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Agency History

The creation, in 1930, of the North Dakota Game and Fish Department was a continuation of efforts to preserve fish and game species in the state. At its inception, the enforcement of game and fish laws was the Department's primary conservation tool. Over the years, the legislature has increased enforcement authority and assigned regulatory powers to the agency aiding its efforts to preserve fish and wildlife and their habitats.

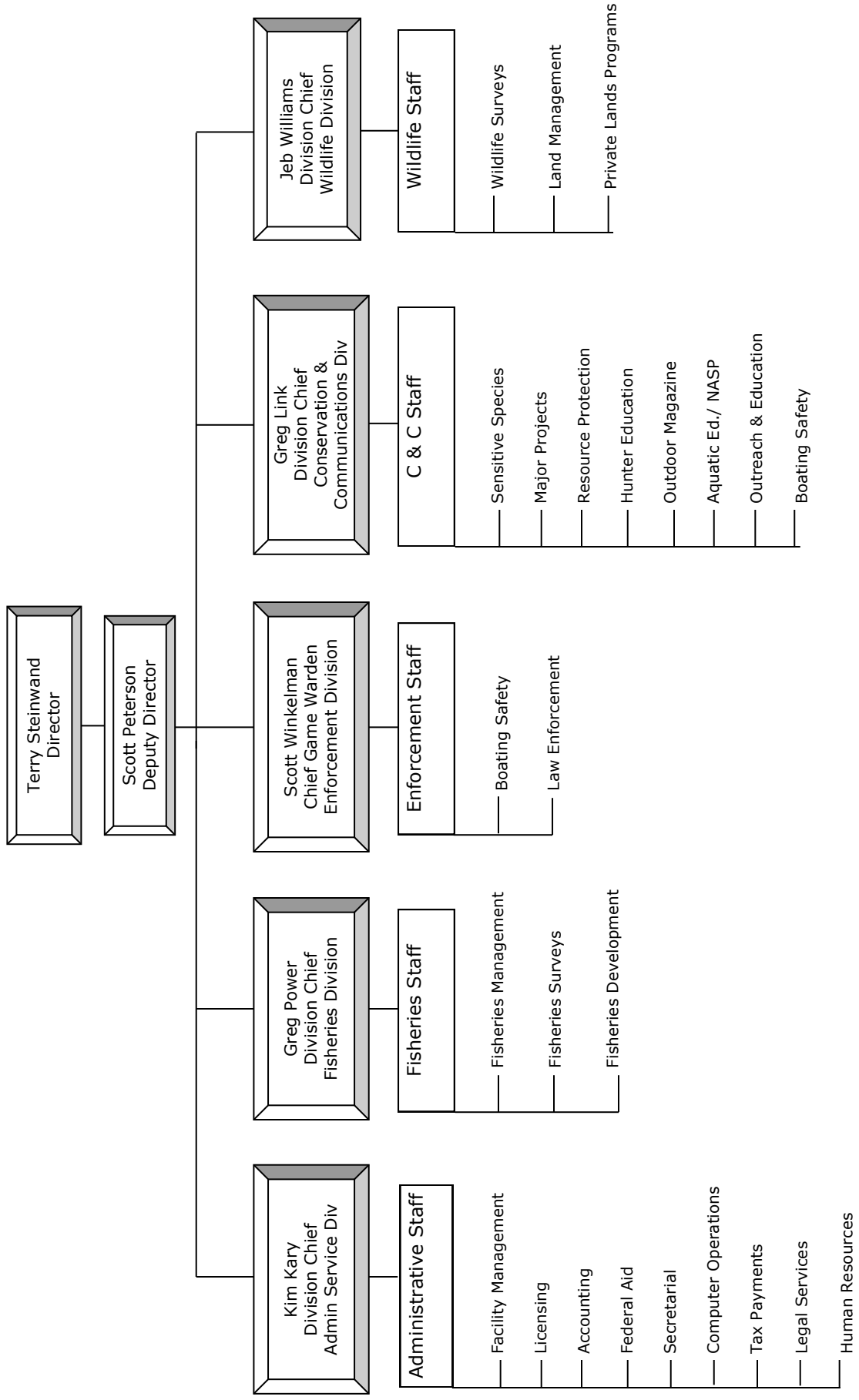
The availability of federal funds for wildlife management programs through the Pittman-Robertson Act (1937) enabled North Dakota and other states to begin scientific management of wildlife resources on a large scale. The Federal Aid in Fish Restoration Act, or the Dingell-Johnson Act (1950,) enabled fisheries restoration. In the 1980's, an amendment to the act expanded the tax to motor boat fuels and imported equipment, making more money available to states.

Since 1983, the Game and Fish Department has had regulatory powers over game, fish, and wildlife resources in North Dakota (S. L. 1983, Ch. 261). Specifically, under the direction of the Commissioner (Director), the Department has authority to promulgate rules and regulations governing management of game and fish resources; collaborate with the USFWS on the two federal hatcheries (Riverdale and Valley City) to produce fish to stock across the state's wildlife management areas; administer the state's habitat improvement program; survey and research fish and wildlife species; issue hunting and fishing licenses; enforce hunting and fishing laws; inform and educate the public on the Department's wildlife management programs; and publish the agency's magazine, North Dakota OUTDOORS (first issue published in 1930), and other informational publications as required by state law.

In 1991, the Commissioner was renamed the Director (S. L. 1991, Ch. 231). The Director was required to submit a proposed wildlife and fish restoration program and project plan and to update segments involving the proposed acquisition of area wetlands, water and land by purchase, lease, easement, or servitude. The Director was given authority to establish a statewide acquisition plan (S. L. 1991, Ch. 42). The Director was charged to appoint a deputy director, a chief state warden, biologists, and technicians all of whom were to enforce the rules and regulations of the Department. Under the supervision of the Director and the advisement of the State Game and Fish Advisory Board, the Department administers regulatory powers over game, fish, and wildlife resources in North Dakota.

The mission of the North Dakota Game and Fish Department is to protect, conserve, and enhance fish and wildlife populations and their habitat for sustained public consumptive and appreciative use. The Department is currently headquartered in Bismarck and consists of five major divisions: Administrative Services, Fisheries, Enforcement, Conservation and Communications, and Wildlife. There are seven district offices: Dickinson, Williston, Riverdale, Devils Lake, Lonetree, Jamestown, and the Bismarck Shop/Lab.

North Dakota Game And Fish Department



ADMINISTRATIVE SERVICES DIVISION

The Administrative Services Division, through the Director, sets policy for the entire Department. It also provides organizational and administrative support for all other divisions of the Department. It consists of the director, deputy director, administrative staff, an accounting section, a licensing section, information technology section and facility management.

The licensing section handles hundreds of thousands of applications and licenses each year. Effective April 1, 2016, paper license booklets were eliminated and transactions were made electronically through the Department's web based system through a computer or mobile device. The Department phased out paper lottery applications over the next few years and lottery applications became 100% electronic in 2018. Watercraft registrations became 100% electronic in 2020.

Sales of resident general game licenses and resident small game licenses have increased for 2020. Deer hunting license sales are slowing continuing to increase, there were 52,347 sold in 2019 and 54,809 in 2020. The number of pronghorn licenses sold for 2019 and 2020 was 1,324 and 1,777 respectively. Fishing licenses had a significant increase in 2020 and reached an all-time high of 162,196.

Nonresident small game hunting licenses slightly increased from 18,128 to 20,607 in 2020. Nonresident waterfowl licenses increased from 20,733 to 24,063 in 2020. Nonresident fishing licenses also had a large increase reached an all-time high in 2020.

Graphs showing license sales data are attached.

The Department made In Lieu of Tax payments of \$1,466,876 for 2019-21 for land owned or managed by the Department as required by law.

Legislation:

Key Game and Fish related bills from the 2021 legislative session:

HB 1113 – Requires written permission from the owner of the property, or an individual authorized by the owner, to place bait for the purpose of attracting wildlife and to install camera/video equipment that must have identification. In addition, provides a penalty.

HB 1218 – Nonresidents who own land in North Dakota may hunt during the first seven days of the pheasant season on land they enroll in the PLOTS program.

HB 1221 – Adds clarification to section 47-05-17 of century code, relating to an exemption from prohibition against severing hunting rights from surface estates.

HB 1242 – An individual who was issued an apprentice hunter validation license in 2020-21 may receive another.

HB 1411 – An individual may use an artificial light to pursue on the individual’s premises at any time throughout the year any predatory animal attempting to destroy property.

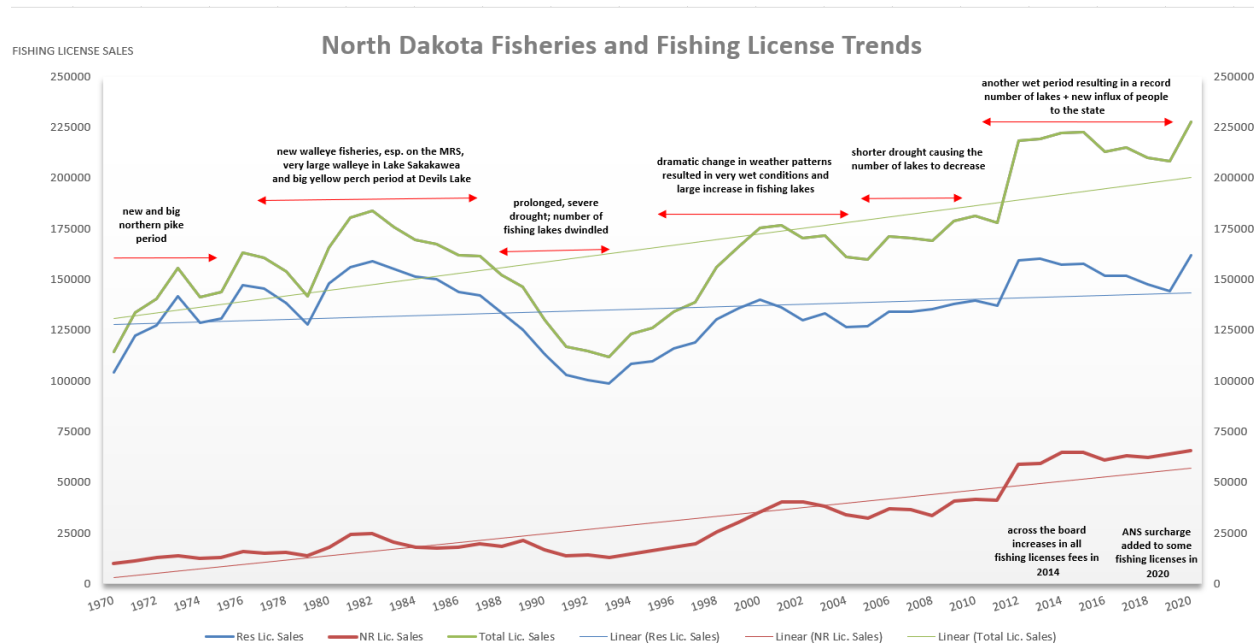
SB 2036 – Legislative management shall continue to study the electronic land access database and application during the 2021-22 interim and expand it to all counties.

SB 2144 – Allows the owner or an individual authorized by the owner the option to designate land as posted or closed to hunting in an online database and provides a penalty for trespass.

FISHERIES DIVISION

The Fisheries Division is responsible for managing fish populations in nearly 440 public waters scattered across the state. As such, “The mission of the Fisheries Division is to provide diverse and valued fishing opportunities for public enjoyment while safeguarding the fishery resource”.

Decades of relatively wet weather has caused a transformation of shallow wetlands into recreational lakes. The more than doubling of fishable waters caused by years of rising water, and an aggressive approach toward fish management in North Dakota, have helped produce high fishing license sales. According to the most recent information (2020-21 fishing season), approximately 228,000 fishing licenses were issued. During this period, approximately 198,000 anglers fished almost 1.8M days on North Dakota waters.



The Fisheries Division of the North Dakota Game and Fish Department includes several sections that protect, regulate, and enhance fishing opportunities throughout the state. These sections include administration, fisheries management, production (stocking, etc.), development (access, infrastructure), habitat and aquatic nuisance species. These different sections work together to ensure good fishing. In addition, the Fisheries Division has established strong working relationships with other Department divisions as well as various public and private entities, resulting in the creation and maintenance of some of the finest fishing that can be found anywhere. Specific section results can be found in the following narratives:

FISHERIES ADMINISTRATION

In 2019, North Dakota had 363 licensed wholesale and retail bait vendors but decreased in 2020 to 251 licensed vendors (most likely due to the coronavirus pandemic). The number of licensed private fish hatcheries has seen a decrease with only three in 2020. The number of fishing tournaments continued to remain consistent except for 2020 with only 134 issued permits due to coronavirus restrictions. Group home fishing licenses have remained stable with about 150

licensed organizations receiving approximately 1184 individual licenses. Cormorant predation on desirable fish stocks continues to be a problem in some waters across the state with a long-term solution remaining elusive. Intensive take in select waters by fisheries staff has been limited by the USFWS. There were a few administrative rule changes during the 2019-21 biennium dealing with aquatic nuisance species (ANS), bait vendors, fish houses, and fishing contests. Fishing proclamation changes were few and minor. Lastly, during the 2019 legislative session a new statute was passed/approved that earmarked Department funding for additional ANS work. Full implementation of this statute took place during the 2019-21 biennium.

FISHERIES MANAGEMENT SECTION

After water levels declined during the 2017-early 2019 time period, much higher moisture during the latter half of 2019 increased water levels to near record highs across much of the state. This pulse of water in 2019 helped preserve fish populations statewide after the winters of 2019 and 2020, as well as the summers of 2020 and 2021, were very dry. During 2020, Fisheries Division personnel conducted 242 standard adult population surveys, 140 reproduction surveys, 21 miscellaneous surveys, 21 trap and transport operations, two undesirable fish removal surveys, four spawning operations, and four tagging operations. In addition, other activities such as creel surveys, water quality monitoring, and fish kill investigations are conducted as needed. Given relatively mild winters with minimal snow cover, staff only investigated five winter fish kills during 2019-20, and one winter fish kill following winter 2020-21. Most winter fish kills were partial to significant, and only one total fish kill has been documented during 2019-2021. Staff also investigated nine summer fish kills during 2020, with most being considered minor or partial kills, limited to isolated areas of hypoxia. One summer fish kill, however, was considered a complete kill during 2020.

FISHERIES PRODUCTION SECTION

A strong demand for hatchery production with all the new fishing waters across the state continues to push for maximum production output. During the 2019-2021 biennium, over 27 million 1.5" fish, representing eleven species, were stocked into nearly 322 North Dakota waters. Most of the stockings were walleye and most of the brood fish needed for spawning originated from Lake Sakakawea and Lake Oahe. In addition, approximately 665,000 adult fish (generally panfish) were trapped from various waters across the state where surplus existed and transported/stocked into water bodies (often community fisheries) in need. A total of 64,228 pounds of fish were stocked into new water bodies. Four ponds at our East Unit Rearing Unit at Garrison Dam National Fish Hatchery were lined to reduce leakage and increase production output. At both Garrison and the Valley City National Fish Hatchery, spot graveling was completed to keep roadway surfaces safe for travel during wet weather.

