00
Grand Mound	310,000.00
Indianola	1,353,000.00
Marengo	360,000.00
Missouri Valley	337,000.00
Preston	490,000.00
Sheldon	292,000.00
Stanton	275,000.00
Stratford	350,000.00
<b>TOTAL</b>	<b>\$16,351,000.00</b>



# ENVIRONMENTAL ISSUES



Ross Harrison

improper solid waste disposal were the most frequent reports. Complaints also included dust problems, tainted water supplies, odors, toxic air pollutants and hazardous materials. Investigations are made on each complaint and, if found valid, result in actions to eliminate the problem.

**WASTE.** The Waste Reduction Assistance Program (WRAP) completed its second year using the expertise of 12 retired industry professionals, a project manager, and other staff to assist 30 companies in reducing the amount of waste they generate. WRAP addresses all forms of waste reduction

opportunities including solid waste, hazardous waste and air emissions. To date the program has provided onsite, pollution-prevention, training workshops to more than 30 client companies. ■ A solid waste comprehensive plan that addresses the feasibility of alternatives to conventional land disposal is required by all Iowa facilities that are permitted to process solid waste. During the year, 24 solid waste comprehensive plans received approval from the DNR. ■ Through Iowa's landfill alternatives grant program, grants were awarded for a variety of projects and market development. The program is designed to promote innovative demonstration projects as alternatives to landfilling. Thirty-two grants were awarded in 1992, totaling approximately \$3.4 million. They were funded through fees paid by landfills on a per-tonnage basis for disposal of waste. ■ With a grant from the U.S. Environmental Protection Agency, the department continued a contract with Iowa

State University to develop a computer bulletin board for recycling. Known as the Mid-America Recycling and Transportation Network (MARTIN), the system provides recycling market information to 15 midwestern states. It is available to anyone in the United States via a toll-free phone number. The caller may use a computer modem to access the information. ■ Twelve toxic cleanup days were conducted in the state to collect household hazardous waste from homes and farms for recycling and proper disposal. ■ Technical assistance was provided throughout the year to communities, and approximately 3,000 phone calls were received over the waste assistance hotline.

# ENERGY

The energy bureau progressed in FY92 toward its goals of assisting Iowans to become more efficient energy users and to use more renewable energy resources.

■ Several pieces of legislation passed during the 1991 legislative session helped to encourage the use of renewable fuels. Under the new laws, effective in FY92, state agencies are required to purchase alternatively fueled vehicles. As a result, the State of Iowa bought 12 Chevrolet Lumina's, which operate on 85 percent ethanol, for use in the Des Moines fleet. In addition, 42 E-85 Ford Taurus's have also joined the fleets at the DOT, Board of Regents and other state agencies. Iowa has the largest high-blend ethanol fleet in the nation.

■ The legislation also required local governments to use only 10 percent ethanol-blended fuel in their cars and trucks. The energy bureau organized a task force of local government associations and ethanol experts to advise on overcoming any problems in implementing this requirement.

■ Another renewable energy source -- wind energy -- also received a boost in FY92. A U.S. Department of Energy report showed that Iowa has the capability to produce six times its energy needs from wind power. Energy bureau staff assisted the Spirit Lake School District to obtain funding to construct a wind turbine. The turbine will supply the electric power needs of the district's elementary school. ■ Programs for public buildings continued to build upon previous years' successes. At the end of FY92, approximately \$37 million worth of energy-saving improvements had been installed in schools, hospitals and other city, county and state facilities. Another \$69 million

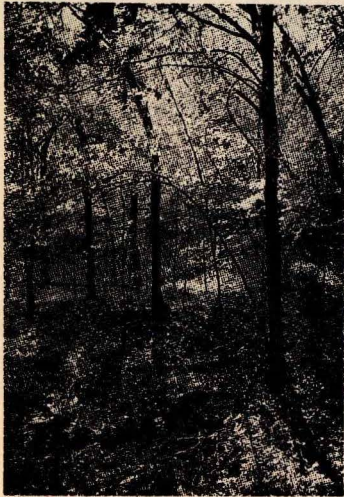
worth had been identified and were ready for installation. The energy savings improvements that have been installed save \$7 million annually in tax dollars. ■ The programs provide both technical and financial assistance to public agencies, as well as private colleges and schools. Financing is available to underwrite the costs of energy studies and construction of improvements.

