

Section Four

State-of-the-State Reports



MIDWEST

Association of
Fish & Wildlife
Agencies



**State
of the
State
Reports**

2020

2020
State Reports

Illinois

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**ILLINOIS
STATE REPORT
JUNE 2020**

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Overview

The Office of Resource Conservation within the Illinois Department of Natural Resources manages Illinois' wildlife, fisheries and forest resources, along with stewardship and restoration of natural lands. The office manages fish and wildlife populations through hunting and fishing regulations based on scientific data and promotes the state's hunting and fishing heritage. Primary funding comes from hunting and fishing license sales and Federal Fish and Wildlife Funds, State Wildlife Grant Funds, Illinois Forestry Development Funds and Natural Areas Acquisition Funds. The Office also works with the Federal Government and other agencies to remediate lands contaminated by industrial discharges or accidental release of pollutants. The Office administers the state portion of Federal Farm Bill programs including the Conservation Reserve Enhancement Program and others. Regulation of state-endangered and threatened species also falls within the responsibilities of the Office.

Fish and Wildlife Highlights

Division of Fisheries

Illinois Asian Carp

Through statewide planning efforts, Illinois DNR (IDNR) has brought together Illinois Department of Commerce and Economic Opportunity, Illinois Department of Corrections, and several academic and municipal governmental bodies to consider action to reduce Asian carps in Illinois waters. Prior efforts have been slow but revisiting and bringing together current knowledge and statewide experts has resulted in significant progress including formation of a fishing cooperative in the Peoria area, a location with high carp densities and no local fish buyers. Local city and business partners have since engaged bringing a renewed energy in removal efforts to 1) aid managers in preventing the spread of carp to un-infested waters and 2) reduce densities where they exist with an economic benefit to the area being hopeful. Efforts are being assisted in part with those actions that follow:

Illinois Asian Carp Actions in the Illinois Waterway/River

The IDNR, as a major partner in the Asian Carp Regional Coordinating Committee, continues to work above and below the Corps of Engineers' electric barrier system to monitor and prevent the upstream migration of Asian carp on the Illinois River and in the Chicago Area Waterway System (CAWS). Some highlights of the past year (as of Spring 2020) from our coordinated Asian carp efforts are as follows:

- Contracted harvest efforts have contributed to over 9.6 million pounds of Asian carp removed from the IWW below the Electric Dispersal Barrier since 2010.

- Asian carp mean density in Dresden Island Pool, as described by Southern Illinois University hydroacoustic estimates, appears to have decreased by 96.7% from fall 2012 to fall 2019. This is likely influenced by continued contracted commercial harvest efforts in the IWW.
- Contracted removal in the upper Illinois waterway exceeded 1.5 million pounds in 2019.
- Only two Asian carps have been found upstream of the electric dispersal barriers since intense actions began in 2010 despite continued and intensive monitoring in the CAWS.
- Enhanced contracted harvest efforts farther downstream in Peoria Pool, Illinois River began in fall 2019 with a 10 cents/lb. award for those participants. These efforts have increased harvest rates in this pool with over 1.5 million pounds removed since launching in fall 2019.
- Coordination between IDNR and other local, state, and federal partners on this issue remains high.
- For further details regarding ongoing efforts: www.asiancarp.us

Illinois Asian Carp Actions in Mississippi and Ohio River Basins

The IDNR has been working vigilantly in coordination of management and control of Asian carps in the Mississippi and Ohio river drainages.

Mississippi River management projects have utilized limited contracted commercial fishing above LD19, like the Upper Illinois River. While relative abundance is low to moderate in this area, limited spawning has occurred. Illinois has developed an Asian carp plan with the Upper Mississippi River States of Missouri, Iowa, Wisconsin, and Minnesota along with our federal partners. Current removal efforts, led by Illinois, are targeting Mississippi River Pools 16 downstream to Pool 19 with 528,533 lbs. removed from fall 2015-present.

Illinois, in partnership with the Ohio River member states is appreciative of significant funding increases coming to bear late in 2019. Illinois' role in Ohio River management has been limited previously due to funding availability and management goals and priorities. With these additional funding opportunities, Illinois, in partnership with Indiana, Kentucky, Tennessee, and the Ohio River Asian Carp Plan member states and federal agencies are drafting workplans for 2020 and beyond to increase management and control activities on the Wabash River, a significant contributor to Asian carp spawning in the Ohio River Basin. These efforts are resulting in coordinating significant regional partnerships to address these invasive fish in the Ohio River Basin.

Aquaculture

The Aquaculture Program has permitted over 68 Aquaculture facilities across Illinois during 2019. This includes facility applicants that are new and renewing for the year. In addition to permitting aquaculture facilities, the Aquaculture program also issued 138 VHS/Salmonid Importation Permits allowing the safe import from outside Illinois and production facilities. These permits are mostly for private waterbody stockings but includes fish and eggs for other uses, including live fish markets for human consumption. An additional 176 Restricted Species Transportation Permits were issued to Aquaculture facilities, Resident and Non-Resident Aquatic Life Dealers, various University's, and Research Institutions. Restricted Species permits are issued for the importation, transportation, and/or possession of any aquatic species not listed on Illinois' Approved Aquatic Life List.

Lake Michigan Program

Charter and non-charter recreational anglers expended 350,006 angler-hours to harvest 11,323 yellow perch and 76,373 trout and salmon from the Illinois waters of Lake Michigan last year. The sport fishery remains stable; estimates of fishing effort increased by 7%, salmon and trout harvest decreased by 5% and yellow perch harvest decreased by 35% compared to the previous year. Yellow perch harvest remained near historic lows for the spring-summer season (March-September). However, a strong 2015-year class of perch contributed to a popular winter fishery off Chicago where anglers expended an estimated 44,080 angler-hours to harvest 70,220 yellow perch from October 2018 through February 2019.

Illinois River

The Illinois River Program, in conjunction with the state hatchery system, stocked over 7.9 million sauger fry ranging from 1.3-1.6" and 19,129 smallmouth bass fingerlings ranging from 3.8-4.7" into the upper Illinois River in 2019. The upper Illinois River continues to be known for producing a world-class sauger fishery and hosts the Master's Walleye Circuit Tournament out of Spring Valley every spring. This tournament provides LaSalle Hatchery with brood sauger for production of sauger and saugeye for fish stocking throughout the State of Illinois. The Program and hatchery system also stocked 216,099 channel catfish fingerlings measuring 4" into the lower Illinois River in 2019. The lower Illinois River continues to support a thriving catfish fishery both for sportfish angling and commercial harvest.

IDNR, in conjunction with other agencies continued to prepare for lock closures for lock maintenance on the Illinois Waterway that will occur in the summer of 2020 in order to monitor the response of the aquatic ecosystem to reduced boat and barge traffic during the lock closures. IDNR staff conducted pre-lock closure fish monitoring in the Alton Pool of the Illinois River in 2019 using a multi gear, stratified, random sampling approach during the spring, summer and fall time periods.

Region 1

Several Region 1 capital projects began in 2019 including construction and/or rehabilitation projects in small to medium size reservoirs (Argyle Lake, Citizens Lake, and Lake Le-Aqua-Na). Projects included new boat ramp, new boat docking facilities and the repair/resurfacing of the dams, draining and excavating, and developing mitigation strategies. Each of these reservoirs/impoundments have been on the landscape for 40-60 years. This work will develop increased sportfishing opportunities and decrease management and/or maintenance concerns.

IDNR Fisheries continues to work with partners such as municipalities via cooperative agreements and management activities to increase fishing opportunities in the state. One of these with The Wetlands Initiative (NGO) that IDNR has partnered with has been highly successful with increased fishing opportunities in isolated floodplain lakes of the Illinois River. This project not only has a great fishery, now as a result of this partnership, but meets needs of migratory birds and is a destination of bird watchers and other outdoor enthusiasts.

Region 2

In a cooperative project that has been conducted annually since 2007, artificial fish habitats were placed at various sites throughout Braidwood Lake in 2019. The location for placement of these units is based upon input provided by anglers in cooperation with the district fisheries biologist. Emphasis is placed on those portions of the lake that do not typically experience the highest water temperatures. Since the project's inception, nearly 1,000 of these habitats have been placed. Funding for this project is provided by Braidwood Generating Station and assistance is provided by the members of various bass fishing clubs.

An Incidental Take Authorization (1.5 years in the making) was completed allowing a non-profit group to run a weed harvester in the Fox Chain' O Lakes' Channel Lake and Lake Catherine. The goal is to reduce the amount of herbicide going into the system, remove excess vegetation (which can help reduce phosphorus recycling in the lakes) and improve plant diversity, water clarity and lake aesthetics and recreational opportunities.

Chicago Area Waterway Habitat Improvement Project

Friends of the Chicago River and Illinois DNR received a grant from the Chi Cal Fund in late 2017 to reconnect Mill Creek to the Cal Sag Channel. A natural limestone shelf, as well as the base of a bike trail bridge, blocked fish passage into Mill Creek from the Cal Sag Channel. The Cal Sag Channel, like other rivers of the Chicago Area Waterway System (CAWS), has experienced a recovery in recent years with increases in fish species diversity and abundance. In 2016, only five fish species were collected in Mill Creek, despite the presence of excellent habitat. Typically, a stream the size of Mill Creek can support over 20 fish species. The loss of species richness occurred over time due to poor water quality stemming from septic tank out flows to the creek. In recent years, updated sewer systems have been installed in the surrounding communities and the water quality has improved markedly. Without connection to a downstream recruitment source, fish were not able to repopulate Mill Creek. In April 2019 the bridge foundation was notched to allow fish passage and rock riffle structures were installed at the mouth of the creek to restore the natural morphology. Results of the first post project fish survey found Channel Catfish and several other new species in Mill Creek upstream of the fish passage structure.

Regions 3 and 4

Removal of Danville Dam on the Vermilion River and Ellsworth Park Dam on the North Fork Vermilion River were completed in October 2019. The eleven ft high Danville Dam, constructed in 1914, served as the downstream-most impoundment between the Wabash River and the Vermilion River basin. The dam was an effective barrier between the lower 22 miles of the Vermilion River mainstem and the 1,290 mi² drainage area upstream, hindering distribution of several aquatic organisms, including 96 species of fish and 46 species of mussels. Ellsworth Park Dam was a low-head dam constructed in 1920, near the confluence of the North Fork Vermilion River with the Vermilion River. This outdated dam served as a barrier to approximately four river miles of excellent habitat downstream of Lake Vermilion. This dam removal project removed a barrier to 1,115 stream miles upstream of these dams in the Vermilion River basin, benefitting an extraordinarily high number of Species in Greatest Need of Conservation (83) of the Illinois Wildlife Action Plan (33 mollusks, 28 fish, 15 amphibians, 5 reptiles, and 2 crustaceans. Benefitting species include two Federally listed mussel species (Northern Riffleshell and Clubshell), 26 state-listed species, and many game species, including Smallmouth Bass. The project also opens downstream access to the Middle Fork Vermilion River, Illinois' only National Scenic River.

Instream work for the Saline Branch (Vermilion River basin) habitat enhancement project was completed in December 2019. The project included the construction of three artificial riffles, three pairs of double rock deflectors, and 150 feet of streambank re-sloping with stone toe protection. The project was funded with Natural Resource Damage Assessment funds stemming from a 2002 fish kill event. Fish population response will be monitored and compared to pre-restoration survey results.

The Salt Fork Vermilion River experienced an algae bloom in August 2019 that extended at least 61 miles. Large diurnal swings in dissolved oxygen that reached peaks over 20 mg/L and 228% saturation caused a fish kill event that extended 17.59 miles and killed an estimated 8,734 fish. A large die-off of Corbicula clams was also documented, but native mussel mortality was not observed.

Two large Corps of Engineers reservoirs located on the Kaskaskia River received considerable attention in 2019. Habitat restoration efforts continued on Lake Shelbyville (11,000 acres) with around 1,000 artificial structures (cubes and stumps) constructed and placed since 2016. A modified version of the Georgia Cube, aptly named the “Shelbyville Cube”, has received heavy fish usage (particularly by crappie) and high marks from local anglers. These and similar efforts have emanated through the Lake Shelbyville Fish Habitat Alliance (LSFHA), a consortium of stakeholders furthering IDNR/USACE initiatives with funding through grants and volunteer help on habitat projects.

