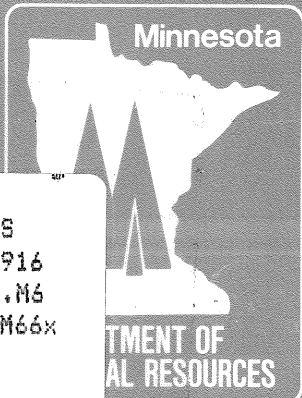
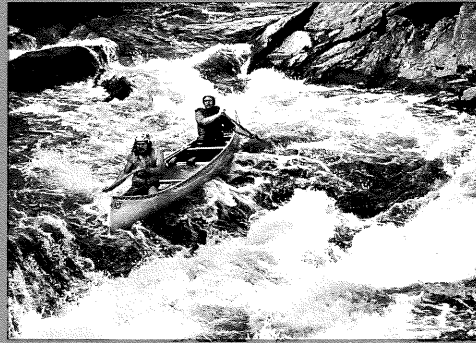


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# THE DNR. WHAT IT DOES FOR YOU.



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DEPARTMENT OF  
NATURAL RESOURCES





Dave Repp



**M**INNESOTA — Sioux Indian for “sky-tinted waters.” Minnesota — glacier-carved land of 12,034

lakes larger than ten acres and 25,000 miles of rivers and streams.

Minnesota — 406 miles long, 358 miles wide, 84,068 square miles, outdoor country for fishing, hunting, hiking, boating, skiing, snowmobiling. An invigorating, diversified environment for people to live, work, and play.

Minnesota — set in the middle of the North American continent, focal point of three major North American eco-systems:

- The northern coniferous forest of spruce and pine that reaches south from Canada . . .
- The deciduous hardwoods of the central United States . . .
- The rolling grasslands that introduce the western prairies.

Minnesota’s scenic beauty — its lakes and deep woods — make the state a popular playground. Each year, attendance at 65 state parks approaches seven million. Campers, canoeists, and hikers explore the

million-acre Boundary Waters Canoe Area. Plentiful game and fish make Minnesota a favorite each year of 450,000 hunters and two million anglers.

“Minnesotans feel obliged to be outdoors,” said an out-of-state visitor. Minnesota has more boats per capita than any other state — over 500,000 — one for every eight or so residents. Major industries — agribusiness, forest products, mining, tourism — are outdoor industries.

Since Minnesota’s first Board of Game and Fish Commissioners was established in 1891 and the Minnesota Forest Service was created in 1911, the people of the state have participated in conservation progress. In 1931, citizen support helped to consolidate resource management into a new Department of Conservation. Forty-two years later, in 1973-74, citizen-advisors were involved in reorganizing the Department of Conservation into today’s Department of Natural Resources.

Minnesota sportsmen have contributed almost \$13-million to our “Save-the-Wetlands” program. To protect the state’s resources, Minnesotans



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have labored and lobbied for years in conservation development. Today, some 500 state conservation-environmental organizations reflect the remarkable scope of public interest in the natural resources of our state. Indeed, over 50 citizen groups advise the DNR — testimony to a proud tradition of people who care.

Minnesotans feel a kinship with their state and they entrust its natural assets to the DNR.

The DNR's stewardship involves:

- Protecting the environment for — and from — people. Modern resource management has evolved into people management — how to use the state's resources for the benefit of Minnesotans while avoiding harm to the environment. A ticklish challenge for the modern DNR resource manager.

- Preserving Minnesota's natural resources while helping the state maintain its economic prosperity. Timber sales, for example, contribute \$2.2 million to the state's purse each year, offsetting funds that otherwise would have to be raised by taxation. Hunting and trapping brings in almost \$200

million annually; sport fishing \$520 million (Minnesota sells more out-of-state fishing licenses than any other state). Important figures for people who sell the fishing and hunting gear, prepare the meals, and rent the motel rooms that sports people use.

Who supports the DNR? Most people would say, "Taxes! What else!"

Only partly true. Operating costs for the DNR for one year approximate \$30 million. But the cost to taxpayers is less than \$5 million — about \$1.25 per capita. The DNR budget is only 1.5% of the total state budget!

Where does DNR funding come from? From fishing, hunting, and trapping licenses. From timber sales and mineral leases. From boat and snowmobile registrations, entrance fees to state parks, and permits for work in public waters.

From these fees and modest taxes, the DNR manages Minnesota's rich assets — its fish and wildlife, state parks and forests, minerals, soils, plants, and waters.

Here's the story of how the DNR — your DNR — practices its stewardship.



# The Divisions



Bluffs at Blue Mounds State Park overlook prairie farmland in Minnesota's southwest corner. State parks preserve unique natural areas.



DNR's "outdoor accessibility" program allows handicapped people to enjoy nature in state parks.



Itasca State Park interpretive program features Indian woman weaving black ash basket before visitors.

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## Parks & Recreation

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State parks • Interpretive services • Upper St. Croix River • Trails • Wild rivers • Canoe/boat routes • YCC • North Shore

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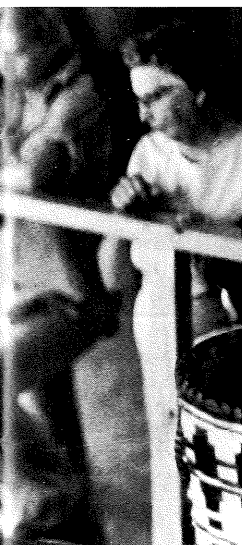
THE DIVISION of Parks and Recreation (P/R) oversees 65 state park and recreation areas for nearly seven million visitors each year. Income from park permits, campground fees, refreshments, and souvenirs exceeds \$2 million.

Our nationally renowned state-park system is designed to perpetuate values inherent to Minnesota's quality of life: scenic, historic, geologic, archaeologic — native prairie to pristine wilderness.

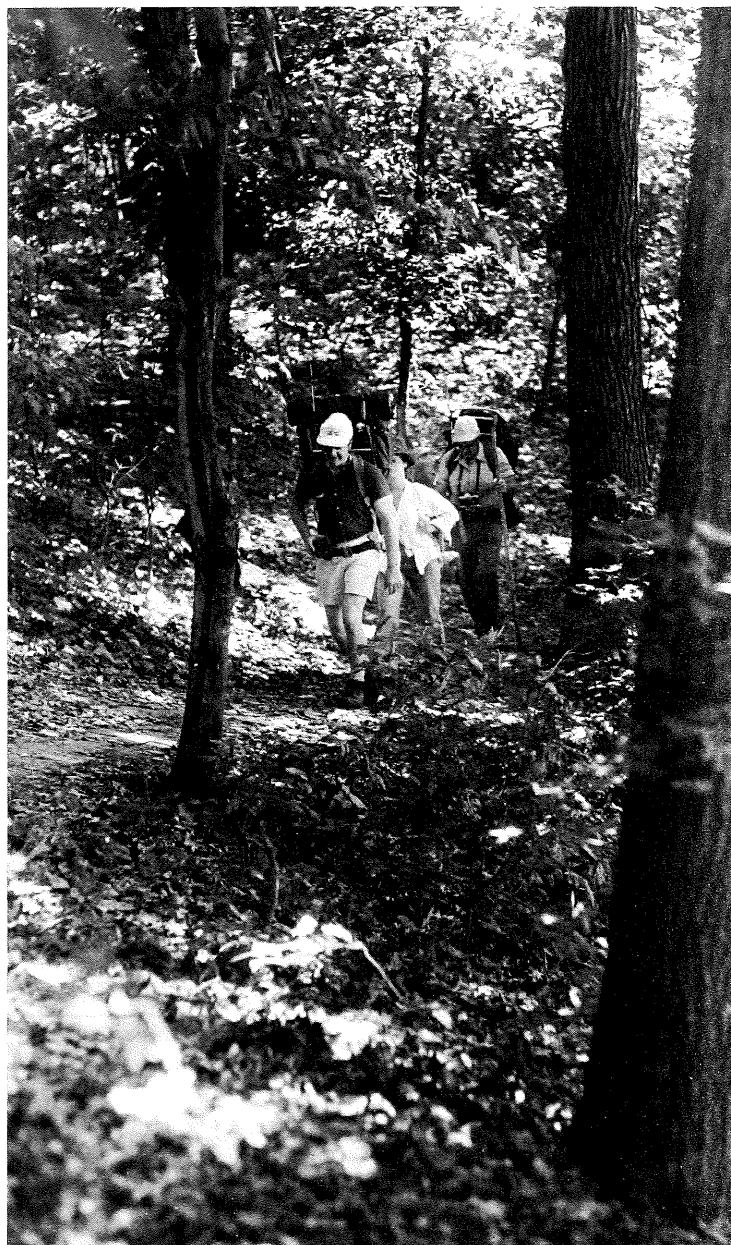




An interpretive naturalist helps a young park visitor use her sense of touch to learn nature firsthand.



Three types of campgrounds — modern, primitive, and pioneer group camp — cater to park visitors.



Several kinds of trails — for recreational vehicles, hikers, skiers, backpackers — crisscross state parks.