FISHERIES DEVELOPMENT SECTION

Precipitation conditions varied greatly over the course of the 2019-2021 biennium. The biennium started with normal to above normal water conditions throughout the entire state but by the end of the biennium the state was suffering severe drought conditions (as North Dakota experienced

some of the hottest and driest conditions on record in 2021). As water levels decline, boat ramps require silt removal, extension work, repairs and/or total relocation. While dealing with low-water issues has become a primary focus, the department continues to emphasize work on upgrading, replacing, and modernizing many of the states existing boat ramps, docks, toilets and fish stations that have deteriorated and have outlived their useful life. Working with private landowners to obtain new or renewed easements for development of boating and fishing access sites continues to be another main focal area for the department. More than 70 new development projects were completed during this time along with 350+ individual maintenance activities. Ten boat ramps were constructed and/or upgraded during this period and more than three dozen new courtesy docks were built and installed. Seven new precast vault toilets were installed, and several large road/parking area projects were also undertaken and completed. One of the highlights during this biennium has been the upgrading of more than two dozen fish cleaning stations with a new and more reliable table and grinder unit. These new units are not only more dependable, but they are quieter, use less water, and provide a first-class facility for anglers to process and dispose of their catch before heading home. Fish stations are also extremely valuable as they allow anglers to comply with mandatory state Aquatic Nuisance Species rules and regulations.

FISHERIES HABITAT PROJECTS

The Department's "Save Our Lakes Program" (SOL) was created to address aquatic habitat issues (e.g., water quality) facing all the state's fishing water bodies. During the 2019-21 biennium, 14 in-lake projects and 35 long term easement agreements were completed/signed protecting approximately 2,823 riparian acres (most of which were removing cattle from riparian corridor [1,823 acres], with some rotational [cell/paddock] grazing systems, additionally 1,000 acres of cultivated land was planted to grass) and 147,603 feet of riparian habitat was protected. A total of 210 long term easement checks were conducted. There was 22,578 feet of riparian fencing completed. Two alternate water sources were installed, both wells, five shoreline project complete, three outlet projects repaired/improved, three dams repaired, one waste management system cost shared, one culvert installed, one aeration system installed, one drain improved/repair below a dam and four earthen piers created and eight repaired. One grant was applied for and received. A total of \$300,000 was received from the State Wildlife Grants Program to provide match to the Save Our Lakes Program. These expenditures went toward various projects within the riparian corridors of the state to improve water quality and thus the fisheries of North Dakota.

AQUATIC NUISANCE SPECIES PROGRAM

One of the biggest threats to North Dakota's aquatic ecosystems is the establishment of aquatic nuisance species (ANS). In 2019, the North Dakota legislature passed Senate Bill 2293, which gave North Dakota's Aquatic Nuisance Species Program an estimated \$1.5 million per biennium. In the 2019-21 biennium, the enhanced ANS program budget allowed the Department to staff an ANS biologist and game warden position while bolstering ANS prevention, monitoring, education, and enforcement efforts. With the ability to hire more seasonal staff, the Department inspected over 4,000 watercraft in 2020-21. Eleven zebra mussel fouled watercraft were intercepted and decontaminated in the biennium, ten of which came directly off an infested water. To slow the spread of the invasive species, the Department partnered with multiple

agencies and associations to establish CD3, ILIDS, and wash stations at a few high-use ramps. These devices are specially designed to reduce the risk of spreading ANS after recreating on an infested water and promote compliance with regulations. The Department also expanded its ANS monitoring efforts, including targeted zebra mussel sampling of over 140 waterbodies. New zebra mussel populations were confirmed at Lake LaMoure, and subsequently, veligers were found in the James River. Flowering rush was found for the first time in North Dakota at Carpenter Lake. Lastly, on May 16th, 2021, Governor Doug Burgum signed North Dakota's first ANS Awareness Week proclamation.

CONSERVATION AND COMMUNICATIONS DIVISION

The Conservation and Communications Division is comprised of three sections; communications, conservation, and education. The Communications Section functions as the Department's liaison to the general public, providing the most up-to-date, department-wide information through all media formats. The Conservation Section reviews development related projects and offers recommendations to both private and government for minimizing impacts to our state's wildlife and their habitats. This Section's focus also includes management of nongame wildlife and species-of-conservation-priority. The Education Section is responsible for all facets of educating the public, e.g. hunter education, fishing, archery, fur harvester education, boating and water safety, etc., offering state-wide, hands-on conservation and skills learning opportunities for outdoor enthusiasts of all ages.

COMMUNICATIONS SECTION

The Communications Section includes production of North Dakota OUTDOORS magazine, weekly television broadcast news feature, weekly online webcast and other video products, weekly news release, website (internet), internal website (intranet), social media, including Facebook, Instagram and YouTube, Game and Fish Department hunting and fishing regulations guides, the annual PLOTS guide and other publication development, handling of phone and email inquiries from the public, media relations and public information projects.

Telephone and Written Correspondence

The Communications Section is responsible for handling telephone information calls, answering and/or distributing emails that come into the Department's main email account, and responding to written inquiries. Section staff handle several hundred calls per week, depending on the season, and thousands of emails and requests annually. The section also maintains fisheries Whopper and Catch and Release files.

Publications

The Game and Fish Department produces a four-color magazine, North Dakota OUTDOORS, published 10 times per year and ranging from 24 – 40 pages. OUTDOORS had a mailing list of about 28,000 in August 2021. About 22,000 subscriptions were paid.

Media/Public Information

The Communications Section is responsible for weekly and special news releases distributed to about 170 media outlets, and another 35,000-plus individuals and organizations signed up to receive regular and news alerts; and an online legislative newsletter compiled and updated daily during the 2021 legislative session. Section staff answer hundreds of phone calls and emails weekly, and are also responsible for developing the various hunting and fishing regulation guides.

Photography

Section personnel take thousands of photographs each biennium for illustrating articles in North

Dakota OUTDOORS, and for use on the agency website, social media channels and use by all staff for slide shows, power point presentations, newspapers, media and other private and public publications.

Videography

North Dakota OUTDOORS, a weekly television news feature, maintained its appearance on major North Dakota stations with a weekly audience of approximately 100,000 viewers. The weekly online news webcast also has consistent broadcasts on cable access channels in most major cities. The webcast attracts several thousand viewers per week. These programs are also valuable content shared on agency social media platforms on a consistent basis.

Game and Fish Website

The website includes most of the basic Game and Fish Department information such as season regulations, lake and species information, the Department's magazine and video features, and a variety of other topics. It attracts between 5,000 and 10,000 individual visits per day, and also handles a great majority of license sales in the state. Game and Fish's website editor also manages an internal intranet website for staff.

Social Media

Section staff manage and contribute to the agency's social media presence on Facebook, Instagram and YouTube. The Facebook page has about 28,000 followers, Instagram 9,200 followers, and our YouTube channel has more than 1 million views.

R3

Game and Fish administration identified hunter and angler recruitment, retention and reactivation as one of the agency's top priorities. In fall 2020, the Department hired an R3 coordinator, and the communications section is tasked with leading this initiative.

CONSERVATION SECTION

Coordination, Technical Assistance, and Special Projects:

Conservation section staff continued their primary task of reviewing development related projects and offering recommendations intended to lessen the severity of such projects on fish and wildlife resources. During the 2019 – 21 biennium, staff reviewed and commented on roughly 675 proposed development-related projects. These projects range from construction of roads, oil wells, wind turbines and transmission lines, to drainage projects, dams, and changes in land use practices. In addition to written requests, staff receive and respond to numerous informal inquiries via phone, email and walk-in traffic.

A continued area of emphasis this past biennium has been the review of proposed 'wind farms' around the state. As wind projects become more and more numerous, the Department decided to take a more active stance in reviewing and assessing their impacts on fish and wildlife resources. This includes consultation with companies proposing wind projects, the general public, environmental groups and permitting authorities. Over the course of the past biennium wind farms construction has slowed a bit. It's worth noting that the process the Department started

using to assess wildlife related impacts from wind turbines is being used by both the PSC and wind prospectors. The Department has strived to provide an unbiased assessment of potential projects impact on fish and wildlife resources. In some instances, developers are now providing voluntary offsets as a means of mitigating their impact.

A second major area of emphasis for staff has been the effort to quell the spread of aquatic nuisance species. As several new species have been documented in the state, staff work with project sponsors and regulatory agencies to minimize the opportunity for aquatic nuisance species to spread to non-infested waters. As highway maintenance projects use water from rivers, lakes and ponds for dust control, the Department provides recommendations on source water and techniques to minimize the spread of invasive species via water tankers. Additionally, fishery and conservation section staff inspect equipment coming into the state to assure they are free of aquatic nuisance species.

Staff spent a considerable amount of time this past biennium dealing with issues impacting public lands in North Dakota. The majority of the efforts involved lands administered by the US Forest Service (USFS) and the US Bureau of Land Management, which total about 1.3 million acres. These lands are located primarily in western North Dakota. The primary purpose of the Department's involvement is to ensure adequate consideration of natural resources and the interests of state sportsmen and women in public land management policies and actions. Examples of conservation section involvement includes the review of oil well placement, road and pipeline alignments, wildlife transplants such as bighorn sheep, land trades and divestitures, grazing issues, unique or rare species, access and natural resource protection and proposed closures of lands to hunters. During the past biennium, staff also continued to provide input on issues related to the Forest Plan for USFS managed lands. This includes review and comment on various pasture allotments throughout the grasslands.

Flooding and water management has been a major issue during the past biennium. Department personnel have worked diligently with the Corps of Engineers and communities of Fargo and West Fargo on the Fargo Moorhead Diversion Project. The diversion has numerous environmental challenges including the crossing of five tributaries, loss of river channel and riparian forest, construction of two in-channel control structures and numerous fish by-pass structures. Additional efforts have and will be expended working on Missouri and Souris river flood related projects (i.e. high-water diversion channels, stabilization measures). A byproduct of the flood control measures are voluntary buyouts of chronically flood prone properties. Audubon Dakota has agreed to manage these properties for nature trails, limited hunting opportunities and other suitable recreational pursuits. The Department continues to partner with Audubon Dakota by providing cost-share to reestablish native woodlands and prairies in select areas of the buyouts.

Considerable staff time was also spent on integrating 'wildlife crossings' in the design of various highway projects across the state. Although relatively new to our state, incorporating passageways that allow wildlife the opportunity to cross major highways have been used in other states for quite some time. Staff provided valuable technical assistance in the development of where to place proposed sites and the type of design. It's worth mentioning that the wildlife crossing on Highway 85 near the Little Missouri River is nearing completion. Additionally, the wildlife crossing on Highway 85 in the Missouri River bottoms near Williston which was

completed several years ago has seen considerable use by moose, deer, and a host of smaller mammals.

The Department has continued its efforts to ensure that mitigation commitments associated with development projects are carried forth and maintained. These efforts have focused on three major areas: roadside mitigation along major highways for Department of Transportation commitments, mitigation for Corps of Engineers Section 404 permits and State Engineer Sovereign Land permits.

Nongame and Species of Conservation Priority:

In North Dakota, nongame wildlife represents more than 80 percent of the state's vertebrate fauna, with more than 300 bird species, roughly 80 mammal species, 75 fish species, 15 reptile species and 11 amphibian species. Freshwater mussels, insects and many other small organisms are also considered nongame. Oftentimes, they are the rarer and/or less studied species. Many of these species serve as biological indicators, reflecting the general health of our environment.

In order to focus its management of nongame species, the Department developed a strategic planning document called the Wildlife Action Plan in 2005. North Dakota's Wildlife Action Plan focuses on those species of fish and wildlife considered to be species of conservation priority or the most at risk in terms of extirpation from the state. The plan includes information relating to the distribution, abundance, habitat requirements, threats, conservation actions, and monitoring techniques for species of conservation priority. Section staff completed a 2-year revision process of the Plan and submitted a copy of it to the US Fish and Wildlife Service's regional office in July of 2015.

Prior to 2001, funding to manage nongame species was limited. Since that time, however, federal funding has been made available to states with approved Wildlife Action Plans through the State Wildlife Grant (SWG) program. The SWG program is a matching grants program, meaning all federal dollars awarded must be matched with nonfederal dollars. All projects require at least 35 percent nonfederal match. The Department receives an annual federal apportionment of approximately \$500,000. The knowledge gained from projects funded with SWG has proved invaluable in revising the State Wildlife Action Plan.

Currently 11 species of animals are listed as federally threatened or endangered in North Dakota with an additional 12 species being 'petitioned' for listing. Several species were recently removed the list (i.e. Interior Least Tern & Gray Wolf) and two more were found to 'not warrant' listing (i.e. Yellow Banded Bumble Bee & Moose).

In order to help reduce the likelihood of species being federally listed, a great deal of the emphasis of the SWG program has been gathering baseline information on species of conservation priority (those species that are rare and/or are in decline) to get a better understanding of their status, distribution and relative abundance and problems contributing to their decline. During the past decade, studies have been initiated on grassland nesting passerines, prairie dogs, fringe mammals, bats, raptors, snapping turtles and leopard frogs. Considerable effort has also been made to implement projects to conserve or enhance habitat. For example, over the past 2-3 years, approximately 2000 acres of privately owned riparian areas were

voluntary reseeded to native grass/trees thereby providing valuable habitat to numerous species of fish and wildlife. Additional emphasis and work has been placed on determining the effectiveness of conservation actions as they are implemented, such as monitoring grassland bird use of prairie restoration sites funded through SWG.

Staff spent considerable time attending meetings, networking with conservation and regulatory interests to provide information and feedback on federal listing actions that may affect North Dakota. Recent examples include Monarch butterfly, northwestern moose, Black-tailed prairie dog and Black-footed ferret.

Section staff also spend considerable time handling phone calls, emails and walk-ins from the public regarding nongame and/or rare wildlife. Staff conduct field surveys such as monitoring bald eagle nests, shorebird counts, studying grassland bird use of PLOTS, and monitoring key habitat.

EDUCATION SECTION

Conservation and Outdoor Skills Park (State Fair Area)

For nearly 20 years, the Game and Fish Department has partnered with the North Dakota State Fair (NDSF) to showcase the outdoor opportunities and skills training during the nine days of the fair. Activities include fishing, hunting, trapping, archery and a chance to visit with Department staff. During the nine-day event, the Department has roughly 30 staff members on hand, and nearly 50 volunteers who assist with this effort. The Conservation and Outdoor Skills Park averages 18,000 visitors.

In addition to the areas use during the fair, it is also a big hit locally from April to October as an urban fishery with local school groups and also the general angling public. The area has become a great spot for youth and women's pre-hunt meetings. Many of the local wildlife clubs and Boy Scouts use the area for meetings and other outdoor activities. The area is approximately 5 acres, which includes a fishing pond, several cabins, a large meeting area, and plenty of grass and trees. Following the 2011 flood, fair officials offered the Department more land and an additional building that was refurbished, which the Department heats and cools. It is a very popular site for wildlife club meetings and various other outdoor events year-round.

Hunter Education

State law requires those born after December 31, 1961, to successfully complete an approved hunter education course before buying or applying for a North Dakota hunting license. Approximately 7,589 students took hunter education during the biennium. The course is offered through a network of more than 600 active volunteer instructors in both the traditional and home-study courses.

The internet assisted home-study course, once only offered to students 13-years of age and older, is now being offered for any student during the calendar year in which they turn 12. The home-study course is increasing in popularity and the Department sees this as a proactive means to

address increasing demand. The Department maintains that the in-person certification exam continues to include a state written and “hands-on” practical exam.

To date, more than 237,700 North Dakotan’s have become Hunter Education certified and an additional 2,499 have also completed our bow hunter education course. A free online hunter education study guide continues to be offered through a link on the Department’s website, which offers citizens the opportunity to study and refresh their hunter education knowledge.

During this biennium our Hunter Education Program was significantly impacted by COVID-19. With the majority of our hunter education classes, workshops and instructor trainings occurring during the winter months. Many of our activities had to be modified or canceled due to the pandemic.

