

**Minnesota Department of Natural Resources
Section of Wildlife Annual Report
July 1, 2002 – June 30, 2003**

“The Section of Wildlife mission is to work with the people of Minnesota to conserve and manage wildlife populations and habitats, to provide wildlife-related recreation, and to preserve Minnesota's hunting and trapping heritage.”



Arden Hills Army Training Site, Youth Hunt, Fall 2003

Chief's Message

"Accountability." Accountability is the responsibility of every Section of Wildlife employee. As a recipient of federal aid Pittman-Robertson funds (P-R), the Section of Wildlife requires that every employee code or document every expenditure and every hour of time to account for population and habitat management work that is eligible for reimbursement through the P-R program. Annual reports are submitted to the United States Fish and Wildlife Service demonstrating expenditures and accomplishments for these reimbursed activities based on the meticulous coding of our expenditures and time.

"Accountability." Approximately 85% of the Section of Wildlife's annual operating budget comes from the Game and Fish Fund. Hunting and trapping license and stamp revenues go directly into the Game and Fish Fund and are appropriated by the Legislature to the Section of Wildlife every two years. The DNR and Section of Wildlife are required by statute to report annually to the Game and Fish Fund Citizens Oversight Committee on expenditures of the various Game and Fish Fund accounts including eleven dedicated accounts such as the Turkey and Waterfowl Stamp Accounts. And the Citizens Oversight Committee has identified outcomes that they would like to see addressed annually in Wildlife's programs.

"Accountability." Every day, every week, Section of Wildlife employees answer questions about white-tailed deer populations in the southeast, wetland issues in the northwest, moose populations in the northeast, migrating waterfowl populations in the fall, locations of Wildlife Management Areas (WMA), the return of songbirds in the spring, and on, and on. These questions are eagerly answered by our staff in county board rooms during meetings on proposed acquisitions to the WMA system, at presentations to local governments on Canada goose management, in schools during environmental expos, in local stores while purchasing supplies, and during local high school football games with friends and family. Any question, any time - our staff are ready to answer questions, discuss issues, and to assist those interested in Minnesota's natural resources.

The Section of Wildlife is "accountable" in many ways but what does this mean to the individual interested in conservation and healthy wildlife populations? The intention of the Section of Wildlife's first annual report is to tell the story about our annual challenges and accomplishments beyond the necessary and important, legally required annual reports, beyond the weekly reports and articles in the media, and beyond passing conversations in communities where our 240 Wildlife staff live and work.

In future reports, we will include information about our collaborative work with our partners, national, state and local conservation groups that we work with to protect and conserve habitat and wildlife populations. This collaboration is absolutely essential as we (individuals, groups, and agencies) strive to conserve our state's natural resources for future generations. Future reports will also expand on the absolutely essential collaboration that takes place within the DNR and among stakeholders with diverse missions and interests. Much time is devoted to resolving these competing uses while conserving resources for future generations.

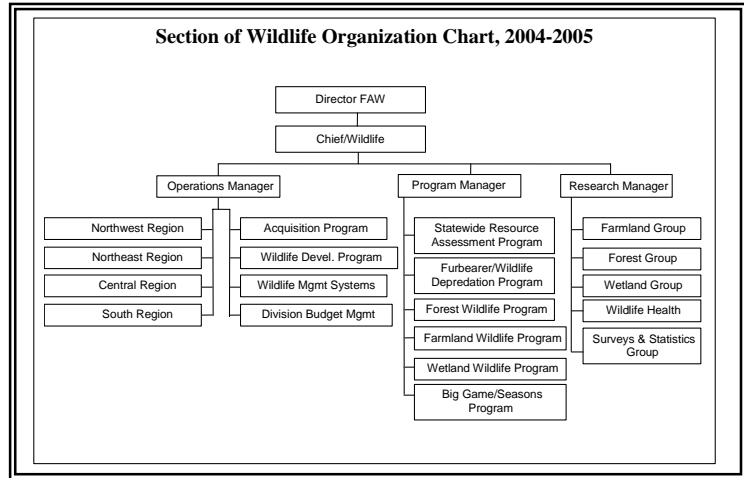
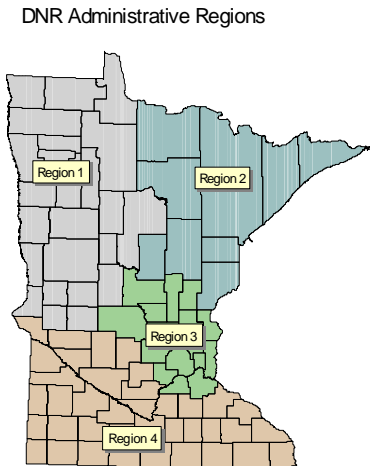
Thank you for your interest in the Section of Wildlife. We hope you learn more about our efforts and we look forward to conversing with you in the future about our work.

*Tim Bremicker
March 2004*

Organizational Structure

The DNR reorganized from a six region to a four region Department structure in FY2003 primarily to reduce administrative costs. Regions I, II, and III were expanded by absorbing 22 counties in the former central and Twin Cities metropolitan regions. Regions IV and V were combined creating a new 38 county region.

The former Divisions of Fish and Wildlife were combined beginning in October 2003 as Sections under the recreated Division of Fish and Wildlife. For purposes of clarity, the FY2003 Annual Report will refer to the Section of Wildlife.



Fiscal Analysis and Budget

The Section of Wildlife has one of the most diverse budgets in the Department of Natural Resources. Revenues generated by game licenses and dedicated stamp accounts (through the Game and Fish Fund) were approximately 85 % of the FY2003 financing. General fund revenues, bonding funds, gift and other accounts totaled 15% of FY2003 financing. FY2003 appropriations totaled \$25,773,000 from over 40 funding sources.

FY2003 was the second year in the State of Minnesota biennial budget cycle. As such, unspent FY2002 funds were largely available for expenditure in FY2003. A total of \$27,629,954 was expended; 86% of this was funded through the Game and Fish Fund.

	<i>FY2003 Expenditures</i>	<i>FY2003 % Expenditures</i>	<i>FY2003 Appropriations</i>	<i>FY2003 % Total Appropriations</i>
Game & Fish Fund				
Operations and Maintenance Account	\$14,949,630	54.11%	\$14,066,000	54.58%
Wildlife Property Damage/GIS Account	\$308,176	1.12%	\$313,000	1.21%
1837 Treaty Account	\$13,267	0.05%	\$26,000	0.10%
Wild Rice Management Account	\$20,000	0.07%	\$20,000	0.08%
Deer/Bear Habitat Improvement Account	\$167,831	0.61%	\$148,000	0.57%
Emergency Deer Feeding & CWD*	\$421,159	1.52%		
Deer Management Account	\$1,292,582	4.68%	\$1,269,000	4.92%
Waterfowl Stamp Account	\$737,238	2.67%	\$708,000	2.75%
Pheasant Stamp Account	\$596,096	2.16%	\$546,000	2.12%
Small Game Surcharge Account	\$1,677,413	6.07%	\$1,430,000	5.55%
Wild Turkey Management Account	\$104,469	0.38%	\$95,000	0.37%
Heritage Enhancement Account	\$3,462,759	12.53%	\$3,265,000	12.67%
Non-Game and Fish Fund Accounts	\$3,879,334	14.04%	\$3,887,000	15.08%
Total	\$27,629,954		\$25,773,000	

*Note: Emergency Deer Feeding & CWD Account is an open appropriation.