■ Energy improvements installed under these programs are designed to pay for themselves through savings in utility bills. In addition, the programs encourage innovative energy efficiency technologies. For example, the Des Moines Area Community College installed a thermal storage system. A 400-ton ice production machine, during times of low electrical demand, freezes water that is encapsulated in 310,000 plastic balls. The energy stored in the ice balls is then used when electrical demand, and rates, are higher, to chill water and cool the facility. This system will save the college \$47,000 per year.



Patricia S. Cale

# NATURAL RESOURCE LANDS



Ron Johnson

**FORESTS.** The State Forest Nursery at Ames and the satellite nursery at Montrose grew and distributed approximately four million bareroot conservation tree and shrub seedlings to private landowners and government agencies in Iowa. The nursery cooperated with the Iowa Department of Corrections (DOC) to provide work opportunities for residents and inmates at DOC facilities at Newton and Fort Madison. Nursery facilities were also made available to Iowa State University Forestry Department researchers in a cooperative effort to reduce the use of pesticides in nursery production. ■ Land acquisition continued at Iowa's newest state forest -- Loess Hills State Forest located in Monona and Harrison counties. During the year an additional 647 acres were purchased at a cost of \$293,700.

To date 38 percent of the targeted 17,000-acre project has been acquired. In addition, construction of a service building was begun on land donated to the DNR by the City of Pisgah. Both the service building and land acquisition were funded through the Resource Enhancement and Protection program (REAP). ■ Forestry assistance was provided directly to 8,740 individuals by 12 district foresters, resulting in an additional 39,042 acres being brought under improved forest management and 7,618 acres of new tree plantings. A total of 302 training and educational sessions for Iowa woodland 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 division'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 285 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 implementing the first ever "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 \$162,000 in tree planting 50-50 matching grants funded by the U.S. Small Business Administration. Using 55 Iowa small businesses, this popular program assisted 26 community, county and state projects in planting 2,500 landscape-sized

trees on public areas. The division also distributed an additional \$105,000 in U.S. Forest Service grants to 10 Iowa communities to develop neighborhood forestry programs and to plant trees on public areas.

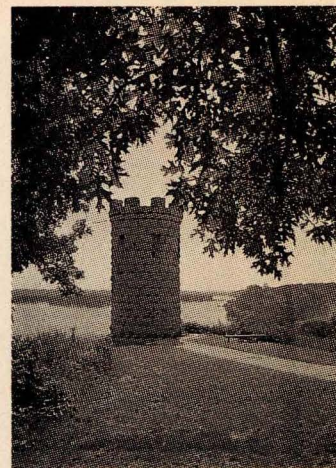
■ The "Trees For Kids" program, a cooperative tree education and planting program for elementary and middle schools, successfully completed its third year. The Iowa Nursery and Landscape Association, Iowa Bankers Association, Telephone Pioneers and Peoples Natural Gas joined the DNR in providing educational materials for classroom use and landscape trees to plant free of charge. More than 2,200 teachers and 285,000 students participated and planted more than 46,500 trees. A companion "Trees For Teens" program was initiated in the Peoples Natural Gas service area for 1992, with more than 400 high school teachers involved. "Trees For Kids" was honored by receiving the National Arbor Day Foundation's only

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 Iowa's seven resource conservation and development (RCD) areas, completed its second year of "Rural Development Through Forestry." This program distributed more than \$1 million in matching federal funds to encourage economic development in rural areas through use of forest resources for wood production, fisheries and tourism. One special project in Appanoose County involved completion of a timber bridge made entirely of native cottonwood timbers.