Region 5 Fisheries Habitat Partnerships

Fisheries managers worked cooperatively with both Federal partners, municipalities, and private entities to place fish habitat structures at 21 lakes in southern Illinois. Most notably, approximately 280 structures were constructed and placed in Rend Lake with the Assistance of the Army Corp of Engineers and the Sesser-Valier Outdoorsmen Club, and approximately 100 structures were constructed and placed in Crab Orchard Lake with the assistance of the U.S. Fish and Wildlife Service and Blue Heron Boat Club. Placement of these fish habitat structures provides benefits to both fisheries and anglers, and maps or coordinates of habitat structures were posted on the Division’s IFishillinois.org website. In addition, Fisheries Managers worked cooperatively with U.S. Forest Service to manage invasive aquatic vegetation on several lakes.

IDNR Fish Hatchery System Report

The IDNR operates three state hatcheries located strategically across the state including Jake Wolf Memorial Fish Hatchery, Little Grassy Fish Hatchery and the LaSalle Fish Hatchery. In FY19, the hatchery system produced and stocked a total of 19,975,873 fish of 18 species into state and public waters. These stockings included 39 alligator gar, 62,857 black crappie, 32,138 blue catfish, 623,203 bluegill, 141,138 brown trout, 450,685 channel catfish, 270,057 Coho salmon, 159,416 Chinook salmon, 1,401,180 largemouth bass, 76,068 muskellunge, 84,780 rainbow trout, 299,881 redear sunfish, 8,196,640 sauger, 273,196 striped bass hybrids, 249,845 smallmouth bass, 52,684 steelhead, 7,189,305 walleye, and 412,761 walleye-sauger hybrids.

Division of Wildlife

2019-20 Deer Season Harvest

Hunters in Illinois harvested a total of 153,174 deer during the 2019-20 seasons, including all methods and special hunts. Male to female sex ratio was 55:45 (46% antlered; 54% antlerless) in the total harvest. The same number of counties (20) were open for the Late-Winter season (antlerless only) compared to last year, with one removed and one added. The prior year’s total deer harvest was 151,709 (55:45 male to female ratio), and the Illinois record harvest of 201,209 occurred in 2005-06.

Chronic Wasting Disease (CWD)

To date, 172 cases of CWD have been confirmed from 9,112 tested samples in 2019-20, which is a 91% increase in cases from last year (90). This brings the cumulative number of cases in Illinois to 998. A total of 7,089 hunter-harvested samples were collected (7,049 tested) revealing 117 CWD-infected animals, while IDNR sharpshooting operations detected 42 CWD-infected deer from 1,107 collected samples (1,105 tested). Historically, most CWD positive cases (56% of the cumulative total of 998) have come from the original 4 counties (Winnebago, Boone, McHenry, and DeKalb), but this has shifted in recent years. Over half (67%) of the cases this past year came from the counties of McHenry (28), Stephenson (25), Jo Daviess

(25), LaSalle (20), and Grundy (17). Although CWD has spread from 4 counties in 2003 to a total of 18 counties in 2019-20 (Cook County was added this year), prevalence rates have remained low, approximating 1% throughout the 18-year history of the disease in the state.

Urban Deer Population Control

A total of 42 Deer Population Control Permits (DPCPs), not including permit extensions for additional time and/or deer, were issued to 11 natural resource management agencies, arboretums/botanical gardens, federal research facilities, and homeowner associations in seven northern Illinois counties during winter 2019-2020. Permittees were authorized to remove a total of 1,480 white-tailed deer via sharpshooting (1,460) and live-capture followed by mechanical euthanization (20); 1,394 (94%) deer were collected over the five-month period (November 2019-March 2020). All usable deer carcasses were processed and donated to charity. Several deer control programs ended early (in mid-March) due to restrictions put in place by the governor of Illinois to slow the spread of COVID-19, thereby reducing the ability of those programs to achieve their seasonal goals. Additionally, some municipalities and homeowner associations in more rural areas of Illinois have implemented, or are considering, controlled hunting programs to address site-specific, deer-related problems.

Deer Removal Permits (DRPs)

A total of 239 Deer Removal Permits (DRPs) were issued in 60 counties in 2019, compared to 232 permits in 55 counties the previous year. Three permits authorized hazing of deer only; 236 DRPs authorized the lethal removal of 1,832 deer. These permits resulted in the collection of 1,055 animals (58%). Excessive deer damage to corn and soybeans accounted for 67% of the DRPs issued during 2019. Approximately 16% of the 2019 DRPs were issued due to concerns about deer on airport runways/taxiways. Permits were also issued for deer-related damage to specialty/truck crops (beets, cantaloupes, lettuce, onions, organic vegetables, peppers, radishes, strawberries, tomatoes, turnips, watermelons, etc.), nursery stock, and fruit trees/orchards. As usual, DRP issuance peaked in June and July with 57% of the permits issued during these months. However, there was a shift in the timing of permit issuance with fewer permits than usual being issued in May and more permits than usual being issued in July and August due to a prolonged wet spring which delayed planting of crops during 2019.

Epizootic Hemorrhagic Disease (EHD)

Low levels of EHD were reported in 2019 with 198 suspected cases reported from 39 counties. The disease was reported at low levels across the southern third and west central portions of the state. EHD virus was isolated from 5 spleen samples submitted; EHDV₂ was detected in 3 cases, and serotype was not determined in 2 cases.

EHD reporting levels in 2019 were typical for most years. By comparison, the worst three outbreaks observed during the last 20 years were 2012 (2,968 dead deer from 87 counties), 2007 (1,966 dead deer from 54 counties), and 2013 (1,224 dead deer from 64 counties).

2020 Spring Turkey Harvest

Illinois turkey hunters harvested a preliminary statewide total of 15,800 wild turkeys during the 2020 Spring Turkey Season. This year's preliminary harvest total compares with the 2019 statewide turkey harvest of 15,190. The statewide preliminary total includes the 2020 Youth Turkey Season harvest of 1,744 birds, a record total, and compares with the 2019 youth harvest of 1,392 turkeys. The statewide record total was set in 2006 when 16,569 turkeys were harvested.

Spring turkey hunting was open in 100 of Illinois' 102 counties. The 2020 season dates were April 6-May 7 in the South Zone and April 13-May 14 in the North Zone. The Youth Spring Turkey Season was March 28-29 and April 4-5 statewide. Spring turkey hunting was suspended at Illinois Department of Natural Resources sites during the 2020 season due to the COVID-19 pandemic.

Turkey hunters this spring took a preliminary total of 6,285 wild turkeys during all season segments in the South Zone, compared with 5,959 last year in the south. The North Zone preliminary harvest total this year was 7,771 wild turkeys, compared with 7,832 in northern counties in 2019. The top five counties for spring wild turkey harvest in 2020 were Jefferson (508), Jo Daviess (464), Marion (444), Pike (404), Randolph (379).

2019-20 Waterfowl Season

As a mid-latitude state, waterfowl abundance and hunter success in Illinois largely depends on habitat quality and food resources available. Habitat conditions varied across the state in 2019. Relatively consistent precipitation prolonged flooding into the summer growing season in some areas, delaying management actions that promote waterfowl food resources. Additionally, late summer or early fall flooding prevented other food sources from maturing, further limiting resources available to migrating ducks in Illinois. Early unseasonably cold weather moved many early-migrant species (e.g., green-winged teal) out of the state in November but was not significant enough to move late migrant species (e.g., mallard) into Illinois. Thus, waterfowl abundance remained below average in many areas through the middle part of the waterfowl hunting season. In the North and Central waterfowl hunting zones, duck numbers peaked along the Illinois River 5 November and were 37% below the 5-year average. Duck numbers along the Mississippi River peaked 14 November, 32% below the 5-year average. Northeast Illinois duck abundance peaked 13 December 41% above the 10-year average. Duck abundance remained below the 10-year average throughout much of waterfowl season in the South Central and South waterfowl hunting zones. Following a warming trend and ducks beginning to migrate north from southern wintering locations, duck numbers peaked 22 January in southern Illinois, at 387,575 ducks; this estimate was 103% greater than the 2018 peak and 452% above the 10-year average. Timing of peak abundance of total ducks in southern Illinois was much later chronologically than in 2017 (28 December) and 2018 (11 December). Unfortunately, this large influx of ducks was at the very tail end of the South Zone waterfowl season, and after the close of the South-Central Zone season. Mild temperatures and little snow cover through late-January allowed Canada geese to remain in Wisconsin or in Illinois but north of aerially surveyed areas throughout most of the hunting season. Canada goose abundance peaked in northeast Illinois on 23 December 19% above the 10-year average, but quickly declined following a short period of cold. Canada goose abundance in other parts of Illinois remained below long-term averages; peak estimates in west-central and southern Illinois were the second and fourth lowest on record, respectively. In contrast, peak numbers of white-fronted geese were the highest ever recorded in west-central Illinois and the third highest on record in southern Illinois. White-fronted goose abundance was above average throughout much of the season in many locations and may offer opportunities for harvest that no longer exist with changing Canada goose distribution.

2018-19 Upland Harvest

The 2018-19 survey estimated that 12,241 hunters (3% decrease) shot 31,066 wild pheasants in Illinois (8% decrease), compared to the 2017-18 totals of 12,575 hunters and 33,876 wild birds. The number of days each hunter spent in the field increased from 2017-18. The 2018-19 quail survey estimated that 6,995 hunters shot 35,490 wild quail (21% increase) compared to 8,597 hunters and 29,385 quail in the 2017-18 survey. The number of quail per hunter/day was up 27%. Estimates from 2018-19 indicate that 28,906 hunters (down 3%) harvested 488,832 doves (down 5%). The number of birds per hunter/day was down 3% for mourning doves. The number of rabbit hunters in 2018-19 (22,322) was down 18% from the

previous year and they harvested 77,769 rabbits (down 41%). The number of rabbits per hunter/day also decreased 20%.

Agency Highlights

Hunter Heritage: Recruitment, Retention, and Reengagement

The IDNR Hunter Heritage Program is guiding hunter R3 efforts in Illinois by couching the Outdoor Recreation Adoption Model (ORAM) within a larger business model framework informed by scientifically collected data. The ORAM model is a proven feedback process by which programs recruit, retain and reactivation (R3) people in an outdoor recreation activity. The ORAM model fits well within a business framework because natural resource agencies typically view the public as customers and provide services constituents are encouraged to participate in, such as hunting. Using a business framework guided by objective data also allows hunter R3 programs to be developed and adapted to maximize the likelihood of engaging current and potential hunters. This framework has been developed into a statewide hunter R3 strategy that incorporates input from dozens of state and federal agencies and stakeholder groups. The strategy is anticipated to launch in early fall and will be used as a guide to first optimize existing R3 programs and possibly create new programs that fill gaps in key audiences currently being overlooked or underserved. The strategy will be adapted into a comprehensive R3 plan over several years.

The statewide R3 strategy includes numerous components related to hunting and target shooting. One component is tracking the trend in hunting license sales and associated R3 rates. Last year the number of resident hunters in Illinois decreased by 4.1%, continuing the downward trend in hunting license sales. However, non-resident hunting license sales increased 2.2%. Other prominent components of the statewide strategy include bolstering land access for hunting, reducing the complexity of hunting regulations, developing shooting ranges and mentoring novice hunters. Identifying constraints to hunters and non-hunters is being actively conducted through scientifically designed human dimensions surveys, including of hunter, non-hunters and meat processors. Scientific modeling is being conducted to identify spatially explicit areas across Illinois that would be fruitful for implementing specific R3 programs, purchasing public land for hunting and developing shooting ranges. A population model, like those used for wildlife, is being developed to provide a tool for projecting demographic trends in hunters and associated economic revenue to the state and local economies.

Hunter Heritage has also been diligent in increasing hunting opportunities at existing state-owned sites and establishing new opportunities with municipalities across Illinois. Increasing hunting opportunities at the municipal level is a notable focus for the program because it accomplishes the goals of properly managing localized deer populations and mitigating issues (e.g., deer herbivory) that municipalities often want assistance with. Hunter Heritage has developed a team of IDNR staff to develop a user-friendly guide, municipalities can use to decide if and how to conduct a deer hunting program.