Accomplishments

Acquisition Program

The Wildlife Management Area (WMA) system provides hunters, trappers and wildlife watchers access to over 1.2 million acres of public land in more than 1,350 individual units. As extensive and large as this system is, WMAs represent only 2.1% of Minnesota's total area. The need to conserve unique and scarce natural resources, manage wildlife populations and their habitats, and provide public hunting opportunities is a race against time and competing uses.

A Citizen's Advisory Committee completed *Minnesota's Wildlife Management Area Acquisition; the Next 50 Years*, a report providing direction for the WMA acquisition program. These recommendations were based on an analysis of habitat and management needs, public hunting facilities and access needs, as well as public/private collaborative acquisition needs by the ten Ecological Classification System sections and has provided the basis for the multimillion dollar bonding proposal being prepared by the DNR for the 2004 Legislative Session.

A total of \$840,000 of new acquisition funding was secured in FY2003. Completed acquisitions included 2,815 acres; 1,156 acres were purchased at a cost of \$1,472,000 and 1,659 acres were donated.



Habitat Programs on Wildlife Management Area and Other Public Lands

Habitat protected on WMAs requires restoration, enhancement, and ongoing management. Although the network of WMAs extends into 86 of Minnesota's 87 counties, by their nature the land protected as WMAs are virtually islands of habitat impacted by historical land use patterns and current land management on adjacent land. Regardless of the type of habitat protected, these lands are impacted by our growing human population, development, forest and agriculture based economies, pollution, and exotic species. However, all of these protected lands provide a reservoir for wildlife populations, corridors for travel, and important habitat for breeding, rearing, feeding, and migration. The ongoing management of these lands insures optimal conditions for wildlife species. The Section also develops and manages habitat on lands administered by other agencies including forest lands managed by DNR, counties, and the U.S. Forest Service.

Prairie Grassland/Farmland Habitat Accomplishments

- 1,500 food plots totaling more than 12,000 acres were planted to provide winter food sources and reduce depredation on adjacent private lands.
- Approximately 170 cooperative farming agreements with neighboring land owners helped to manage food plots and prairie/grassland habitats on almost 19,000 acres.

- With the assistance of other resource managers and partners, prescribed burns were conducted on approximately 36,000 acres of prairie habitat in 480 separate burning projects.
- 480 acres of woody cover were planted in 80 projects to provide winter cover.
- A total of 10,000 acres of native prairie or cool season grasslands were developed, managed, and improved through initial planting, inter-seeding existing stands with additional grass or forbs, brushing out invading woody vegetation, and cool season grassland conversion efforts on almost 340 separate plantings.
- A total of 22,000 pounds of prairie seed was harvested by Wildlife staff and through cooperative farming agreements for prairie restoration projects on WMAs.
- Nearly 6,000 acres of habitat were treated on approximately 460 WMAs to remove or control noxious weeds.



Prescribed burning is a management tool which requires extensive training and teamwork to implement yet is critical to the management of healthy prairie habitat (left). Prairie seed harvested by Wildlife is dried and cleaned using a variety of techniques depending on the planting equipment to be used (right).

Forest Habitat Accomplishments

- More than 1,000 forest openings covering almost 1,900 acres were improved or managed.
- Forest stand improvement activities (timber harvest, regeneration, mast enhancement, and thermal cover establishment) were conducted on over 6,300 acres on 450 stands.
- Prescribed burns were conducted on nearly 600 acres of forest lands to enhance and restore forest communities.



Forest wildlife habitat western Itasca and northeastern Cass Counties was improved and enhanced on 29 sites totaling 40 acres. Approximately 100 old slash piles, formed during the initial creation and clearing of forest openings, had decomposed over the last ten years into rich compost. These composted piles were spread over the openings, encroaching brush and trees removed, and the openings were planted with a multi-variety clover seed mixture in early August. With timely rains, the seed sprouted quickly forming a lush green carpet of clover. Sites visited in late fall showed heavy use by deer, grouse, and hunters.

Brushland Habitat Accomplishments

- More than 100 separate prescribed burns were conducted on approximately 36,000 acres to restore brushland and open landscapes.
- Nearly 7,300 acres of brushland and open landscapes were restored through shearing and herbicide treatment on approximately 100 sites.

Left: Prescribed burning on brushlands is used as a tool to set back succession in brushland/openland areas that are favored by a host of species including sharp-tailed grouse. Burns are completed by highly trained staff and are planned and conducted under carefully monitored fuel and weather conditions. The team approach used in the northeast requires qualified staff from across the region to perform specific assigned tasks necessary for the prescribed burn to be completed safely and efficiently. More than 10,000 acres of brushlands were burned in Region II using this approach.

Right: An alternative to prescribed burning is the shearing of brush, often on frozen ground, as seen here on Wapiti WMA in Marshall County. Shearing is often followed by an application of herbicide in warmer months to retard re-growth of brush.



Wetland Habitat Accomplishments

- More than 228,000 acres of wetland habitat were enhanced or maintained (water level management, minor dike and water control structure maintenance and fish barrier maintenance, aquatic seeding, aquatic vegetation removal, and rough fish removal) on more than 700 wetland basins.
- Almost 270 acres on 13 wetlands were restored by plugging of drainage ditches and drain tile removal.
- The installation or rehabilitation of water control structures, fish barriers and dikes on 38 wetland basins will serve to enhance more than 8,400 acres of wetland habitat.
- More than 3,400 nesting structures were erected and maintained.

Region I: The Nereson Impoundment and sub-impoundment are within the 10,000 acre Nereson WMA in Roseau County. The 500 acre Nereson Impoundment is a joint project between DNR, the Two Rivers Watershed District, the Red River Watershed Management Board and Roseau County. Built in 1981 with funds from the three agencies and LCMR, this impoundment provides wildlife habitat and flood water retention. Because the initial project did not provide as much benefit as envisioned for either flood control or wildlife, plans for a second impoundment began in the late 1980s. Part of the plan was to re-design and replace the outlet structure on the first impoundment which was completed in 1999.