**STATE PARKS AND RECREATION AREAS.** In 1992, Iowa state park visitors were asked to carry out their own trash from picnic sites and other day-use areas. While this was new and different to most park users, the system

worked very successfully. Public acceptance of the new policy was excellent and park managers were pleasantly surprised with the level of cooperation exhibited. Budget savings from this program are being directed to other park needs. ■ A major renovation and redevelopment project began at Maquoketa Caves State Park. A new campground, with electrical service, shelters, rest rooms, showers and road improvements, is included in the project. New interpretive displays in the park office will greet visitors and enhance their experience at Maquoketa Caves.

■ Four new all-season family cabins were opened at Backbone State Park. These barrier-free modern cabins were an immediate hit with park users. Bookings for the first summer season filled in a matter of hours on the first day reservations were taken. ■ A new barrier-free trail was developed at Ledges State Park. The Lost Lake Trail Loop includes new signing and wheelchair-



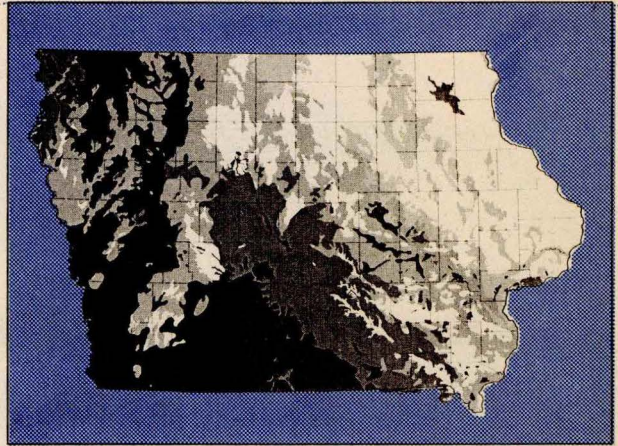
Ron Johnson

*Dubuque Monument,  
Mines of Spain State  
Recreation Area*

preserves and protection goals do not conflict. ■ Staff of the preserves and ecological services bureau provided valuable assistance to other resource managers. Management of remnant prairie sites in state parks received greater attention with several controlled burns conducted. The community ecologist worked on several interdisciplinary teams, identifying wetlands using plant species and soil types as indicators. This has contributed to better identification, protection and mitigation of wetland areas. ■ A report on Iowa's fen wetlands was published. Culminating years of research, the report described the botany, rarity and level of threat to these unique natural communities. ■ Staff continues to collect and use data on Iowa's natural communities. Enhanced with the recent addition of new computer software, the state's natural areas inventory Program provides important information on threatened and endangered species and plant communities, enabling resource managers and land developers to make informed decisions about actions that

affect natural areas. Another important tool in this effort is the DNR's Geographic Information System which can store, assimilate and present information and maps about resources in ways faster and more sophisticated than before. This not only saves time but improves the level of protection afforded to Iowa's natural resources.

**GEOLOGY.** Final preparations are underway to fully implement use of the DNR's Natural Resource Geographic Information System (NRGIS). Completed information is being documented and placed on Novelle servers so that staff with appropriate software on personal computers can access the database through a local area network. ■ DNR staff are already using GIS capabilities in several activities. Information on coal mines and well locations is routinely accessed for environmental applications. Environmental impact assessments at Brushy Creek Recreation Area have been aided with Geographic Information System (GIS) technology, and assessments of tree diseases within state forests are being accomplished with GIS



*Simplified groundwater vulnerability regions of Iowa.*

techniques. Similarly, the NRGIS is being applied to preparation of the Volga River State Recreation Area Master Plan, and certain permits are issued only after GIS databases have been researched.

■ Along with the states of Nebraska, Kansas and Missouri, the DNR joined in a proposal to the U.S. Geological Survey for funding to conduct a preliminary study on the production potential of coalbed methane from deep coal beds within the Forest City Basin. Whether methane is present depends upon several geologic and hydrologic criteria, including the rank or

grade of the coal and whether the coal beds have remained water-saturated throughout the geologic past. If funded, work on this four-year project will include use of existing data to compile geologic maps that show the thickness, depth and structural relationships of the principal coal beds in the basin; core drilling of the thickest and most persistent coal beds, along with coal quality analysis; determining the amount of water and methane the coal resources contain; and compiling a final report.