In March of 2020, we were instructed to close down all in-person activities including hunter education classes. We pulled together staff and developed a COVID contingency plan that our staff thought best served the citizens of North Dakota. Our plan involved temporarily certifying students utilizing our modified online course from Kalkomey Enterprises so individuals could apply in the deer gun lottery in early June and hunt in the fall of 2020 under the same stipulations of an apprentice hunter.

In July of 2020, we were permitted to begin meeting in-person following current COVID protocols. Volunteer instructors resumed teaching in-person classes.

Between July 1, 2020 - December 31, 2020, staff provided over 100 testing opportunities across the state for students to attend a final exam that would convert their temporary certification to a permanent hunter education number. In early January 2021, all temporarily certified students who had not attended and passed a final exam were notified that their temporary numbers had expired.

Prior to the shutdown for COVID-19 in March of 2020 the Department held Hunter Education Workshops, providing ongoing training for approximately 192 instructors. Both the Hunter Education Academy and Regional Workshops should resume in the next biennium.

Shooting Ranges

The department issues \$220,000 in shooting range grants every biennium. In addition, the department started a plan to build all inclusive shooting sports venues in locations through out the state. The first one was built outside of Velva, ND in conjunction with the Velva Sportsmen’s Club. This facility has a meeting room, an indoor archery building, a 100-yard rifle and pistol range, 3 trap fields, and an indoor archery building. Work was also started on a similar project in Watford City with the McKenzie County Sportsmen’s group. The entire project was completed by June 30, 2021. This biennium we are planning another facility in Hankinson, ND. Land has been acquired for an outdoor rifle range and is currently going through an environmental assessment. Trap shooting fields, archery, and club house will be build on adjoining land in the following year.

Boating and Water Safety

In 1985, a state law was passed that required individuals between 12-15 years of age who would like to operate watercraft with a motor greater than 10 horsepower to complete a state-approved boater education course. The Department provides an in-classroom, online and home study option for students to take the Department's boater education course. Since the North Dakota boater education was developed, over 20,000 students have successfully completed the course with roughly 1,000-1,200 annually. North Dakota is at an all-time high with over 67,000 boats registered in the state.

The Department's partnership with the United States Army Corps of Engineers (USACE) to provide life jacket loaner stations around Lake Sakakawea continues to expand. In addition to the USACE the Department worked with the United States Fish and Wildlife Service and North Dakota State Parks to provide life jackets to boaters at boat ramps who do not meet the legal number of life jackets. Individuals are able to borrow the life jackets for the day and return to the stations when their day on the water is complete. To date, there are 30 life jacket loaner stations around the state.

Several radio advertisements, news interviews and web casts were developed to promote and remind boaters of the navigation rules and safety issues. Staff continue to work with the Department's Communication Section to promote safe boating messages statewide.

In addition to providing the recreational boating educational programs, the Department provides \$40,000 a year in grants to county entities to provide additional recreational boating education programs and enforcement efforts.

North Dakota Hooked on Fishing

Department instructors teach about the basics of fishing including bait and tackle, fish biology, aquatic habitats, and where to find a variety of North Dakota fish species. Classes are often taught near a body of water for hands-on opportunities. 4,000 – 5,000 hours are donated annually by aquatic volunteer instructors who participate in a wide variety of fishing events around the state to include small community events sponsored by groups such as Lure Em' For Life, and the North Dakota State Fair.

In addition to dozens of smaller community fishing events, four major fishing events were conducted throughout the state utilizing a variety of partnerships. Three kids fish camps; one in the spring, conducted in partnership with the ND National Guard specifically for the kids of our soldiers, and two open enrollment camps, one in the spring and one in the summer were conducted. The Department supported the fourth event called Warriors on the Water, an annual event where active and retired military members are taken fishing.

Family Fishing Days program was continued this biennium. This project's intent is to encourage residents of Bismarck and surrounding communities to participate in fishing by providing

equipment and expertise in an accessible location. To accomplish this, from June through August the Department's OWLS pond is staffed with instructors every Wednesday and Saturday to assist anglers. Fishing equipment, bait, and tackle are also provided at no cost. By having both equipment and assistance available at regular intervals throughout the fishing season, we are able to target both new and seasoned anglers who don't participate regularly. This program's popularity increases each year. Several libraries in the state have a rod check out program.

During the 2017-2019 biennium a pilot program was initiated called Trout in the Classroom. The program is run nationally by Trout Unlimited but delivered and coordinated locally by state natural resource agencies and local chapters of Trout Unlimited. As the name implies trout are raised from eggs to fingerling size in the classroom, then in the spring stocked into approved waters. Kids learn about watersheds, water quality, aquatic nuisance species and of course fish ecology. Career opportunities in fisheries management, fish production and aquaculture may also be incorporated. During school year 2017-2018 one Bismarck classroom and one tank at Game and Fish headquarters were operated to determine logistics of the program. During the 2018-2019 school year, 5 additional schools were added which also included a wider geographical area including 4 counties to further test the logistics of egg delivery and stocking efforts. Equipment and eggs were provided by the Department and the US Fish and Wildlife Service. Volunteers from local Trout Unlimited chapters are often relied upon to help with egg delivery and to be present for the stocking efforts. Unfortunately, there are no Trout Unlimited chapters in North Dakota, which will limit full expansion of the program. The program will be expanded by up to 6 additional classrooms in the 2019-2021 biennium.

Fur Harvester Education

Game and Fish furbearer hunting and trapping instructors teach the history of furbearer hunting and trapping and their role in future wildlife management, ethical hunting and trapping, use of trapping equipment, techniques of hunting and trapping, and proper preparation and marketing of furs.

During the 2019-2021 reporting period, 14 volunteer instructors taught 12 courses to 477 students for a total of 287 volunteer hours. This represents all fur harvester classes and presentations including the full 16-hour certification workshop. Students who successfully complete the course are certified in trapper education and receive a unique number. This number is recognized by all states that require completion of a trapper education course before trapping, using certain types of equipment or trapping certain species. North Dakota does not require this certification to trap, snare or hunt furbearers. The demand for the certification course varies widely depending on fur prices.

National Archery in the Schools

NASP is a widely popular, in-school archery program operating in 47 states, Australia, Canada, Mexico and Africa. NASP is a two-week introductory archery program designed to be taught by

physical education teachers in grades 4–12, coordinated on a state level in most cases by state wildlife conservation agencies.

In 2008, the Department became the coordinating agency for NASP in North Dakota. To date, one staff member is trained as an Archery Instructor Trainer Specialist, five staff members have been trained as Basic Archery Instructor Trainers and 10 staff members are certified as Basic Archery Instructors.

The program has been implemented in about 190 schools North Dakota. In 2017, NASP implemented a mandatory on-line reporting tool where instructors enter their archery instructional activity throughout the school year. The report showed nearly 8,000 kids participated during the school day and 2500 participated after school. With a goal of implementing the project in 50 percent of North Dakota schools, the grant program continued with nearly \$80,000 available to schools and other archery organizations purchase equipment and expand the program during the 2017-2019 biennium.

The state tournament series continues to grow in popularity with 700 kids now participating. Each year around 100 youth from several North Dakota schools travel to Kentucky to represent North Dakota in the national tournament, an event that now attracts more than 16,000 students from 37 states. Several regional tournaments have continued to grow in popularity with a local tournament somewhere in North Dakota nearly every weekend from Mid-January through Mid-March.

During 2015-2017 biennium, a non-profit organization called the North Dakota Youth Archery Advisory Council formed. Its mission is to assist the Department with the growth of the NASP program in North Dakota. Its board members consist of teachers, school administrators, and community members all certified as NASP instructors and active in a school program. Over 1,000 volunteer hours were reported from the members of this organization for the reporting period. Since their inception, they have raised over \$60,000 in college scholarships which are awarded to the top five boys and girls at the state tournament.

In 2019 the Department was the first state to pilot a project called Varsity Archery. This program was conceived here in North Dakota but caught the attention of 2 nationwide archery organizations. These organizations helped design the program, train instructors, helped operate the first ever tournament and provided \$11,000 in grants to place equipment in the first 11 schools. The program was designed to dovetail seamlessly into the NASP program, the intent of which is to keep the older students, those in high school interested and engaged in their school archery program by offering them more advanced equipment and shooting techniques. The program has now spread into 6 other states, with Ohio being so impressed with the concept they are hoping to get 50 schools into the program during the 2019-2020 school year.

Habitats of North Dakota

The Habitats of North Dakota program continues to be an important component in the fourth-grade studies curriculum and life science curriculum for kindergarten through 12th grade. The

program that was initiated in 2008 has grown to encompass topics such as habitats, wildlife of North Dakota, elementary science resources provided by the Department, preschool methods of teaching life science, integration of the visual arts into life science curriculum, and graduate credit courses offered through the University of North Dakota (UND). A partnership has also been formed presenting the Habitats program, Project WET and Project Learning Tree to teach environmental education to teachers of the State. This partnership was well received by area educators.

Habitats of North Dakota workshops are provided at the University of Mary, Valley City State University, Jamestown University, Minot State University, North Dakota State University, Dickinson State University (both Bismarck and Dickinson campuses), Mayville State University and the University of North Dakota for all pre-service elementary education majors. Additional graduate credit workshops are offered for licensed teachers in Minot, Bismarck, Valley City, Devils Lake, Bottineau, Williston, and Dickinson.

Continuing education in-service workshops are offered statewide, and presentations are made at the North Dakota Science Teachers Conference each year. Approximately 140 teachers received graduate credit for completing in Habitats of North Dakota related workshops. Additionally, approximately 300 more receive information through shorter training opportunities. In addition to Face to Face workshops, The Habitats of North Dakota program is now offered online through regional teaching universities and North Dakota State University. This online format, while not as interactive as face to face training is more flexible for participant's schedules and is providing additional teacher professional development opportunities.

The Habitats program also has supplemented the North Dakota Grazing Coalition's regional workshops adding information on habitat diversity and the importance of edge. These workshops are offered for credit to educators as well as implementing a field day that attracts educators, conservationists and ranchers. We reached over 50 individuals during the summer of 2021.

Habitat presentation requests throughout the state continue for classrooms, scout groups, and pre-service teachers. Classroom presentations reach 844 students throughout the State. Habitats of North Dakota is presented at the Gateway to Science Environmental Festival in Bismarck, serving students from the region. Approximately 240 students are reached at this event. Habitats of North Dakota is also part of the annual Earth Day celebration in April, reaching approximately 150 students. The Rough Rider Institute, a summer field biology class through Williston High School and offered at Buffalo Gap Campground near Medora also has a Habitats component. Students study the five habitats of the State that are located in the immediate area using field biology methods.

Urban Pollinator Program (UPP) has been launched and educator workshops and classroom presentations have been launched. The UPP has been well received. Teachers are readily signing up for professional development using the UPP curriculum guide as well as requests for classroom visits. So far, graduate level workshops for the UPP have been offered in Bottineau, Bismarck, Dickinson, Grand Forks and Valley City.

Additional duties of the Education Section include judging local and regional science fairs, curriculum development, and working with the Hunter Safety Education program to ensure the Academy presentations are educationally sound, which includes how to effectively teach to your audience at the Hunter Education Academy.

Outreach Biologists

In 2021, Game and Fish administration reassigned the outreach biologists, stationed in Fargo, Grand Forks, Minot, and Bismarck, from the Communications Section to the Education Section, to even out workload between section leaders within the division. The outreach biologists are vital, local experts for interacting with wildlife clubs, local leaders, local media, and assisting other Department divisions with local issues.

The outreach biologists all have weekly radio programs on major local stations, produce a weekly agency audio news release, and a weekly newspaper column that is widely distributed and used.

WILDLIFE DIVISION

Our Wildlife Division functions within three sections. Our Game Management Section is responsible for population monitoring and harvest management of wildlife species that are hunted and trapped in the state. Our primary surveys consist of ground and aerial observations, and harvest surveys completed by hunters and trappers. Our Wildlife Resource Management Section is responsible for the management of approximately 218,000 acres of wildlife management areas for wildlife production and public hunting opportunities. These areas offer a wide variety of public hunting opportunity across North Dakota. Our Private Lands Section is responsible for the Private Lands Open to Sportsmen program where we work directly with private landowners who are willing to open their property to public walk-in hunting. The landowner is compensated in return for access provided along with the habitat associated with their property.

GAME MANAGEMENT SECTION

Our Game Management Section is responsible for population monitoring and harvest management of wildlife species that are hunted and trapped in the state. The overall goal of our section is to maximize sustainable hunting and trapping opportunities, while minimizing human-wildlife conflicts. Our work is accomplished through a series of surveys, censuses, and inventories to monitor population status and harvest of these important resources. Research studies also provide us new information to better understand the ecology of species and their habitats, as well as improve monitoring techniques. The information and knowledge gained from these activities are used to guide management decisions, to make hunting and trapping season recommendations to our Director and the Governor, and to provide information to the public and other agencies and organizations.

Our section staff includes: 4 big game biologists, 2 upland game biologists, 2 migratory game bird biologists, 1 furbearer biologist (which also serves as the section leader), 1 wildlife veterinarian, 1 wildlife health biologist, 1 survey and data coordinator, 1 pilot, and 1 game management technician. Throughout the year, temporary/seasonal employees assist with portions of our workload. Because of this minimal staffing, section staff work cooperatively with each other whenever possible, and other Department personnel provide much needed assistance.

During the 2019-2021 biennium, we saw good and bad effects of weather, habitat, and disease on various game species. Winter weather did not severely impact deer, pronghorn, pheasants, grouse, and turkeys. However, drought conditions in 2021 lowered waterfowl and upland game bird reproduction. Reductions in the acreage of CRP across the state also continued to negatively impact grassland dependent species such as deer, pheasants, grouse, and ducks. Sage-grouse numbers remained low and our efforts to boost the population via translocations from Wyoming have proven ineffective. Moose and elk provided special “once in a lifetime” hunts for hundreds of hunters each year and the number of licenses available have increased in recent years. On the other hand, Chronic Wasting Disease and Epizootic Hemorrhagic Disease in deer and pneumonia in bighorn sheep continued to be major concerns. Also, special seasons (spring light geese and resident Canada geese) continued to be used to increase harvest and bring populations back down to management objectives.

Summaries of activities by group follow:

Big Game

Our overall goal for big game management program in North Dakota is to maximize hunting opportunities, while maintaining populations within landowner tolerance levels and the carrying capacity of the land. To achieve this goal, we have both short-term and long-term objectives. Our long-term objective is to develop predictive models for managing each of our big game species through adaptive harvest management techniques (i.e., process of continually updating and evaluating new survey and harvest data and incorporating the results into updated models). To achieve our long-term goals, our short-term goal is to evaluate historical databases for each of the species. This analysis will allow us to decipher which variables provide the greatest predictive value of future changes in big game populations.

On a national basis, we have contributed tissue samples for several genetic, pesticide, parasite, and disease research projects. In recent years, we have worked cooperatively on research and management projects with other agencies in Alberta, Georgia, Iowa, Manitoba, Minnesota, Mississippi, Montana, Oregon, South Dakota, and Wyoming. Our big game staff has been actively involved with a number of professional regional workshops including the Annual Midwest Deer and Turkey Workshop, Biennial Pronghorn Workshop, Biennial Northern Wild Sheep and Goat Symposium, North American Moose Symposium, Elk and Mule Deer Working Group, North Dakota Chapter of The Wildlife Society, Central Mountains and Plains Section of The Wildlife Society (hosted in 2019), International Association of Natural Resource Pilots, and other professional meetings and symposiums as they are available.