Construction of the Nereson sub-impoundment began in 1992, but due to the extremely wet decade of the 1990s, was not completed until the end of 2003. It also contains a 500 acre pool and will be operational at the commencement of the spring snow melt in 2004. The sub-impoundment will be managed in conjunction with the main impoundment for wildlife and flood damage reduction purposes. The project is an attractive complex for waterfowl and other wetland species and will provide significant flood damage reduction benefits.



Region II: Three aging culverts supporting the Otter Lake Forest Road and Superior Hiking Trail in Cook County were replaced by a new pre-cast concrete bridge and rock wier. The Swamp River is one of northeastern Minnesota's most important natural resources. Five miles of winding stream, wild rice, open brushlands, and conifer bogs provide outstanding wildlife habitat and recreation. Public input in 1998 and analyses of hydrologic characteristics of the watershed in 2000 preceded the construction project. The wier was designed to maintain similar water levels to pre-logging era water levels improving stream hydrology for movement of fish and other aquatic organisms throughout the stream. Adjacent to the bridge and wier is a public access for boats.



Region III. A water control structure was replaced on Cranberry Pool in Mille Lacs WMA. This was a cooperative project with Duck Unlimited benefiting a 60 acre wetland.



Region IV: Drawdowns are an important management tool used by professional wildlife managers to improve wetland habitat for waterfowl and other aquatic wildlife. Drawdowns were performed on lakes in Brown, Cottonwood, Faribault, Jackson, Lincoln, Martin, and Wasca Counties in Region IV. Anderson Lake (Lincoln County) had lost emergent vegetation due to a high muskrat population. In order to re-establish cattail and bulrush vegetation, the 300 acre basin was drawn down to expose mud flats in 2002 (left: pre-drawdown, April 2002; center: drawdown – August 2002). With a watershed of 15,000 acres, the basin began to refill in 2003 albeit it slowly due to extremely dry conditions (right: post-drawdown August 2003). After reflooding, an improved interspersed of open water and vegetation will provide improved habitat for breeding waterfowl.

Wildlife Management Area Facility and Access Management

Minnesota's WMAs provide a network of public lands that receive extensive use by hunters, trappers, and wildlife viewers. Critical to public use is the infrastructure of user accesses and facilities including unimproved roads, trails, and water accesses; parking lots, observation towers, hunting blinds, fencing, and gates; and perimeter boundary and access signage on WMAs. This infrastructure provides opportunities for recreational use of state wildlife lands that are compatible with wildlife populations and their habitats.

- Over 580 miles of perimeter boundary signs were maintained on approximately 250 WMAs and 16 miles of new roads, trails, and water accesses were developed on 20 units.
- Over 1,240 miles of existing roads, trails, and water accesses were maintained and improved on more than 430 units.
- Over 1,500 parking lots, observation towers, hunting blinds, fencing, gates, and signage were developed, improved, or maintained on 450 units.



Population Management

One of the primary responsibilities of the Section of Wildlife is the management of wildlife populations and hunting and trapping seasons. Over 21,000 hours were expended statewide on the implementation of seasons for white-tailed deer, moose, bear, turkey, bobcat, otter, fisher and marten. Approximately 700 registration stations provide updated information on these seasons and collect data vital to the management of these populations.

Farmland Wildlife Program

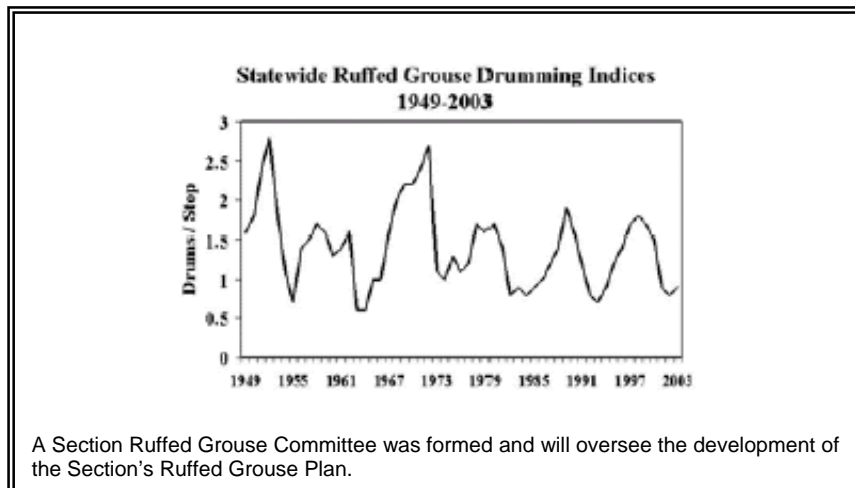
- The Section collaborated with Wildlife Forever in a partnership to design and construct a new display for the Wildlife Wing at the Minnesota State Fair which was dedicated in August of 2002. DNR Wildlife contributed \$150,000 in FY2002 towards the one-half million dollar renovation project.
- A Draft Pheasant Management Plan was completed by the Section's Farmland Committee and internal review was initiated.
- After the 2002 Legislature authorized a prairie chicken season, coordination for this first season in over fifty years was completed to enable the offering of an October 2003 hunting season.
- 2003 marked the fifth year of an effort to restore the once-native greater prairie chicken to vacant grassland habitats in west-central Minnesota on and near Lac qui Parle WMA. From 1999-2003, 306 wild greater prairie chickens were released at 9 different sites throughout the 584 square mile project area. An additional 100-120 prairie chickens will be released each April of 2004 and 2005 to augment the existing population. An objective is to connect the restored population in west-central Minnesota to the prairie chicken populations that exist in northwestern Minnesota and eastern South and North Dakota. Connecting and maintaining corridors between isolated prairie chicken populations is paramount to the well being and survival of the species. Funding for the project included the Environmental and Natural Resources Trust Fund, Minnesota Prairie Chicken Society, U.S. Fish and Wildlife Service, the Society of Tympanuchus Cupido Pinnatus, and Section Heritage Enhancement Fund.



Forest Wildlife Program

During FY2003, the Section’s Forest Wildlife Program was divided into 2 separate programs, the Forest Wildlife Program and the Big Game Management Program and a new Big Game Coordinator was hired in October 2002. This change was made in recognition that one program could not adequately address or respond to the challenges created by accelerated timber planning and harvest, CWD, and other issues impacting forest wildlife habitats and big game populations.