# FISHERIES AND WILDLIFE



Ron Johnson

wetland basins, most of which were located on land enrolled in the Conservation Reserve Program (CRP). Another 450 acres of wetlands were restored on existing public land.

■ Acquiring land for wildlife habitat and recreational activity is an important activity of the wildlife bureau. Almost 5,000 acres of land was placed into public ownership during this fiscal year at a cost of \$2.7 million. Funding sources included state habitat and duck stamp funds, REAP, federal funds and private conservation organization contributions. ■ Development programs included two subimpoundments at Red Rock Wildlife Area in Warren County. Plans are being generated for a water pump station to fill the wetland areas.

■ Wildlife management biologists

maintained 350 state-owned public wildlife areas totaling more than 300,000 acres. Wildlife research biologists continued research activities during the year on pheasant, deer, turkey, waterfowl and nongame wildlife.

■ Interest and participation in hunting seasons remained high. Approximately 377,000 resident and 45,000 nonresident hunting licenses were sold to hunt pheasant, deer, turkey and other small game. Approximately 1.1 million pheasants were taken, retaining Iowa's spot in the top three pheasant hunting states in the U.S. Deer hunters took 83,500 deer in bow, shotgun and muzzleloader seasons. Turkey hunters took 11,100 turkeys in spring and fall seasons. Deer and turkey hunter success rates remain among the highest in the U.S.

■ The duck breeding population remained relatively stable for most species in Iowa. Many of Iowa's wetlands experienced good

water conditions in 1992 due to excellent rainfall across the state. ■ Nongame programs also continued to fulfill their long-range plans. A total of eight peregrine falcons were released in Muscatine to complete the attempt to restore this species to Iowa. Three pairs of peregrines attempted unsuccessfully to nest in Des Moines, Cedar Rapids and the Quad Cities -- the first known nesting attempt in 30 years.

■ Prairie chickens from previous introductions were again found on booming grounds in Ringgold County and production of young was verified by the observation of several broods. One hundred twenty-five prairie chickens from Kansas were released in the same area to supplement previous releases.

**LAW ENFORCEMENT.** Through Iowa's Turn-In-

Poachers (TIP) program, a total of 476 TIP calls were processed during the year. These calls, from private citizens, resulted in 41 successful cases and 146 citations issued. The citations were issued for a variety of fish and wildlife crimes including illegal taking or possession of deer, falsifying a deer or turkey license, shooting slugs from a roadway, shooting within 200 yards of occupied buildings, trespassing, carrying uncased and/or loaded guns in a vehicle on a public road, illegally selling fish or game, using CB radios and motorized vehicles or aircraft to pursue or hunt game, illegally taking hen pheasants, possessing an under-length limit on game fish, and possessing an over-limit of game fish, furbearers or game

animals. ■ A total of \$7,300 was approved for reward payment by the private TIP group, TIP of Iowa, Inc. On the average, only about 50 percent of the approved rewards are requested by successful informants. ■ A computer file system of habitual or repeat violators of fish and wildlife laws was activated. By departmental rule the DNR has the authority to revoke and suspend

license privileges of those subjects who have accumulated a minimum amount of violation points. To date, the habitual offender file has information on 5,129 individuals, and of this number, a total of 167 will have had some type of license suspension action taken against them by the DNR.