During the 2019-2021 biennium, we presented professional papers and published articles on big game species found in North Dakota. During this biennium peer-reviewed papers have been published on the status of elk in North Dakota (PLoS ONE 2019), white-tailed deer (Prairie Naturalist 2019, Journal of Environmental Management 2019, Science Report 2019, Northwest Naturalist 2019, Mammalian Research 2020, Global Ecology and Conservation 2021, Ecology and Evolution 2021, and Canadian Field-Naturalist In Press), moose (*Alces* 2020) and big game habitat (Prairie Naturalist In Press). We assisted with updating the 2nd edition of “Mammals of North Dakota” (2020), and chapters for upcoming books on mule deer (John Hopkins University Press) and moose (Springer Press). Additionally, we routinely provide big game population and hunting information to the public and media.

Our big game staff also developed a contact list for landowners wanting deer harvested on their land and continues to work with landowners to focus harvest in areas with high densities of big game on private land. These efforts are intended to focus hunting pressure on areas with chronic depredation problems and disease concerns.

White-tailed deer:

In general, population indices for white-tailed deer suggest stable to decreasing numbers in the eastern and stable to increasing numbers in the western part of the state. Mild winter conditions during the winters of 2019-2020 and 2020-2021 have allowed regular deer-gun license numbers to increase. However, snow conditions during these mild winters did not permit aerial surveys to

be conducted. We are continuing to evaluate the use of hunter observation questionnaires as a means of providing population indices (deer sighted per hour of effort, and buck/doe/fawn ratios). Hemorrhagic disease during the late summer of 2020 resulted in noticeable white-tailed deer die-offs in the southwestern corner of the state; particularly in hunting units 3D1 and 3E1. However, hunter success remained relatively high for those units. During the late summer of 2021 significant die-off due to hemorrhagic disease have been occurring along the Missouri River corridor.

Highlights to the 2020 deer hunting season are as follows:

- We issued a total of 67,670 licenses of the 69,000 licenses made available for the regular 2020 deer-gun season. In 2021, we will issue 72,200 licenses for the deer-gun hunting season, 3,150 more than 2020.
- The overall hunter success for the 2020 regular gun season was 67%.
- Deer-gun hunters harvested an estimated 30,671 white-tailed deer and 8,651 mule deer during the 2020 season.
- Youth deer hunters were issued 5,989 licenses in 2020 had a success rate of 66% during the youth season and harvested 3,318 white-tailed deer and 304 mule deer during the youth deer season. During the regular deer-gun season an additional 328 white-tailed deer, and 241 mule deer harvested by youth hunters.
- Muzzleloader hunters were issued 1,206 licenses in 2020 had an overall success rate of 44.1% and harvested 482 white-tailed deer.
- Archery hunters were issued 30,336 licenses in 2020 had an overall success rate of 39.1% and harvested 8,763 white-tailed deer and 1,279 mule deer.

We are currently conducting four research projects for white-tailed deer: (1) identifying population genetic structure to reduce the spread of CWD in mule deer and white-tailed deer (University of North Dakota), (2) developing an Optimal Harvest Model for estimating populations (University of Alberta), (3) developing a Removal Model for estimating populations (University of Idaho), and (4) developing a Statistical Population Reconstruction model for estimating populations (University of Montana). Once research projects 1, 2 and 3 are completed we will evaluate how this information can be used in an adaptive harvest management approach for setting deer harvest rates; we will be reassessing deer management goals as we move forward. Finally, we have recently evaluated a mixed mode approach for deer hunter survey questionnaires with the objective of improving response rates and reducing bias (University of North Dakota). Improved response rates and reductions in bias result in more precision around our harvest estimates which is increasingly important as we continue to develop population models (i.e., removal models, SPR) that are parameterized chiefly with harvest information.

Mule deer:

Mule deer abundance in the badlands was stable during 2019-2021 and above long-term average. Mule deer numbers in secondary range were stable to increasing during 2019-2021.

- Our mule deer population in the western badlands is monitored by annually conducting a fall production survey and spring population index. Twenty-four study areas covering

306.3 square miles are flown during the fall production survey and the spring population index. The 2021 spring index was similar to 2020, and 21% above the long-term average.

- Mule deer fawn production continues to increase toward long-term average level following record low fawn-to-doe ratios in 2009-2012. The 2020 fawn/doe ratio was 82 fawns per 100 does which was similar to 2019 (0.84:1.0), but below the long-term average of 88 fawns per 100 does. The 2020 buck/doe ratio was 36 bucks per 100 does, which was lower than 2019 (0.41:1.0) and long-term average (0.43:1.0).
- A total of 5,200 mule deer licenses were made available in 2020, and 5,400 were available in 2021 via lottery application.
- Randomly sampled license holders are mailed a questionnaire to determine harvest statistics.

Pronghorn:

Pronghorn numbers were stable to increasing during 2019-2021. Pronghorn in primary range were stable, while numbers continue to increase in secondary range. A hunting unit was opened in 2020 north of the Missouri River for the first time since 1993.

- We determine pronghorn abundance, distribution, reproduction, and sex ratios by aerially surveying selected survey units (from a total of 51 survey units) covering 30,142 square miles of pronghorn habitat in July. The annual aerial survey consists of approximately 25 survey units covering 15,000 square miles. The 2021 statewide pronghorn survey indicated a population of 9,610, with a buck-to-doe ratio of 34 bucks per 100 does and a fawn-to-doe ratio 52 fawns per 100 does.
- A total of 1,795 licenses were made available in 2020, and 1,720 were available in 2021 via lottery application.
- All license holders are mailed a questionnaire to determine harvest statistics.

Moose:

Our moose population is stable in the northwest portion of the state in units M9, M10 and M11 and stable to decreasing in units M5, M6 and M8 in the southcentral, southeast, and northeast portion of the state. Numbers continued to remain low in what was once considered traditional habitat in the Pembina Hills, Turtle Mountains, and Red River Valley region. Moose hunting units M1C (Pembina Hills) and hunting unit M4 (Turtle Mountains) remain closed due to low observed numbers.

- Annual aerial surveys are conducted on 400 square miles of primary moose range as well as 2,700 square miles of secondary moose range when snow conditions are adequate.
- All moose license holders are contacted after the annual hunting season for harvest statistics.
- A total of 470 moose licenses were made available in 2020, and 470 were available in 2021 via lottery application.

Elk:

We are managing elk populations at stable to decreasing numbers because of depredation concerns and low landowner tolerance. Our population of elk in unit E1W are stable to increasing and units E1E and E2 continue to remain stable. Elk numbers in unit E3 and E4

appear to be stable to increasing as herds have expanded outside Teddy Roosevelt National Park. The elk population in elk unit E6 also appears to be stable.

- Annual aerial surveys are conducted on 500 square miles of primary elk range as weather conditions permit.
- All elk license holders are contacted annually for harvest success.
- Mobile check stations are conducted annually on opening weekends of the elk seasons.
- A total of 524 licenses were made available in 2020, and 519 were available in 2021 via lottery application.

Bighorn sheep:

Our bighorn sheep population has been increasing the last several years, and a record 322 bighorns were counted during the 2021 population survey. An all-age pneumonia-related die-off occurred during summer 2014 that has persisted through 2021, albeit to a much lesser degree. Approximately 15 percent of our adult population was lost during 2014-2016; however, the rate of mortality has declined substantially since 2014 and most northern herds are showing great improvement in adult and lamb survival. We continued to document and assess the impacts of the die-off and persistence of *Mycoplasma ovipneumoniae* in the population during the 2019-2021 biennium.

We had a record number of applications submitted for bighorn sheep hunting licenses the past 3 years with 15,518 in 2019, 16,935 in 2020, and 19,126 in 2021. Five adult rams were harvested in 2019 (100% success) and six in 2020 (100% success). Five licenses were issued in 2021. All hunter-harvested bighorn sheep were horn-plugged and biological samples and measurements were collected.

We also provide one bighorn sheep license for auction annually by the Wild Sheep Foundation – Midwest Chapter, with \$69,000 raised in 2019, \$83,000 in 2020, and \$135,000 in 2021. All proceeds were directed to bighorn sheep management projects in North Dakota.

We also continued to collect and analyze location data from radio-collared bighorn sheep to gather data pertaining to home range, lambing areas, adult survivability, and providing empirical data to land management agencies.

During February 2020, the Department collaborated with the Three Affiliated Tribes Fish & Wildlife Division to translocate 30 bighorn sheep from Rocky Boy's Reservation, Montana to Fort Berthold Reservation, ND. In exchange for three hunting licenses, the Department agreed to fully conduct the capture and translocation and co-manage the bighorns for two years post-release. The introduced bighorns have been closely monitored thus far and are doing very well, as the population has increased from 30 to 59 in just two years.

Upland Game

Our upland game section is responsible for maintaining population trend data for 16 species of upland and small game. Population trend data are gathered through use of long-term established surveys conducted in winter, spring and summer and hunter-submitted samples in fall. These

surveys form the basis of population trend estimates that are used to establish annual hunting seasons and provide hunter forecasts. Upland game hunters are one of the largest contingents of hunters in North Dakota. During the period 2019-2020, resident small game license sales were roughly 40,000 each year and non-resident sales were roughly 15,000 each year.

Ring-necked pheasants:

Ring-necked pheasant numbers in North Dakota are down from 2020. The drought conditions spring/summer of 2021 has resulted in lower numbers of pheasants over much of the primary pheasant range in North Dakota. Recent short-term declines are normal due to climactic conditions. However, changes in land-use due to high commodity prices and removal of grassland acres from the Conservation Reserve Program (CRP) continues to occur, so without habitat programs to replenish vanishing CRP, we expect to see deeper troughs and lower peaks in the long-term pheasant population trend. Additionally, new research suggests that increased application of agricultural insecticides can negatively affect upland game bird survival and may compound negative influences on long-term population trends.

During 2021, 266 late-summer roadside counts for pheasants were conducted on a total of 101 census routes in North Dakota. Statewide, there was a 23% decrease in total number of pheasants observed per 100 miles, 30% decrease in the number of pheasant broods observed per 100 miles, and average brood size remained unchanged from 2020.

Table 1. Statewide results of the late summer roadside counts from 2012-2021.

STATEWIDE												
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	% Change 2020-2021	10 Year Average
Number of runs made	259	252	259	276	288	288	290	271	282	266	-5.7%	
Broods per 100 miles	11.4	8.1	10.7	13.3	12.0	4.3	4.1	5.4	6.9	4.8	-30.4%	8.1
Birds per 100 miles	98.9	65.8	84.9	108.9	93.9	36.1	34.4	42.6	58.0	44.9	-22.6%	66.6
Average Brood Size	6.47	5.81	5.54	5.98	5.45	4.41	5.61	5.34	5.89	5.83	-1.0%	5.6

Hunter harvest questionnaires are mailed out annually to estimate number of hunters, hunting trips, and harvest. Pheasant harvest for the 2020 hunting season showed 57,141 hunters (an increase of 14% from 2019) harvested 330,668 roosters (an increase of 28% from 2019). Youth harvest in 2020 was estimated at 150 roosters, compared to 86 in 2019.

The number of hunting trips over the same period has slowly decreased while pheasants harvested per hunter has slowly decreased. But as pheasant numbers declined, so did hunting activity. As the number of non-resident hunters increased during the mid-2000’s, the Department began sampling those hunters on an annual basis, rather than every 3-5 years.

Sharp-tailed grouse:

Sharp-tailed grouse are the most widely distributed and abundant grouse species in North Dakota. We used data from spring lek counts, late summer roadside counts and hunter surveys to evaluate the population trends of sharp-tailed grouse. During spring lek counts, biologists census

over 700 square miles to get counts of all males displaying on leks within a census block. Late summer roadside routes (150 routes, 4,700 miles) are run in July and August to count adults and juveniles to gauge annual reproductive success. Hunter questionnaires (sample size 9,000 resident questionnaires; 4,500 non-resident questionnaires) are used to estimate number of hunters, hunting trips, and harvest. We use data on hunter-harvested wing, tail and head feathers to estimate sex ratios, age ratios and peak hatch dates. Envelopes are mailed each year to approximately 1,600 hunters (8,000 envelopes) and hunters can request additional envelopes online or at any NDGF office.

We counted 2,760 and 3,281 male sharptail on all survey blocks in 2020 and 2021, respectively. These numbers have rebounded from the near 20-year low observed in 2018 and 2019. The spring of 2019 was the first spring since the 2017 drought with abundant nesting cover, and the population trend is beginning to rebound. Areas east of the Missouri River remain above the 10-year average. However, majority of our sharp-tailed grouse have always been counted in the southwest part of the state, so our statewide estimate is near the 40-year average.

We estimated a poor hunter harvest of roughly 34,375 in 2019, but in 2020 that number rebounded to 86,965 (above the 2014-2016 average of 74,000). The number of sharp-tailed grouse hunters was also up in 2020, 19,971 vs 14,080 in 2019.

Sage-grouse:

We conduct annual spring counts at all known active and historical sage-grouse strutting grounds (leks) in North Dakota. Active leks are counted at least two separate mornings, and historical grounds are counted at least once each. The record high was recorded in 1980 when biologists counted 380 males on 23 leks, but the trend over the past 50 years has been a slow decline. After a West Nile Virus outbreak in 2007-2008, the population plummeted. Beginning in 2008, we closed the sage-grouse hunting season due to lek counts below management objectives (250 males observed on leks). In 2017, we counted the fewest sage-grouse ever counted in North Dakota, only 6 males from all known leks.

North Dakota is on the fringe of the sage-grouse range in North America, and small changes to our fringe habitat components have had negative effects on sage-grouse. We wrote a sage-grouse management plan in 2005 to identify threats to sage-grouse habitat and revised the plan in 2014. The final draft is available on our website.

In 2017, research began in North Dakota in attempt to enhance the existing population of sage-grouse in the state via translocations from Wyoming. We 1) translocated a minimum of 30-45 female sage-grouse annually 2017, 2018 and 2019, 2) experimented with artificial insemination of females prior to translocation to bolster the probability of successful nesting and fidelity to release sites, 3) attempted to translocate sage-grouse hens with broods to allow hens to nest in their native habitats, and 4) monitored translocated birds via radio-telemetry. We are collaborating with Utah State University and the US Geological Survey to develop an integrated population model from our data that will allow us to assess the contribution of translocations to our population, and ultimately develop a translocation protocol that integrates lessons learned from this study along with those from past and ongoing efforts elsewhere in the species range.

In 2020 and 2021, after 4 years of translocations, we counted 27 and 22 male sage-grouse, respectively, and the majority of the males counted were near our release sites. We are in the process of publishing results on this experimental translocation, but unfortunately, it did not seem to bolster our population as much as we had hoped it would. We would need to continue translocations of nearly 10 times more sage-grouse annually for 10-15 years to expect a significant response, which the Department does not believe is practical.

Gray partridge:

We used several surveys to determine population trends of gray partridge in North Dakota. In addition to brood surveys (350 routes, 8,800 miles), hunter questionnaires (9,000 resident questionnaires, 4,400 non-resident questionnaires) and a wing survey (8,000 envelopes mailed to 1,600 hunters), we also used rural mail carriers to estimate the spring breeding population. Cooperating carriers travel sixty to seventy thousand miles during a three-day survey period in mid-April. These data indicated a statewide decrease of 25% from 2018-2019 to 2019-2020. In 2020, we conducted roadside brood counts on 8,987 miles of roadsides and we used the roadside survey data to evaluate production. The number of partridges observed per 100 miles increased 43% from 2018-2019 to 2019-2020. The number of broods observed per 100 miles was unchanged from 2018-2019 to 2019-2020. Partridge numbers are well below the peaks hunters saw in the late 1980s, but populations continue to fluctuate with winter weather and availability of suitable habitat (crop edges with forbs and diversity of plant species for food and cover).