Hunter Heritage has also been working on developing contemporary resources for hunters, such as the annual Hunting and Trapping Digest and several websites, including one designed for hunters. Over the next few months the program will be focusing on completing the statewide R3 strategy and working with government agencies and stakeholder groups to increase hunting access, including identifying regulations that hinder access and hunting participation in general.

Feral Swine

IDNR has teamed up with USDA – Wildlife Services (WS) to identify areas with feral swine (FS), develop and implement a technical assistance program for landowners experiencing FS conflicts, coordinate and expand disease surveillance, conduct outreach to stakeholders and the general public, and provide direct

control management assistance. Technical assistance and/or direct control assistance has been provided to numerous State, County, and Private landowners throughout the state since 2011 and a total of 485 FS have been removed. A total of four known, self-sustaining breeding populations of FS in Illinois have been successfully eliminated. IDNR and WS continue to monitor reports of FS received from deer and turkey hunters as well as citizens throughout the state. Follow-up investigations are conducted to confirm the presence of this invasive species. A total of 38 reports were investigated in 2019, with one new isolated population of FS being confirmed in Pope County as well as one adult boar in Pulaski County.

After local hunters and agricultural producers alerted WS to an emerging FS population in Pike County, IL, the USDA-WS program worked closely with the IDNR, Pike County Soil and Water Conservation District, Pike County Farm Bureau, Illinois Department of Agriculture, USDA NRCS, and the Illinois State Police (aerial surveys) to identify the source of this population. WS removed 26 FS from the Township and continues to conduct surveillance for additional FS in the region. No other reports of FS among this area has been received since January 2019.

WS has received reports of FS in Pope and Pulaski Counties in southern Illinois. On the ground surveillance and removal efforts began on March 19, 2019 in an effort to determine distribution, density and begin to eliminate populations before they become self-sustaining. WS has confirmed one adult boar among private properties in Pulaski County and at least 10 adult FS in Pope County among private properties and Shawnee National Forest lands spanning approximately 100 sq. mi. FS damage management efforts among these two counties will continue through 2020.

Bobcat Hunting

Illinois offered its Fourth hunting and trapping season for bobcat since 1972. Almost 5,800 people applied for 1,000 permits to take a bobcat by hunting, trapping, or salvage from roads. The season starts November 10 and ends on February 15. Successful permit holders tagged a total of 335 bobcats. Hunters and trappers took 306 bobcats and an additional 29 bobcats were salvaged by permit holders.

Midwest Fish and Wildlife Conference

IDNR, along with the Illinois Chapters of the American Fisheries Society and Wildlife Society, hosted a successful Midwest Fish and Wildlife Conference on Jan 26-29, 2020. The theme, *Bringing Science Back to the Forefront of Resource Management*, challenged attendees to think about how science is/should be used to inform management decisions. IDNR had more than 80 staff members planning, volunteering and/or participating in the conference. Hosting this conference was a team effort and would not have been possible without everyone's support!

Illinois Habitat Team

The Illinois Habitat Team Program provides technical assistance, seed, plants, equipment and labor for wildlife habitat establishment and improvement on state Pheasant Habitat Areas, Habitat Areas and private lands. After hiring two new Habitat Team Members last year, the Habitat Team Coordinator was promoted in November to a job outside the Program. The position was posted and closed in December and a new Coordinator should be hired in early 2020. For the year 2019, the team reported the following accomplishments: sprayed 689.8 acres for invasive plant control and site preparation, mowed 367.0 acres for exotic control, fire breaks and site preparation, treated 800.0 grassland acres for woody encroachment, conducted prescribed burns on 760.5 acres and planted 139.5 acres of native grasses and forbs.

Illinois Recreational Access Program (IRAP)

With nearly 97% of the land in Illinois is privately owned land, finding a place to enjoy the great outdoors is becoming more difficult. Developed in 2011 from its first Voluntary Public Access-Habitat Improvement Program (VPA-HIP) grant, the IDNR launched its first public access program, the IL Recreational Access Program (IRAP). In 2019, IRAP had over 22,100 acres under lease in 48 counties for spring turkey, archery deer, squirrel, rabbit, quail, pheasant and waterfowl hunting. Several sites are also available for pond and riverbank fishing as well. In addition to outdoor access, IRAP provides new and updated habitat management plans for the landowners, that are specifically written to provide a diverse habitat to improve Illinois' Wildlife Action Plan targeted species and are written in cooperation with IDNR, USDA and SWCDs. IRAP plays an important role in implementing plan habitat projects on leased acres by providing guidance, manpower and up to a 75% cost-share to implement needed habitat improvement projects. The majority of practices include nonnative invasive species control, timber stand improvement, prairie prep/planting, tree plantings, and prescribed burning. In March 2020, IRAP received its fourth VPA-HIP grant to continue and expand the program, adding youth shotgun deer and targeting counties near larger metropolitan areas and wetland reserve easement acres.

Illinois Nature Preserves Commission

The Illinois Nature Preserves Commission (INPC) consists of nine members appointed by the Governor. Pursuant to the Illinois Natural Areas Preservation Act (525 ILCS 30/6), the Commission has certain powers and duties, including approval for dedication of nature preserves and registration of land and water reserves in the Illinois Nature Preserves System. The Commission, in partnership with the Illinois Department of Natural Resources (IDNR), protects lands in perpetuity for landowners of all types including state and local governments such as the IDNR and forest preserve and park districts, not-for-profit corporations, land trusts, other companies and individuals. Lands protected include high quality natural communities, habitats for endangered and threatened species, geological features, and archaeological sites. The INPC is a great example of a public-private partnership that has been successful for more than 55 years and is supported by staff employed by the IDNR.

In calendar year 2019, the INPC permanently protected 20 sites, including 10 new nature preserves, two additions to existing nature preserves, six new land and water reserves, and two additions to existing land and water reserves. The total acreage dedicated was 1,655.4 and the total registered 732.4 acres. Adding these 20 sites into the Illinois Nature Preserves System brings the statewide, total number of dedicated nature preserves to 402 comprising approximately 60,910 acres, and the total number of registered land and water reserves to 195 with approximately 54,041 acres. Altogether at the end of 2019, there were 597 sites comprising close to 115,000 acres.

Division of Natural Heritage

Endangered Species

Throughout 2019, the Department developed a conservation matrix in which the prioritization of species for recovery planning will now be based on G-ranks and S-ranks. Collectively, these ranks combine information on the rarity, trends, threats to a species, and the relative importance of Illinois to the species

survival overall. Both recovery and inventory priority schemes were developed for 158 animals and 325 plants in Illinois. Amongst the top ten animal and plant species are the: Rattlesnake Master Borer Moth, Scaleshell Mussel, Rusty Patched Bumble Bee, Kankakee Mallow, and Lea's Bog Lichen. S-ranks were updated for all species in greatest conservation need with plans to update plant S-Ranks soon. In conjunction with this conservation matrix, an enhanced recovery planning process is being finalized

In the Fall of 2019, the five-year review of Illinois' List of Endangered and Threatened Species was completed. Highlights included a status change from endangered to threatened for the Bigeye Chub and Smooth Softshell Turtle; changes from threatened to endangered status for the Elfin Skimmer and Prairie Buttercup; and, complete de-listing of the Eastern Woodrat, Iowa Darter, Barn Owl, and Mountain Clematis.

During the reporting period, the Department developed formal Land Management Guidelines for Bat Conservation in Illinois targeted at Federally Listed Species. These guidelines, which include an ArcGIS Online mapping component, were prepared for use by Department staff as well as private contractors performing management actions on IDNR owned, managed, and leased properties.

Natural Areas Stewardship

The Department's Division of Natural Heritage implements an active stewardship program on Natural Areas. Since July 1, 2019, Heritage staff have initiated 169 projects costing an estimated \$937,000 and have several ongoing projects that began prior to July 1.

The Department continues to work toward formalizing the Illinois Natural Areas Stewardship Grant Program. The program will provide grants to eligible Conservation Land Trusts for stewardship activities on lands protected by the Illinois Nature Preserves Commission as Dedicated Illinois Nature Preserves and Registered Land and Water Reserves. The Department has adopted administrative rules to govern this new grant program. Internal grant program process is now being work out, but the pandemic and anticipated budget impacts may delay the start of this program.

Incidental Take Authorizations

The IDNR has the authority to permit the take of listed species, if the taking is incidental to some otherwise legal action. Since 2001, the Department has 221 Incidental Take Authorizations either issued or pending. Examples of project types for which this permit is sought include transportation (river, road, and rail), utility corridors (power and pipeline), wind farms, mining, dam removals, and commercial development. The Department continues to strive to apply a consistent standard for mitigation of potential impacts to imperiled species as required by statute. The Department defines adequate mitigation as bringing conservation benefit to the species. Applicants are encouraged to provide support for on-the-ground efforts such as habitat acquisition and restoration; propagation, translocation, or species/habitat research to support recovery efforts; or outreach materials that provide land management and impact minimization recommendations for future applicants. Through this effort, the Department continues to experience an increase in partnerships between the agency and local land trusts, biological consultants, university researchers, and other conservation agencies to define timely and applicable mitigation strategies to support species.

Division of Forestry

Wildland Fire Programs

IDNR staff managed 8,500 acres in 100 units with prescribed fire during the last burn season. Seven introductory wildland firefighting classes were held for IDNR staff and volunteers. Ten IDNR staff

completed advanced wildland fire training classes at the Midwest Wildfire Training Academy. Fourteen G130 – 190 wildland fire classes were presented to the volunteer fire departments. A total of 68 fire departments were represented with 420 firefighters completing the classes. Through federal excess equipment programs, IDNR acquired approximately \$18,000,000 of surplus fire equipment, including fire engines, trucks, rescue boats, lighting standards, generators, tools and a variety of other items. IDNR had two 20-person Type 2IA crews on ready status to assist in wildland firefighting efforts in Western States.

IDNR Nursery Program

For FY20, the IDNR Nursery Program produced 490,000 native bare-root trees and shrubs of 29 different species. Additional production included 3,800 native containerized trees and shrubs of 24 different species; 7,122 containerized native wildflowers and prairie grasses of 52 different species; 1,486 pounds of cleaned wildflower seed of 45 different species; 4,727 pounds of cleaned prairie grass seed of 5 different species. The Mason Nursery also produced 995 pounds of Monarch/Pollinator native wildflower seed of 38 different species. Most of this material was sold and distributed widely across Illinois habitats and projects.

Illinois Forestry Development Act (IFDA) Forest Management Program

IFDA requires landowners to have a current IDNR-approved forest management plan. These comprehensive forestry plans define forest and associated natural resources that are present, their current condition, the needs of the forested area for long term forest health, and technical recommendations to reach land management objectives. Wildlife remains a primary goal for most landowners. Illinois has approximately 500,000 enrolled forest management acres engaging 9,500 forest landowners. This equates to approximately 15% of non-industrial private forestland in Illinois being managed for wildlife, timber, recreation, clean water and long-term forest health. Recommended forest management practices vary parcel to parcel.

Illinois Forest Legacy Program

The Forest Legacy Program is a partnership between the IDNR and the USDA Forest Service to identify and acquire environmentally important and threatened forests in Illinois. Conservation easements owned by the IDNR are the main tool used for protecting these important forests in Illinois to date. The IDNR Division of Forestry maintains federal eligibility to complete up to three projects per year within traditionally important and threatened Illinois forest landscapes. Illinois has seven Forest Legacy Program properties under easement within its borders totaling 558 acres.

Urban and Community Forestry Program (UCF)

The Urban and Community Forestry program assists Illinois communities, counties, townships, military bases, park districts, and forest preserves with urban forest management through education, technical and financial assistance. The program administers the Tree City USA, Tree Campus, Tree Line and Growth programs in partnership with the Arbor Day Foundation and the USDA Forest Service. In 2019 Illinois' UCF program touched 7,781,108 Illinois residents through local urban and community forestry assistance and included communities as small as Cerro Gordo's 492 acres and as large as the Forest Preserve of Cook County's 70,000 acres of managed land. Illinois is among the top states in Tree City USA programs and has been ranked first for the number of Tree Campuses in the nation since program began. In 2019 Illinois approved 169 Tree Cities, 21 Tree Campuses, 24 Growth Award applicants and 3 Tree Line USA utilities.

