

**FY 1989  
ANNUAL  
REPORT**

**IOWA  
DEPARTMENT  
OF  
NATURAL  
RESOURCES**

**Larry J. Wilson, Director**



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The period between July 1, 1988, and June 30, 1989, was an innovative and challenging year for the Iowa Department of Natural Resources. New legislation, such as the Resource Enhancement and Protection Act, and the continuance of past legislation, such as the Groundwater Protection Act, provided the DNR with opportunities to further advance Iowa into the national arena through environmental and conservation policies.

The REAP Act is among the most far-reaching legislation ever enacted in Iowa. Through it, cities, counties and various state agencies will unite to further protect and enhance Iowa's natural resources. Over the next 10 years, about \$200 million has been targeted for REAP projects, such as conservation education, soil and water conservation, land acquisition and protection, historical projects and vegetation management.

The Upper Mississippi River Environmental Management Program was initiated in Iowa during FY89 to ensure that part of the river continues to be a viable fish and wildlife resource, while maintaining its multiple-use character.

Various programs of the DNR were funded with money received from federal court settlements with oil companies involving oil overcharges during the 1970s. These programs included water quality monitoring and related water resource investigations, as well as Iowa's landfill alternatives grant program.

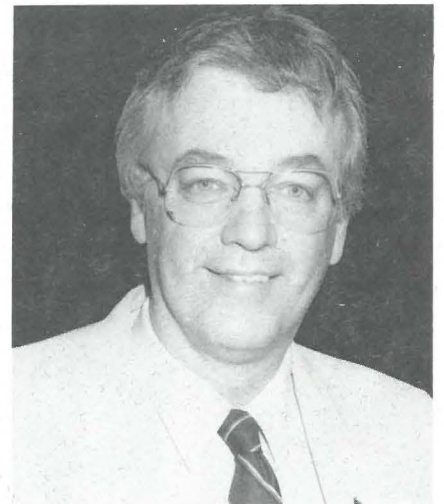
The DNR began implementing a computerized natural resource geographic information system. Through this system, information on all division programs will be readily accessible by other divisions.

A comprehensive energy plan for the state was begun during the past year. The plan will examine past consumption patterns and energy resources and will make recommendations for legislation.

The end of the fiscal year saw the state park user permit rescinded. The four-year-old program provided approximately \$1 million each year for state park facility renovation and replacement projects. However, the new REAP program will supply the necessary funding to continue these projects.

As we head into the 1990s, a decade of environmental promise, the DNR will continue its efforts to improve and conserve our environment and to improve the quality of life in Iowa.