Ruffed grouse:

Twelve drumming routes are run annually in two districts to determine the breeding population of ruffed grouse in North Dakota (routes are no longer run in McHenry County because ruffed grouse have not been documented in that county since 2006). The ruffed grouse population in North Dakota is cyclical with a peak approximately every 10 years. Over the past 40 years, the peaks and troughs have become lower. For example, we dropped below an average of 0.5 drums heard per stop for the first time ever in 2013. During the 20-year period from 1980 to 2000 our average drums heard per stop was ≥ 1.5 for 11 years. In the past 20 years, we have only recorded ≥ 1.5 drums per stop in 1999. Survey results indicated 0.71 drums heard per stop in 2021, down from 1.22 in 2020.

We monitor ruffed grouse harvest via our small game hunting questionnaire, the same survey used for other upland game bird species. Ruffed grouse harvest was estimated at 193 birds (probably an all-time low) in 2002, jumped to 2,163 birds in 2008 and has remained around 1,000 birds through 2016 (exception was 2015 when only 306 birds were harvested). In 2019 we developed an automated logistical model to estimate harvest for upland game species, and it consistently results with drastically higher estimates of harvest, due to low hunter effort, but high variability in reported harvest for ruffed grouse. We are exploring new ways to estimate ruffed grouse harvest, but with the new method we estimated 4,364 and 2,655 ruffed grouse were harvested in 2020 and 2019, respectively.

Ruffed grouse habitat (mixed-aged aspen forests) continues to decline in the three areas in the state where we have ruffed grouse. Aspen are cleared for residential, recreational and agricultural development. Further, fire and floods are more controlled in the remaining aspen stands, resulting in older, even-aged stands that do not provide the diversity of mixed-age stands. More

recently, studies in Minnesota have revealed that ruffed grouse populations are susceptible to West Nile virus.

Prairie chickens:

We conduct annual counts at over 200 historic and active leks in the prairie chicken range in North Dakota. Both prairie chicken booming grounds and sharp-tailed grouse dancing grounds are included in the survey, and some breeding grounds include both species. The two main populations are on the Sheyenne National Grasslands and a smaller re-introduced population west of Grand Forks.

From 1992-1998, we invested in a prairie chicken restoration project in Grand Forks County. We translocated 414 wild-trapped prairie chickens to this area. Initially these transplants helped the population increase to a level capable of supporting a hunting season (opened in 2004). This was the first hunting season on prairie chickens in North Dakota since 1945. However, severe winters and wet springs have resulted in a dramatic decline in North Dakota's prairie chicken population since 2006 (particularly during the winters of 2009-2011). We closed the hunting season in 2010.

We started new contracts with the University of North Dakota and a retired Minnesota DNR biologist to complete prairie chicken counts starting in 2019. We will begin to estimate a trend from the new observers after the 2022 season, because counts by new observers started out low and have been increasing with experience. In 2021, we spent time collecting photographs and video of remaining greater prairie-chickens in the Grand Forks population, and discovered that many of the "prairie chickens" were actually hybridized with sharp-tailed grouse. We expected rare hybrids, but counted more hybrids (8) than pure greater prairie-chickens (1) on two of the larger booming grounds. We'll continue contracting UND to monitor prairie chickens, sharp-tailed grouse, and hybrids in Grand Forks County. This new arrangement provides a great opportunity to collaborate with UND because they are located conveniently close to the remaining active prairie chicken leks in Grand Forks County. It will give prospective students experience in the field with wildlife surveys and increase communication between NDGF and UND.

Wild turkeys:

Three subspecies of wild turkeys have been introduced into North Dakota (Merriam's, Eastern, Rio Grande) and are managed as a single species. Season recommendations are based upon population trend data gathered on summer brood surveys. Two hunting seasons are held each year; a spring 'gobbler only' season and a fall season where any turkey is legal. Prior to the fall 2005 turkey season, only North Dakota residents were eligible to apply for licenses for both hunting seasons. The 2005 Legislature amended the N.D. Century Code, and it now allows nonresident licenses to be available after the resident lottery is held. In 2015, the Legislature allotted up to two turkey licenses for the Outdoor Adventure Foundation for youth diagnosed with cancer or a life-threatening illness. In 2017, the Legislature passed a bill making available a total of three spring wild turkey license to the National Wild Turkey Federation for raffle or auction.

Hunter harvest questionnaires are sent to a sample of hunters after the close of each season to estimate hunter activity and harvest. Turkey numbers steadily increased from 2017 to 2021.

During the 2019 fall hunting season, a total of 3,660 regular season licenses were available; a decrease of 50 licenses compared to 2018. Gratis licenses were not included in the regular season license allocation. A total of 3,785 licenses were issued for the fall 2020 hunting season. This included 275 gratis licenses to landowners and 3,557 regular licenses. There was a total of 2,594 active wild turkey hunters; 2,427 active hunters holding regular season licenses (95%) and 167 active hunters with a gratis license (5%). Combined, they harvested a total of 1,149 birds for a hunter success of 44%.

During the 2020 spring gobbler hunting season, a total of 6,230 regular season licenses were available; an increase of 3.4% licenses compared to 2019. Gratis and youth licenses were not included in the regular season license allocation. A total of 6,858 licenses were issued. The licenses issued included 511 gratis licenses, 406 youth licenses, and 5,942 regular licenses. There were 5,263 active wild turkey hunters. A total of 4,624 active hunters had regular season licenses and 301 active hunters had a gratis license. Combined, hunters harvested 2,795 gobblers for a hunter success of 53%, which included 175 gobblers taken by youth hunters and another 139 taken by gratis hunters.

Tree squirrels (gray, fox, red):

The rural mail carrier survey is used to determine population trends for tree squirrels. Rural mail carriers record population data for squirrels four times throughout the year (April, July, September, and January). Cooperators and mileage are similar during each survey period. Cooperators observed 5% fewer tree squirrels in 2020-2021 as compared to 2018-2019.

The small game harvest questionnaire used to estimate hunter activity for grouse, partridge and pheasant is also used to estimate tree squirrel harvest. In addition, known squirrel hunters are sent a harvest survey card at the end of the hunting season which asks about their squirrel hunting activity, success, and harvest by species. Tree squirrel harvest ranged between 6,764 and 10,364 for 2019-2020.

Rabbits and hares (snowshoe, cottontail, and jackrabbit):

Population surveys to determine trends of cottontail rabbits are similar to those used for tree squirrels. Rural mail carriers census cottontails during four periods of the year (January, April, July, and September). Cooperators observed 18% fewer cottontails in 2019-2020 as compared to 2018-2019. Information from the 2019-2020 small game hunter questionnaire indicated that 3,534 hunters harvested 3,499 cottontail rabbits in North Dakota during the 2020 hunting season. Compared to 2019, this was an increase of 140% in number of hunters and 53% decrease in harvest.

Migratory Game Birds

Migratory game birds in North Dakota include ducks (18+ species), geese (5 species), tundra swans, coots, sandhill cranes, mourning doves, snipe, and woodcock. Because these game birds are migratory, they are protected by international treaties and their management is shared by the states, provinces, and countries throughout their range. Thus, migratory game bird program activities encompass a great deal of coordination and cooperative work with government and non-government organizations, officials, and biologists throughout North America. In most

cases, their harvest and/or population management are guided by multi-jurisdictional management plans. Overall duck harvest management is delivered using adaptive harvest management and is an exemplary case study of cooperative, sustainable, objective-driven harvest management. In addition, the migratory game bird staff handles all endangered whooping crane coordination because of the close associations between whooping crane management and migratory game bird management.

The migratory game bird staff conducted 11 regular surveys to measure the population status and harvest of more than 29 species of migratory game birds. These surveys along with other annual monitoring efforts are part of the cooperative continent-wide management of migratory game birds. This year, 2021, marked the 74th year of our statewide breeding duck survey. To our knowledge, this is the longest running, systematic breeding waterfowl survey in the world. We were able to continue the survey during 2020 with special modifications made to ensure health and safety of workers and the public prior to COVID-19 vaccine availability. In 2020, our survey was the only large-scale breeding waterfowl survey conducted; in 2021, comparable surveys were conducted in a handful of states.

In addition to these regular surveys and projects, migratory game bird staff worked on and contributed to a number of research and management projects including monitoring efforts to justify ultra-liberal hunting regulations for Giant Canada goose population management, the operational Central Flyway preseason duck banding project, a study using GPS transmitter implants to examine post-fledging movements and habitat use by hatch-year mallards, a study examining factors to redhead duck recruitment, Arctic nesting light goose research, Arctic nesting Canada goose research, the national waterfowl parts collection harvest survey, Adaptive Harvest Management and other harvest strategies for waterfowl, sandhill crane surveys, a pilot study to examine methods for collecting age-specific sandhill crane harvest data, outlining alternative methods to collect age-specific goose harvest data, national mourning dove banding program, national mourning dove harvest management strategy, waterfowl rest area establishment, hunting proclamations and guides, informational presentations and work with media, wildlife, university, and school groups and citizens throughout North America, peer review and publication of professional literature and presentations, and work on various other committees and projects within the Department and with other agencies and organizations.

During the past biennium, the migratory game bird section has published: a band wear/loss study on diving ducks (*Wildlife Society Bulletin* 2020), a study determining the impacts of oil and gas development on duck brood abundance (*Journal of Wildlife Management* 2019), a study determining the impacts of oil and gas development on duck nest abundance and density (*The Condor* 2020), and a study determining the impacts of oil and gas development on breeding duck pair abundance (*The Condor* 2021). We also submitted a manuscript for peer-reviewed publication that relates late-summer dove abundance to regional weather patterns.

A high priority for the migratory bird staff is cooperative work with all governmental and non-governmental agencies and organizations that are stakeholders in migratory bird resources. We have significant responsibilities with the Central Flyway Council, the Central Flyway Waterfowl Technical Committee (including 15 subcommittees), the Central Flyway Webless Migratory Game Bird Technical Committee (including four subcommittees), the Central Management Unit

Dove Technical Committee, the Bird Banding Lab ad-hoc group, the pintail harvest management strategy working group, the Association of Fish and Wildlife Agencies (including the Waterfowl Working Group, the Harvest Management Working Group, the Federal Duck Stamp Task Group), and the Prairie Pothole Joint Venture. Work with these entities is vital to continued successful management of migratory game birds and associated hunting opportunities in North Dakota.

Migratory game bird staff administer a wide variety of hunting opportunities in the state: 3 special waterfowl hunting seasons (Youth Waterfowl, Veteran and Active Military Waterfowl, and September Canada goose), 5 regular waterfowl seasons, (Duck and Coot, Canada goose, White-fronted goose, Light geese, and Tundra swans), 5 webless migratory bird seasons (Dove, Sandhill crane, Snipe, Woodcock, and Crow), 1 Spring Conservation Order (light geese), and 1 August Management Take (Canada geese).

During 1995-2016, duck numbers reached record highs in North Dakota, peaking in 2002. Abundant CRP, which provided nesting cover, and excellent wetland conditions ushered in a new era for waterfowl hunting opportunity in the state, not seen since before WWII. However, recent losses of wetland and grassland habitats have resulted in breeding duck numbers in North Dakota dropping to their lowest level in more than two decades. In 2017, breeding duck numbers dropped below 3 million birds for the first time since 1994. Breeding duck numbers were again below 3 million birds in 2018 with 2.8 million ducks settling in the state. Extremely wet conditions in spring 2020 attracted nearly 4 million breeding ducks to the state. This positive uptick in conditions and numbers was short-lived, and drought returned in spring 2021. During the spring 2021 survey, mallard and pintail indices were their lowest since 1993 and 1991, respectively. Statewide, we have roughly 1/3 the CRP acres that once covered the landscape in 2007. Without secure nesting cover in the form of perennial grasses, it will be difficult for duck numbers to rebound in any sustained manner.

Since 1998, numbers of nonresident waterfowl hunter numbers have been quite high, often rivaling or exceeding numbers of resident waterfowl hunter numbers, especially in recent years. The attraction was reflective of record breeding duck populations in the early-2000s, abundant habitat, and easily attainable access for places to hunt. However, declining habitat conditions, decreased amounts of private lands accessible to hunting, and declining populations of ducks have resulted in increased conflict amongst hunters and increased numbers of complaints, despite decreasing numbers of resident hunters. During the past 5 years, there were an average of 21,500 nonresident waterfowl hunters and an average of 19,100 resident waterfowl hunters. Numbers of residents hunting waterfowl hit an all-time low in 2019 with only 16,421 participants. However, during 2020, with many other obligations cancelled by COVID-19, people sought opportunities to participate in outdoor activities. Moreover, travel restrictions and closures to the Canadian border brought focus to waterfowl hunting opportunities in North Dakota. In 2020, the number of active resident waterfowl hunters increased to 23,200, and 24,063 nonresident waterfowl hunting licenses were sold.

Locally breeding Canada goose numbers remained at near-record levels and are well above the population objective. We expended considerable effort managing a permit program (landowners are sub-permitted under a U.S. Fish and Wildlife Service Special State Canada Goose Permit that

is issued to the Department) that allowed agricultural producers and other entities to take adult and gosling Canada geese, and their nests and eggs to manage crop depredations. We also worked with our Director's office to issue other permits to address human health and safety issues and nuisance concerns caused by locally breeding Canada geese. Urban Canada goose issues are consuming more time each year with each situation requiring a different set of solutions. Canada goose population control efforts are done in conjunction with ultra-liberal hunting opportunities and regulations that require considerable monitoring efforts to ensure their viability. Hunting effort and harvest during the August Management Take and Early September Hunting Season remain strong. Over the past five years, an average of 5,000 hunters have harvested an average of 43,000 Canada geese per year during special early Canada goose hunting opportunities.

Sandhill crane numbers remain stable and mourning dove numbers appear to be slightly declining in the Central Management Unit. Populations of migrant Canada geese, snow geese and Ross's geese are all above objective levels. During the last 5 years, participation in the Spring Light Goose Conservation Order has remained strong. Roughly 2,900 hunters have participated, on average, and harvested an average of 60,000 light geese per year in the spring.

Furbearer Management

Our furbearer management program is responsible for estimating species distributions, population trends, numbers of commercially important fur species that are sold, and harvest of furbearers statewide. Common furbearing species include badger, bobcat, beaver, coyote, mink, muskrat, raccoon, red fox, striped skunk, and weasel. Furbearing species that are less common include American marten, black bear, grey and swift fox, gray wolf, fisher, mountain lion, river otter, and spotted skunk. To meet our annual objectives during the 2019-2021 biennium, we used a combination of statewide surveys, population modeling, and individual investigations.

During the 2019-2021 biennium, we conducted 3 statewide surveys for furbearers. First, the April rural mail carrier survey was used to obtain population trends by physiographic region. We have been cooperating annually with rural mail carriers for this survey since 1970. Second, state law required fur buyers to turn in their fur buying records to be eligible to purchase a fur buying permit the following year. We have been collecting and compiling these annual fur buyers' reports since 1937. And third, we mailed furbearer harvest questionnaires in April of each year to a random sample of hunters and trappers who bought a resident furbearer, resident combination, or nonresident coyote/fox hunting license during the previous year. We have been surveying fur harvesters annually since 1971.

For those furbearers that were difficult to monitor using the above methods, including bobcats, mountain lions, fishers, and river otters we required mandatory tagging and carcass collection of harvested animals. We then used age and reproductive information from those carcasses to model population trends.