Illinois Forest Utilization & Marketing Program

IDNR Division of Forest Resources bonded and licensed 360 individual timber buyers or companies having an additional 718 authorized agents (1078 total buyers) who may legally purchase timber from any Illinois forestland owner. Seventy-five sawmills and a few dozen additional hobby or portable mills are currently operating in the state. Verified sales of timber and products, primarily as hardwood logs, from private forests exceeded \$50 million. The total economic value of the forest products industries to Illinois, including all primary and secondary sectors, exceeded \$23 billion as measured in 2012. The IDNR Forest Utilization and Marketing Program, with support from the Illinois Forestry Development Council, repeated the economic output analysis this last year. Forestry and forest industries show a direct output of \$12.9 billion with a total contribution of \$21.9 billion in output.

Illinois Conservation Reserve Enhancement Program (CREP)

The Illinois Conservation Reserve Enhancement Program (CREP) is a State Incentive Program combined with the USDA Federal Conservation Reserve Program (CRP). CREP provides long term environmental benefits by allowing 232,000 acres of eligible environmentally sensitive lands within the Illinois River and Kaskaskia River watersheds to be restored, enhanced and protected over a period of time from 15 years to perpetuity. Since CREP was established in 1999, 1,408 easements have been placed, protecting 90,990 acres. However, CREP was temporarily suspended effective July 1, 2015 and has not accepted any new easement enrollments to date.

Nutrient Loss Reduction Strategy

IDNR staff are involved with planning and implementation efforts for The Illinois Nutrient Loss Reduction Strategy (NLRs). The 2008 Gulf Hypoxia Action Plan, calls for each of the 12 states in the Mississippi River Basin to produce a plan to reduce the amount of phosphorus and nitrogen carried in rivers throughout the states and to the Gulf of Mexico. In 2011, U.S. EPA provided a recommended framework for state plans. Illinois' plan was developed by a working group that includes representatives from state and federal agencies, including IDNR, agriculture, and non-profit organizations as well as scientists and wastewater treatment professionals. IDNR staff are actively involved in the Nutrient Monitoring Council that is charged with coordinating water quality monitoring efforts by government agencies, universities, non-profits, and industry; the Agriculture Water Quality Partnership Forum that steers outreach and education efforts to help farmers address nutrient loss; the Urban Stormwater Working Group that coordinates and improves stormwater programs and education; and the Policy Working Group that considers policy issues, funding opportunities and identifies needed legislative initiatives.

Illinois Wildlife Action Plan

The Illinois Wildlife Action Plan (IWAP) continues to guide conservation efforts designed to maintain, enhance, and restore Species of Greatest Conservation Need (SGCN) and the habitats that sustain them. Over the past year, implementation continued on 26 State Wildlife Grant (SWG) Projects. Collectively these projects include monitoring and assessment of hundreds of amphibian, bird, fish, insect, mussel, and reptile SGCN including at least 36 State-listed wildlife species. The five Projects completed over the past year improved communication with our conservation partners, and developed information on impacts of invasive woody plant species on shrubland birds, ecological responses to hydrologic reconnection, health assessments of herptile species, and supported management actions on native prairie and savannas. Ten new Projects are being developed that continue our focus on recovery planning and conservation assessment of SGCN, stewardship of natural communities, and management of SGCN on high-priority state sites.

For More Information

Contact the Illinois Department of Natural Resources Office of Resources Conservation for more information:

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Indiana

INDIANA STATE REPORT

May 29, 2020

Amanda Wuestefeld, Director
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Strategic Plan

The Division of Fish & Wildlife (DFW) hired a Business Strategist to facilitate implementation of its 5-year strategic plan. A presentation was recorded for all staff that detailed the structure of the planning process, defined roles and responsibilities and institutionalized a common language for planning. The leadership team, comprised of regional supervisors, met to discuss decision-making processes and formed working groups. The strategies within the plan, largely guided by the Fish & Wildlife Relevancy Roadmap and the America's Wildlife Values report, have an increased emphasis on offering Conservation Appreciation services (i.e., targeting audiences with pluralists and mutualists value orientations) and enhancing R3 efforts (i.e., for citizens with traditionalist value orientations). There is also recognition that the DFW strategic plan ought to inform resource allocation decisions and as a result, the DFW is actively working to modernize budgeting processes. Moreover, the DFW is implementing a new employee performance management system and the leadership team is actively working to systematically cascade elements of the strategic plan into the work profiles of employees throughout the organization.

Recruitment, Retention and Reactivation of Hunters and Anglers (R3):

DFW conducted 75 "Learn To" workshops reaching 1,200 participants across the state. The Learn to Hunt, Trap, & Shoot program offers instruction for those interested in learning more about these outdoor activities by promoting, supporting and conducting events for novices of all ages. The Learn to Fish program offers instruction and opportunities for people to learn more about fishing. While most of the events are tailored to novices, some workshops teach advanced skills while others train adults to become fishing instructors. Both of these programs use participant data collected from pre-workshop and post-workshop surveys to evaluate program needs and successes.

DFW held Indiana's first Statewide R3 Summit in March 2019. It was attended by internal and external partners, representing fishing, hunting, trapping, sport shooting, and outdoor recreation. The Summit helped increase awareness and understanding of the importance of focused R3 efforts needed to reverse negative trends of participation in hunting and angling in Indiana. Since the Summit, partners have been more engaged to help address current challenges and barriers to R3 efforts as a community.

Land Acquisition

DFW acquired 496 acres in 2019. The additions included 300 acres for Fish & Wildlife Areas and 1 acre (two tracts) that were donated for Public Access sites. Indiana's Healthy Rivers Initiative (HRI), the state's largest land conservation initiative, added 195 acres.

Private Lands Expansion

DFW continues to expand wildlife habitat and recreational opportunities on private lands. Efforts include implementation of the Grasslands for Gamebirds and Songbirds (GGS) program and expansion of hunting opportunities on private lands. By leveraging an RCPP agreement with NRCS, GGS has brought \$2 million in funds for conservation to Indiana private lands, the creation of 3 new grassland biologists, and 2 new habitat teams which conduct work on private properties. This move has resulted in 1,820 acres of enhanced native grass, wildflower, and shrub habitat. Also through funding from the GGS program, 2,000 acres have been opened to public gamebird hunting.

DFW was recently awarded funding for a Voluntary Public Access (VPA) agreement with NRCS. VPA funding will be used to expand access acreage and also provide new opportunities for waterfowl and deer hunting.

Recreational opportunities have also been expanded through DFW's Community Hunting Access Program (CHAP). By working with partners from City government, conservancy districts and land trusts, DFW has opened 3,191 acres to recreational deer hunting to date. CHAP partners are able to improve deer management efforts while allowing recreational deer hunting on their properties.

Asian Carp Management

As part of efforts to increase Asian Carp management capacity, DFW created and filled an Asian Carp Specialist position. This full time position focuses on coordination with neighboring states, securing funding for carp removal efforts and expanding the scope of research and population monitoring efforts. The carp specialist is working with neighboring states to expand commercial harvest on the Wabash River, expand working knowledge of preferred habitats, primary reproductive areas and population modeling. The specialist is also working to further develop carp communication tools including updated webpages and fact sheets.

Increased use of technology to better manage wildlife resources

DFW has recently increased the use of technology to increase transparency and to make better informed management decisions. Increased usage of GIS web-map technology has allowed for greater access and use of wildlife data. Data such as distribution of habitat projects and wildlife conflict hotspots helps inform decisions, such as work load distribution and prioritization of efforts. GIS web-map data helps establish cost/benefit summaries for programs and makes reporting much more efficient.

DFW recently invested in Qualtrics to better meet surveying needs. The platform has been used to research both hunting and non-hunting customer's opinions concerning deer populations and management, waterfowl, small game, and other questions of importance to the public.

DFW has also increased the speed at which data is shared with the public. Using technologies such as Tableau, we have been able to provide near real-time data on deer and turkey harvest, disease outbreaks such as a recent epizootic hemorrhagic disease event, and other data sharing that is of interest to the public. Older technology, such as PDF reports are also used to share more in-depth data. The effects of these new technologies for data sharing are being researched to determine their effect on trust between DFW and the public.

Response to 2019 Outbreak of Epizootic Hemorrhagic Disease (EHD)

In 2019, Indiana DNR received 981 reports of potential EHD cases involving 1,719 deer from 85 counties. Indiana DNR tests deer to confirm only the presence of EHD in a county and not the total number of infected animals. A total of 61 deer from 43 counties were tested, and 48 (79%) deer from 36 counties were positive for EHD. A total of 1,297 deer were reported in these 36 counties over an area of 14,102 square miles (approx. 0.09 deer/square mile). The number of deer tested in each county ranged from zero to four. Prior to 2019, the last major outbreak of EHD in Indiana occurred in 2012. A less-widespread but significant outbreak occurred in 2013. In response to reports of potential EHD, Indiana DNR reduced the county bonus antlerless quotas to two in 27 counties in which EHD was confirmed. These changes were enacted just prior to the start of the 2019 hunting season. Overall hunter opinion of the actions taken by Indiana DNR were positive.

IN Shrubs for Shrikes and Adopt-A-Shrike Programs

The loggerhead shrike, a state endangered bird, has experienced precipitous declines in recent years in Indiana. Ongoing monitoring efforts now identify fewer than 10 breeding pairs annually in the state. In 2019, a Shrubs for Shrikes program was initiated by DFW to improve habitat for shrikes on private land in areas where shrike breeding territories have recently been found. Habitat enhancements focused on planting nest trees, which are very limited in these areas. DFW reached out to 12 landowners that own property in shrike hotspots and these landowners agreed to the planting of native Eastern Red Cedars to create nesting habitat. Convincing landowners to plant Eastern Red Cedars in their pastures, however, was not an easy task. To make this happen, DFW joined forces with 2 partner organizations, the U.S. Fish and Wildlife's Partners in Fish and Wildlife (PFW) and the Indiana Audubon Society, to incentivize landowners to allow the DNR to plant cedars, which are considered a nuisance in pastures, and to pay for a landscaping company to supply and plant the cedars. DFW provided \$7,000 to pay for the cedars through its Nongame Wildlife Fund and \$2,800 through its Cost-Share program to incentivize landowners to plant and maintain the cedars for 10 years. PFW dedicated nearly \$4,000 to cover the costs of labor and supplies and established 10-year contracts with landowners to improve and retain shrike habitat. Finally, the Indiana Audubon Society, in partnership with DNR ornithologists, began the Adopt-A-Shrike Program to annually incentivize landowners to retain cedars for future generations of both shrikes and people. The program lets the public "adopt" a banded shrike through monetary donations and members are updated annually on the shrike's activities. Members receive a t-shirt and other forms of shrike "swag," which helps to promote shrike awareness throughout Indiana.

Freshwater Mussels: Die-off Response Development and One Health Assessment Study

Freshwater mussels are among North America's most imperiled species. Die-offs are increasingly recognized as population threats, with causes frequently undetermined. Minimal health and disease data exists for freshwater mussels and detailed plans and descriptions of

techniques for thorough and rapid diagnostics to guide a targeted die-off response are lacking. The objectives of this project are to develop die-off response protocols in coordination with partners nationwide and establish and compare baseline health parameters for freshwater mollusks in Indiana waterways. Study species include native Fatmucket (*Lampsilis siliquoidea*) and Plain Pocketbook (*Lampsilis cardium*) and non-native Asian clam (*Corbicula fluminea*), all common in Indiana. During the summer 2019 study period, methods involved: 1) collection of mollusks (20 per species per site) from three Wildcat Creek drainage sites under assessment for mussel translocation suitability, 2) determination of microbial populations (viral, bacterial, parasitic, and fungal) and antibiotic resistance of bacteria cultured, 3) assay of hemolymph and tissue samples to determine analyte levels (including glycogen, stable isotopes, contaminants) and histologic tissue evaluation, and 4) habitat assessments. This project establishes baseline health parameters of multiple species at varied sites which is critical for interpretation of results in the event of a die-off.

J.C. Murphey Lake Renovation

In August of 2019, DFW held a public meeting to discuss upcoming renovations on J. C. Murphey Lake at Willow Slough Fish & Wildlife Area. Leading up to the meeting property staff and other biologists coordinated with human dimensions and outreach staff to formulate a solid game plan for the public meeting.