State parks belong to the people of Minnesota. But not all land inside park boundaries has been acquired. Private owners still hold it. Each year, P/R negotiates to buy these parcels. The aim in acquiring this land is to prohibit development contrary to a park setting.

About two million park visitors each year enjoy P/R's interpretive programs. Trained naturalists direct these programs which include tours and

other fascinating activities that explore a park's historical and natural attractions. At Tower-Soudan State Park, seven guides conduct 30,000 visitors each year through the abandoned galleries of Minnesota's first iron mine.

At 22 interpretive centers, park visitors enjoy tours along self-guided trails and listen to radio broadcasts and read informational brochures describing a park's special attractions. At Brower Inn in Itasca State

Park, they watch local craftsmen practicing pioneer crafts.

Last year, P/R began a program to help all people enjoy our state parks, including the elderly and handicapped. This "outdoor accessibility" program is especially helpful to the one out of ten Minnesotans who are blind, deaf, or otherwise handicapped.

**Upper St. Croix.** Federal funding of \$4 million enables the DNR to acquire land and





Canoeists pass an old mill on the Cannon River. This stretch of the Cannon is one of 18 designated canoe and boating routes on Minnesota rivers.



Craig Borck

A cluster of pasque flowers blooms on a remnant prairie tract preserved by the Scientific and Natural Areas Program.



Snowmobilers enjoy nearly 2,000 miles of groomed state park and forest trails.

develop it for recreationists along the upper St. Croix River. The area takes in the St. Croix and St. Croix Wild River State Parks and the St. Croix and Chengwatana State Forests. For this project, Northern States Power Company donated 1,025 acres of land within St. Croix Wild River State Park.

**Wild Rivers.** P/R acquires land for and administers the Wild and Scenic Rivers Program. Thus far, segments of these rivers have been incorpo-

rated into the program:

- Kettle — 52 miles in Pine County.
- Mississippi — 52 miles between St. Cloud and Anoka.
- Crow — 41 miles of the North Fork in Meeker County.
- Minnesota — 96 miles from Lac qui Parle to Franklin.
- Rum — 147 miles between Ogechie Lake and Anoka.

The Wild and Scenic Rivers Program preserves the scenic and recreational features of a river for people to use and enjoy. It regulates residential and

commercial development and authorizes purchase of land easements from willing sellers. (Free "Wild and Scenic Rivers Program" leaflet available.)

**Canoe-Boat Routes.** P/R buys or leases land along the state's 18 canoe and boating route rivers and develops recreational sites. It publishes "Minnesota Canoe Trails" and pocket-size river maps.

**Trails.** The Trails Section operates nearly 5,000 miles of trails, in 66 of Minnesota's 87 counties, for hiking, skiing,





Miles of state park trails help make cross-country skiing a growing sport.



Learning by doing, a young woman wields an axe in a YCC project.



Federal Wild and Scenic Rivers status protects the St. Croix River. A state Wild and Scenic Rivers Program protects 388 miles of five other rivers.

snowmobiling, horseback riding, and biking. The section's eventual goal: a hub of ten major corridor trails spreading out from the Twin Cities and anchoring a vast network of recreation trails accessible to all Minnesotans.

**Planning.** The Outdoor Recreation Act of 1975 requires that P/R prepare detailed resource management plans of its major recreational units. The objective: to complete master planning for all state parks by 1981.

These long range management plans inventory all resources and user demands, including vegetation, wildlife, fish, recreation, enforcement, operation, and maintenance.

The purpose of each plan is to preserve the unique resources in our park units while providing recreational opportunities for park users.

**North Shore.** The North Shore Systems Study will, first, assess the recreation potential of local, state, federal, and private lands on the North

Shore of Lake Superior, the world's largest freshwater lake, and, second, tie in existing units and new recreational units into a North Shore recreation system plan.

**YCC.** P/R operates a Youth Conservation Corps program — two, five-week sessions employing over 200 youngsters 15 through 18 years at six camps. Besides working on conservation projects, the young people receive ten hours of environmental education each week.



# The Divisions



Ongoing research on timber wolves and other non-game species helps DNR wildlife biologists manage and protect wildlife.

## Fish & Wildlife

Fish/wildlife habitat preservation and management • Ecological impact studies • Hunting/fishing regulations • Research • Fish propagation • Lake rehabilitation • Lake surveys

### WILDLIFE SECTION

ACQUIRING, improving, and protecting lands for wildlife (Minnesota has 80 mammal species and nearly 300 different birds) is the charge of the Wildlife Section of the Fish and Wildlife Division. Programs include:

- Acquiring — or accepting donations of — land and managing it for wildlife. In a recent year, gifts for Wildlife Management Areas totaled almost \$500,000.
- Improving forest habitat for deer and grouse.
- Establishing cover (grasses, forbs, shrubs, trees) and food supplies.
- Building and maintaining 800 miles of forest roads and trails.

Banding helps wildlife biologists trace movements of waterfowl. Bands, numbered to identify each bird and clamped around one of its legs, have been recovered from many other states.



Wetlands help wildlife, retain floodwaters, control sediment and erosion, and replenish groundwater. DNR preserves hundreds of wetland acres.



Other key programs include cost-sharing with private land-owners on woody cover plantings, food plots, nesting cover, and waterfowl impoundments, and overseeing 11 million acres of public hunting lands.

Wildlife managers investigate the ecological impact on an area from new construction projects — highway, pipeline, power-line routes, sewage disposal sites, dredging channels, and more.

They advise the DNR Commissioner on setting hunting regulations for deer, bear, moose, gamebirds, and small game mammals, and trapping regulations for mink, muskrat, raccoon, beaver, otter, lynx, and other furbearers.

Numerous research projects include studies on deer physiology, the effect of fire on wildlife, and the impact of coyote predation on deer. Twenty-eight censuses count game animals so that proper bag limits and season lengths can be set.

Wildlife publishes "Big Game Hunting Regulations," "Small Game Hunting and Trapping Regulations," "Waterfowl Hunting Regulations," and "Minnesota Wildlife Lands" (a map of public hunting lands). These publications are free on request.

## FISHERIES SECTION

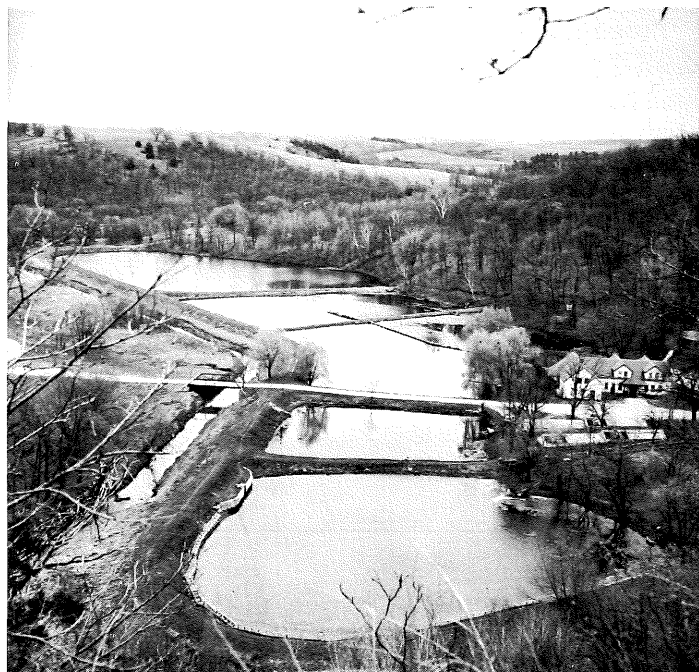
EACH YEAR, two million anglers fish in Minnesota's 2.6 million acres of fishing water (4,000 lakes, 16,600 miles of streams). Managing these waters for game fish is the job of the Section of Fisheries. It includes fish habitat improvement of lakes and streams, propagation and distribution of fish, non-game fish control, and lake rehabilitation.



Wildlife biologist attaches bright collar to tranquilized moose.



Researcher with antenna tracks turkeys fitted with transmitters.



Lanesboro Hatchery, in a secluded valley in southeastern Minnesota, is one of the DNR's fish hatcheries and fish-rearing sites that produce and distribute 250-million gamefish each year.



Millions of pounds of carp and other rough fish are trapped annually and sold to private companies. Added bonus: pesky fish are kept out of gamefish lakes.



**Habitat.** Along trout streams, Fisheries buys or leases fishing sites, then develops habitat for game fish.

Recently, tracts on four streams were optioned for easement and a 24-acre tract on the Knife River was purchased to provide stream habitat development and watershed protection. Other tracts are optioned for northern pike spawning, trout stream access, and to build rough-fish control structures.

**Propagation.** In a single year, 250 million fish are raised and distributed in Minnesota's streams and lakes from 18 hatcheries and 386 fish-rearing sites. Fish include walleye, northern pike, crappie, sunfish, bass, muskellunge, sauger, bullhead, perch, catfish, and several species of trout and salmon.

More than six million pounds of rough fish are removed each year. Species include: buffalo fish, bullhead, carp, perch, shad, and tullibee among others.