Additionally, we investigated reports of less common furbearer occurrences (e.g., sightings, incidental captures, road kills, etc.) to monitor changes in distribution and abundance. Furbearer carcasses that were collected through incidental trapping, automobile collisions, depredation

removals, etc. were also examined and necropsied to monitor population health and reproduction. As such, we routinely necropsied American marten, bobcats, fishers, mountain lions, river otters, and swift fox, as well as the occasional black bear or gray wolf.

We communicated with many organizations and agencies when gathering and interpreting information on furbearers in North Dakota, including USDA-Wildlife Services, USGS-Northern Prairie Wildlife Research Center, Theodore Roosevelt National Park, Three Affiliated Tribes, Fur Takers of North Dakota, North Dakota Fur Hunters and Trappers Association, North Dakota Houndsmen Association, Delta Waterfowl, state Universities, Midwest Furbearer Workgroup, and Swift Fox Conservation Team.

We sold an average of 12,920 resident furbearer, 60,603 resident combination, 2,616 nonresident coyote/fox hunting, and 17 nonresident reciprocal trapping licenses annually during 2019 and 2020. The rural mail carrier survey indicated fluctuating (up and down) trends during the past 2 years for all furbearers, except red fox which trended downward in all regions both years. Fur buyers' reports indicated that during the past 2 years, coyotes were the most commonly purchased furbearer. Number of pelts bought during the 2019-2020 season was 24,327. Prices paid per pelt were highest among bobcat and coyote. Coyote pelts were the highest income generator to the state annually. Results from questionnaires indicated that coyotes, muskrats, and raccoons were the most commonly harvested furbearers. Bobcat harvest during the past two seasons (75 in 2018-2019, 57 in 2019-2020) was similar to the long-term average. Fishers and river otters had limited (i.e. short season length and/or small season limits) regulated trapping seasons. Additionally, there was a limited hunting season on mountain lions each year and model trends indicate the population has been relatively stable the past several years.

Wildlife Health

Our Wildlife Health program is responsible for monitoring and managing disease status and trends. Disease related projects and work during the 2019-2021 biennium concentrated heavily on chronic wasting disease (CWD), epizootic hemorrhagic disease (EHD), bovine tuberculosis (TB), rabies and other disease outbreaks as they occurred.

Since 2002, CWD surveillance has been conducted in ND. We conducted 2 types of CWD surveillance. *Targeted surveillance* was conducted statewide and year-round. It was used for early-detection of disease in the state or new areas of the state. Targeted animals include free-ranging deer, elk, and moose that show signs consistent with CWD, died of unknown causes, or were killed by vehicle collision; and free-ranging cervids removed from farmed facilities. *Hunter-harvested surveillance* is used to estimate prevalence over time and space. It is conducted annually in areas where CWD has been previously detected, and in rotating, three-year cycles in the remainder of the state.

The combined totals of targeted and hunter harvested animals sampled and tested for CWD in 2019 and 2020 were 3878 white-tailed deer, 2079 mule deer, 123 elk, and 251 moose. During this time, CWD was detected in 14 mule deer and 7 white-tailed deer harvested in hunting unit 3F2 which encompasses Grant and Sioux counties. It was first detected in this area in 2009 and the overall infection rate has climbed to approximately 5.1% in mule deer and 2.2% in white-

tailed deer. Chronic wasting disease also continued to be detected in unit 3A1 (Divide County) and was first detected in units 3B1 (Williams County) and 4B (McKenzie County) in 2019, and 3A2 (Bottineau County) in 2020. Estimated infection rates in these units are <2%.

Carcass transportation guidelines and baiting bans were updated and signed by Governor's Proclamation. Newly identified units within North Dakota, as well as all areas outside of North Dakota were added to the list of areas where CWD restrictions are in place.

Additionally, investigations of die-offs and numerous necropsies have been performed on various species including waterfowl, upland game birds, nongame birds and mammals, big game, and furbearers. Causes of death and illness were identified. Assistance was provided to the Law Enforcement Division to determine the cause of death in potential criminal investigations. Serology has been performed on various species to determine the level of exposure of wildlife to certain disease agents.

Our Wildlife Health program works with a variety of state and federal wildlife and livestock related agencies. All meetings of the ND Board of Animal Health were attended, and we continued to work with their non-traditional livestock committee on farmed cervid issues and toward the elimination of contact between free-ranging and farmed cervids. We are also a part of the feral swine eradication working group. Updates on wildlife disease in ND were given to various groups, including the Midwest Fish and Wildlife Health Committee.

PRIVATE LANDS INITIATIVE SECTION

Overview

The Department's Private Land Initiative (PLI) includes two components as part of the game and fish department private land habitat and access improvement fund: the Private Land Open To Sportsmen (PLOTS) program and big game depredation assistance. The Department's line-item budget for the PLI in 2019-2021 was \$17,660,009. Per NDCC 20.1-02-05(17h), the Department is authorized to carryover any unexpended funds, up to \$2M to future bienniums, for big game depredation. In 2019-2021, \$1,471,087.00 was carried over, bringing the total budget to \$19,131,096.00.

Approximately \$13,303,130.56 in program payments were made to private landowners during the 2019-2021 biennium to improve wildlife habitat and provide hunting access on private land through the PLOTS program. Another \$471,910.53 was spent to alleviate big game depredation problems on private livestock feed supplies. \$400,000 was directed towards the Save Our Lakes program through the Fisheries Division to address water quality issues on private lands surrounding managed fisheries. Approximately \$2,992,465.64 was used for staff salaries, indirect, travel, motor pool and expenses. Additional funds were used on additional PLI efforts such as various grant agreements and other programs.

Big Game Depredation Assistance

The Department spent \$471,910.53 during the biennium on big game depredation. Of this amount, \$227,488.59 was spent to cost-share with landowners for the construction of deer-proof

hay yards. Another \$87,433.37 was used on materials for deer-proof hay yards including gates and panels. \$19,348.72 was used on depredation food plots, The balance, \$137,639.85, includes salaries and expenses for Department personnel when working on depredation problems. The Department entered into a pilot project with two landowners to develop wildlife friendly fence crossings for elk in western North Dakota.

PLOTS Programs

Traditionally, there has been many different types of programs under PLOTS. Starting in the 2019-2021 biennium, efforts to streamline programs, payments and agreements began. As a result, some programs, such as Habitat Plots and Private Forest program, were transitioned into the Working Lands program, which will retain the components of the former programs but will become the main PLOTS platform.

Habitat Plot Program

The Habitat Plot Program provides rental payments for nesting, wintering and other key wildlife habitat. The habitat can be newly established habitat, existing habitat, or a combination of both. During the 2019-2021 biennium, \$3,401,870.14 in annual rental payments and \$766,781.90 in upfront rental payments were made to private landowners, and \$392,348.66 was paid for grass seed, grass establishment payments, habitat incentives and management. 3,586.2 acres (294.1 acres in upfront payments and 3,292.1 acres in annual payments) of new habitat were established during the 2019-2021 biennium. 99,536 acres are currently enrolled in this program. Note: In 2019 efforts began to transition this program to the Working Lands program. Existing legacy agreements will remain until they expire but no new Habitat Plot agreements will be written any longer.

Private Forest Conservation Program

The Private Forest Conservation Program provides rental payments for maintaining and protecting native woodland habitat on private land. During the 2019-2021 biennium, \$192,827.24 in annual rental payments were made to private landowners. The Department also implemented a new feature this biennium and offers management services for treating aspen stands. The Department treated approximately 6 acres of management this biennium. There are currently 7,143 acres enrolled in this program. Note: In 2019 efforts began to transition this program to the Working Lands program. Existing legacy agreements will remain until they expire but no new Private Forest agreements will be written any longer.

Working Lands Program

The Working Lands Program provides rental payments for maintaining conservation practices, habitat features, and management activities that have a positive impact on wildlife habitat on active agricultural lands, such as cropland and rangeland. The Working Lands Program has many similar components to the Habitat Plots program, such as the ability to develop new habitat, hence the effort to streamline the programs. During the 2019-2021 biennium, \$2,928,113.50 in annual rental payments were made to private landowners and \$326,435.99 was paid for grass seed, grass establishment payments, habitat incentives and management. \$9,287.52 was paid for neonicotinoid-free (untreated, insecticide free) wildlife food plot seed. 2,346.7 acres of new habitat were established during the 2019-2021 biennium. 415,096 acres are currently enrolled in this program.

CRP Access Program

The CRP Access Program provides assistance to landowners establishing or maintaining USDA Conservation Reserve Program acres in exchange for public access. Landowners are paid a one-time PLOTS payment for the term of their USDA CRP contract. During the 2019-2021 biennium, \$3,063,416.07 in payments were made to private landowners. 225,947 acres are currently enrolled in this program. At its highest level in 2007, there were approximately 3.3M acres of CRP in the state. At that time, the Department had nearly 400,000 acres of CRP enrolled in PLOTS. As statewide CRP acres continue to decrease, there are less opportunities for the Department to enroll CRP into PLOTS.

Wetland Reserve Easement Incentive

The Wetland Reserve Easement Incentive provides incentive payments on USDA Wetland Reserve Easements acres in exchange for public access. Landowners are paid a one-time, upfront payment for up to the term of their USDA WRE contract. During the 2019-2021 biennium, \$890,150.97 in payments were made to private landowners. 30,676 acres are currently enrolled in this program.

Conservation Reserve Enhancement Program

CREP is a partnership between the State of North Dakota and USDA to enroll 20,000 acres of land into CRP under a special riparian project. The Department provides incentives and cost share to develop habitat and allow public access and USDA provides annual rental payments, incentives, and cost share to establish habitat. During the 2019-2021 biennium, \$15,925.55 in annual rental payments were made to private landowners. \$139,454.60 was paid for grass seed, grass establishment payments, habitat incentives and management. Approximately 161.0 acres of new habitat was developed during the 2019-2021 biennium. 1,644 acres are currently enrolled in this program.

Other PLI efforts

- The Department entered into a grant agreement with Pheasants Forever to deliver Best Management Practices (BMPs) through a Precision Ag Program to improve water quality, reduce soil erosion, and enhance habitat for wildlife on private lands. The grant agreement helps partially fund two Precision Ag and Conservation Specialists in southeast and southwest North Dakota. During the 2019-2021 biennium, \$90,000 was paid through this grant.
- Provided neonicotinoid-free (untreated, insecticide free) wildlife food plot seed to landowners interested in developing habitat and food sources for deer, turkeys, and pheasants. During the 2019-2021 biennium, \$25,108.00 was paid for food plot seed and made available to 244 landowners, totaling approximately 1,040 acres.
- Developed two PLOTS Guide publications totaling \$57,183.72, available for hunters. In 2019, approximately 50,000 guides were printed, and in 2020, approximately 42,000 were printed.
- The Department partnered with seven soil conservation districts in the Red River Valley and the North Dakota Department of Environmental Quality on an Outdoor Heritage grant in 2020 totaling \$1,043,400.00. The OHF grant itself was for \$270,000.00 with the balance of matching funds coming from NDDEQ, NDGF, SCDs and landowners. The

grant provides cost share and rental payments for select practices that benefit wildlife and water quality.

- Entered into three grant agreements with Burke, Sargent, and Nelson County Soil Conservation Districts to cost share on native grass drills to assist with protecting, conserving, and enhancing fish and wildlife habitat on private lands through Grassland Habitat Partnership grass plantings. During the 2019-2021 biennium the Department provided \$10,000 per SCD, totaling \$30,000.00.
- Entered into an interagency agreement with NDSU to perform prescribed burn services on select PLOTS tracts in southwest North Dakota. During the 2019-2021 biennium, \$7,828.28 was paid for burn services.

During the 2019-2021 biennium the Department began the development of a statewide grassland restoration effort, called the Meadowlark Initiative. The Initiative will combine the efforts of conservation, agriculture, and industry partners to enhance, restore and sustain native grasslands in North Dakota. As part of the Initiative, the Department took the lead on submitting a Regional Conservation Partnership Program grant (RCPP). In April 2021, the Department's grant was selected, which makes nearly \$8M available to private landowners through their county USDA office. In addition, nearly \$10M in funds was leveraged from over 12 partner organizations. None of these funds pass through the Department, however the Department is using some existing staff time, and resources as contribution towards the RCPP grant.

WILDLIFE RESOURCE SECTION

The Wildlife Resource Section's primary responsibility is to manage approximately 218,275.2 acres of habitat contained within 227 of the State Wildlife Management Area (WMA) system. These lands are incredibly diverse in terms of habitat type and provide extensive hunting and other compatible recreational and educational opportunities. WMA's, in unique places such as the Killdeer Mountains, Turtle Mountains, Pembina Hills, Missouri River, and the prairie coteau, offer the public the chance to experience the variety of North Dakota's wildlife habitats. Providing public access, controlling noxious weeds, managing boundaries, and enhancing and maintaining habitat are just a few of the responsibilities associated with the WMA system.

A major challenge continues to be the control of noxious weeds. The Department spends approximately \$750,000 per biennium on chemical, biological, and mechanical weed control efforts. The Department is also a member of the North Dakota Weed Control Association and cooperates with private landowners and other state and federal agencies to find innovative and effective methods of controlling noxious weeds.

The Department's management objectives for specific WMA's are met by conducting various management techniques on these WMA's. Management techniques are based on sound biological practices and may include prescribed burning, rotational haying, grazing, and in some cases, wildlife food plots.

Prescribed burning is conducted on grasslands primarily for the purposes of controlling the spread of exotic invasive species, controlling noxious weeds, or removing dead or decadent herbaceous growth to stimulate new and more vigorous growth. Prescribed burns are completed

by a qualified contractor or by Department staff. All personnel involved in prescribed burning have met the Department's prescribed fire training needs. Prescribed burning is a great management tool but presents logistical challenges including availability of staff, training requirements, planning, smoke management, fire break preparation, and ability to complete during a small window of time to accomplish habitat management objectives. Spring burns were completed in spring of 2020, but due to repeated Red Flag warnings and drought in the spring of 2021, no prescribed burns were completed.

Rotational haying is generally conducted on tame grass stands or dense nesting cover plantings on certain WMA's. This practice is done to remove old growth so that these fields can be opened up to stimulate new growth. Haying practices are generally not conducted on the same planting in consecutive years. Haying is conducted on approximately 7,200 acres per year and is usually conducted by a local cooperator. Haying on WMA's has historically commenced beginning July 15th. However, due to concerns of late nesting species and renesting attempts by upland game and waterfowl – the haying date has been moved back a crucial two weeks to August 1 beginning in 2019 and fully implemented statewide in 2020. Due to persisting drought conditions in 2021, haying permits were issued to begin haying July 15, 2021.

Grazing is generally conducted on native grass stands to control invasion by exotic (non-native) species, to prevent a build-up of decadent grass, and to remove old growth so that these native stands can be opened up to stimulate new growth of native grasses. Grazing practices are generally not conducted on the same stands in consecutive years and grazing dates, stocking rates and rotations are set up to accomplish habitat management objectives. Grazing prescriptions vary for each WMA depending on soils, existing vegetation, and goals. Grazing is conducted on approximately 7,300 acres per year and is usually done by a local cooperator. Water availability for livestock has been a limiting factor for grazing on some WMA's, and the Department is addressing this by drilling water wells or accessing water supply lines. Due to the drought in 2021, the Department had numerous requests for additional grazing and was able to accommodate several requests. In some cases, livestock permittees had to haul water or graze in areas they were not interested in grazing in past years. The Department was able to take advantage of the drought to get grazing management in areas that had not been grazed in several years.