The lake is unique in that it is extremely shallow, with average depths of only three feet. The lake requires periodic renovations to maintain habitat for the maximum number of species and recreational opportunities. DFW looked at a variety of factors when determining the need for a renovation, including vegetative characteristics, furbearer numbers, fish size and growth rates, requirements of species of greatest conservation need, waterfowl counts and harvest, as well as infrastructure concerns.

The meeting was well attended with about 115 citizen stakeholders. Property staff gave a presentation and fielded questions from the public. The main concerns were budget related, the depth of the lake, and what would be done with fish. After consultation with biologists from a variety of disciplines (fish, waterfowl, non-game bird, furbearer & non-game mammal), permitting & regulatory staff, outreach staff, as well as with over 100 citizen stakeholders, it was decided to proceed with the renovation plan. The overall success of the potentially contentious meeting is largely attributed to the “front-end” work performed by staff in preparing for the meeting.

The drawdown of the lake will begin in spring of 2022 and last until fall of 2023. This 18 month draw down should allow the plant community establish and ideally provide habitat for another 15 years.

Ten years of Glacial Lake Status & Trends

Keeping tabs on the more than 400 glacial lakes, totaling more than 40,000 acres across northern Indiana is a monumental task. Over the past 10 years, North Region fisheries biologists completed 164 surveys at 119 different glacial lakes to describe fish community and habitat trends at a landscape level while minimizing bias in the sampling frame. The results of these surveys include nearly 114,000 fish representing 59 different species, spatial distributions of 37 aquatic plant species, and descriptions of water quality at each lake sampled. Information

collected through the Status and Trends program has already been utilized extensively to identify lakes in need of further management, prepare of species specific strategic plans, inform vegetation management, and identify focus catchments for the State Wildlife Action Plan.

Big Long Lake Largemouth Bass

Big Long Lake in LaGrange County historically supported a bass population that was roughly five times greater than the average of surrounding glacial lakes. The bass were stunted, slow growing and never exceeded the 14-inch minimum size limit. A 12-15 inch protective slot limit was implemented in 2014 in hopes of reducing bass numbers while increasing growth and size structure. DFW biologists sampled in 2019 and results were profoundly different than 2014. Bass numbers had decreased by eighty percent and were more in line with regional glacial lake averages while both growth and size structure improved. Legal-sized bass comprised 17% of the total catch with eleven bass over the 18-inch mark and 3 exceeding 20 inches. Overall, biologists are excited about the changes observed in the fishery at Big Long Lake and are working on identifying other potential candidate lakes that may benefit from similar regulations.

Mississinewa Reservoir Habitat Improvement Project

A partnership between DFW, the Army Corps of Engineers, Bass Unlimited, and Slab masters (local group), completed a habitat improvement project at Mississinewa Reservoir. The collaborative placed around 700 Christmas trees in two different locations and added some much needed structure in an aging reservoir. This project was one of the first ones to take place in the northern part of the state. Similar projects are being discussed and will take place in the coming years.

Crooked Lake Biological Station

In 2019 DFW, in partnership with the Division of Nature Preserves, purchased the Crooked Lake Biological Station property. The property is located on the north shore of Crooked Lake in southern Noble County. This acquisition now protects 20 acres of land in the Crooked Lake watershed and nearly 1/4 mile of the Crooked Lake shoreline. Crooked Lake is a 206-acre lake in the headwaters of the Tippecanoe watershed. The lake is unique because its fish community includes Cisco (*Coregonus artedi*), which is the only native coldwater fish species inhabiting Indiana glacial lakes. Cisco were once found in as many as 42 glacial lakes, but decades of coldwater habitat loss resulting from anthropogenic watershed modifications have now restricted the species to seven lakes. The acquisition of the Crooked Lake Biological Station represents the most substantial step DFW has ever taken to protect Indiana Cisco and glacial lake coldwater habitat.

Reservoir Habitat Enhancement Program

DFW has been working on aquatic habitat projects at Monroe and Patoka Lakes. In 2019 the Monroe project was finished with a total of nearly 300 fish structures added to the lake. The planning phase for the Patoka Lake habitat project was finished in 2019, which outlined habitat work to be started in 2020. The Division has partnered with Bass Unlimited, the Indiana Bass Federation, and the Division of State Parks with these aquatic habitat projects.

Hellbender Project Update

Indiana's hellbender (*Cryptobranchus alleganiensis*) program reached a milestone in 2019 with the release of its 200th captive-raised hellbender since strategic recovery efforts began in 2017. The 81 hellbenders released in 2019 were originally collected from the Blue River as

eggs in 2013, and were released back into the river at two sites containing suitable habitat. Indiana's hellbender recovery program has been the product of a collaborative partnership between the Indiana Department of Natural Resources and Purdue University, and has involved a number of other key players including The Nature Conservancy, conservation agencies in the states of Ohio and Kentucky, and several Indiana zoos. The next hellbender releases are scheduled for the summer of 2020, and will take place at two additional sites on the Blue River.

Goose Pond Fish & Wildlife Area Visitor Center Interpretive Exhibit

Through a collaborative effort with Duke Energy, Friends of Goose Pond, and the Indiana Natural Resources Foundation, the Division opened its first ever interpretive exhibit in March 2020. The exhibit invites visitors to experience the property in a novel way for the Division and recognizes the potential of Goose Pond Fish & Wildlife Area to speak to a broader audience about conservation and its value to people.

During the first phase, interpretive displays about property management and wildlife at Goose Pond were installed in the visitor center. The displays bring special attention to grasslands and farmlands. A timeline highlights the history of Goose Pond and the donor recognition wall recognizes partners and donors who have contributed to the establishment, restoration, and maintenance of the property. In addition to the internal displays, property staff have started work on an interpretive trail. The developing interpretive trail is a half-mile loop around the visitor center with five stops highlighting Goose Ponds unique habitat features.

The next phase of the project will build on the existing visitor center displays to provide information about wetlands and wetland habitat. Taxidermy and models of charismatic migratory bird species will also be suspended from the ceiling to create a flyway

Give Adventure

DFW received the first \$10,000 Give Adventure grant from the Indiana Natural Resources Foundation and secured an additional \$14,000 in project funds from Reconnecting to Our Waterways for the Give Adventure project. The project had four major events. The first involved engaging an underserved Indianapolis school and local non-profit in planting native habitat at the school. For the second event, the team hosted a workforce development day for 26 of the non-profit's youth workers at a fish & wildlife area near the city. The third event was a Project WILD workshop conducted with 55 teachers highlighting the school's habitat installations and how to incorporate them into school curriculum. Lastly, the team, partners, and other DFW staff hosted a culminating community festival at the city park next to the school.

Iowa

IOWA
STATE REPORT
January 2019-December 2019

Dr. Dale L. Garner, Division Administrator
Iowa Department of Natural Resources
Conservation and Recreation Division
502 East 9th Street, Wallace Building – 4th Floor
Des Moines, IA 50319

Iowa DNR Mission Statement: To conserve and enhance our natural resources in cooperation with individuals and organizations to improve the quality of life in Iowa and ensure a legacy for future generations.

The Department of Natural Resources – Conservation and Recreation Division:

The Iowa Department of Natural Resources (DNR) is led by Director Kayla Lyon and Deputy Director Alex Moon. The current Divisions within the DNR are Environmental Services Division (regulatory) and the Conservation and Recreation Division (CRD). CRD is charged with the management of Iowa's fish, wildlife, and natural resource management under the bureaus of Fisheries; Land and Waters; Law Enforcement; State Parks, Forests, and Preserves; and Wildlife. In February 2017, Dr. Dale L. Garner was appointed to serve as Division Administrator.

Natural Resources and Outdoor Recreation Trust Fund (formerly known as Sustainable Natural Resource Funding):

In 2006, the legislatively appointed Sustainable Funding Advisory Committee, chaired by the DNR, began their in-depth four year internal and multi-state research in preparation for their comprehensive reports to the Governor and General Assembly. In 2008 and 2009, proposed legislation was overwhelmingly passed to allow the people of Iowa to vote on a Constitutional amendment that would create a dedicated trust fund. In November 2010, the people of Iowa voted to amend Iowa's Constitution to create the Natural Resources and Outdoor Recreation Trust Fund and authorize a dedicated funding source of 3/8 of 1% of sales tax the next time the tax is legislatively raised. Iowa Code Chapter 461 provides the framework for the distribution, use, and accountability of this Trust Fund. Since the Trust Fund's enactment on January 1, 2011, legislators continue to discuss sales tax options to finance this Trust Fund. To date, the Natural Resources and Outdoor Recreation Trust Fund has not acquired any receipts, although, in 2019, the Governor moved to include in her FY2021 budget the Invest in Iowa Act which supported the funding of the Natural Resources and Outdoor Recreation Trust Fund. The DNR submits mandated reports to the General Assembly annually. These reports and more information can be found at: www.iowadnr.gov/About-DNR/Grants-Other-Funding/Natural-Resources-Rec-Trust.

Support for the DNR's Fish and Wildlife Trust Fund (FWTF): The FWTF is a special account first established in Iowa in 1937 to manage and regulate Iowa's wildlife and fishery resources. In 1996, an amendment to the Iowa Constitution was passed to protect the Trust Fund from being diverted for other purposes during difficult state economic times. This amendment stipulates that fee-generated revenue and associated federal funds can only be used for the

purposes of promoting, managing, researching, and regulating hunting, fishing, and trapping in Iowa. The adjustment to fees was only through legislative action, which reduced flexibility in the DNR's management of funds, and many fees had not been increased since 2003. With the support of many stakeholder groups and license buyers over the years, in 2018, the legislature passed, and Governor signed, a bill that shifted the authority of setting license fees to the DNR (House File 631). New fees were implemented beginning with the 2018-2019 season. Although many fees remained the same, we did decrease a few, as well as increase a few, such as hunting licenses for deer and spring turkey. Staff in our licensing section reported that there were little to no complaints about the increases which indicates to us we are providing a reasonably priced privilege and there is support from our license buyers.

Fisheries Bureau:

Community Fishing Program: The Iowa DNR recently completed a study designed to inform its Community Fishing Program (CFP). The CFP was initiated in 2016 to address the challenges of a continuously urbanizing population, and associated reductions in fishing recruitment, retention, and ultimately participation in angling. To guide the program, DNR's Fisheries Research Section conducted a general population survey to determine constraints and preferences unique to urban and suburban residents, and to identify important factors affecting response.

The survey was sent to 2,500 addresses in the CFP area, which encompassed 18 communities across the state, resulting in 693 valid responses (27.7% response rate). Approximately 29% of Iowans living in the CFP area were not interested in fishing at all. Of the remaining 71% interested in fishing in some way, 8% had never fished before but were interested (i.e., potential anglers), 31% had fished in the past (lapsed anglers), and 33% fished during the last year (active anglers). Interest in fishing was explained by childhood initiation, gender, age, race, and moving frequently during childhood. Notably, those exposed to fishing as children had 4.6 times greater odds of being interested in fishing as adults than those who were not exposed to fishing as children. Although moving frequently was important, the rurality of the respondent's background (city kids versus country kids) was not. In other words, increasingly urban lifestyles are not necessarily the death knell for recreational fishing.

Instead, provision of appropriate fishery resources and associated communications is key. Significant differences in constraints and preferences existed between traditional active anglers and the recruitment pool living in urban and suburban areas. For example, potential anglers associated convenience with an ideal fishing trip, emphasizing the importance of providing fishing opportunities close to home. This may require extensive partnership with municipalities, counties, housing associations, and other private entities to establish greater public access to urban fishing ponds or streams. Fishing locations also require certain amenities to draw underrepresented groups in the CFP area; a pond alone is often not enough for urban users. Potential anglers were also interested in a unique set of educational and outreach programs, and these preferences can be used to better target specific audiences. Preferences also differed consistently by childhood initiation, gender, age, race, and rurality. Targeted efforts by an agency focused on engaging underrepresented demographics groups should be tailored accordingly to maximize effectiveness in recruiting and retaining new anglers in urban and suburban areas.