- The Section participated on the Department’s Forest Resources Issues Team and the State Forest Resources Management Plan (SFRMP) process team to integrate forest wildlife issues into Department forest programs.
- The Section reviewed and provided input to the North Shore, Mille Lacs Uplands, and Agassiz Lowlands SFRMP plans. Staff worked with federal and county agencies, especially in the northeast where very little of the public land is under the administration of the Section of Wildlife, providing technical guidance on forest management issues to benefit forest-dependent wildlife species.
- The Section participated on the Minnesota Forest Resource Council’s (MFRC) technical review committee of the Site-Level Guidelines to integrate wildlife management into forest management decisions.
- The Section participated in the Southeast and West Central MFRC Landscape planning efforts to insure that wildlife issues would be addressed in these plans.
- The Section’s wildlife issues were integrated into the Off Highway Vehicle (OHV) Program through the Department’s OHV Project Implementation Team.



Big Game Management Program

- The Section oversaw the review of, and ultimate changes to, Minnesota's deer hunting seasons and framework, most notably the liberalization of the antlerless permit allocation process and restructuring the Zone 3 season.

Wetland Wildlife Program

- The state waterfowl stamp contest was successfully conducted. By 2005, every resident and frequent migrant waterfowl species hunted in Minnesota will have been depicted on the state waterfowl stamps.
- Four temporary Shallow Lakes Specialists were hired by funding provided by the LCMR's *Restoring Minnesota's Fish and Wildlife Habitat Corridors Project*.
- Two LCMR grant applications were approved beginning in FY2003 including *Restoring Minnesota's Fish and Wildlife Habitat Corridors – Phase II* (\$98,300) and a research project to identify carp pheromones which can ultimately be used to reduce carp populations in wetlands and shallow lakes (\$100,000).
- A two day workshop on moist soil management and the annual spring waterfowl symposium were co-sponsored by the Section of Wildlife, US Fish and Wildlife Services (USFWS), and Minnesota Waterfowl Association.
- A *Landowner's Guide to Wetland Conservation in the Northern Tallgrass Prairies*, a wetland restoration and management guide for landowners, was developed by Ducks Unlimited, US Fish and Wildlife Services and the Section of Wildlife primarily targeting landowners considering or currently involved in Federal Farm Bill conservation programs.
- A unique electronic scanning/mapping project was initiated in FY2003 to identify drained wetland basins. More than 12,000 1936 through 1939 vintage air photos have been saved as computerized images.



Though the project is not yet complete, scanned vintage air photographs from 1936 through 1939 are already providing a basis of comparison and measurement of changes in wetland, riverine and vegetative conditions through time. These vintage photos represent the first statewide photo record and have many applications for private and public agency use. 1930's (left) & 2001 (right) aerial photos of a south central city compare wildlife habitat over 60 years. Pictures depict loss and fragmentation of wildlife habitat in surrounding agricultural areas, river channel alignment to increase flow, and urbanization.

Shallow Lakes Program

- Scientific surveys were conducted on 98 basins covering nearly 72,000 acres documenting the health of lakes by collecting data on water quality, aquatic vegetation, and invertebrate and vertebrate species.
- The wildlife management lake designation process was completed for Towner Lake in the Niemackl watershed in Grant County. Management plans were prepared for three basins in Waseca County including Mott Lake, Watkins Lake, and Rice Lake. Public information meetings were held for these basins as part of the wildlife management lake designation process.
- A treatment plan was prepared for the 4,000 acre Lake Christina (Douglas, Ottertail and Grant Counties) reclamation project outlining the application methods for roetenone, a piscicide used to control unbalanced rough fish populations in degraded wetlands and lakes. The project was successfully conducted in October 2003.
- A lake management plan was also developed for Ohlsrud Lake in Grant County.



Forty years ago, extensive bulrush stands could be seen on Towner Lake and the 162 acre basin in Grant County supported heavy waterfowl use by local breeding and fall migrating birds (left photograph, 1960). Since that time, the surrounding watershed has been altered to improve drainage for agricultural purposes and the basin is now subject to fluctuating water levels. As a result, the quality of the wetland habitat is degraded and does not provide feeding and breeding habitat critical for aquatic wetland species (right photograph, 2002). Towner Lake was officially designated as a Wildlife Management Lake in FY2003 and a water control structure for the outlet is under construction. The new water control structure will allow managers to conduct draw downs on the lake with the goal of restoring wetland vegetation necessary for breeding and migrating wildlife populations.



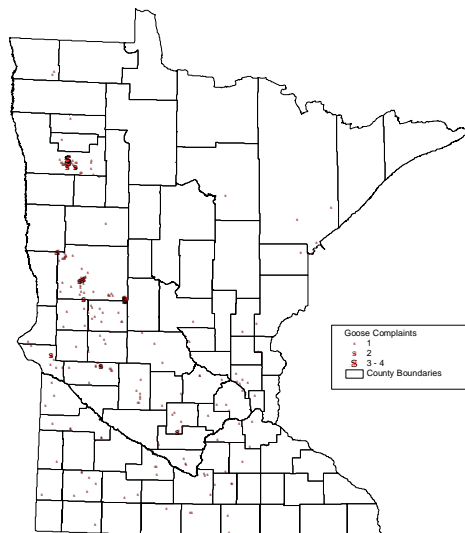
Furbearer Program

- DNR staff collaborated with the Minnesota Trappers Association (MTA) to revise a jointly developed Trapper Education Manual.
- Several legislative initiatives and rule changes were developed in cooperation with the MTA and other interests including an extension of dry land snaring to the Farm Furbearer Zone, reestablishment of season dates for raccoon and red fox, changing of the aggregate limit for pine marten and fisher, and standardization of opening dates for fisher, pine marten, bobcats, badger and opossum.
- A survey of prices and numbers of animals purchased from resident fur trappers and hunters by fur buyers was completed providing information on fur values and supplementing information on hunter/trapper activity in the state.

Wildlife Damage Management Program

Depredation and nuisance animal technical guidance activities are conducted throughout the state by the Depredation Specialist stationed in Brainerd and Wildlife staff located at 47 field offices. Staff work with agricultural growers and other private landowners to provide educational materials and on-site training regarding effective damage abatement techniques.

- Fencing abatement materials were provided to control bear damage for five honey producers, repellants were provided to an established orchard, and assistance and guidance were provided for the installation of eight permanent woven wire fences, two permanent energized fences, and one portable energized fence. Crops protected included stored forage (2), cedar regeneration (1), blueberries (1), mixed fruit and berries (2), apple orchard (1), vegetables (2), and a vineyard (1).
- The number of goose shooting permits issued has continued a downward trend. A total of 66 permits were issued in 2003 down from the 90 issued the previous year and the high of 165 issued in the year 2000.
- The success of the wild turkey management and relocation program has been followed with a modest but growing number of nuisance wild turkey complaints.
- The Section worked with facility managers at three airports in Roseau, Worthington, and Wadena to discuss deer exclusion options. Fence specifications, materials lists, and cost estimates provided for each location will be used by the airport management authority as the basis for development of capital improvement plans for perimeter barrier fences.