Wildlife food plots are established to help sustain local wildlife populations through the winter months and to help alleviate wildlife depredation problems to adjacent private landowners. Wildlife food plots are established by Department staff, contracted, or through crop share agreements with local cooperators each year. Local cooperators farm on a WMA with a 70:30 cropshare agreement, in which the Department's 30% is generally left standing unharvested as a food plot. Neonicotinoids are a prophylactic seed treatment that provide systemic insect control to the crops. However, research has indicated mortality to critical insects utilized by passerine and upland game birds as well as numerous species of pollinators. Therefore, the Department has begun phasing out the use of seeds treated with neonicotinoids on WMA's. By 2021 no treated seed was planted by Department personnel, however cooperators were still able to use treated seed – which will be discontinued in the future.

ENFORCEMENT DIVISION

The Enforcement Division report is printed annually in the North Dakota OUTDOORS magazine. The most recent publication was February 2021. It can be found on our website at: <http://gf.nd.gov/publications>

ND GAME AND FISH DEPARTMENT
DEPARTMENT REVENUE REPORT
JULY 1, 2019 THRU JUNE 30 2021

		19-21
ACCOUNT NAME		NET AMOUNT
421025	Game & Fish-Fishing Licenses	8,771,412.50
421030	Game & Fish-Hunting Licenses	17,890,598.20
421040	Game & Fish-Other Licenses	5,931,477.68
421050	Motorboat License Fees	2,203,150.00
421065	Wildlife Habitat Stamp	3,030,651.00
421070	PLI Sportsmen Habitat Stamp	3,593,752.00
430040	Revenue From Fed Government	34,692,845.77
431005	Revenue from Counties	20,178.70
441015	Fines-Forfeitures-Escheat	23,176.49
442025	Interest Income	132,336.47
442040	Interest On Investment	174,264.00
443005	Donations	848,918.99
443015	Non-Game Contributions	2,406.50
462115	Postage	484.00
462135	Resale-Special Orders	22,116.15
462145	Sale Of Agriculture Products	111,311.93
463021	Misc Sales and Service	40,296.00
463029	Sale Of Publications	251,759.79
472010	Lease-Rental Of Land	180,246.16
472015	Lease-Rental of Rooms-Bldgs	2,470.00
472020	Mineral Lease Royalties	45,736.98
472025	Mineral Royalties	116,275.73
473015	Insurance Recoveries	18,221.61
473025	Misc Refunds	91,944.35
473035	Other Reimb. - Jury Pay, Etc.	9,719.23
473120	Refund Of Prior Bienn Expen	15,977.93
473125	Revenue Prior Biennium	0.00
473135	Void Warrant - Prior Biennium	0.00
474005	Conference Registration Fees	0.00
474045	Misc. Unclassified Revenue	48.04
482004	Sale of Noncapital Asset	50.00
482006	Sale Of Noncapital Asset-Surpl	965.00
482008	Sale Of Salvage & Scrap	2,192.80
490294	Tsfr Fm ND Outdoor Heritage Fund	0.00
490400	Tsfr Fm Highway Tax Dist. Fund	291,092.50
490466	Tsfr Fm Aquatic Nuisance Species	0.00
TOTAL REVENUES		78,516,076.50

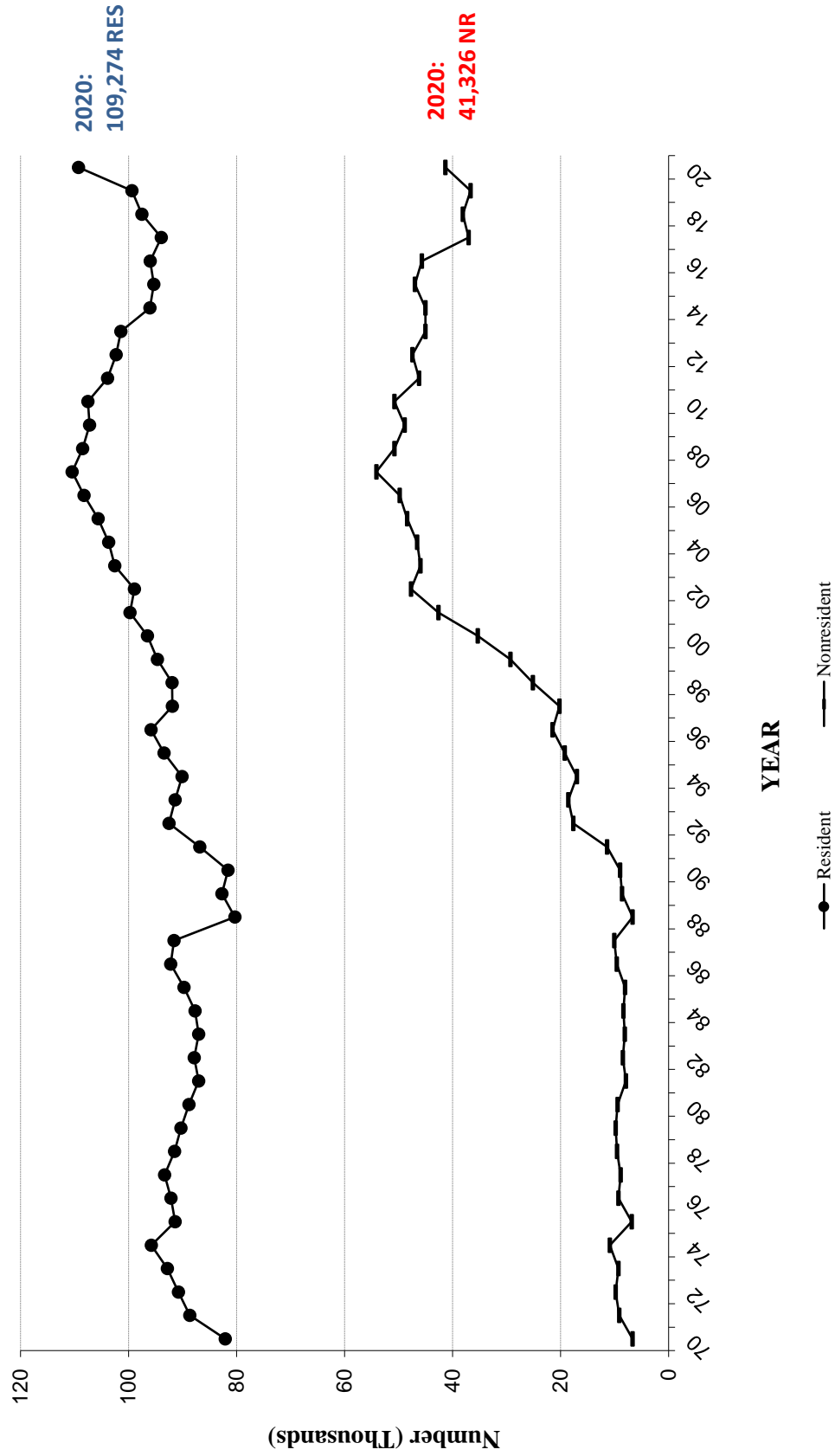
NORTH DAKOTA GAME AND FISH DEPARTMENT
DEPARTMENT APPROPRIATION REPORT
JULY 1, 2019 THRU JUNE 30, 2021

	ORIGINAL 2019-21 APPROPRIATION	ADJUSTED 2017-19 APPROPRIATION	BIENNIUM EXPENDITURES	UNEXPENDED BALANCE
Salaries & Wages	31,497,736.00	31,497,736.00	30,951,720.66	546,015.34
Operating Expenses	15,949,169.00	15,949,169.00	11,661,862.84	4,287,306.16
Capital Assets	5,917,891.00	5,917,891.00	3,670,323.97	2,247,567.03
Construction Carryover	0.00	893,077.00	893,063.81	13.19
Grants-Game And Fish	8,547,165.00	8,547,165.00	5,352,479.06	3,194,685.94
Shooting Sports Grant Program	250,000.00	250,000.00	207,505.30	42,494.70
Habitat & Deer Depredation	17,660,009.00	19,131,096.00	16,629,514.43	2,501,581.57
Noxious Weed Control	725,000.00	725,000.00	530,567.74	194,432.26
Missouri River Enforcement	288,068.00	288,068.00	264,979.63	23,088.37
Grant-Gift-Donation	533,732.00	533,732.00	414,883.55	118,848.45
Nongame Wildlife	100,000.00	100,000.00	68,216.66	31,783.34
Aquatic Nuisance Species Prog.	1,500,000.00	1,909,140.39	1,571,341.58	337,798.81
Lonetree Reservoir	1,834,862.00	1,834,862.00	1,575,646.21	259,215.79
Wildlife Services	500,000.00	500,000.00	500,000.00	0.00
Total Expenditures	85,303,632.00	88,076,936.39	74,292,105.44	13,784,830.95

NORTH DAKOTA GAME AND FISH DEPARTMENT
 EXPENDITURES BY PROGRAM
 JULY 1, 2019 THRU JUNE 30, 2021

	DEPARTMENT TOTALS	ADMINISTRATION	FISHERIES	ENFORCEMENT	CONSERVATION & COMMUNICATION	WILDLIFE	DIFFERENCE
Salaries & Wages	30,951,720.66	10,125,848.81	4,329,957.86	6,714,093.48	4,125,573.27	5,656,247.24	0.00
Operating Expenses	11,661,862.84	3,832,844.09	1,963,109.48	1,775,022.00	1,213,562.58	2,877,324.69	0.00
Capital Assets	3,670,323.97	1,901,694.07	602,428.57	227,411.83	49,928.84	888,860.66	0.00
Construction Carryover	893,063.81	222,419.00	670,644.81	0.00	0.00	0.00	0.00
Grants-Game And Fish	5,352,479.06	200,246.02	1,598,551.94	0.00	1,481,236.64	2,072,444.46	0.00
Shooting Sports Program	207,505.30	0.00	0.00	0.00	207,505.30	0.00	0.00
Habitat & Deer Depredation	16,629,514.43	0.00	465,009.15	0.00	0.00	16,164,505.28	0.00
Noxious Weed Control	530,567.74	0.00	0.00	0.00	0.00	530,567.74	0.00
Missouri River Enforcement	264,979.63	0.00	0.00	264,979.63	0.00	0.00	0.00
Grant-Gift-Donation	414,883.55	231,418.69	0.00	0.00	0.00	183,464.86	0.00
Nongame Wildlife	68,216.66	0.00	0.00	0.00	68,216.66	0.00	0.00
Aquatic Nuisance Species Fund	1,571,341.58	0.00	1,571,341.58	0.00	0.00	0.00	0.00
Lonetree Reservoir	1,575,646.21	0.00	0.00	0.00	0.00	1,575,646.21	0.00
Wildlife Services	500,000.00	0.00	0.00	0.00	0.00	500,000.00	0.00
TOTAL	74,292,105.44	16,514,470.68	11,201,043.39	8,981,506.94	7,146,023.29	30,449,061.14	0.00