## DIRECTOR'S MESSAGE



Larry J. Wilson

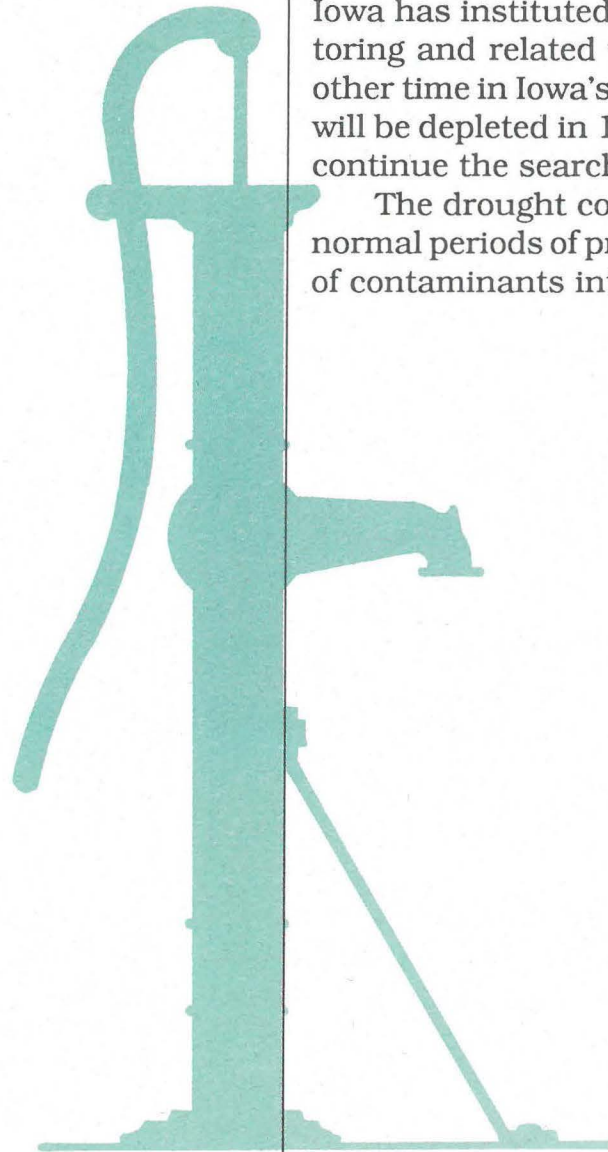
## ENVIRONMENTAL ISSUES

### Groundwater

Water quality was the focal point for Iowa's natural resource agenda. The issues associated with protecting water quality are complex and often controversial, requiring an abundance of data to support wise public policy.

Since passage of the 1987 Groundwater Protection Act, and with funds allocated from oil overcharge monies, Iowa has instituted more programs for water quality monitoring and related water resource investigations than any other time in Iowa's history. Because oil overcharge monies will be depleted in 1992, the state must find new funding to continue the search for answers in this vital area.

The drought continued over most of Iowa. When more normal periods of precipitation return, increased movement of contaminants into the groundwater is expected.



### Waste

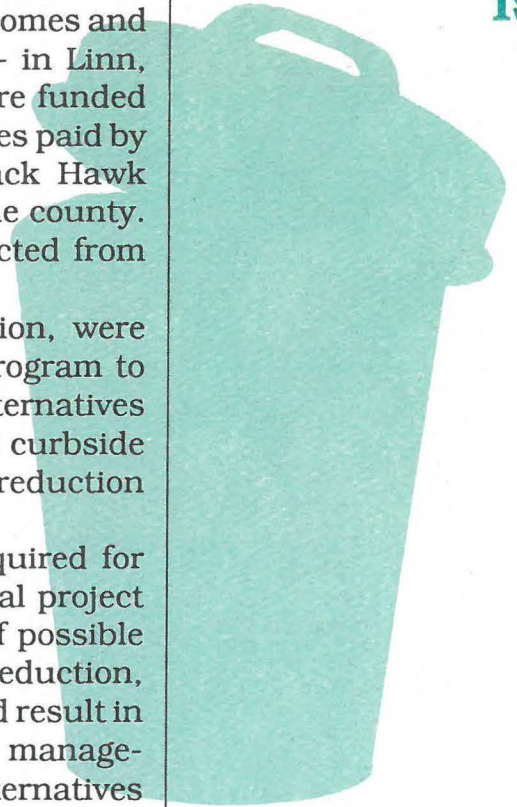
Five toxic cleanup days were conducted across the state to collect household hazardous waste from homes and farms for proper disposal. Four of the events -- in Linn, Story, Montgomery and Crawford counties -- were funded through household hazardous materials permit fees paid by Iowa retailers who sell the materials. The Black Hawk County toxic cleanup day was funded through the county. More than 400 barrels of toxic waste were collected from nearly 2,000 households at toxic cleanup days.

Ten grants, totaling more than \$1.6 million, were issued under Iowa's landfill alternatives grant program to promote innovative demonstration projects as alternatives to landfilling. Grant funding for projects such as curbside recycling, yard waste composting and waste reduction education came from the oil overcharge account.

Solid waste comprehensive plans were required for the first time for approval of any sanitary disposal project permit. These plans must include an analysis of possible waste management alternatives, such as source reduction, recycling and energy recovery. The analysis should result in a set of recommendations for an integrated waste management system that will include one or more of the alternatives in addition to landfilling of residual wastes. Implementation of waste management alternatives must begin by July 1, 1994, and must be completed by July 1, 1997. The comprehensive plans also address such things as monitoring wells, leachate collection systems, closure of landfill plans, long-term monitoring plans and financial assurance.

The Iowa Recycling Directory, compiled for the first time, lists information on markets, secondary processors, end users and major community collection programs. More than 1,500 copies were distributed to sanitary landfill operators, recycling centers, city and county governments, county conservation boards and private citizens.

## ENVIRONMENTAL ISSUES



## NATURAL RESOURCE LANDS

### Forests

The State Forest Nursery at Ames and its satellite growing area at Montrose grew and distributed more than four million seedlings for \$420,000. The nursery cooperated with the forestry department of Iowa State University in production of hybrid poplar, walnut improvement and root grading to increase survival and tree quality.