**Lake Rehabilitation.** Fisheries treats selected lakes with chemicals, then introduces game fish that, in a few years, will provide excellent sport fishing.

**Surveys.** Biological surveys of lakes and streams help fish managers stock fish and increase the productivity of Minnesota's waters for anglers.

**Research.** Fisheries studies new developments in fishing. The effect of sonic depth recorders on fishing, and the introduction of new species of fish into Minnesota waters are two examples.

Fisheries publishes a map, "Trout Streams in Southeastern Minnesota," and "Minnesota Fishing Regulations." Both are free.



Hatching jars (above) hold millions of walleye eggs, a promise of future fishing for state's anglers. Minnesota leads nation in walleye propagation. Fisheries biologist (right) plants gamefish in a "rehabilitated" lake in which the rough fish population has been killed. Such drastic measures are sometimes necessary before gamefish can be introduced. Researchers (below) use an electro-shocker to monitor fish populations below a power plant. Impact of people on state's fish and wildlife must be constantly evaluated.





# The Divisions

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## Forestry

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State forests • Forest acquisition • Nurseries • Private woodlots • Forest inventory • Wood products marketing • School forests • Environmental studies • Forest pests • Research/Development • Rural fire program • Fire management • Fire protection

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THROUGH its forestry programs, the DNR manages and protects Minnesota's forests.

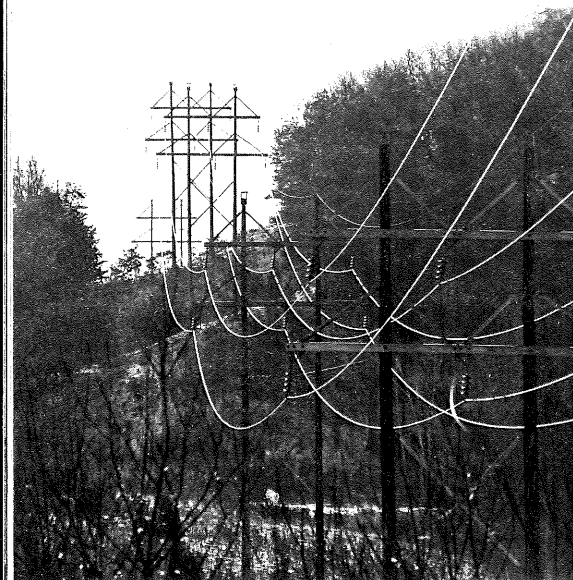
**State Forests.** State forests include three million acres of state land managed to provide wood products, wildlife habitat, outdoor recreation, and clean water.

Each year, state forests produce products worth \$2.2 million: fine hardwoods, construction lumber, railroad ties, and pallet lumber. An equal volume of dimension lumber would build 2,000 homes. Over 300,000 tons of paper, cardboard, and hardboard are manufactured from pulpwood. Fuelwood heats — or provides supplementary heat for — 5,000 homes. State forests also

A DNR forester (top) uses an increment borer to determine a tree's age. More aspen (right) is logged in Minnesota than in any other state. A multi-million dollar industry, aspen pulpwood products include paper, cardboard, and hardboard.







DNR foresters evaluate the environmental impact of power lines in state forests.



Trained observers in towers spot over 1,500 "smokes" — fires — each year.

produce Christmas trees, poles, posts, and piling.

Timber production centers on reforestation, timber stand improvement, and species distribution. Each year, foresters plant 4.3 million seedlings on 5,100 acres. Improvement programs free valuable trees from competing vegetation and improve tree quality by thinning and pruning. Species diversity is necessary for wildlife and for a healthy forest.

State forest recreational facilities include 59 campgrounds, 32 picnic grounds, 1,316 miles of snowmobile trails, 68 miles of hiking trails, 53 miles of ski touring trails, and 49 miles of horse trails. These forests represent 4.6 million acres of open hunting lands which provide 20 percent of Minnesota's forest wildlife.

**Forest Acquisition.** In the past few years, the DNR has acquired 21 tracts of forest totaling 2,925 acres. Another 52 tracts totaling 10,015 acres are being studied for acquisition by the Attorney General's Office.

**Nurseries.** Each year, Forestry's nurseries distribute 14.5 million seedlings in response to 3,400 applications. Fifty-eight percent are planted on public land. Private landowners purchase 38 percent to plant for future timber supplies and to provide wildlife habitat. The remainder is sold to various industries. These seedlings re-forest 14,000 acres. Since this program began, over a half-billion seedlings have been distributed.

**Private Woodlots.** 15,000 small woodlot owners produce almost all our Christmas trees, maple syrup, conifers, quality hardwood, and much of our pulpwood, fuelwood, poles,

posts, and saw timber.

State and federal programs offer financial and managerial assistance to woodlot owners. DNR foresters advise on protecting woodlots against fire and forest pests and on marketing forest products.

**Forest Inventory.** The DNR maintains a tree inventory on state and county lands to provide data to manage state forests. DNR foresters also cooperate with the U.S. Forest Service to maintain 10,000 permanent plots. These plots monitor the total forest resource in Minnesota.

**Wood Products Marketing.** This program increases the use of Minnesota's forest products. Using more parts of a tree means leaving less waste in the forest. An expanding forest products market provides work for people and profit incentives to landowners, loggers, and wood processors.

The use of aspen bark for cattle feed is a dramatic example of a new forest product developed from a waste product. Aspen bark may alleviate future hay shortages.

**School Forests.** In six years, school forests increased from 45 to 70 throughout the state — eight in the Twin Cities area. In these outdoor classrooms, students study the interrelationships among trees, water, soil, plants, and wildlife. Foresters provide technical supervision.

**Environmental Studies.** Each year, Forestry reviews 200 major construction projects — power plants, transmission lines, pipelines, land developments — to evaluate their environmental impact on the state's forests.

**Forest Pests.** Foresters study ways to control tree health problems like oak wilt, spruce



budworm, and Dutch elm disease. Field foresters control forest pests with chemicals, biological controls, prescribed burning, and timber harvesting.

**Research/Development.** Tree improvement applies forest genetics to long-range improvement of timber grown in Minnesota. For example, 2,500 white spruce were grafted from a superior strain growing in Ontario. This program aims to select trees that would grow most productively in Minnesota's soil and climate.

**Rural Fire Program.** To help rural community fire departments improve their firefighting capabilities, Forestry personnel have trained 2,000 rural firemen in the last two years. Funds also provide equipment. Surplus trucks assigned to rural fire departments are converted to firetrucks.

**Fire Management.** Foresters inspect slash from timber harvested on state, county, and private lands. They work with units of local government to develop ordinances and procedures to deal with fire in young pine plantations, marshes, and grassy areas. Burning permits allow foresters to assist landowners to achieve beneficial burns on their own land.

**Fire Protection.** Forestry is responsible for wildfire control on all forest and wild land except on federal land. A detection and suppression system controls an average 1,050 fires each year which burn over 50,000 acres. To fight fires, Forestry uses modern equipment and techniques, such as water drops by tankers and special 20-man fire-fighting crews, and conducts training programs on fire-fighting methods.



Using more parts of a tree means more profits for growers. Here aspen bark, a waste product, is converted to cattle feed in experimental program.



A modified potato digger lifts three-year-old trees from ground. After poor specimens are discarded, healthy trees will be shipped.



DNR foresters help state's 15,000 small woodlot owners establish and manage tree farms and market tree crop when it reaches prime growth.



# The Divisions

Permits from the DNR Division of Waters are necessary for anyone — organizations as well as people — to use state waters, both surface and underground, for any purpose other than domestic. Permits are also necessary to change the course, current, or cross-section of public waters.

Waters is also charged with reviewing public drainage projects.

The Division maintains a staff of specialists versed in ground and surface water hydrology. Records of wells and water levels are maintained in Division files.

Crews survey lakes to investigate hydrologic and topographic conditions. Other crews repair state-owned dams that are deteriorating with age or that have been damaged by ice or vandals.

The Division maintains water-level gauges on many lakes and streams. It also administers the Public Waters program which entails working with counties to identify, classify, and inventory lake basins and water courses which are public waters and, thus, subject to state or local government controls.

The Division establishes standards for local regulation of developments along lake, river, and stream shoreland. The purpose: to prevent overdevelopment of shorelands, to protect lakes and streams from pollution by individual sewage treatment facilities, to minimize flood damage to lives and property, and to limit and control future developments on the state's undeveloped rivers and streams.