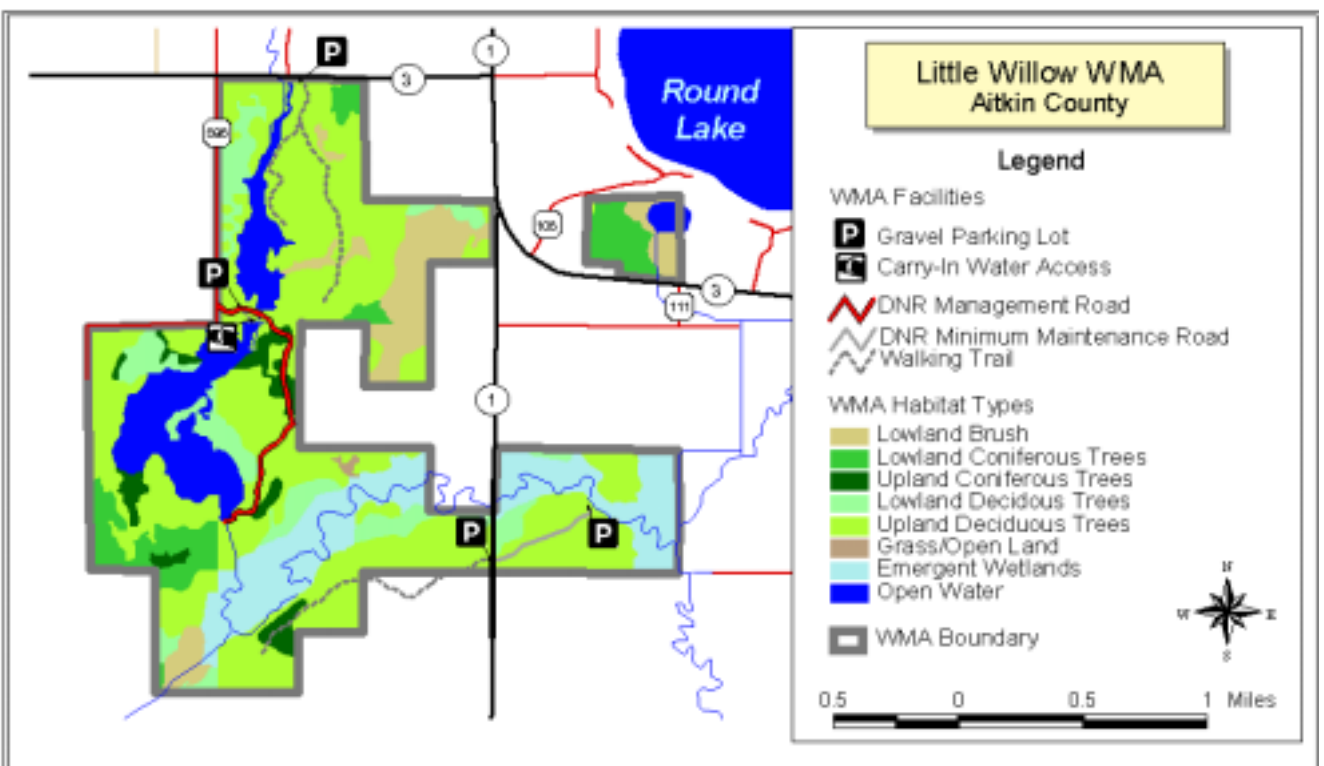
Location of goose damage complaints recorded in 2002. (n=248)

Geographic Information System Program

In order to better manage the State's WMA system, staff began using a Geographic Information System (GIS) to inventory and catalogue each WMA. After several years, this prodigious project is close to completion. This information will aid planning of management activities on WMAs and support DNR website information on individual WMAs providing more accurate boundary, vegetation, and facility information for public users.

- Work was initiated to develop a model that will allow staff to develop short and long-term management guidance documents describing the purposes for which units were acquired.
- The Section used GIS to enhance data recording and analysis for the registered deer, bear, turkey, and furbearer harvest, and to produce maps to facilitate data collection at registration stations for the statewide CWD hunter harvest surveillance effort.

The compilation of GIS data on boundaries, facilities and vegetation for each WMA will result in the availability of WMA maps and background information for the public on the DNR website. The Little Willow WMA map and accompanying text is an example of the type of information which will soon be available.



Directions: From Palisade, East access points: 8.5 miles W on Co Rd 3, 1.5 miles S on Co Rd 1, both sides of road. Impoundment access: 10.5 miles W on Co. Rd. 3, S 1 mile on 400th Place, take trail to the east.

Description: 1740 acres; The WMA has two impoundments and emergent wetlands. The timber types are aspen, oak, northern hardwoods and lowland hardwoods.

The two impoundments are managed for waterfowl. The WMA is also managed for deer, bear, ruffed grouse and woodcock.

WMA includes a Bald Eagle nesting area. Trumpeter swans have been sighted.

No wild rice harvesting allowed. Cooperative WMA with Aitkin County.

Limited wheelchair access at the parking areas and entrance roads.

Game Hunting Opportunities Include: Deer, Bear, Forest Birds, Small Game and Waterfowl.

Non-Game Viewing Opportunities Include: Wetland Non-Game and Forest Non-Game

Private Lands Program

- The Section partnered with the Board of Water and Soil Resources and Pheasants Forever in a major initiative to promote the conservation provisions of the 2002 Federal Farm Bill by providing \$248,000 to 20 Soil and Water Conservation Districts to hire Farm Bill Technicians to work with landowners to enroll their lands in the Farm Bill Conservations Programs. Over 20,000 acres were enrolled in these programs by October 2003.
- Five DNR/Wildlife Private Lands Specialists located in Bemidji, Side Lake, Cambridge, Mankato, and Owatonna contacted more than 1,300 individuals about wildlife habitat management practices on privately-owned lands. Individual management plans were completed, and assistance was provided for landowners qualifying for USDA programs including the Conservation Reserve Program, Continuous CRP, Wetland Reserve Program, Wildlife Habitat Incentives Program and Environmental Quality Incentives Programs.



Common buckthorn has spread extensively across Minnesota and many private landowners are beginning to recognize this exotic shrub as a menace. The Private Lands Specialist in Owatonna is working with a Rice County private landowner on buckthorn removal in a 42 acre oak woodland. The woodland had been grazed in the past and has substantial amounts of buckthorn in some areas. The oaks are mature and there is sparse understory oak regeneration. The property provides important deer wintering habitat in the Owatonna area. The landowner successfully applied for a USDA Wildlife Habitat Incentives Program (WHIP) contract for a ten year period which provides cost-share funds up to 75%. This WHIP plan provides for buckthorn removal, chemical treatment, and prescribed burning to enhance oak regeneration. The result will be improved habitat for wintering deer and other wildlife species.