**Liquidated Damages -- \$65,216.94 Collected**

Species	Number
Deer	88
Fish/Mussel	1,417
Furbearer	4
Rabbit	1
Raccoon	21
Squirrel	48
Turkey	14
Upland Game	44
Waterfowl	32
Other	23
<b>TOTAL</b>	<b>1,692</b>

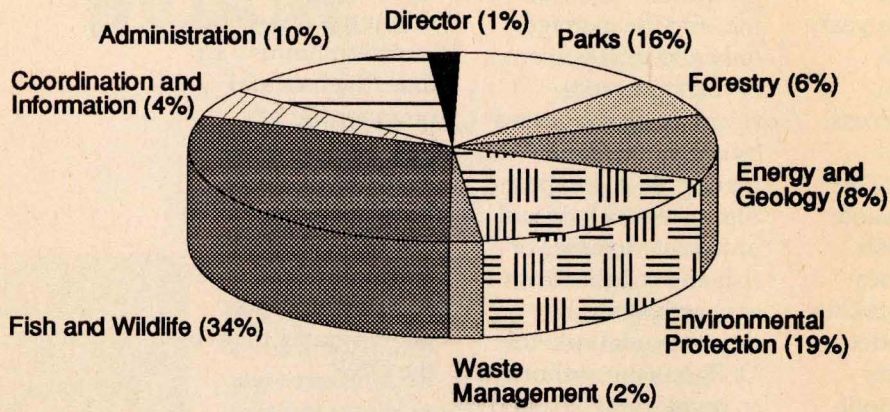
**■ EDUCATION AND RECREATION CLASSES**

	Hunter Education	Snowmobile Safety	Boating Safety	Fur Harvester	ATV
Instructors certified	132	3	8	0	1
Classes conducted	484	10	8	2	52
Students trained	13,506	442*	698*	26	73

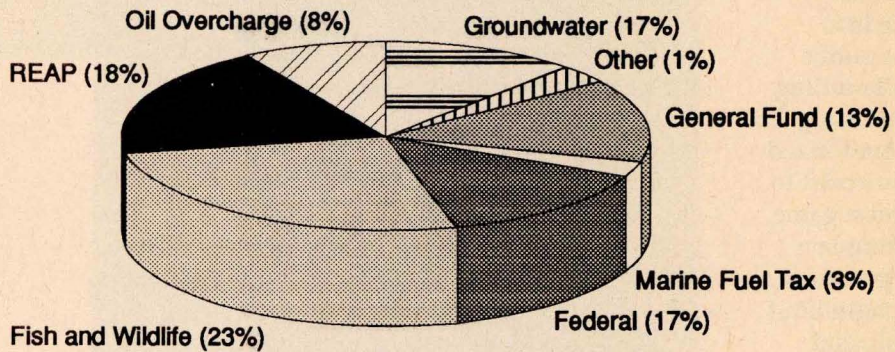
\*Home-study course

# BUDGET

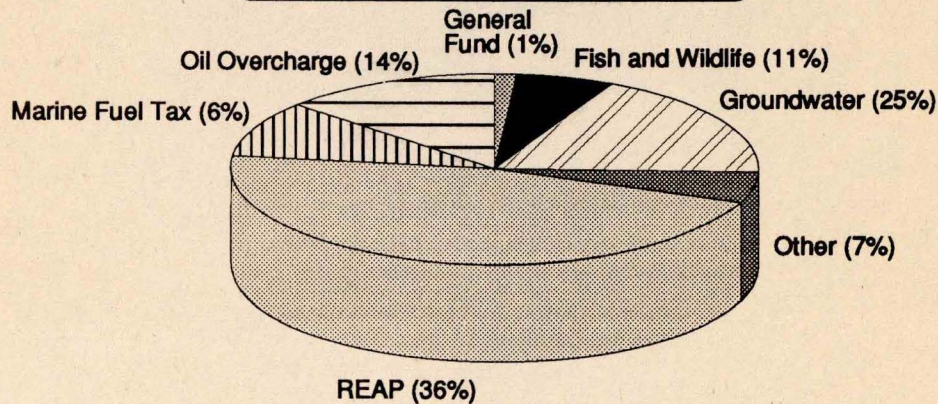
**OPERATIONAL EXPENDITURES**  
by Division  
\$44,929,311



**Sources of Funds For**  
**TOTAL EXPENDITURES**  
\$78,232,292



**Sources of Funds For**  
**CAPITAL AND SPECIAL**  
**PURPOSE EXPENDITURES**  
\$33,302,981\*



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





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 recycled newsprint with a 100-percent recycled Quest cover.



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