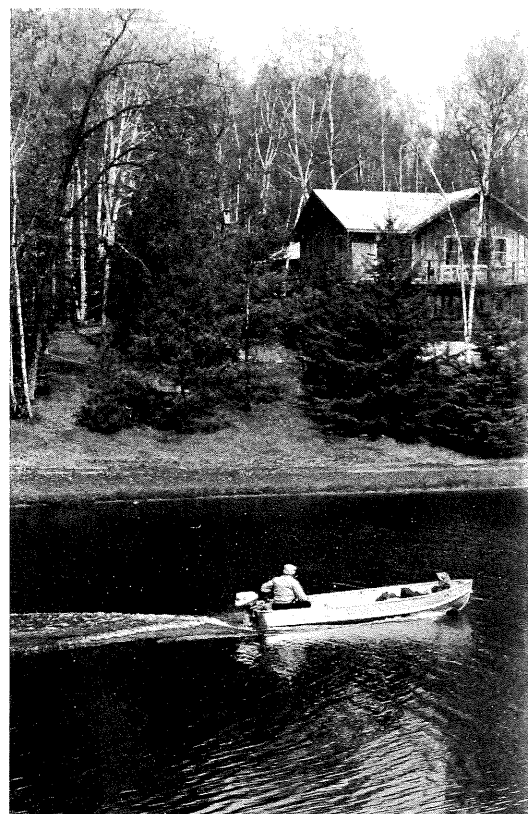
The DNR's jurisdiction over the state's waters prevents abuse or misuse of these valuable resources.

## Waters

Lakes • Rivers • Wetlands • Underground water • Drainage • Irrigation • Lake surveys • Shoreland development • Floodplain management

**WATER.** Minnesota is blessed with an abundant supply:

- 20,000 lakes and wetlands five acres or more in size
- 25,000 miles of rivers and streams
- 90,000 miles of lake and river shoreline
- trillions of gallons of water underground — hydrologists say there is no way to measure this vast reservoir with any accuracy.



Management regulations protect shorelands, enhancing recreation.





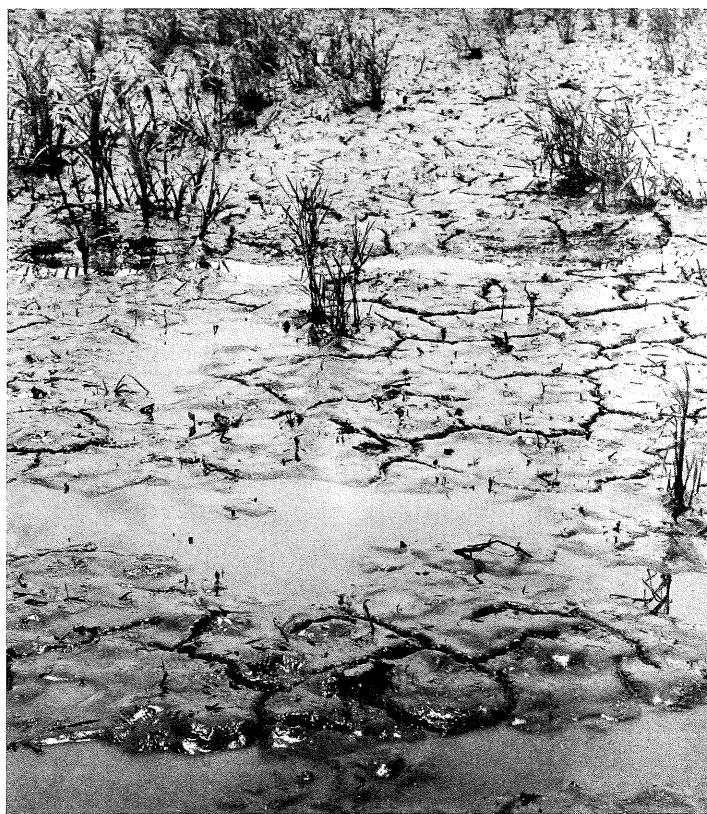
DNR Waters Division protects shorelands from damage. One method requires property owners to obtain a permit for



any project that might alter shoreland or change a stream channel. Vegetation removal also requires Waters permit.



To protect against flood damage, floodplain management establishes regulations that prohibit building on floodplain.



DNR hydrologists are concerned with the impact of wetland drainage on wildlife and water resources.



Minnesota's 7.2 million acres of peat are equal in area to Vermont and Rhode Island. DNR is studying potential use of peat.



Two-thirds of nation's iron ore and taconite comes from Minnesota. Mining companies pay royalty to

## Minerals

Mining • Iron ore •  
Copper-Nickel • Mine-  
site • Reclamation • Peat

THE DNR's Minerals Division administers 10-million acres of state-owned mineral rights located mostly in northern Minnesota. Rent and royalties from these leases go to the state's trust funds, General Revenue Fund, and to local taxing districts. This income helps maintain a stable economy for a mining district and for the state.

The DNR does not sell min-

eral rights. Instead, it leases them at public sale. Mining companies pay a royalty on each ton of ore mined. The DNR provides economic and environmental review, royalty accounting, engineering and inspection services, evaluations of mineral potentials, metallurgic research and testing, and cartographic and chemical laboratory assistance.

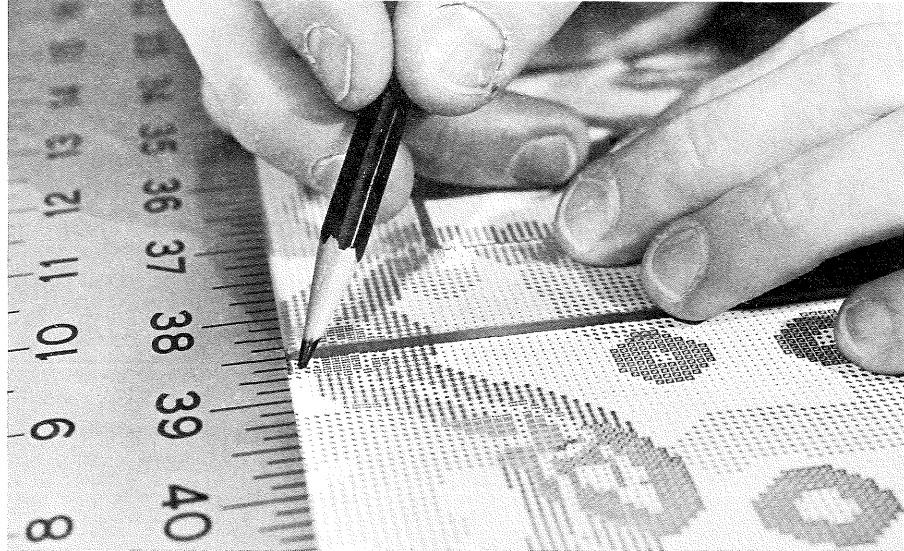
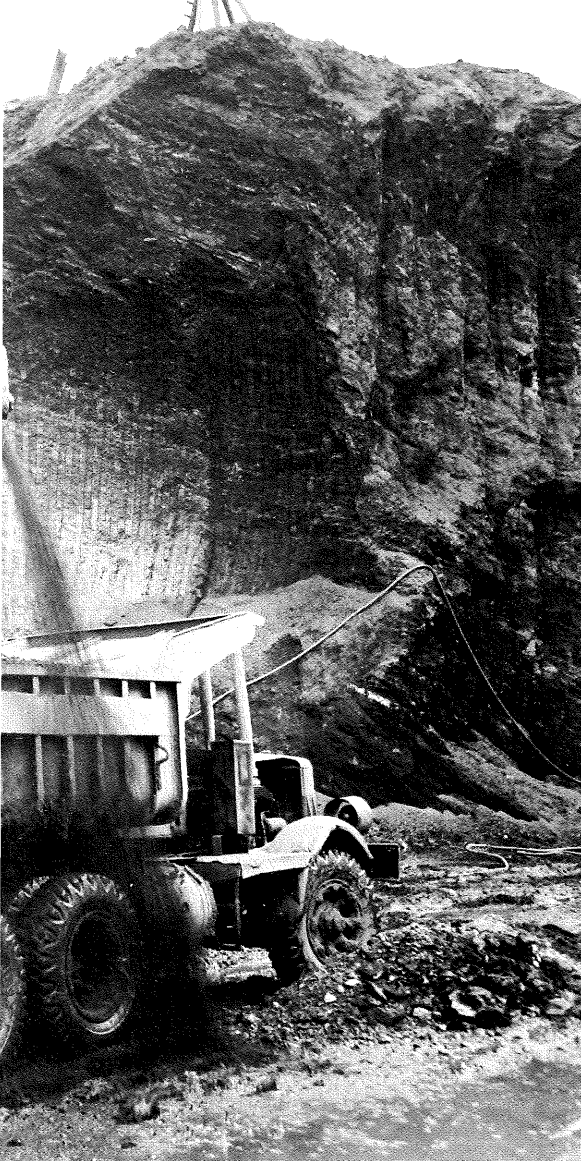
**Iron Ore.** Iron and taconite from the Mesabi Range have dominated Minnesota mining for 90 years. A 200-year reserve of ore still remains. The state owns 19,600 acres of the Mesabi iron formation, nearly 19 percent of the total.

Six taconite plants currently

in operation produce 42-million tons of taconite pellets annually. Royalties on state-owned ores average about \$3.7 million per year. Two million of this income went to local taxing districts and the balance to the School and University Trust Funds and to the state's General Revenue Fund. New taconite plant construction will increase pellet production to 65 million tons annually in 1978.