Animal Disease Management

The Animal Disease Management Program was formalized in FY2003 with the increasing threat of chronic wasting disease (CWD) in deer and elk populations in other states. Wildlife diseases that have potential to significantly reduce populations, or adversely impact human health will be monitored statewide. The primary focus will be on CWD, but other diseases of concern include bovine tuberculosis (deer), West Nile virus (upland gamebirds, waterfowl), and botulism and avian cholera (waterfowl). Wildlife disease planning efforts will focus on disease prevention, but also include contingency planning so that DNR is prepared to respond to major wildlife disease outbreaks

- A Wildlife Veterinarian and a Wildlife CWD Specialist were hired to design a state-wide hunter-harvest surveillance program for the detection of CWD, test deer showing symptoms consistent with CWD and develop contingency plans for the management of CWD should the disease be detected in the wild white-tailed deer population.
- The Section initiated a systematic hunter-harvest CWD surveillance program in November 2002. A total of 4,662 samples were collected over a three week period during the firearms season in 17 of 130 deer permit areas. A cadre of 130 volunteers assisted staff at 86 registration stations and contributed an estimated 1,560 hours of unpaid effort for this program.
- The Section also responded to the detection of CWD in a captive elk herd in September 2002 by conducting intensive sampling of wild deer in a 9 square mile area in Aitkin County. A total of 111 wild deer were collected for sampling in this localized effort utilizing Division of Enforcement Conservation Officers, Wildlife staff, and cooperating landowners.
- Statewide, 19,329 hours were expended by staff to conduct both extensive sampling of hunter harvested deer in 17 permit areas and intensive sampling around captive elk herds testing positive for CWD. All samples were found to be negative for CWD.



An air curtain burner was purchased for disposal of materials related to the collection of deer tissue for CWD testing. The unit is currently located on Mille Lacs WMA and requires trained staff and Pollution Control Agency permits to operate.

Wildlife Population Surveys and Research

The Wildlife Populations and Research Unit focuses on wildlife population surveys, research and disease management in Minnesota. Wildlife population information is the foundation of wildlife management programs especially for harvested species. Wildlife research is essential to resolve wildlife management problems and improve management programs. Planning efforts for wildlife diseases which have the potential to significantly reduce wildlife populations long term or adversely impact human health is critical for disease prevention and containment.

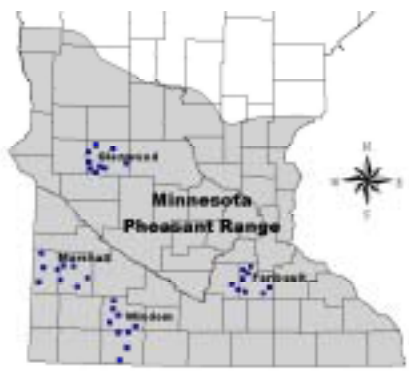
Farmland Wildlife Population and Research Group

The Farmland Wildlife Population and Research Group provides information needed to manage wildlife species in the farmland zone which encompasses approximately 49,000 square miles in 74 counties. Major projects focus on wild turkey populations and turkey hunters, CRP and pheasants populations, and white-tailed deer populations in the farmland zone.

- Laboratory research suggests that physiologically, wild turkeys should be able to survive northern Minnesota winters, provided they can find food. Thus, food plots of standing corn could enhance turkey survival during severe winters. Since 2001, wild turkey hens have been radio-tagged on four study areas in east-central Minnesota. The project is conducted cooperatively with St. Cloud State University (SCSU) with financial assistance from a variety of groups, including National Wild Turkey Federation (NWTf) and the Mille Lacs Band of the Ojibwe. Turkey mortality is compared for study areas with supplemental feeding and study areas with only natural foods.
- Surveys of spring turkey hunters are conducted to assess relationships between factors such as hunter interference, access to land for hunting, and hunt quality. A mail survey was sent to approximately 2,000 spring turkey hunters in eight permit areas following the close of the spring 2002 and 2003 hunting seasons. Hunter interference rates decreased in all eight permit areas surveyed compared to previous years. The percent of hunters denied access to huntable land also decreased in all eight permit areas.
- The objectives of the farmland deer mortality study is to gather information on seasonal survival rates, seasonal home ranges, and cause-specific mortality for deer in the southeast and southwest portions of the state. Data from this study is being used to improve the farmland deer population model and to assist wildlife managers with their decision-making process concerning deer population management. The study began in January 2000 and almost 280 deer have been radio collared and monitored.
- Deer population modeling is used to determine the number of either-sex permits to allocate to firearms hunters. Key components incorporated into the model include age and sex of hunter-killed deer. Although registration of hunter-killed deer is mandatory in Minnesota, accuracy of age and sex data reported by hunters is unknown. Registration bias is periodically evaluated using trained personnel at deer registration stations. Registration data collected from 1995 – 2001 hunting seasons was evaluated for approximately 35 registrations stations within 21 permit areas.
- Computer simulation models were updated for 121 permit areas to include the most recent harvest information. Current deer population densities and trends were assessed in each unit using revised simulation models. Subsequently, quotas of either-sex permits were set for the 2004 deer hunting season.

- A fall wild turkey population survey is conducted every two years to provide a fall turkey population index and monitor range expansion. Antlerless deer permit holders for the fall 2002 hunting season were asked to report their turkey observations. Percent of hunters observing wild turkeys (HOWT) in 2002 was significantly higher than for the previous survey (1999) for 5 of the 15 turkey management units (TMUs) surveys, but significantly lower in 2 TMUs. HOWT was significantly higher in 14 of the 97 permit areas (PAs) where data was obtained in both years with a significant decrease in HOWT in 2 PAs. Wild turkey range in Minnesota has expanded since 1999, especially northward.

The purpose of the pheasant winter habitat project, which began in winter 2003, is to quantify the relationship between pheasant population trends and abundance of winter and nesting habitat. Research is being conducted on 36 study areas (each nine square miles in size) distributed across Minnesota's primary pheasant range. Study areas were selected which varied in the amount of winter cover, winter food, and reproductive cover. Over a range of winter and spring weather conditions expected during the five year study (2003-07), models will be developed for correlating pheasant population indices and winter cover, winter food, and reproductive cover. One management application of the models will be to identify habitat deficiencies and target habitat development efforts where they may yield the greatest increase in pheasant numbers. The models (or maps produced from them) will be distributed to all natural resources managers, including staff outside the DNR who influence habitat on private lands (e.g., county NRCS and SWCD staff, habitat chairmen of PF Chapters).



Forest Wildlife Population and Research Group

The Forest Wildlife Population and Research Group provides information needed to manage wildlife species in forest habitats. Six major projects focus on white-tailed deer, black bear, northern otter, and moose populations. Thirteen surveys are conducted annually for ruffed grouse, sharp-tailed grouse, and furbearer populations.