Forestry Section:

Forest Health: Foresters continued to monitor for serious insect, disease, invasive plant species, and environmental problems in Iowa's woodlands. Aerial surveys of 1,915,426 acres was mapped to determine forest health problems and potential management plans. There were 1,012,598 aerial acres mapped out of dead and dying trees from emerald ash borer alone. Ground confirmations were conducted to resolve any issues identified in the aerial survey. District foresters worked with impacted landowners on appropriate salvage and reforestation efforts in areas with oak wilt, Dutch elm disease, oak tatters, aspen decline, bur oak blight storm, and flood damage.

In cooperation with the IDALS State Entomologist and the USDA, the Forestry Bureau assisted in contracting, placing, and monitoring 4,395 gypsy moth traps that captured 35 male gypsy moths. A total of 604 walnut twig beetle monitoring traps were placed around the state. No walnut twig beetles were captured. However, 2,804 ambrosia beetles, Pityophthorus beetles, and weevils that were collected and submitted as part of the national survey. A total of 36,054 maples in 47 counties were examined for the presence of Asian longhorned beetle. None of the trees were positive for Asian longhorned beetle. Several invasive plant workshops were hosted with the demand being on Oriental bittersweet control. Twenty-one pest workshops were held to cover the pests detailed above.

The **Urban and Community Forestry Program** continues to provide technical, educational and financial assistance to communities, individuals and organizations. Last year the program provided support to 352 communities. One of the main components of assistance continues to be tree inventories, forestry management plans and emerald ash borer (EAB) preparation for communities under 5,000 in population. A recent statewide canopy cover assessment provides data on where and how much tree cover we have in Iowa. Iowa communities have 18.5 percent tree cover, about 253,056 acres of community forest. Urban Forests continue to be threatened by canopy loss. The economic loss caused by the top five key pests (Gypsy moth, bur oak blight, EAB, Asian long-horned beetle and thousand cankers disease) is an estimated \$1.4 billion over 20 years for forest landowners and wood products businesses and over \$20 billion in urban tree removal. Additionally, Forest Service studies show 4.5 million trees were lost due to development in Iowa from 2010 to 2015.

Land and Waters Bureau:

Public Land Acquisition and Management Program: The bureau provides assistance to operating bureaus to acquire lands and to address land management issues, such as unauthorized land-uses and boundary issues. It also assists the program bureaus with agreements such as habitat leases, county or city management agreements, office leases and building disposal agreements. In 2019, public land and conservation easement acquisitions totaling 4,131 acres, protected natural resources and provided Iowans with new and enhanced outdoor recreational opportunities, impacted water quality and watershed improvement efforts and also impacted recovery efforts for federally endangered species.

Rivers Program: This program contains multiple programs over four major areas, which includes: water trail outreach, mapping, planning, designing, constructing and signing; low-head dam mitigation to remove or reduce hazards to public safety and/or fish passage; moving water

education instruction and training; and comprehensive conservation efforts, in partnership with local groups and stakeholders, in identified protected water areas. A total of 970 miles of dedicated water trails have been developed, 66 miles pending designation and 753 additional miles under evaluation.

Environmental Review & Sovereign Lands Program: The Environmental Review and Sovereign Lands Construction Permit staff apply information about endangered species, state preserves, natural communities, and other significant natural resources for the review of potential environmental impact of proposed construction and development projects requiring a permit from the Department. The Threatened & Endangered Species staff coordinates the conservation of 18 federally listed species of plants and animals and over 300 state-listed species. Staff develop and maintain a database of locations of listed species and special natural communities such as prairie and fen wetlands and oversee research activities including federally funded projects. The State Preserves staff work with the State Preserves Advisory Board to develop and maintain a statewide network of 97 preserves on lands with significant biological, geological, archaeological, historical, or scenic value.

Engineering and Construction Services: This program oversees the Department's capital improvement projects. From the smallest outhouse to complete lake and watershed renovation projects, professional staff provide and put into practice the most advanced technology to ensure safe and cost effective solutions to architectural and engineering projects. Services provided include: planning and development, topographic surveys, professional engineering and architectural design services, contract administration, project management and construction inspection, federal emergency management, emergency response projects, consultant selection and contract negotiations, and investigative reporting. In 2019, 44 engineering, construction, and public capital improvement projects totaling \$17,821,238.04 on public lands were contracted; \$11,639,588.36 of these projects were associated with lake restoration, watershed, and water quality improvement projects.

Lake Restoration Program: Many of our Iowa Lakes, similar to our nation's lakes, are impaired and suffer from excessive algae growth and sedimentation due to nutrient loading and soil loss. The Lake Restoration Program's focus is on restoring Iowa's significant publicly owned lakes and publicly-owned shallow lakes/wetlands. The goal is to invest in projects with multiple benefits such as improved water quality, a healthy aquatic community, and increased public use. Iowa has completed restoration work at 25 lakes, with 21 projects underway, and 14 projects in the initial planning stages. Additionally, restoration work has been completed on over 33 shallow lakes/wetlands across the state.

Law Enforcement Bureau: Currently, the Iowa DNR Law Enforcement Bureau employs 83 full-time, sworn peace officers serving as Conservation Officers. The Law Enforcement Chief retired in June of 2019, and a search to fill the position began with the successful hiring of Chief Trace Kendig at the end of 2019.

With vacancies in the field in 2019, Iowa's officers continue to often times serve several counties. They have to prioritize calls and work efficiently to complete their duties. Deer calls

take up the bulk of an officer's time in the fall as many people come to Iowa in search of a trophy buck.

Although many cases being made throughout the state are by the use of social media and online postings, citizen awareness and reporting are still essential to identifying criminal behavior. In November of 2019, a Conservation Officer handled a thrill killing case. Deer hunters called in that they were hearing multiple shots go off in the area where they were hunting. The caller saw the suspect vehicle and gave a description to the Officer. The truck was located and two suspects were located. Through interviews, the suspects admitted to shooting multiple deer, a Canada goose, raccoons, cats, and cattle. In addition, one of the shooters was a convicted felon. The Officer found a total of 11 dead deer and 3 cows scattered across the country side that were left to waste. There was a total of 42 citations issued and a request of \$30,000 in liquidated damages not including the livestock.

The Special Investigative Unit had an important case that culminated in the Fall of 2019. Beginning in 2018, and continuing through 2019, our Law Enforcement Bureau was involved in a cooperative investigation with the Missouri Department of Conservation and the United States Fish and Wildlife Service. The investigation focused on the illegal take of big game in Missouri and Iowa by guides and clients of non-typical outfitters located in south central Iowa and north central Missouri. The investigation is ongoing and DNR Conservation Officers continue to document illegal hunting activities related to this investigation. The Iowa DNR expects prosecution to begin in 2020.

State Parks, Forests, and Preserves Bureau: Iowa's state park system is comprised of 91 parks and recreation areas totaling over 60,000 acres. DNR manages 71 parks and recreation areas and state forest campgrounds with the remaining 20 parks and recreation areas managed by local political subdivisions through management agreements. Iowa's state forest system of over 46,000 acres is comprised of four large state forests.

Recreation: Millions of people continue to enjoy Iowa's natural resources and recreational opportunities in state parks. In 2019, camping guest days totaled 790,078, up 5.5% from the previous year. There were 48,342 camping reservations made through the centralized reservation system, up 6.8% from the previous year. In 2019, the bureau implemented the use of field manager module in the reservation system to collect walk-in camping information. The data provides information on occupancy rates which is one component used in the review for park pricing.

Nonresident Vehicle Entrance Permit Pilot: In 2019, the Iowa legislature passed Senate File 306 which established a nonresident user fee pilot program for Lake Manawa and Waubonsie State Parks. Both parks host many visitors from neighboring states. The legislation requires nonresidents to purchase a daily entrance pass or annual pass to use these two parks. The pilot will give the bureau the opportunity to document and evaluate the successes and challenges of a nonresident permit. The permit system went into effect August 15, 2019. At the end of 2019, 1,086 daily permits were sold and 132 annual permits were sold generating \$9,900 in new revenue. The pilot program ends June 30, 2022.

State Parks 100th Anniversary: Much of 2019 was spent planning and preparing to celebrate the 100th Anniversary of Iowa State Parks in 2020. The Iowa legislature appropriated \$1,000,000 for maintenance and preparation for the anniversary. Facilities received much needed maintenance, picnic tables were replaced or fixed, and new rock was placed on campsite pads. As part of the planning effort, the bureau recognized the need to take a comprehensive look at signage in the park system. A consultant was hired to evaluate the current signage system and create a new signage master plan for the next 100 years. The new signs will be unveiled in 2020. Iowans can look forward to a wide variety of events and activities in 2020 that will: *celebrate* the importance of state parks to Iowa's history, culture and quality of life, *connect* Iowans to natural resources in a personal and passionate way; and *inspire* a high level of appreciation of stewardship of the Iowa state park system for the future.

State Forests: State Forests provide some of the largest contiguous tracts of public forest land in Iowa. They are sustainably managed to yield forest products; provide wildlife habitat; aid in soil, and water protection; offer protection of unique plant and animal communities; and provide outdoor recreational opportunities. They are the backbone of several of Iowa's Bird Conservation Areas. State Forest staff completed 834 acres of forest stand improvement, 63 acres of reforestation, 737 miles of trail maintenance, 3,758 acres of prescribed fire, 57 acres of prairie and savanna management, collected 1108 bushels of seed, and conducted 19 educational programs in 2019. They also sold 682,041 board feet of timber valued at \$274,796.

Wildlife Bureau: The Wildlife Bureau operates and maintains 492 public fish and wildlife areas spanning 403,572 acres. About one-third of these acres are federal lands managed by the wildlife bureau under agreements with U.S. Fish and Wildlife Service and U.S. Army Corps of Engineers. Federal lands include more than 22,560 acres of Waterfowl Production Areas in the Prairie Pothole Region of Iowa. All of these public lands are managed to provide quality wildlife habitats and hunting, fishing, and other consumptive and non-consumptive fish and wildlife related recreational opportunities. Managed wildlife habitats include nearly 100,000 acres of wetlands, 140,000 acres of grasslands, and 115,000 acres of forest/woodland. Annual management activities include burning 35,089 acres of prairie, and managing wetland habitats through water level manipulation utilizing 881 water control structures, 246 miles of dams, dikes, and levees and 33 pumping stations.

The **private lands access program, also known as IHAP** (Iowa Habitat Access Program) started in 2011 under a Voluntary Public Access grant from U.S. Dept. of Agriculture. For the 2019/2020 hunting season there were 161 sites and 22,403 acres of managed wildlife habitats on private lands open to public hunting. The majority of IHAP acres include wildlife habitats that are fully established. Hunting use and satisfaction continues to trend upward as these new habitats become better established. 99% of hunters indicate they would hunt an IHAP site again with upland birds being the most pursued game.

The **Private Lands Program** assists landowners in implementing forestry and wildlife habitat on their properties. In 2019, efforts to promote conservation on private land were expanded by adding 1 additional Forestry Specialist and 3 Wildlife Specialists. These positions were made possible by partnering with the National Fish and Wildlife Foundation, Natural Resource Conservation Service, Conservation Districts of Iowa and Wildlife Management Institute.

Professionally developed forest and wildlife management plans are developed benefiting a combination of public and private lands through forest stand improvement, prescribed fire, prairie seedings, wetland development and, other habitat management activities.

Since 2002, Iowa has tested 83,139 wild white-tailed deer and 4,779 captive deer and elk for **Chronic Wasting Disease (CWD)**. In 2019-2020, IA DNR staff collected medial retropharyngeal lymph nodes from 7,362 wild white-tailed deer, as well as lymph nodes and obex from 182 captive cervids for CWD testing. Of the wild white-tailed deer tested, 294 were harvested by sharpshooters in an Iowa City cull effort. All of the culled deer tested negative for CWD. We entered the 2019-2020 sampling season with 45 known CWD-positive white-tailed deer from the endemic zones (Allamakee, Clayton, and Wayne Counties) plus a single roadkill detection in Dubuque County dating to 2018. We detected an additional 22 positives in Allamakee, 9 in Clayton, and 5 in Wayne. We detected new positives in Fayette (2) and Winneshiek (3) Counties to the northeast, Decatur County (1) to the south, and Woodbury County (1) to the west. The IDNR will be transitioning to a weighted surveillance approach for the 2020-2021 sampling season. We will increase sampling in new Disease Management Zones (DMZs) and continue monitoring prevalence in established DMZs, in conjunction with baseline surveillance objectives statewide.