Planning and land acquisition for the Loess Hills Pioneer State Forest began in 1985 with purchase of the first lands that will eventually comprise a 17,000-acre state forest in Harrison and Monona counties. During FY89, an additional 1,135 acres were purchased, bringing the total area owned by the DNR to 3,896 acres.

The DNR provided forestry assistance to 13,714 individuals. With the cooperation of landowners, an additional 33,914 acres of forestland were brought under improved management by private owners.

The main goal of Iowa's forestry program is to assist landowners in reaching a goal of three million acres of forest cover in Iowa. Sufficient forest land will help meet Iowa's need of forest products, recreational opportunities, soil and water conservation, wildlife and an overall enhanced quality of life.

### Parks

The end of the fiscal year saw the state park user permit rescinded by the Iowa Legislature. However, the new Resource Enhancement and Protection Act will provide the funding necessary to carry out state park facility renovation and replacement projects, as well as new funding for other capital development and acquisition projects.

Significant facility development was completed at two areas -- Lake Manawa State Park and Pleasant Creek State Recreation Area -- using profits from the Iowa Lottery and through federal cost-share programs.

The 1989 Legislature mandated the construction of a 690-acre lake at the Brushy Creek State Recreation Area. Twenty-seven years after the recreation area was proposed, its development is now clearly in sight, and the open spaces account of the Resource Enhancement and Protection program will provide the needed funding. Under the legislative mandate, approximately 1,750 acres of additional land will be purchased to expand the recreation area. Management and use of the new lands will consist of

## NATURAL RESOURCE LANDS

multiple-use recreation with special emphasis on all types of trail use, hunting, stream fishing and nature appreciation. Most development at Brushy Creek will occur in 1990 and 1991.

### Preserves

By June 30, 1989, 82 preserves had been established in Iowa. Almost 8,000 acres are now included in the system with the addition of the newest state preserve, the 260-acre Brushy Creek Preserve.

Recovery 2000 is a new program for federally listed threatened and endangered species in the Midwest. Administered by the U.S. Fish and Wildlife Service, it is a detailed program to recover 28 species within Iowa and seven other Midwestern states by the year 2000, provided adequate funding is made available.

The success of the program will also demonstrate a new and innovative approach to making the Endangered Species Act more efficient in recovering threatened and endangered species.

A 10-year plan to provide direction and to determine the priority types of preserves which should be added to the system is set for completion in 1990.

### Open Spaces

The major accomplishment was the passage of the Resource Enhancement and Protection Act. A large portion -- 28 percent -- of the funding is directly targeted at open spaces protection in Iowa. Included in the Act are specific references to, and appropriations for, programs that were underway prior to the Open Spaces Plan, such as the Loess Hills Pioneer State Forest. In addition to providing funding for open spaces, REAP money has also been earmarked for conservation education, county conservation boards, soil and water conservation, city parks, management and development of state properties, historical projects and vegetation management.

### Trails and Waterways

A total of 4,900 miles of developed and maintained snowmobile trails were funded during FY89, making Iowa's

## NATURAL RESOURCE LANDS

trails program the 5th largest in the United States. An all-terrain vehicle registration program was approved in the 1989 session of the Legislature. Funds from registrations will be used to establish ATV areas. A trails coordinator position was established to coordinate the snowmobile, ATV and state area trail activities.

Iowa's first boat launching directory was completed, listing, by county, more than 950 boat launching facilities in the state.

### Geology

The DNR began implementation of a computerized natural resource geographic information system with the goal of integrating multi-layered data bases into the operation of all department programs. The system is a powerful tool for analyzing natural resource information. Through the geographic information system, various department programs will become integrated -- wildlife programs will use related information on water resources; waste management programs will become more integrated with energy considerations; and park development/management will become integrated with water supply programs.

Emphasis continued on investigations of groundwater quality and the geologic controls that affect the susceptibility of groundwater to contamination. Examples of related projects include the Big Spring Demonstration Project, the Iowa Statewide Rural Well Water Survey and water quality studies that are an integral part of the Integrated Farm Management Demonstration Project. Additionally, the water chemistry of fens is being studied to aid the DNR in the development strategies for this class of wetlands.

The DNR has begun to reexamine all geologic samples from holes drilled within and around the Manson Meteorite Impact Structure, a 22-mile diameter feature that includes portions of Pocahontas, Humboldt, Webster and Calhoun counties. This study will provide valuable information on area water resources, which are difficult to locate and develop in this part of the state.