- The deer conifer project was designed to evaluate the impact of logging conifer forest that deer use as winter cover during severe winters. In its 13th field season, the field staff had difficulty trapping additional deer because of mild winter conditions. By April 2003, only 6 new female deer had been added to the cohort of 56 adult does already radio-collared.
- No newborn fawns were radio-collared as part of the fawn mortality project due to poor trapping success. This project was designed to determine the level of summer fawn survival in relation to the severity of the preceding winter. In the first 5 years of the study, a total of 90 newborn fawns were radio-collared.
- A project on deer ecology in Camp Riley was finished with the completion of a master's thesis on the effects of nutrition and winter severity on cover type use, migration behavior, and survival of female white-tailed deer in Camp Ripley.
- Forty-three new moose were radio-collared in the 2nd year of the moose population dynamics project to increase the sample to 60 collared moose. Subsequently, 8 of these moose died from wolf predation, collision with a train, or unknown causes and 1 slipped its collar.
- In FY03, the black bear tetracycline survey was conducted to estimate bear numbers in Minnesota. A low bear harvest combined with low consumption of tetracycline-laced baits resulted in a lower than expected estimate. Examination of samples from the 2003 bear harvest should refine the estimate of bear numbers.
- The black bear foods survey indicated that natural foods were readily available in the summer of 2003 and this likely contributed to the low bear harvest. The black bear population simulation model was updated with information from research and the 2002 harvest and was used to set harvest quotas in the 9 hunting zones in Minnesota. Bear permit numbers for 2003 were similar to the number issued for 2002.
- Similarly, the deer population simulation model was updated with harvest and research information and used to set either-sex permit quotas in each of 37 permit areas in the Forest Zone. After

another mild winter, estimated deer numbers and either-sex permits increased throughout the Forest Zone.

- The aerial moose survey was conducted in both northeastern and northwestern Minnesota during January 2003. Moose numbers were lower in both areas than observed in previous years. The moose population simulation model was updated with research, survey results, and harvest data, and used to set moose hunting permits in northeastern Minnesota. Permits were up slightly from the previous year.
- The ruffed grouse drumming counts and the sharp-tailed grouse dancing ground survey were completed in the spring of 2003. Results indicated that the ruffed grouse drumming index remained comparatively low while the sharp-tailed grouse index increased statewide by 16%.
- The furbearer scent station survey was conducted statewide in FY03 and visitation rates were highest for red fox, followed by skunk, domestic cat, raccoon, dog, and coyote. The fisher-marten snow track survey was conducted in FY03 but only 60% of the routes were completed because of poor snow conditions. Results indicated that there was a moderate steady increase in the fisher index but no consistent trend in the marten index.
- A total of 2,451 marten and 345 bobcats were aged and sexed as part of the furbearer age/reproductive survey. These data along with harvest information were incorporated into the furbearer simulation models for each of 4 registered furbearer species. Changes to trapping regulations were evaluated using these simulation models.
- The black bear population dynamics project continued for its 22nd year with current emphasis on documenting reproduction and cub survival in 3 different study areas. After trapping and den visits, 35 bear were radio-collared. These bears will be monitored for mortality periodically during the active season and then tracked to their 2003–4 den sites.

Two graduate students conducted field research for the otter population project. One student has implanted radio transmitters in 26 river otter and located the otter two to three times each week to determine the influence of age, sex, and season on the movements and survival of otter in southeastern Minnesota. The second student has conducted 60 aerial snow track surveys along 4 survey routes to determine the variation in detection of river otter sign among observers.



Wetland Wildlife Population and Research Group

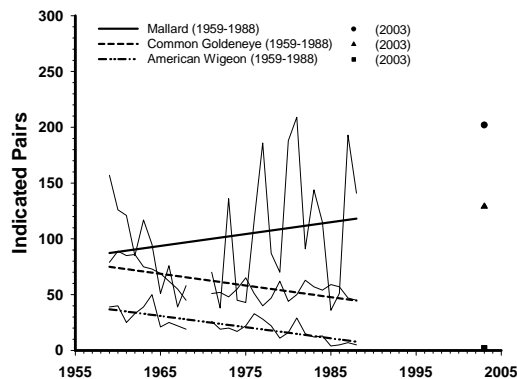
The Wetland Wildlife Population and Research Group provides information needed to manage wildlife species in wetland habitats. Projects are often developed cooperatively with the U.S. Fish and Wildlife Service, the Biological Resources Division of the U.S. Geological Survey, and the U.S. Forest Service. The Wetlands Group works extensively with the Technical Section of the Mississippi Flyway Council.

- Two wetlands ecology issues were the focus of studies in the past year. Two projects assessed relationships between timber harvest and characteristics of seasonal wetlands in aspen-dominated landscapes of north central Minnesota. A third, unrelated study evaluated utility of walleye addition to prairie wetlands as a means to reduce dense populations of fathead minnows and to improve water quality and other ecological features of permanently-flooded prairie wetlands.
- The mallard nest structure occupancy project was designed to examine the relationship between surrounding nesting cover and mallard nest structure occupancy. By understanding influences of surrounding cover, managers will be able to use a very effective management technique where it will provide the greatest benefit. Structure occupancy was related positively to vegetative height

and density early in the nesting season, but the relationship was negative later in the season. The structure cost/benefit project will compare the cost effectiveness of 2 types of nest structures. Data from the occupancy project also will be used to build a GIS-based prediction model that managers can use to identify locations in their work areas where nest structure occupancy will be most likely.

- DNR duck banding crews marked 692 ducks during the summer banding program and 2,599 ducks during the pre-season banding program. Banding quotas were not reached in 2003 due to low duck numbers on the capture sites. Summer Canada goose banding was expanded in 2003. Eleven banding crews banded approximately 5,000 geese.
- The Section participated on the Mississippi Flyway Council Technical Section. Four-year evaluations of experimental September and December Canada goose seasons were completed, and final reports were presented to the Mississippi Flyway Council and U.S. Fish and Wildlife Service. As a result, the status of these two seasons was changed from experimental to operational.
- The Section's Goose Specialist participated for the 7th year in the study of Eastern Prairie Population Canada goose reproduction at the Nestor One goose camp near Cape Churchill, MB. Study results were used to guide establishment of goose hunting regulations by the Mississippi Flyway Council and the U.S. Fish and Wildlife Service.
- Work was completed to implement the Fall Duck Use Plan, with progress made on waterfowl refuge inventory and evaluation and manipulating fall waterfowl migration data. A shallow lake case study proposal was developed with the Shallow Lake Program Staff and the joint project will be implemented in fall 2003. A 2002 waterfowl hunter mail survey to measure hunter opinions and activities was begun with the Minnesota Cooperative Fish and Wildlife Research Unit.
- The aerial waterfowl breeding population and habitat survey was completed in May. This survey has been conducted using fixed-wing aircraft and ground truth crews since 1968. Duck numbers declined relative to the previous year, but remained above long-term averages. The spring Canada goose survey was conducted by helicopter during April 2003 to obtain a population estimate of resident Canada geese. The population estimate decreased slightly from 2002. Fall waterfowl migration surveys were flown and reports from state and federal wildlife managers throughout the state were compiled in 10 weekly reports to monitor fall migration. These reports were posted on the DNR website.