The **Wildlife Research Section** is actively engaged in several wildlife research projects aimed at improving our ability to manage Iowa's wildlife resources. Projects of note include studies looking at Canada geese, sandhill cranes, trumpeter swans, wild turkeys, and forest wildlife. Specifically, we are looking at the survival rates and movements of urban Canada geese in an attempt to inform management practices that will minimize social issues. We are investigating the viability of marking and tracking sandhill cranes as their population expands into Iowa. We are working jointly with Minnesota biologists to track trumpeter swan nest success and survival. Reports indicate that wild turkey populations are declining across the Midwest. The Wildlife Research Section is investigating disease prevalence and poulting production to gain an increased understanding of potential drivers for the decline. Lastly, the Wildlife Bureau is monitoring the response of forest wildlife species to the removal of invasive species such as bush honeysuckle from Iowa woodlands.

Kansas

Kansas
State Report
May 25, 2020

Brad Loveless, Secretary
Kansas Department of Wildlife, Parks and Tourism
1020 S Kansas Ave, Suite 200
Topeka, KS 66612

Mother Earth News Fair

On October 19-20, 2019 KDWPT participated at the *Mother Earth News* Fair in Topeka as part of the R3 effort. These fairs offer a unique blend of demonstrations, workshops, and a vibrant marketplace and present a variety of sustainable lifestyle topics through hands-on workshops. KDWPT's Fisheries and Wildlife divisions presented one-hour deer and fish cleaning workshops, and the private lands wildlife habitat program, Habitat First, was promoted to attendees, who, on average, own 20 acres of land each. This is third year KDWPT has been a sponsor at this unique sustainable lifestyle community event, which draws more than 15,000 people.

Scott Riffle Beetle Not Listed as Federally Endangered Due To KDWPT Efforts

After a comprehensive review, the U.S. Fish and Wildlife Service (USFWS) announced last week that it would not list the Scott riffle beetle, *Optioservus phaeus*, under the federal Endangered Species Act (ESA). The Scott riffle beetle is a tiny brown and black aquatic insect that was first identified as a distinct species in 1978. A groundwater spring complex in Historic Lake Scott State Park near Scott City is the only place in the world the insect is known to exist. An Oct. 4, 2019 USFWS news release reported that due to ongoing conservation actions and protections by KDWPT, federal protections for the beetle under the ESA were not warranted.

The USFWS also expressed confidence in KDWPT's ability to continue managing for the beetle in the wild, based on the best available science. The USFWS will continue providing conservation support and guidance, as needed.

Based on data collected in 1984 and 2017, management efforts are working, as the population has remained stable for more than 30 years. Additional conservation efforts for the species include population monitoring, deployment of a real-time water quality and quantity monitoring station, and predatory fish removal.

Paddlefish Stocked

Last fall, KDWPT fisheries staff traveled to Blind Pony Fish Hatchery in Missouri to pick up 5,000 17-inch, young-of-the-year paddlefish to stock in Pomona, Perry and Tuttle Creek reservoirs. Paddlefish are native to eastern Kansas rivers, and they get big – the Kansas state record is 144 pounds. However, the species has largely disappeared from Kansas waters due to modifications of river systems, invasive species and changes in water quality. Existing Kansas

fisheries that provide angling opportunities depend on paddlefish moving upstream from Oklahoma and Missouri during the spawning run. These stockings will attempt to establish populations in Kansas reservoirs that could eventually provide angling opportunities. Kansas hatchery-produced hybrid wipers were traded to Missouri for the paddlefish.

More To The Mountain Lion Story

On Jan. 31, 2019, a dead mountain lion was discovered by upland bird hunters in Rooks County on Thursday, Jan. 31, 2019. The hunters contacted the local KDWPT game warden, who investigated at the scene. It turned out that another group of bird hunters had shot and killed the mountain lion earlier in the week in fear for themselves and their dogs.

Mountain lions are native to Kansas but the big cats were extirpated by the early 1900s. There is no hunting season on mountain lions in Kansas and they may not be killed without reason. The Rooks County mountain lion is the 20th confirmed in Kansas since 2007 and the second that has been killed.

There's more to that story now thanks to our friends at the United States Forest Service's Rocky Mountain Research Station in Missoula, Mont.

In May, KDWPT biologists sent tissue samples from the mountain lion to Montana for genetic testing and the results recently arrived. The mountain lion, which was confirmed to be a sub-adult male during necropsy by department biologists (not a female as initially reported), has a 99.8 percent probability of belonging to the South Dakota/Nebraska breeding population, which includes animals sampled from the Black Hills of South Dakota and Western Nebraska.

Aquatic Nuisance Species Testing

As part of the department's early detection protocol for zebra mussels, KDWPT staff collect water samples twice a year (early summer and late fall when water temperature is around 75-80 degrees) from approximately 109 KDWPT-managed impoundments throughout the state. Samples are collected using a plankton net to filter and collect water from areas that experience high boat traffic, such as around docks, piers, and boat docks. The water samples are then examined by a laboratory operated by Montana Fish and Wildlife for the presence of juvenile zebra mussels, also known as veligers. Microscopic veligers can often be detected before adult zebra mussels are found. No zebra mussels were detected in 2018 but they were confirmed in one lake in 2019.

Turkey Hunting Regulations Change

Wild turkey populations are declining across the Midwest and Kansas isn't immune. Though the Sunflower State still boasts one of the strongest wild turkey populations in the region, statewide surveys suggest immediate action is needed if Kansas is to have any measurable impact on slowing the decline.

In recent years, declines in both habitat quantity and quality have been observed and significant weather events have negatively impacted nesting and brood rearing successes. In 2019, the estimated statewide turkey production was the lowest on record in Kansas.

In an effort to give populations an adequate opportunity to recover, staff developed progressive recommendations for the 2020 spring and fall turkey seasons. Though not all staff recommendations were approved as presented, Commissioners approved the following at their Nov. 14 meeting in Scott City:

- Bag limits in Turkey Management Units 3, 5, and 6 (northeast, southcentral, and southeast) will be reduced from two turkeys to one turkey beginning with the spring 2020 season; spring bag limits in Units 1 and 2 (northwest and northcentral) will remain at two male turkeys.
- An amendment to reduce the fall 2020 season to 41 days for all open Turkey Management Units. Currently, the fall season runs October through January; however, under the new regulation, the 2020 fall season will run Oct. 1-Nov. 10, 2020. Unit 4 remains closed to fall hunting.

Staff recommended suspending the fall season in Units 3, 5, and 6. However, Commissioners were hesitant to agree, for fear of losing the fall turkey hunting tradition. An amendment to create a bearded-only fall hunting season was introduced by the Commission, but was unable to gain a majority vote. The current regulation allowing a hunter to harvest one turkey of either sex during the fall season remains in place.

KDWPT's Wild Turkey Committee will continue to refine and update the Turkey Adaptive Harvest Strategy, which provides a consistent and transparent method of developing staff recommendations for spring and fall season bag limits. The goal is to maintain a robust turkey population that provides high hunter satisfaction.

Fisheries Research

KDWPT's Fisheries Division's has a variety of ongoing fisheries research projects, some conducted by division staff and some are being done through collaborative efforts with Nebraska University, Kansas State University, and Emporia State University. Research topics included the study of growth rates and movement of blue catfish in the Kansas River, Asian carp densities and movement in the Kansas River, crappie age and growth in Kansas lakes and reservoirs, walleye telemetry research at Glen Elder Reservoir, use of remote cameras to survey angler use at state and community lakes, and managing gizzard shad populations in small impoundments.

Moose Spotted In Kansas

A moose was spotted in Kansas on Dec. 20, 2019, in Jewell County near the Republican River. The young bull had previously been spotted in Nebraska where there have been reports of resident moose in recent years. However, based on this animal's travel history, it's likely it came from Minnesota. A KDPWT Facebook post with a photo of this moose reached more than 400,000 people and was shared more than 3,000 times in just a few days.

This is just the second moose documented in Kansas in the past 30 years. A young bull was documented in 1987, as it made its way from northcentral Kansas and eventually ended up in southwest Kansas. The most recent news on the latest wanderer was that it probably crossed north, back into Nebraska.

Hunt/Fish and Camping Apps Launched

KDWPT's Licensing Section successfully launched two new mobile apps, making campsite reservations and license and permit purchases available on-the-go. KDWPT has made CampIt KS and HuntFish KS available at no charge to users. And the addition of "e-licenses" will also provide a cost-savings to the agency, and convenience to license holders. Since an early-January launch, 9,599 iOS apps have been downloaded and 5,009 Android compatible apps have been downloaded.

Spanish Regulations

KDWPT is expanding outreach efforts to Hispanic and Latino communities, launching the Department's first-ever annual publications tailored specifically to Spanish speakers. Translated publications will include KDWPT's 2020 *Kansas Hunting & Furharvesting Regulations Summary* and 2021 *Kansas Fishing Regulations Summary* and state park informational brochure. The Department also has plans to expand these efforts to include area signage and a website.

No Leftover Nonresident Deer Permits in 2019

For the first time since Kansas' nonresident deer permit process was revamped in 2008, there were no leftover permits for the 2019 season. KDWPT established a quota of 21,816 permits and received 24,024 applications. The application period for the 2019 draw took place April 1-26.

Permit numbers are set for each of the 18 deer management units, using adjustment factors set in statute. Adjustments were made for the 2020 season, including adding a modest number of permits in some units. However, more than 24,000 applications were received again this spring.

White-nose Syndrome In Kansas Bats

Surveys for white-nose syndrome in bats in Kansas were conducted in 2019 between February 22 and April 18, and samples were tested by the U.S. Geological Survey National Wildlife Health Center in Madison, Wis.

To date, white-nose syndrome has been confirmed in 33 states and seven Canadian provinces. White-nose syndrome was first detected in Kansas in 2018 and has since been detected in six Kansas counties. In these areas, biologists observed an increasing number of symptomatic cave myotis and tri-colored bats, with tri-colored bats most affected.

World-class Non-typical Whitetail Taken By Kansas Bowhunter



In October 2019, Kansas bowhunter, Brian Butcher, harvested a whitetail buck in Chase County October that measured an unofficial net non-typical score of 321 3/8 inches. If accepted and verified by the Boone and Crockett Club, the deer would rank fourth in the world for non-typical whitetail deer. As for the Kansas record books, Butcher's buck will be the largest non-typical whitetail ever taken, surpassing the current state record for a non-typical whitetail harvested with archery equipment by 57 2/8 inches.

COVID-19

Responding to concerns from rural public health officials, Kansas Governor Laura Kelly suspended the sale of nonresident turkey permits just six days before the season opened in April. Due to certain quarantine requirements, refunds were provided upon request for permits purchased prior to the suspension; however, those permits were honored if hunters wanted to travel and hunt. More than 13,000 nonresidents hunted turkeys in Kansas during the 2018 spring season, so KDWPT braced to lose more than \$2 million in revenue. However, increased resident sales of hunting licenses, turkey permits and fishing licenses were up considerably through April.

The Kansas Department of Wildlife, Parks and Tourism (KDWPT) kept Kansas' 28 state parks, 63 state fishing lakes, and more than 100 wildlife areas open to the public during the COVID-19 crisis. In addition, KDWPT's online and mobile sales options allow Kansans to purchase the licenses, permits and reservations they need without risk of exposure to COVID-19.

Without competing activities and extra time on their hands due to furloughs or layoffs, Kansans visited state fishing lakes, reservoirs and state parks in record numbers in April and May.

Virtual Commission Meeting

Due to concerns related to COVID-19, the Kansas Wildlife, Parks and Tourism Commission conducted its first-ever virtual public meeting through a Zoom video conference on April 23, 2020. The meeting was open to the public and comments and questions were taken through Zoom and a chat room that was monitored. The meeting went surprisingly well and was considered a success.