## ENERGY

### Energy

Because of the heavy reliance on petroleum-based fuels in Iowa, the DNR has pursued alternatives for their environmental as well as economic impact. Iowa State University is examining a variety of fuels such as ethanol, methanol and compressed natural gas to provide fleet operators with sufficient information to evaluate conversion of their fleets. Among the areas evaluated were the cost of conversion, cost of fuel, maintenance, power, infrastructure needed, safety and other technical factors. In addition, the University of Iowa is currently demonstrating the operation of three pure alcohol powered trucks to evaluate their use on farms for a one-year period.

As a result of legislation passed in 1988, the DNR began preparing a comprehensive energy plan for the state. The plan, to be completed by January 15, 1990, will examine past consumption patterns and energy resources, and it will make recommendations for legislation. It evaluates energy resource potential, and examines the environmental and economic impacts of options. The focus of the plan will be on the need to improve energy efficiency in all sectors and to use clean, environmentally sound technologies that use alternative energy resources.

Although the state has not experienced major petroleum supply disruptions for several years, the need to be prepared to handle a major supply disruption or price increase remains. During the past year, the DNR, in cooperation with the Utilities Board and the Division of Disaster Services, revised the Energy Emergency Plan. The plan addresses a variety of crisis scenarios, identifies monitoring activities, recommends action plans for energy suppliers as well as consumers, and provides procedures to be followed to minimize the impact on the state.

The Iowa School Energy Bank Program was established to save energy and money in Iowa school buildings. The program has three phases: an initial energy audit to identify opportunities for savings, a detailed engineering analysis which shows needed improvements and their pay-back potential, and financing for construction of recommended conservation measures.

## FISHERIES AND WILDLIFE

### Fisheries

The Mississippi River Environmental Management Plan -- Habitat Rehabilitation and Enhancement Program was initiated in Iowa through the construction of a 3,500-foot dike in the Brown Lake's complex to reduce sedimentation of the backwaters adjacent to the river.

Engineering is underway for the Bussey Lake and Lansing Big Lake projects. These areas will serve as winter refuge and fish concentration points for sport fish during ice cover.

Thirty-six fish kills were investigated during the fiscal year. A prolonged fish kill, due to low flow, high water temperature and reduced oxygen, occurred below the hydro-power installation in the Five-in-One dam on the Cedar River in Cedar Rapids. During low flow periods, water is now being released over the spillway instead of diverting the entire river flow through the turbines.

A major kill of more than 159,000 fish (valued at \$10,800) occurred on the Skunk River when liquified ammonia flowed into Mud Creek near Durant; a \$9,500 settlement was negotiated from Iowa Interstate Railroad. Waste from a corn packing plant killed 9,400 fish in Beaver Creek near Ackley with a settled loss of \$400. Abnormal high atmospheric temperatures, low flows and low dissolved oxygen caused fish kills from natural causes in 16 streams.

More than 110 million fish were hatched, reared and stocked. Warmwater fish species, including channel catfish, bluegill and largemouth bass, amounted to more than 3.3 million fry and fingerlings. Cool-water species, including walleye, muskellunge, sauger hybrids, muskellunge hybrids and northern pike fry and fingerlings, amounted to more than 105 million fish. The three coldwater hatcheries in Iowa propagated and reared more than 307,000 rainbow and brown trout.

Reconstruction of the Decorah Fish Hatchery was completed at a cost of approximately \$2.4 million. Capacity of the facility for trout production was increased by about 25 percent.

### Wildlife

Deer hunters, for the 9th year in a row, broke the preceeding year's harvest record taking 93,000 deer -- two and one-half times more than just five years ago. Spring turkey hunters harvested 6,800 gobblers, the second best season on record. Resident and non-resident pheasant hunters took 1.1 million birds, down from 1.4 million a year ago probably due to the drought.

On-going private land cost-share programs with land-owners resulted in the establishment of 54 shelterbelts and 290 food plots, totaling 1,700 acres. Both programs are available only north of U.S. Highway 30.

Declining waterfowl populations remain a big concern. Since 1985, waterfowl harvest has declined because of lower fall flights and poor habitat conditions. Waterfowl harvest in the state totaled 73,000 ducks, making it the lowest since 1962.

Implementation of the Prairie Pothole Joint Venture Plan was the biggest thrust in the DNR's land acquisition efforts. This plan, intended to increase waterfowl habitat, specifically identifies project sites in north-central Iowa for wetland acquisition and restoration. During FY89, more than \$1.3 million was funded for the plan from the sale of habitat and waterfowl stamps, from the U.S. Fish and Wildlife Service and from numerous conservation organizations in Iowa.