**Copper-Nickel.** Since 1966, the Division has run an exploration-leasing program for copper-nickel deposits in the Duluth Gabbro complex. Based on 27 million tons of ore extracted per year, engineers estimate that ore reserves in





Minesite uses a computer to analyze mineral-rich land in 2.5-acre blocks. Some factors recorded: geology, land use, soil, roads, hydrology, and topography.



Craig Borck

state for each ton. Minerals Division administers 10-million acres of state-owned mineral rights.

Barren land is no longer state's heritage after mining operations have ceased. Now laws require companies to restore land to original appearance.

deposits discovered so far will last 150 to 200 years.

In 1967, mining interest developed in the Greenstone formations in the northern half of the state. These formations are the host rock of minerals — zinc, lead, copper, gold, silver, etc. — in Minnesota and adjoining Canadian provinces.

To date, the DNR has issued several hundred exploration leases covering 300,000 acres in the Greenstone formation.

**Minesite.** A computer-based environmental review process, the Minesite Study was initiated in 1973. Its three objectives are:

- To determine natural resource management capability

- To assess environmentally sensitive areas, and

- To establish a comprehensive mineral resource planning program.

Systems being developed will be used in land use and policy planning in the Iron Range, in peat resource deposits, and in the copper-nickel areas of the Greenstone belt.

**Reclamation.** The 1973 Mine-land Reclamation Act requires the reclamation of all metallic mining operations in Minnesota. Twenty-two existing operations must comply with this law and obtain a permit to mine. Each permit application must include a mineland rec-

lamation plan.

The DNR continues its program for removing dangerous structures from abandoned mines.

**Peat.** Minnesota, Wisconsin, and Michigan have extensive undeveloped peat deposits. Although no inventory has been made, estimates indicate 15 million acres. Minnesota holds half this acreage — of which 90 percent is state-owned. Because of the potential use of peat for energy and in horticulture, the DNR is carefully studying peat areas and assessing the environmental impact of removing great quantities of peat from their present locations.

# The Divisions



## Enforcement

Game and fish license checks • Wild rice harvests • Animal nuisances • Boat laws • Access ramps • Predator control • Firearms and snowmobile training programs • Wildlife census • Search parties • Aerial surveys

ENFORCEMENT Division officers used to be called game wardens — law officers in pursuit of game and fishing-law violators. Today, they're Conservation Officers. They still check game and fish licenses and enforce hunting, fishing, and trapping regulations, but these highly-trained officers are now responsible for much more. They

- manage wild rice harvests
- answer complaints about animal damage — a beaver dam flooding a culvert, for example
- enforce laws for a half-million boats using public waters
- enforce snowmobile laws
- acquire, develop, and

maintain public access sites to lakes and rivers

- check unlawful appropriation of state-owned timber
- dispose of big game animals struck by cars on highways
- control predators.

The Division enforces rules for use of state parks and forests, campgrounds and trail systems, and wild and scenic rivers. It conducts training programs in safe firearms and snowmobile use — almost 450,000 firearms students and 150,000 snowmobilers have taken these courses. To help teach courses, Enforcement has trained 3,000 volunteer instructors.

The Conservation Officer's job has expanded steadily over the years. In 1940, 70,000 big game licenses were sold. Today: 300,000. In 1940, 800,000 fishing licenses. Today: 1.4 million.

In one year, officers arrest about 9,000 people for violations of state laws.

In recent years, 275,000 snowmobiles have added to the Division's work. The vehicle's ability to travel over remote reaches of snow and ice has complicated the Conservation Officer's work.

Taking to the air, Conservation Officer pilots count game birds and animals, assess storm damage to timber, fight forest fires, make aerial surveys, measure fish kills, check bald eagle nests for successful hatches, follow pollution spills to their source, search for lost hunters and hikers, enforce game and fish laws, and join in manhunts with county sheriff departments.

Positioned throughout Minnesota, our officers operate primarily from their homes. Their names and phone num-



CO measures illegal ditch draining marsh. Owner faces court action.

bers are listed in local directories. On duty 24 hours a day, they respond at any hour to calls of law violations in progress, of a big game animal injured or obstructing traffic, and to requests for assistance from other law enforcement officers.

The Division holds occasional auctions to dispose of furs and firearms, and of hunting, fishing, and trapping equipment confiscated from violators of the state's fish and wildlife laws.

With Conservation Officers on the job, everyone gets an equal chance to enjoy Minnesota's recreational opportunities.





Recreational vehicles have increased COs' duties. Here, a CO explains that motorcycles are banned on all state park trails.



CO checks tag on deer. In 1940, 70,000 big game licenses were sold. Today, over 300,000.



Not all conservation work is done on ground. Flying COs help DNR personnel count big game, track pollution, fight forest fires, and measure fish kills.



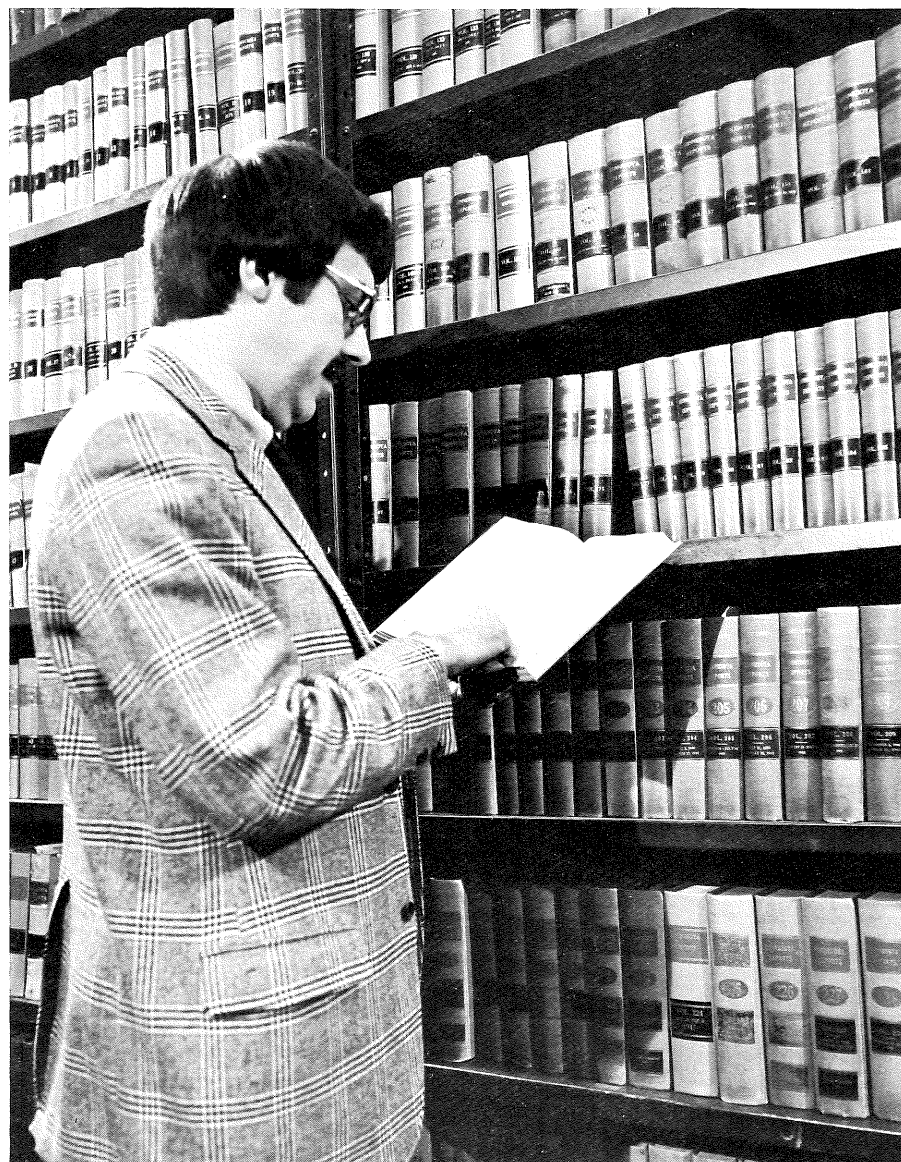
CO checks angler's license. On duty 24 hours a day, COs have offices at home.



COs capture two deer "shiners" who use spotlights and rifles to kill deer illegally.



Instructing classes in gun-safety and use of snowmobiles is part of COs work. Since 1955, 452,838 students have been certified in firearm use.



## Legal

THE DNR's legal matters are handled by a Deputy Attorney General and a staff of assistants assigned from the State Attorney General's office.

These attorneys represent the DNR in all state and federal litigation — about 100 cases each year. They also provide preparation and counsel for the DNR in public hearings before the Commissioner and State Hearing Examiner.

Legal's duties include title examination and deed preparation to acquire land for spawn-

ing areas, lake accesses, wetlands, parks, forests, trails, and other recreation areas.

The staff also drafts Commissioner's Orders, administrative regulations, and legislative bills on behalf of the DNR and approves the form of all contracts, permits, deeds, leases, and federal-aid agreements. In a single year, over 2,000 of these documents might be drafted.

The bureau collects delinquent timber accounts, disposes legislative claims, appears before legislative committees, and drafts official Opinions of the Attorney General.