A new forest waterfowl initiative was begun because the status of waterfowl in forested parts of Minnesota is poorly understood and there are indications that breeding populations of ring-necked ducks, common golden-eyes, and widgeon in Minnesota are declining. A Bemidji area pair survey, last run in 1988, was reinstated in 2003 as a beginning effort. In addition, common golden-eye and hooded merganser eggs were collected in 2003 for a contaminant project designed to determine the extent to which contaminant loads and eggshell thickness of these species might have changed since a 1981 study. The second year of data collection for the hooded merganser incubation project continued to provide information on a poorly known forest waterfowl species.



Wildlife Grants

Heritage Enhancement Grants

The Heritage Enhancement Grants to Local Outdoors Clubs Program provides money to local outdoors clubs for habitat improvement projects on WMAs. The grant program originated as a one-time appropriation in the Environment and Natural Resources Finance Omnibus Bill passed by the 2001 Legislature. In 2003 the program became a permanent part of the Section's budget. Funding comes from the Heritage Enhancement Fund which includes revenues from a portion of the sales tax generated by Minnesota State Lottery sales.

Projects from FY2002 and FY2003 have until June 30, 2004 to be completed. In FY2002, 21 clubs received 31 grants totaling \$832,000. The second cycle of grants began in the fall of 2002 and 41 applications requesting over \$3 million were received. 16 outdoors clubs received 22 grants totaling \$1,062,991. A second round of grants occurred in the spring of 2003 to reallocate \$228,807 in funds for wetland and prairie/grassland work that were previously awarded but cancelled.

In June 2003, application packets for the FY2004 grants were sent out to over 100 outdoors clubs, and a press release went out as well. Grant recipients will be notified in early November.

12 grants were fully completed during FY2003. Many other projects made significant progress and will be completed as required during FY2004. Brushland, forest, prairie/grassland and wetland habitat work was performed on 72 WMAs, affecting more than 12,000 acres.



LCMR: Restoring Fish and Wildlife Habitat Corridors

The Wildlife Corridors Project was established to connect fragmented, high quality fish and wildlife habitats in 11 project areas around Minnesota. A consortium of 14 private conservation organizations and federal and state agencies is collaborating on this 20-year program to efficiently and effectively prioritize, fund and coordinate habitat acquisition, restoration, and management activities. The Wildlife Corridors Project received its first state funding from the 2001 Legislature as recommended by the Legislative

Commission of Minnesota Resources with The Environment and Natural Resources Trust Fund as the funding source.

The Section was allocated \$560,000 for WMA Management as part of the Corridors Phase I \$11.745 million budget. These funds are used to develop infrastructure and restore habitat on lands acquired by Corridors Partners to become WMAs. Section staff will implement management on an estimated 2,500 acres of land acquired by partners. Boundary surveys and posting, access work, and grass plantings have been started. GIS work has begun, and requests for one wetland design, three boundary surveys, and three cultural resource reviews have been initiated.

In spring 2003, 535 acres were burned to improve grasslands. Two WMAs have had boundaries posted and wood routed signs ordered or installed. One-half mile of access road has been upgraded to provide public access. Contracts have been encumbered for site preparation prior to native grass planting and to set back brush for openland management.

Phase II of the Corridors project began July 1, 2003. The budget for this phase of the project is \$4.85 million; Wildlife was allocated \$95,350 for Wildlife Areas Management. These funds are to be used as in Phase I.



Hunter Recruitment and Retention Program

The Hunter Recruitment and Retention Program was formally launched with the hiring of the Hunter Recruitment and Retention (HRR) Coordinator in March 2003. The goal of the program is to identify barriers to hunter participation, suggest policy changes to reduce those barriers, and enact programs to increase participation rates.

- Key to accessing future program effectiveness is establishing Minnesota and national hunter participation rates. The University of Minnesota Fish and Wildlife Cooperative Unit was contracted in FY2003 to complete a hunter participation survey in FY2004 which will characterize historic participation rates. Using the Electronic Licensing System hunter database will generate information on current and future participation rates from the initiation of ELS in 2000 forward.
- Special youth hunts are an important tool which provide unique opportunities to young hunters. Overall, special youth deer hunting opportunities will increase from 100 in FY2003 to 240 in FY2004. Three special youth hunts were planned for fall 2003.

- The first sanctioned youth deer hunt was held in October 2002 on the Camp Ripley Game Refuge. Organized largely by Section of Wildlife staff with support from the Minnesota Deer Hunters Association (MDHA), planning efforts were undertaken to increase participants from 100 to 150 for the mid-October 2003 hunt.
- Working with the Department of Military Affairs, MDHA and Minnesota State Archery Association, a second special hunt was planned and conducted for the Arden Hills Army Training Site. This effort provided the opportunity for 40 young hunters to hunt in a Twin Cities metropolitan area. Emergency rules were drafted to establish this special youth hunt.
- The Section worked with the Blufflands Whitetail Association and MDHA to establish a special youth hunt in the Whitewater WMA sanctuary scheduled for mid-October 2003. An emergency rule was drafted and a committee of DNR and partners was established to administer the hunt which provides hunting opportunities for 50 participants.
- The Section's HRR Coordinator was appointed the DNR lead in the first Governor's Deer Hunting Opener scheduled for November 2003. Planning meetings were conducted throughout the spring and summer to develop events and messages to portray hunting as a positive, family activity to the media.
- The 2003 Legislature created half-price youth deer and small game hunting licenses to reduce financial barriers to young people entering the sport. Policy proposals to promote recruitment included unsuccessful initiatives to allow unlicensed adults to assist youth turkey hunters and to establish a dove hunting season.



Assistant Area Wildlife Manager Tod Tonsager places a possession tag on a yearling buck shot by 14-year old Casey Kedrowski of Rice, Minnesota at the 2nd Annual Youth Bow Hunt on October 11 – 12, 2003. The event started in 2002 and is jointly sponsored by the DNR, Minnesota Deer Hunters Association, and Minnesota State Archery Association with donations and help from other organizations, companies and individuals. Photo by MSG Judy Ojard.