The DNR purchased 2,275 acres of wetland and adjacent uplands during the year, exceeding the goal of 2,000 acres per year. In addition, DNR management biologists restored 274 wetland basins, totaling 1,158 acres, on public and private lands.

Future efforts of the Prairie Pothole Joint Venture Plan include completion of an implementation plan, development of an Iowa brochure, and continued coordination with various conservation organizations around the state.

Next year's goals are to purchase 2,000 acres of wetlands and associated uplands and restore 800 acres of wetlands on public and private lands.

## FISHERIES AND WILDLIFE

# FISHERIES AND WILDLIFE

## Law Enforcement

### Boating Accident Summary

|                       |    |
|-----------------------|----|
| Number of Accidents   | 48 |
| Number of Injuries    | 26 |
| Single Boat Accidents | 33 |
| Number of Fatalities  | 8  |

### ATV/Snowmobile Accident Summary

|                      | ATV | Snowmobile |
|----------------------|-----|------------|
| Number of Accidents  | 19  | 30         |
| Number of Injuries   | 19  | 19         |
| Number of Fatalities | 3   | 2          |

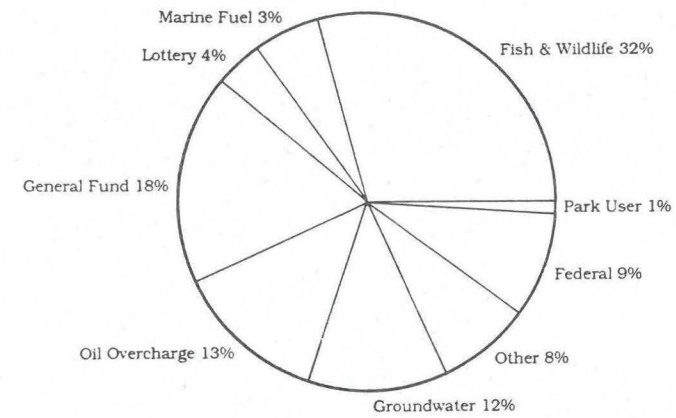
### Hunter Education Graduates Involved in Gun Accidents

|             | Shooter | Victim |
|-------------|---------|--------|
| Trained     | 12      | 6      |
| Non-trained | 17*     | 8      |
| Unknown     | 17**    | 32***  |
| Total       | 46***   | 46***  |

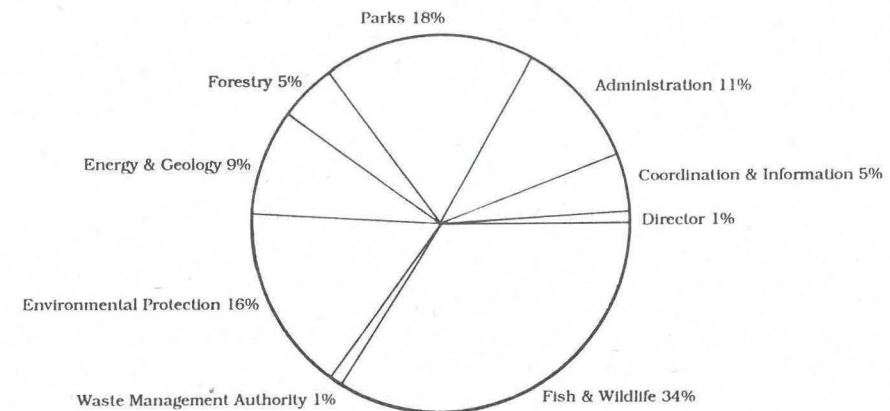
\*each asterisk indicates one fatality; three fatalities occurred.