## Information & Education

I&E PREPARES news releases for 408

Minnesota newspapers, wire services, and radio and TV outlets. It publishes "Environmental Focus," a periodical report on the state's natural resources, information leaflets and brochures, the "Communicator" — in-house employee





newsletter — maps, and the bi-monthly "Minnesota Volunteer," the DNR magazine that circulates to 80,000 Minnesota subscribers.

By calling into I&E, the state's radio stations record taped news bulletins and feature stories through an automatic "answer-phone" unit.

A five-minute report on DNR activities, "North Star Story" is distributed weekly to radio stations.

The "North Star Report," a 13-week TV series on Minnesota's natural resources, is produced by I&E and shown

throughout the state.

I&E's Education Section produces teaching materials and arranges statewide in-service training programs in natural resources subjects. The section helps schools find and use outdoor education sites. It has also pioneered a unique orienteering program which uses environmental education activities.

Since 1975, I&E's Boat and Water Safety program has trained more than 30,000 youngsters 13 to 18 years of age in safe watercraft operation.

I&E maintains a photo file and a film library of 16mm films, filmstrips, and slides related to DNR programs and objectives. Schools, colleges, and private organizations borrow these materials free, except for return postage. A film catalog is available on request.

Each year, 1.2 million people visit the Minnesota State Fair. Eight out of every ten of these visitors walk through the Natural Resources Building to view exhibits. People come away with a new appreciation and respect for Minnesota's resources.



"North Star Report," a 13-week TV series focusing on DNR programs, is carried by most Minnesota TV stations. The program also shows Minnesotans ways to enjoy their outdoor heritage.



## Planning

**L**ONG-RANGE planning, environmental reviews, and administration of federal grants for outdoor recreation are the primary activities of the Bureau of Planning.

Land-use planning has focused on critical areas such as the St. Croix River, the perimeter of Voyageurs National Park, Minnesota Valley National Wildlife Refuge, the large public land holdings entrusted to the DNR for management, and similar large scale projects having significant impact on the state's natural resources.

Planning takes a long view of Minnesota's need for public land for recreation, wildlife, minerals, and forests and for policies that will guide their management.

To guide the development of recreation sites, Planning conducts surveys on how Minnesotans use outdoor recreation facilities in the state and environmental impact studies on a variety of proposed developments. It also reviews federal project proposals — examples are the Voyageur Park Plan, Mississippi River Channel Dredging, Roseau River Flood Control, and state highway projects — to make such projects environmentally acceptable to the state.



## Land

**T**HE BUREAU OF LAND acquires acreage for state parks, trails, forests, game and fish management, public access to lakes, and scenic areas by purchase, easement, lease, gift, etc. It obtains surveys and appraisals, negotiates with owners for the purchase of their land, then helps the owner to relocate.

Land administers almost 6,000 leases for, among other things, utility right-of-ways, lakeshore and hunting cabins, agriculture, gravel removal, and roadways.

The records section has recorded 236,000 parcels of state-owned, DNR administered land — 5.2 million acres — in a computer file to make data on these parcels immediately available.





## Engineering

**E**NGINEERS, land surveyors, landscape architects, and building architects comprise the professional staff of the Bureau of Engineering.

The bureau performs a variety of services, some of which are:

- Conducting field surveys and preparing property plats and soil surveys for land acquisitions and providing topographic surveys and maps of proposed development sites.

- Making site analyses and designing administrative buildings, water supply systems, sewage systems, roads, bridges, trails, water control structures, fish spawning areas, fish rearing ponds, and public access sites.

- Administering a topographic mapping program of Minnesota with the U.S. Geological Survey.

Some recent projects include designing a new DNR headquarters at New Ulm and drawing plans for the development of the Upper St. Croix National Wild and Scenic River.



## Licensing

**E**ACH YEAR, the DNR's License Center, 625 North Robert Street, St. Paul, processes nearly 250,000 boat and 110,000 snowmobile registra-

tions and about two million fishing and hunting licenses. It also sells state park permits. The center distributes licenses and permits to county auditors and deputy registrars throughout the state.

Sale of licenses produces \$11 million in annual revenue.



## Minnesota Aesthetic Environment Program

**T**HE MINNESOTA Aesthetic Environment Program serves as a clearing-house for information on eliminating sources of visual pollution from our Minnesota landscape and for stimulating community clean-up and beautification projects.

Specific programs aimed at restoring the natural beauty of our state include:

- Removing abandoned automobiles and dilapidated buildings

- Bringing junkyards into conformance with state law
- Encouraging community clean-up projects
- Initiating a statewide tree-planting program.

Visual pollution is as unsightly as it is costly in terms of lost, recyclable materials, lost tourism, impairment of public safety, and lowered property values.

A volunteer county coordinator in many of Minnesota's 87 counties assists communities to set up programs. An aesthetic environment technician is employed in each county to implement the goals of the program. The operations and inter-agency relations of this new section are delegated by the Commissioner.



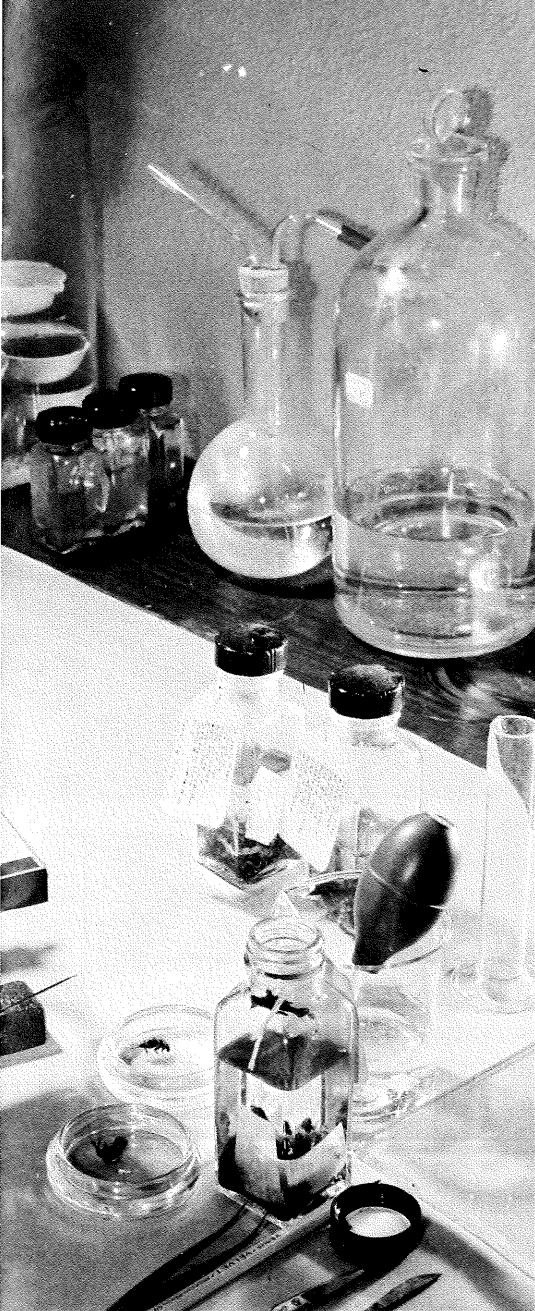
## Ecological Services

**T**HE ECOLOGICAL Services Section provides support services to DNR divisions. These services fall into three categories: surveys and investigations, technical services, and laboratory services.

### SURVEYS/INVESTIGATIONS

- Sounds lakes, collects scientific information, and prepares maps from the data
- Evaluates effects of proposed dams, reservoirs,





Top: Sounding team "maps" bottom contour of a lake. DNR lake maps, at small cost, are popular with anglers. Right: Ecological Services determines impact of pollution spills on fish and wildlife.

Left: Chemist analyzes specimen for traces of pesticides.



watersheds, channels, and other major developments on fish and wildlife habitat and makes recommendations for the protection, change, or improvement of the habitat

- Conducts fish and wildlife surveys on major rivers
- Monitors fish populations in the vicinity of power plants
- Monitors water quality on representative fishing lakes.

#### TECHNICAL SERVICES

- Administers and coordinates statewide aquatic nuisance control programs
- Coordinates investigations of pollution spills and kills in-

volving fish and wildlife

- Provides technical assistance to DNR personnel on fishing and fish production potentials in reservoirs, fish netting and tagging data, and water chemistry as it relates to fish and wildlife management
- Answers queries from other agencies and from the public on the physical, chemical, and biological characteristics of lakes and streams
- Provides statistical services to all DNR units.

#### LABORATORY SERVICES

- Carries out disease prevention and control at fish hatch-

eries and wildlife rearing facilities and recommends diets

- Performs autopsies, examinations, and tests on fish and wildlife specimens to diagnose diseases and parasites infecting them and recommends treatment, prevention, and control measures
- Analyzes water from lakes and streams for fertility and productivity and from wells for hydrocarbon gases. Analyzes fish and wildlife specimens for pesticides, mercury, PCBs, and other toxic substances and establishes base-lines for metals in wild animal tissues in the copper-nickel region.