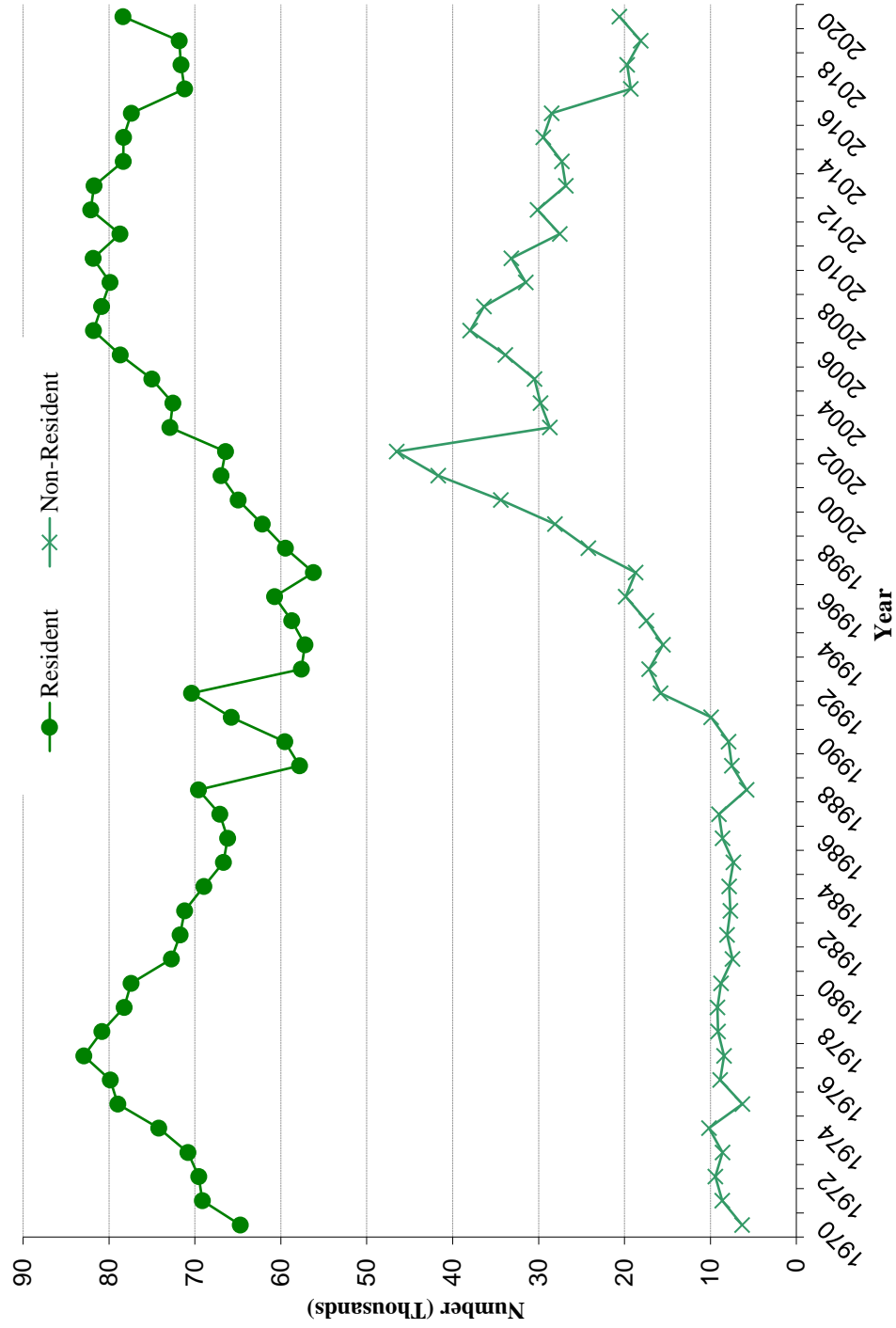
North Dakota General Game License Sales



*Not a complete license year. 4/1/2020-12/31/2020

SMALL GAME LICENSE SALES

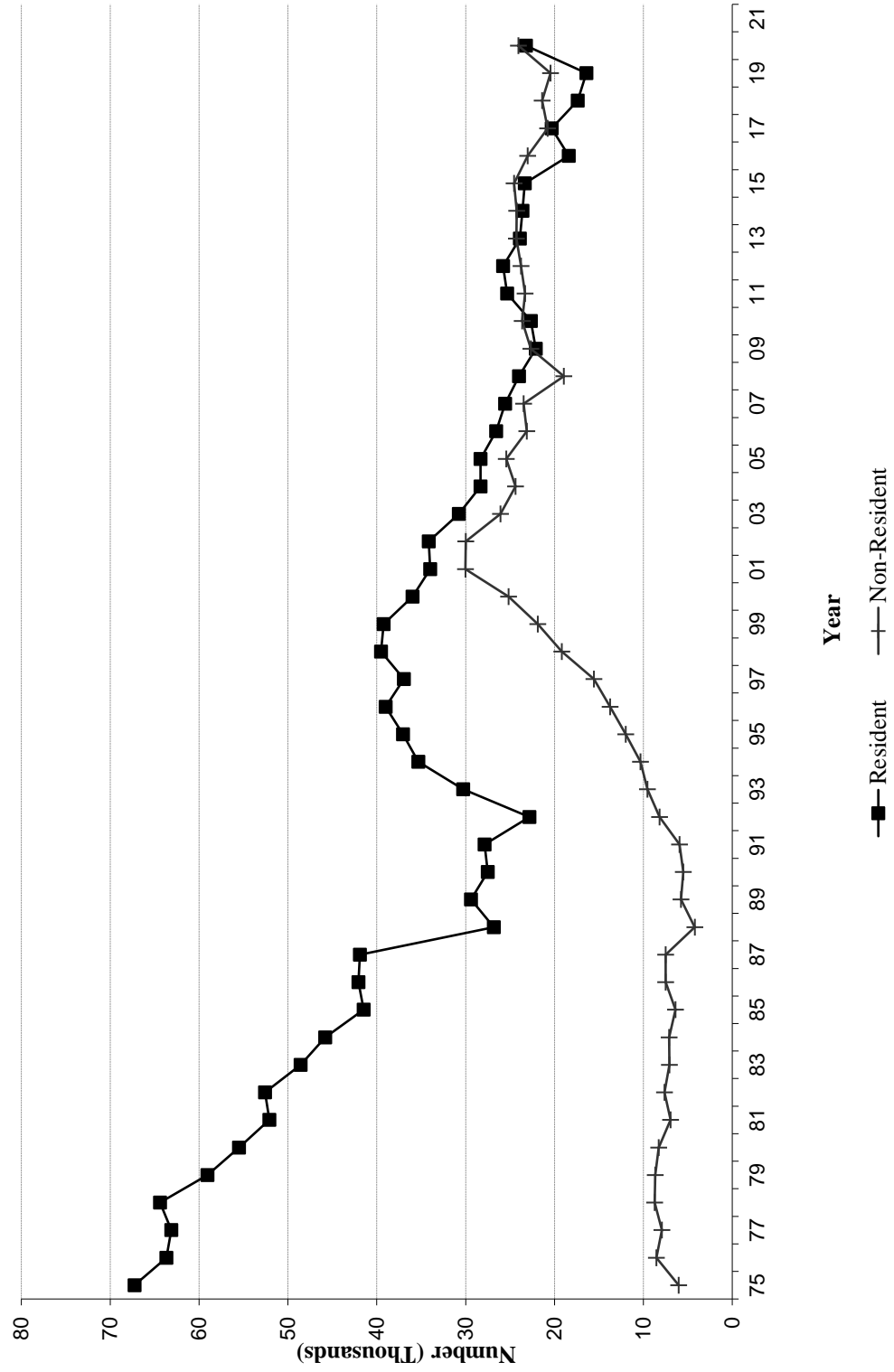
North Dakota



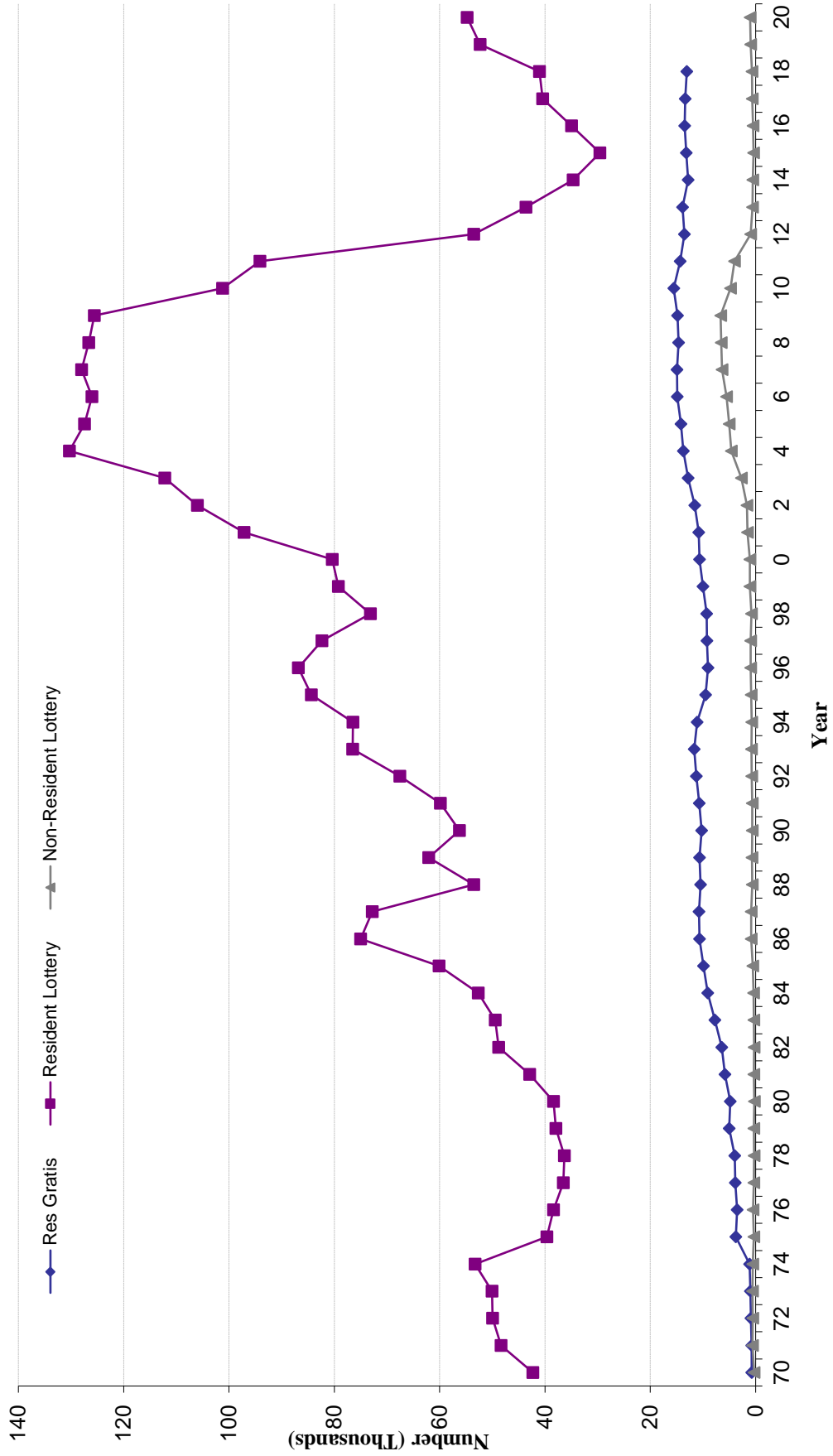
There was a major non-resident license system change in 2003.

Waterfowl Hunters

North Dakota

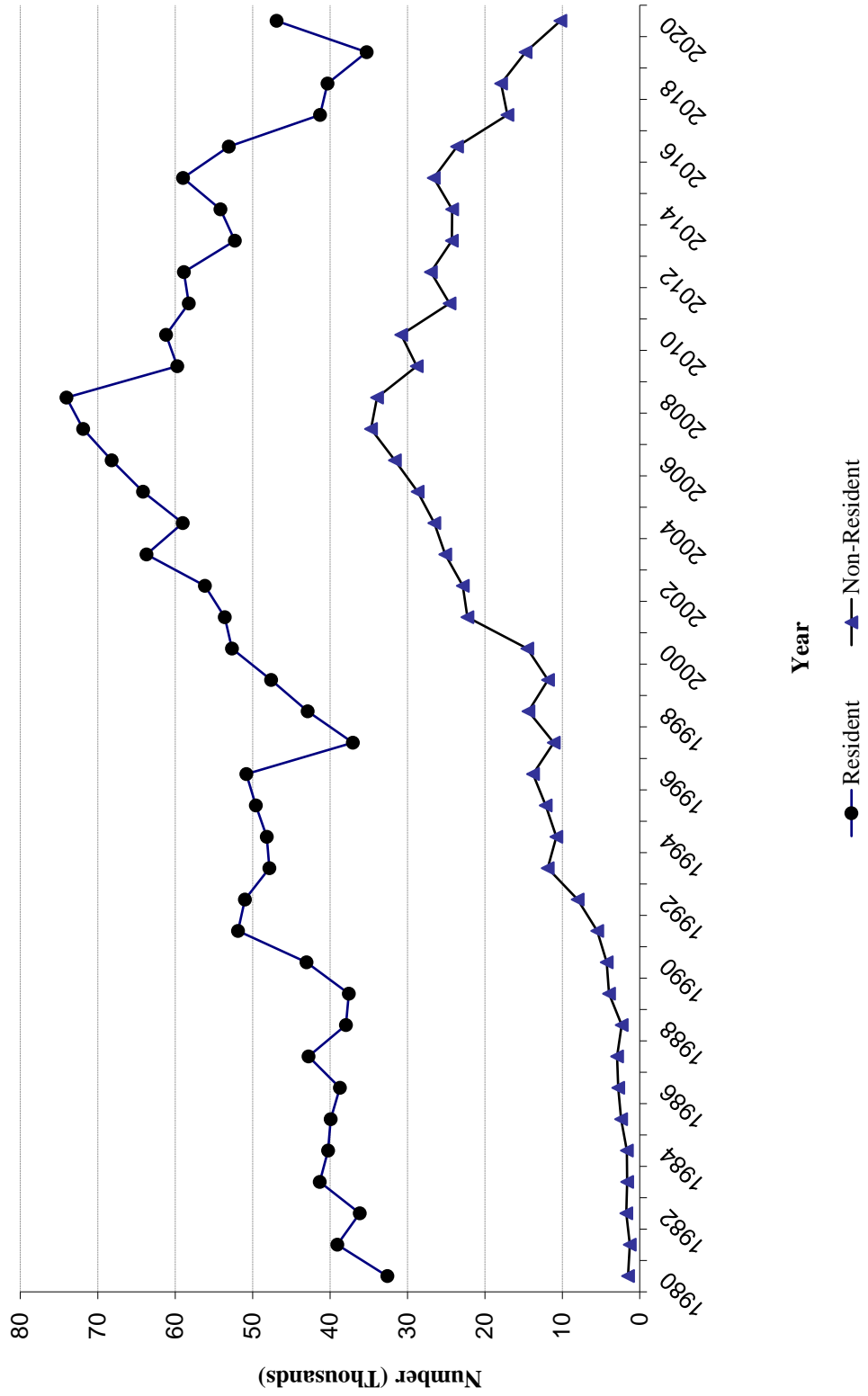


North Dakota Deer Gun Licenses Issued

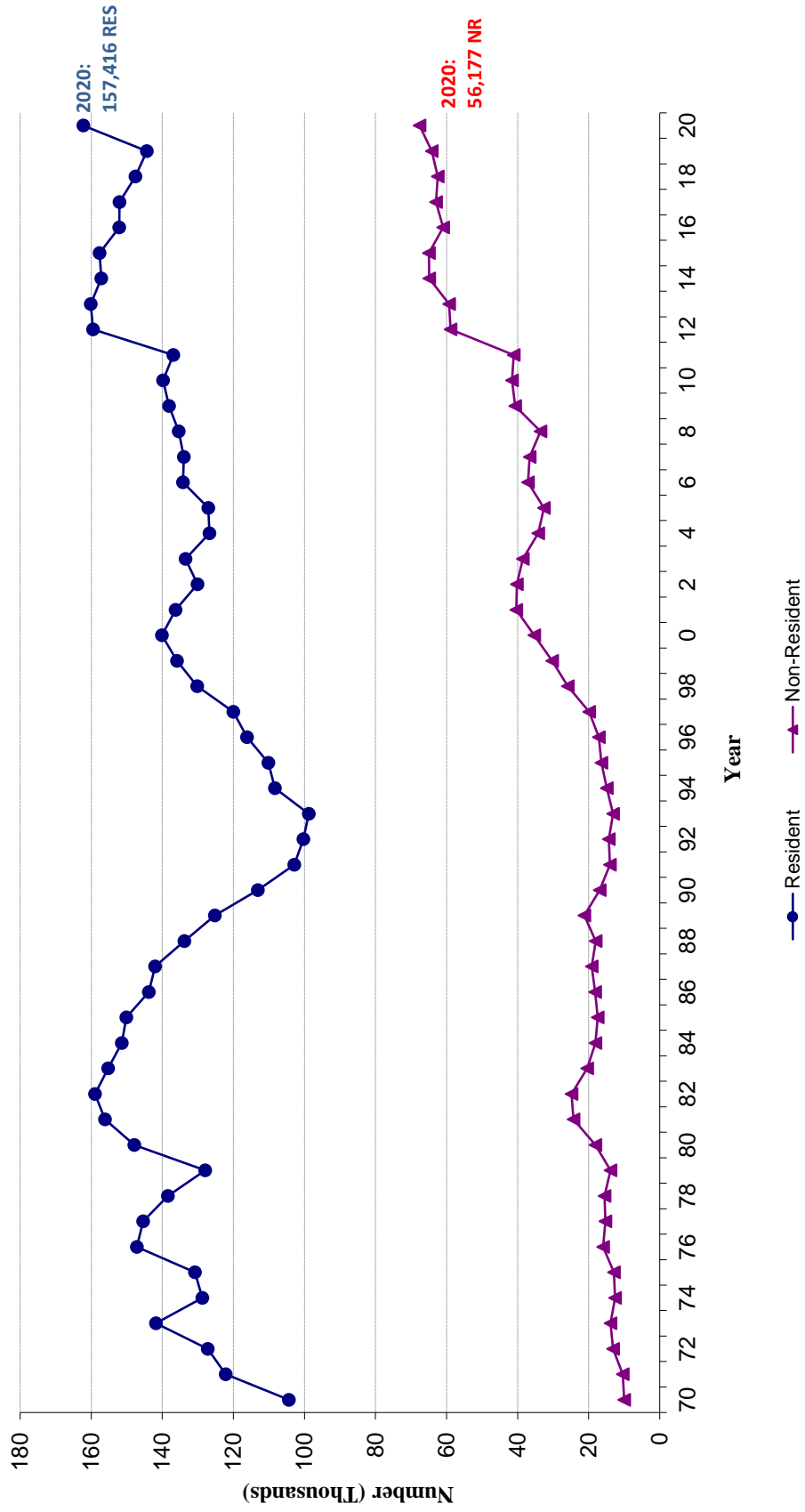


Licensed Pheasant Hunters

North Dakota



North Dakota Fishing License Sales



*Not a complete license year. 4/1/2020-12/31/2020

RESOURCES AVAILABLE FROM THE DEPARTMENT

Copies of the minutes from meetings conducted by the Department are available at the Game and Fish Department's Bismarck office. Requests should be sent to: Director, North Dakota Game and Fish Department, 100 N. Bismarck Expressway, Bismarck, ND 58501-5095.

Wildlife survey results and fish and wildlife status reports are published annually. Single copies of these reports (Progress or Job Completion) are available at the Bismarck office.

The Department publishes a magazine, North Dakota OUTDOORS, available at the address listed above. Single copies of the magazine are available at \$2 per copy. The yearly subscription rate (10 issues) is \$10. The three-year subscription rate is \$20.

A variety of pamphlets, brochures and booklets pertaining to fish, wildlife, lakes, wildlife habitat, and other topics are available for free distribution at the Bismarck office. The Department's web page is: <http://gf.nd.gov>. The Department's email address is ndgf@nd.gov.