# BUDGET

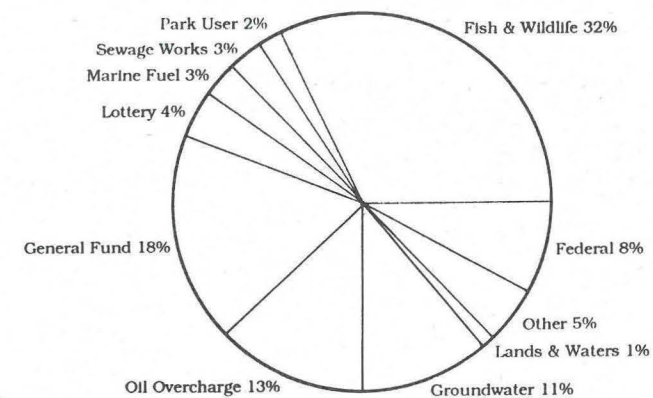
## Sources of Funds For Total Expenditures \$66,108,000

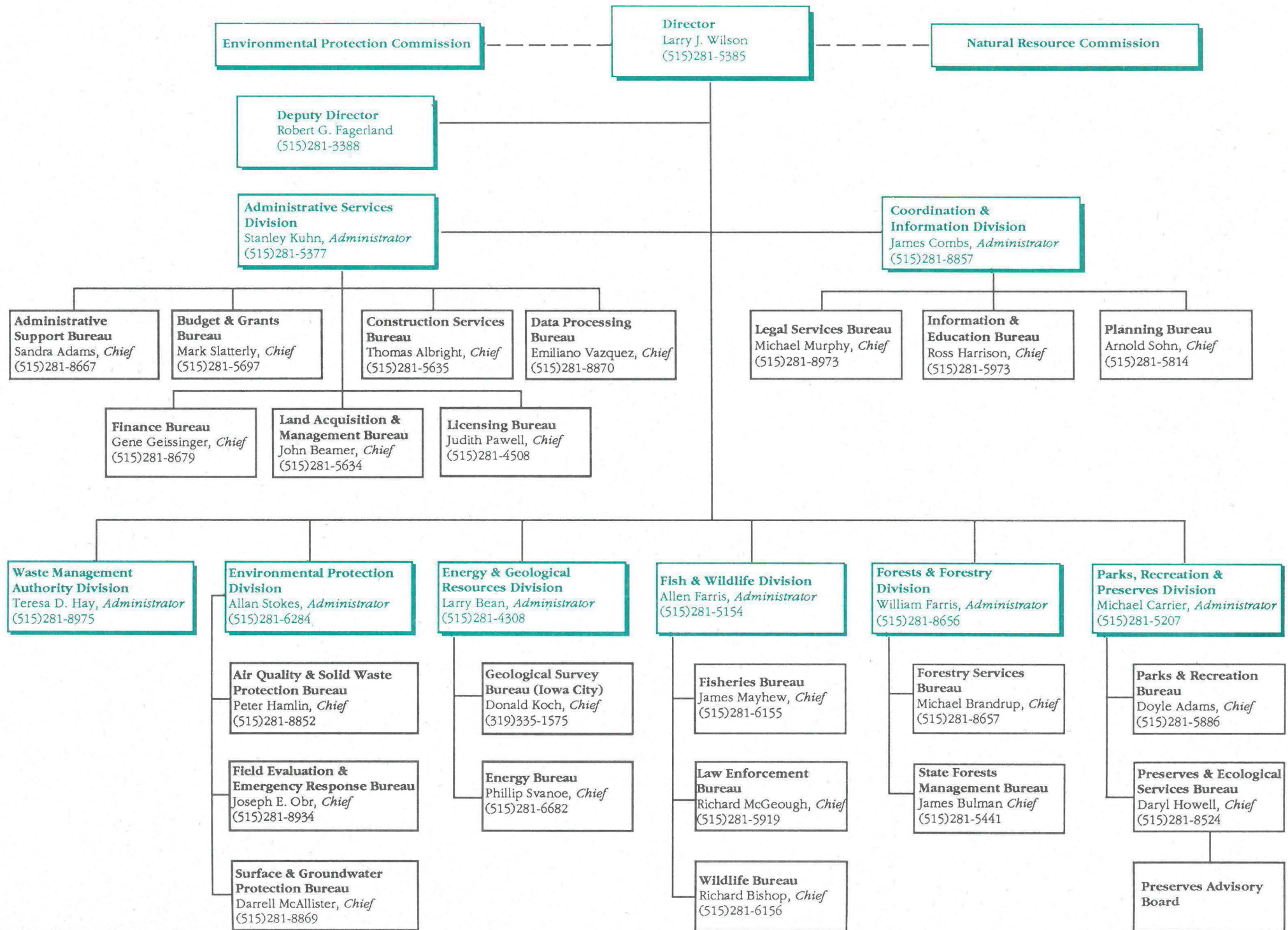


## Operational Expenditures by Division \$40,475,108



## Sources of Funds For Capital & Special Purpose Expenditures \$25,957,000





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