## Soil & Water Conservation Board

Soil survey • Soil erosion • Watershed projects • Conservation farming • Agricultural conservation • Land use

MANY Minnesotans remember the "dust bowl" of the 1930s, the severe drought that caused serious soil damage to midwest farms. One condition that permitted the dust bowl to occur was improper land-use practices. The Soil and Water Conservation Board — known as the State Board — was established to avoid another such catastrophe and to help reduce the estimated 130

million tons of soil lost each year, from 23 million acres of Minnesota cropland, to wind and water erosion.

The State Board's basic responsibility is to provide administrative assistance to 92 Soil and Water Conservation Districts throughout Minnesota. All land in the state — both rural and urban — falls under the authority of these districts. Organized by county, the districts work with individual landowners to apply sound soil and water conservation practices to the land.

The State Board consists of 13 members. The Governor appoints eight. The other members are: the Executive Director of the Minnesota Pollution Control Agency, the Commissioner of the Department of Agriculture, the Director of the University of Minnesota Agricultural Extension Service, the Dean of the Institute of Agriculture, Forestry,

and Home Economics, and the Commissioner of the Department of Natural Resources.

A board of five publicly-elected supervisors governs each district, develops policies and programs, and establishes priorities to control its soil and water management problems.

The State Board works with these local units of government to protect the soil and water resources of Minnesota and to promote progressive urban and rural land-management practices.

Some of the State Board's programs: sediment and erosion control demonstration projects, watershed protection, flood control, agricultural water-quality management planning, soil surveys, and rainfall monitoring.

Chapter 40 MRS identifies the State Soil and Water Conservation Board as a separate agency attached to DNR for administrative purposes.

## Appendix 1

Craig Borck



## DNR EDUCATIONAL PROGRAMS

FOR MORE information on these programs, write to the division or section noted below at the Minnesota Department of Natural Resources.

**Snowmobile Safety.** Instruction on safe operation of snowmobiles. Each year, 15,000 people are certified to operate snowmobiles by 600 volunteer instructors.

**Firearms Safety.** Handling firearms safely. Each year, 28,000 people are certified to use firearms safely by 450 volunteer instructors.

**Shooting Safety Sports.** Firearms safety for high school students. Developed with the cooperation of the Department of Education.

Write to: MDNR, Enforcement Division, Centennial Office Bldg., St. Paul, MN 55155.

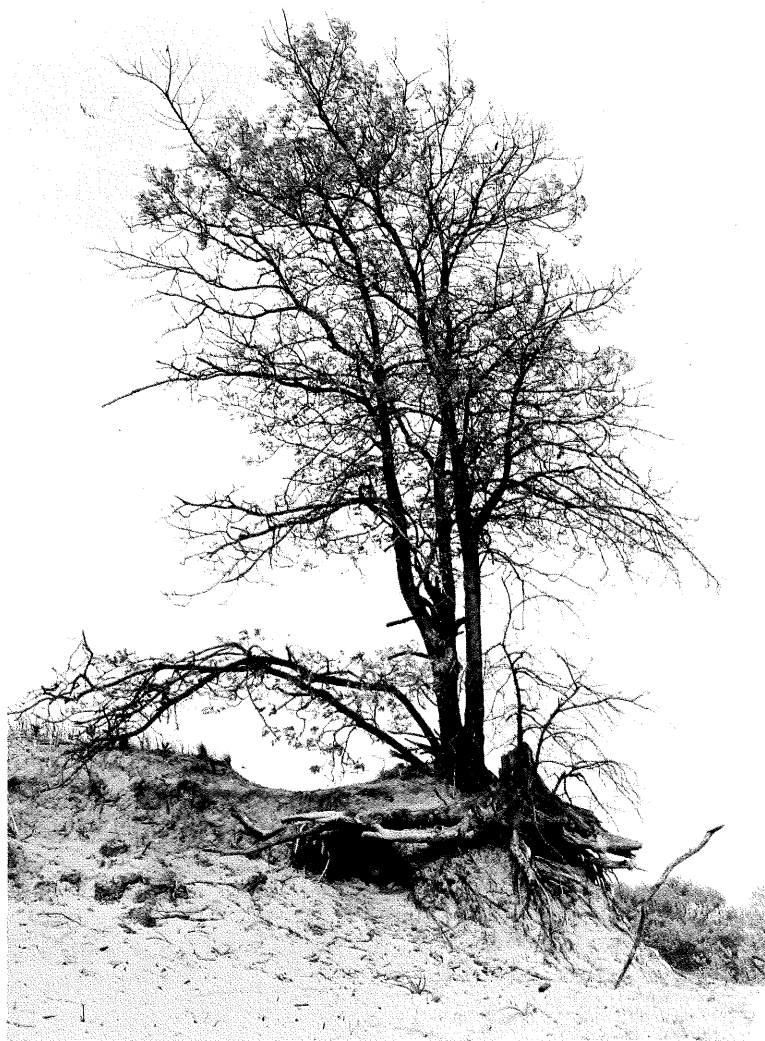
**Boat and Water Safety.** For all youngsters, 13 to 18 years, who operate watercraft powered by motors over 24 h.p.

**Natural Resources Education.** In conjunction with the Department of





Above: Soil and Water Conservation Districts promote good farming practices that protect soil and water and benefit wildlife. Right: Wind and water erode millions of tons of topsoil each year from unprotected fields. Like water and air, topsoil is an essential resource both for people and for most species of wildlife.



Education, a program for K-12 students on environmental education. It includes an in-service training program for teachers and offers assistance in finding outdoor education sites. (Program won an International Award for Environmental Education Programs.)

**General Public Education.** Leaflets and brochures on conservation subjects; a film library of 16mm films for group showings; "The Minnesota Volunteer" magazine (see section on Support Services — Information & Education).

Write to: **MDNR, Bureau of Information and Education, Centennial Office Bldg., St. Paul, MN 55155.**

**Interpretive Services.** Programs for visitors to state parks. Naturalist-conducted tours to explain a park's natural and cultural values. Guides at Tower Soudan State Park conduct tours of an abandoned iron mine. Also: self-guided tours, radio broadcasts, park handouts, tape tours, and other interpretive media.

**Youth Conservation Corps.** Two, five-week sessions employ forty 15 through 18-year-olds at Sundog Environmental Learning Center near Bemidji. Besides working on conservation projects, youngsters receive ten hours per week of environmental education.

Write to: **MDNR, Parks and Recreation Division, Centennial Office Bldg., St. Paul, MN 55155.**

**Minnesota Acres for Wildlife.** About 21,000 acres have been enrolled in this program since 1972. Provides information and recognition to landowners who undertake wildlife habitat development on at least one acre of land for one year.

**Habitat-Pheasant Chick Program.** Groups who plan and develop habitat projects can obtain free pheasant chicks. Program emphasizes habitat as the key to pheasant abundance.

Write to: **MDNR, Fish and Wildlife Division, Centennial Office Bldg., St. Paul, MN 55155.**

# Appendix 2



Dave Repp

## MINNESOTA FACTS & FIGURES

Total area	84,068 square miles
Length	406 miles
Width	358 miles
Circumference	1,880 miles
Highest point	Eagle Mountain: 2,301 feet above sea level
Lowest point	Lake Superior shore: 602 feet above sea level
Average mean altitude	1,200 feet above sea level
Land area	80,009 square miles
Cultivated land	23,750,000 (43%)
Forest land	18,400,000 (34%)
Pasture and open land	6,000,000 (11%)
Water	3,300,000 (6%)
Marsh	1,900,000 (4%)
All other	1,300,000 (3%)
Water area	4,059 square miles
Number of lakes, ponds, wetlands five acres or more	20,000
Lakes ten acres or more	12,034
Rivers and streams	25,000 miles
Lake and river shoreline	90,000 miles
Average annual precipitation	20 to 30 inches
Heaviest 24-hour rainfall	10.84 inches
Annual snowfall	About 42 inches

### Wildlife

Public hunting lands	11 million acres
Wildlife Management Areas	860
Wetlands (DNR Save-The-Wetlands Program)	460,000 acres
Wetlands (U.S. Fish & Wildlife Acquisition Program)	115,000 acres
Wetlands drained	13,000,000 acres
Licensed big game hunters	350,000
Licensed deer archery hunters	32,000
Deer harvest	65,000
Bear harvest	600
Licensed small game hunters	290,000
Small game harvest	
Waterfowl	1,500,000
Ruffed Grouse	500,000
Squirrels	400,000
Pheasants	200,000
Rabbits	200,000
Sharp-tailed Grouse	30,000
Hungarian Partridge	35,000
Woodcock	40,000
Coots	100,000
Wilson's Snipe	25,000
Red Fox	50,000
Coyote	1,500
Licensed trappers	14,000
Value of fur harvest by trapping	\$7 million
Amphibian species	18
Reptile species	26
Bird	292
Mammal	80

### Forestry

State forests	55 (3,003,453 acres)
School forests	70
DNR nurseries	14,500,000 acres
Commercial forests	
State administered	3,200,000 acres
Federal administered	2,500,000 acres
County administered	2,900,000 acres
Privately administered	7,600,000 acres
Flowering plants — natives	about 1,600
Flowering plants — non-native	200
Ferns and relatives	69
Tree types	48



## Fish

Fish species	144
Fishing waters	2,600,000 acres
Fishable lakes	4,000
Fishable streams	15,000 miles
Trout streams	1,600 miles
Trout lakes (reclaimed)	142
Number of anglers	2,000,000
Annual fish harvest — commercial	10,000,000 pounds
Annual fish harvest — anglers	25,000,000 — 30,000,000 pounds
Fish hatcheries	18 (5 trout, 3 muskie, 10 walleye)
Fish raised and stocked	250,000,000
Walleye rearing ponds	222
Northern Pike spawning areas	146
Muskie rearing ponds	18
Fish trapping and rescue sites	150
Annual economic impact — sport fishing	\$520,000,000

## Recreation

Snowmobile trails — state parks	495 miles
Snowmobile trails — state forests	1,494 miles
Snowmobile trails — grants-in-aid	4,200 miles
Snowmobile trails — corridor trails	433 miles
Snowmobile permits — annual	110,000
Cross country ski trails	651 miles
Hiking trails	1153 miles
Horseback riding trails	713 miles
Boating water (lakes 50 acres or more)	More than 2.6 million acres
Watercraft registered	526,323
Fatal water accidents (annual average)	118
Canoeing water, river and lake routes	3,550 miles
Canoeing rivers (designated Canoeing & Boating Rivers)	18 rivers (2,208 miles)
Public accesses	1,717

## State Parks

State parks	59 (171,000 acres)
State recreation areas	6 (4,552 acres)
State waysides	11 (3,285 acres)
State park attendance	6,889,125
State parks with naturalists	30
Private nature centers	20
Historical sites — national register	258
National historical landmark sites	19
National natural landmark sites	4

## Minerals

Trust fund mineral rights	5,000,000 acres
Tax-forfeited mineral rights	5,000,000 acres
Primary iron-ore producing areas	Mesabi, Cuyuna
Iron Ore/Taconite production	Two-thirds of domestic production
Taconite plants — eight	Capacity: 64,600,000 tons
Largest pelletizing plant	Capacity: 24,000,000 tons
Copper-nickel mineral potential	Duluth Gabbro Complex—largest known nickel resource in U.S.
	Greenstone formation—northern, central, and northwest Minnesota

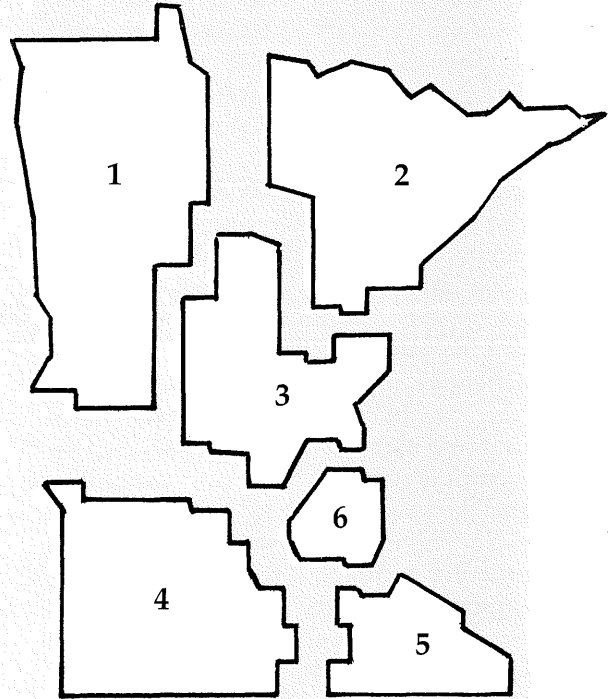
## Enforcement

Officers assigned to field territories	131
Natural resources-related prosecutions	9,414
Total convictions	9,212
Hunting and fishing convictions	6,007
Hunting and fishing accidents reported	67
Fatal hunting accidents	6
Fatal snowmobile accidents (average)	13
Hunter-safety students certified (452,838 since 1955)	23,000
Certified hunter-safety instructors	3,300
Snowmobile safety students certified	13,500
Certified snowmobile safety instructors	3,000

## DNR REGIONAL OFFICES

**T**O SERVE Minnesotans, the Department of Natural Resources is divided into six regions. In each region, a Regional Administrator and a team of resource specialists carry out programs and objectives set by the DNR in its central office in St. Paul.

Regional offices serve as information centers. What questions do you have? Stop by — or call — the DNR Regional Office in your area.



<b>1</b>	<b>Northwest</b> Route 5, Box 41A Bemidji, MN 56601 (218) 755-2966	<b>6</b>	<b>Metro</b>
<b>2</b>	<b>Northeast</b> East Highway 2, Box 388 Grand Rapids, MN 55744 (218) 326-3953		<b>Enforcement</b> 1200 Warner Road, St. Paul, MN 55106 (612) 296-2991
<b>3</b>	<b>Central</b> 1102 Willow Street Brainerd, MN 56401 (218) 828-2560		<b>Fisheries</b> 1200 Warner Road, St. Paul, MN 55106 (612) 296-2959
<b>4</b>	<b>Southwest</b> Highway 15 South New Ulm, MN 56073 (507) 354-2196		<b>Forestry</b> Carlos Avery Nursery 18310 Zodiac, Forest Lake, MN 55025 (612) 464-2810
<b>5</b>	<b>Southeast</b> 2300 Silver Creek Road, N.E. Rochester, MN 55901 (507) 285-7420		<b>Parks &amp; Recreation</b> 1200 Warner Road, St. Paul, MN 55106 (612) 296-2553
			<b>Waters</b> 1200 Warner Road, St. Paul, MN 55106 (612) 296-7523
			<b>Wildlife</b> Carlos Avery Game Farm 5463 Broadway, Forest Lake, MN 55025 (612) 464-5200

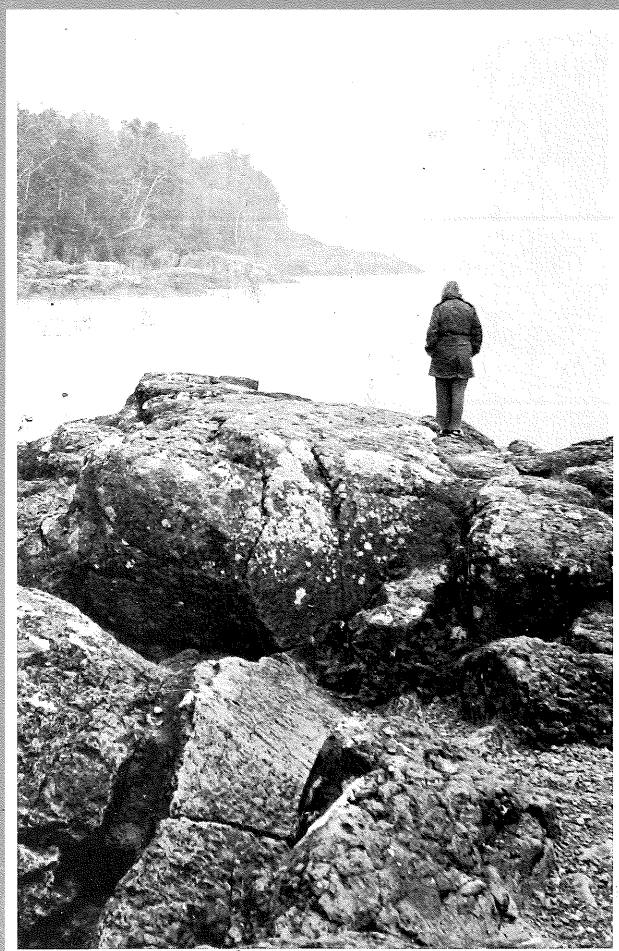


## DNR INDEX

The list at right suggests the extent of DNR interests and activities



- Access sites
- Aerial surveys
- Aesthetic improvement
- Agricultural land management
- Animal nuisances
- Aquatic nuisances
- Bald eagle nests
- Boat and water safety program
- Boat licenses
- Boat routes
- Boating regulations
- Burning permits
- Campground fees
- Canoe routes
- Christmas trees
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- Copper-nickel ore
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- "Minnesota Volunteer, The"
- Non-game species
- "North Star Report"
- "North Star Story"
- North Shore Study
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- Private wildlife management
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- Soil and Water Conservation Districts
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- Stripcropping
- Taconite
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- Timber stand improvement
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- Water safety
- Water use
- Watershed management
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- Wetlands
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- Wild and Scenic Rivers
- Wild rice harvest
- Wildlife
- Wildlife census
- Wildlife diseases
- Wildlife habitat
- Wildlife Management Areas
- Wildlife regulations
- Wildlife research
- Wildlife surveys
- Youth Conservation Corps



Minnesota Department of Natural Resources • Bureau of Information  
& Education • 350 Centennial Office Building • St. Paul, MN 55155