Kentucky

**KENTUCKY
STATE REPORT**
June 26, 2020

Rich Storm, Commissioner
Brian Clark, Deputy Commissioner
Kentucky Department of Fish and Wildlife Resources
1 Sportsman's Lane
Frankfort, KY 40601

WILDLIFE

Wildlife Health Program: In 2019, the wildlife health program responded to hundreds of reports of wildlife disease from hunters, concerned private citizens, and wildlife biologists. From July to December over 1,200 reports of sick deer suspected of having hemorrhagic disease were received. The majority of these reports were from the Bluegrass and Green River region. Samples were collected from more than 50 deer across the state and Epizootic Hemorrhagic Disease serotype-2 was confirmed in 24 counties. In addition to white-tailed deer submissions, 13 out of the 19 elk submitted between January 2019 and December 2019 were diagnosed with meningeal worm (*Parelaphostrongylus tenuis*). A copper deficiency was reported in 11 of these 19 animals. Since January 2020, an additional 15 elk submission have been sent for diagnostic evaluation. In an effort to elucidate the impact trace mineral deficiencies may be having on elk, serum was collected from 30 apparently healthy individuals during the elk capture this past January and submitted for analysis. Two thirds of these animals had a clinically significant Selenium deficiency. Unfortunately, liver biopsies are the preferred diagnostic sample for copper values since copper varies widely and is difficult to interpret from serum. Further investigation is needed to tease apart complex interactions between trace mineral values and disease in Kentucky's elk population.

Wild turkey was the next most commonly submitted sample for diagnostic evaluation. Thirteen birds were submitted. Seven of these birds tested positive for Lymphoproliferative disease virus (LPDV), one of which presented with clinical signs. This was a very interesting case, typically when LPDV is detected it is considered subclinical. The population level impacts are still not well understood. A goal for 2020 is to enhance surveillance for LPDV and determine the prevalence in wild turkeys and any potential population level impacts it may be having. In 2019, the first confirmed case of Histomoniasis (Blackhead disease) in a wild turkey was reported. This disease is commonly associated with commercial poultry operations and is considered an important disease of wild turkeys. This disease has likely been underdiagnosed due to the difficulty recovering carcasses from the landscape before they are scavenged. Other mammalian submissions include black bear, raccoon, bats, beaver, mink, opossum, and red fox. Of these submissions, the most notable was a clinical case of distemper in a black bear. This is Kentucky's first report of distemper in a black bear. This prompted a follow-up surveillance project that will involve collecting samples from road-kill bear for diagnostic testing. Wildlife Health's vector surveillance programs are ongoing and include ticks submissions and a mosquito surveillance project to investigate the presence of arboviruses in ruffed grouse habitat.

Deer and Elk Program: Deer hunters harvested the second highest record of white-tailed deer (148,395), 78,633 bucks and 66,762 does, in the 2019 season. The number of estimated deer hunters has been slightly decreasing over the past 5 years with an estimated number of 300,000 deer hunters statewide. A total of 39,163 people submitted 78,713 applications for the 594 total drawn tags available for the 2019 elk season. Including all permit types and seasons, 142 bulls and 100 cows were harvested. The first year of a 3-year elk research project is under way studying adult/yearling cow elk natality rates and elk calves survival estimates using GPS collars. Samples from 1,962 deer and 38 elk were collected from across the state for the chronic wasting disease surveillance program in which CWD was not detected.

Small Game Program: The Small Game Program is in the final stages of reporting on the Road to Recovery: the Blueprint for Restoring Northern Bobwhite in Kentucky. The 10-year plan expired in 2019 and efforts have been underway to complete the final report. Much work was accomplished over the decade with the most important being establishing a strong connection between habitat and birds. The program has been working towards its next phase of habitat development under the adage “making conservation good business”. Two 10,000-acre projects have been established with a focus on using native grasses as forage and hay with a heavy production slant. This has been attempted in the past, but the partnership is more diverse and includes significant players from the agricultural community. In the last two planting seasons, 350 acres of native grasses have been planted on the two focus areas. More recently, the program has committed time and effort on the Rabbit Hemorrhagic Disease working on regulations, informing in-state partners, and working across state lines to the mitigate risk.

Bear Program: In an effort to update the population model for a disjoint bear population centered in the Big South Fork National River and Recreation Area (BSFNRA), the Kentucky Department of Fish and Wildlife Resources (KDFWR) and the Tennessee Wildlife Resources Agency (TWRA) collaboratively funded a research project through the University of Tennessee. This bear population is the result of translocation efforts by the TWRA in 1996 and 1997, with a founder population of 14 adult bears. Limited research followed this translocation effort, with the first assessment of population genetics conducted in 2009, followed by a non-invasive mark-recapture abundance estimate in 2010. The population abundance research indicated a growing population, yet was founded on a statistical methodology that has since been eclipsed by a more rigorous, spatially explicit modeling framework. In the summer of 2019, 492 hair snare sites were constructed across the 3.7 million acre interstate study area. Following 6-week-long sampling periods, 210 hair-snare sites were visited by bears, with 1,332 genetic samples collected from the Kentucky portion of the study area. These samples are currently at the genetics lab for microsatellite analysis. Results are expected in late 2020, following the construction of a spatially explicit abundance and density model by University of Tennessee researchers. These results will allow for an update of the KDFWR black bear population model for this area and a continued emphasis on a sustainable harvest model.

Wildlife Diversity Program: Wildlife Diversity: The Wildlife Diversity Branch has continued to address multiple SWAP priorities in avian, freshwater mollusks, bats, herps, and insects. The state's Monarch Conservation Plan is continuing to be implemented through on site meetings and training, plantings, and monitoring. Bat research regarding the reproductive

success of Indiana Bats post-WNS was completed with statistical analysis and publications currently in production. In addition, efforts to assess reasons for COVI declines have been instituted in the Eastern portion of the state. Efforts to assimilate data for the USFWS service to be included in multiple SSA's is ongoing throughout the program. Work has continued on the Reptiles and Amphibians of Kentucky with a renewed push to bring this work to completion in the near future. At the Center for Mollusk Conservation (CMC), restoration efforts continue throughout the state with an emphasis on the Cumberland Bean, Fanshell and other high priority species. Partnerships with the USFWS and USFS continue to prove beneficial to all parties to help institute research and mussel community restoration. Avian efforts continue, as Loggerhead Shrike, Golden-winged Warbler, and various contaminant studies have been a significant portion of our workload. Efforts to identify stressors and mitigate those elements continue to be ongoing.

MARKETING

Total Sales: For the third year in a row, we achieved over \$30 Million in total license and permit sales and despite wet spring weather sold over 1 Million quantity of licenses and permits. We again for the seventh year in a row achieved record sales of the Kentucky Elk Hunt Drawing application process, generating over \$950,000 to help manage the resource. This is a direct result of the outstanding resources our state affords and the marketing and recruitment campaigns our staff work to offer, which allow us to reach a more varied and expanded user base.

Platforms: *Direct Mail* – For current and lapsed license customers, we conducted 2 direct mails to promote license purchases for and participation in our spring and fall hunting seasons, as well as our elk hunt drawing. We also did a Conservation Camp Promotion. We direct mailed about 210,000 pieces. *E-Blasts* – For license customers, for which we had email addresses, we conducted 5 e-blasts to promote license purchases for and participation in our spring and fall hunting and fishing seasons, as well as 4 elk hunt drawing promotions. We are also fully engaged in the third year of our email platform to all stakeholders to opt-in for timely and relevant information and opportunities specific to their interests, sending a total of 96 bulletins throughout this year. *Social Media* – We continued to grow our social media impact, with a following of over 195,000 fans across Facebook, Twitter, Instagram and YouTube. We are continuously building engagement within these accounts to provide timely information, share program and event details, and engage with our growing audiences. We continue to expand our video inventory through Facebook and YouTube. This spring we enacted a brand new way to engage with our audiences with a semi-live turkey hunting show. The reach of the show surpassed our projections for engagement at every level. In Facebook engagement, minutes viewed were up 1823% from the previous 7 days, 1 minute video views were up 2282% from the previous 7 days, 3 second video views were up 916% over the previous 7 days, and engagement was up 823% over the previous 7 days. New audiences were reached and existing audiences were further engaged thanks to the team effort with “Struttin’ in the Bluegrass.” *Shows and Events* - KDFWR participated in 7 shows/events, ranging from regional boat shows in Louisville, Lexington and Cincinnati to the Kentucky Deer and Turkey Expo, the Kentucky State Fair, The Archery Trade Association (ATA), and the National Wild Turkey Federation show in neighboring Nashville,

TN. At several of these shows/events we also set up an air rifle range where people can shoot, demonstrate some key firearm safety skills, and complete their hunter education range requirement. Over the past year we had 151 people complete their “range day” portion of the training at these events. At these shows and events we also sold \$3,575 in various memberships of our Kentucky Wild program aimed at attracting new customers. Our ROI for these events exceeded \$44,994.

LAW ENFORCEMENT

Staffing: The Division of Law Enforcement currently is staffed with 138 officers (25 recruits) and 1 civilian employee, with the intentions of adding two additional administrative assistants this year.

Training: The Division of Law Enforcement training section is comprised of a full time Lieutenant and Sergeant. Many other officers across the state hold various instructor certifications and are routinely utilized for division training purposes. The academy staff have been extremely busy this year with twenty-five newly hired conservation officers that are currently in the process of completing their academy training.

Technology & Equipment Updates: *Cellular Trail Cameras* - The increased use of cellular trail cameras has proven to be very beneficial for field officers to detect criminal activity and to reduce the personnel hours required to apprehend these violators. Several documented bait sites were monitored with these cameras during the past spring turkey season. This allowed officers to monitor several sites at the same time from a remote location rather than spending hours physically watching one bait site. The cameras notified the officers when the violator had entered the area. They were then able to respond and make contact with the violator at the bait site. *Tasers & Firearms* - Updated equipment acquisition has been a top priority for the division. This past year, all field officers were issued Axon tasers to increase officer/subject safety by offering another less lethal compliance tool. DRMO patrol rifles were removed from service and replaced with agency owned Sig M400 rifles equipped with an optic and weapon mounted light. Officers will also be issued an agency owned Glock 43 handgun this year for backup/off-duty instead of having to carry a personal owned weapon for these purposes.

FISHERIES

Habitat Program: KDFWR’s habitat branch plans and coordinates small and large-scale fish habitat projects across the state. Each year, with the assistance of the habitat branch, the seven fishery management districts focus on small-scale projects on their state owned and managed lakes along with larger reservoir projects limited to small areas. For 2019-20 staff assisted with staging and deploying 5,154 structures at 93 habitat sites in 10 lakes. Several different material types were used to create habitat sites including large trees, Christmas trees, rock, wooden pallets, and plastic. The Christmas tree drop-off program resulted in 8,183 trees donated to be used for fish habitat. The habitat branch is assessing the effectiveness of the different habitat types by sportfish sampling. GPS coordinates and habitat types are provided in

Google maps format for the public on the KDFWR website. Habitat placement has become more efficient through the construction of several pontoon habitat barges by district staff.

Large-scale projects require critical coordination and teamwork as they involve several state and federal agency interests along with angler and county tourism impacts. Project plans bring together a multitude of partners to guide project development, habitat structure acquisition and construction, heavy machinery donations, and ultimately staging and placement of the structures in large reservoirs. The Barren River Lake Largescale Fish Habitat Project was started in summer 2019 with the selection of 7 phases for habitat enhancement. To date, 22 sites in 2 phases have been built with 550 individual habitat structures. Sites range from 8 to 22 feet deep and consist of main lake points, humps, flats, creek channels, and main lake pockets. Grant funding in the amount of \$1,000 was awarded by the Reservoir Fish Habitat Partnership to the Friends of Barren River Lake and Park in October 2019. This funding was used to purchase 70 ton of shot rock to build Spider Hump Structures on main lake points. The rock/log combination structures individually cover 400 square feet. In order to evaluate the effectiveness of various habitat structures, electrofishing of habitat sites was conducted at Barren River Lake in the fall 2019. Habitat sites made of natural material on main lake pockets and points had the highest catch rates of sportfish, consisting mostly of largemouth bass and crappie. Phase 3 of 7 is scheduled for completion in winter 2020. All habitat locations were marked with GPS and are provided to the public on the KDFWR web site.

The Kentucky Department of Fish & Wildlife Resources, U.S. Army Corps of Engineers at Lake Barkley, the Kentucky B.A.S.S Nation, U. S. Forest Service, Tennessee Wildlife Resources Agency, Wired2Fish, Murray State University Bass Anglers, Kentucky BASS High School Trail West, McCracken County High School Bass team, Kentucky Bassmasters, and Akridge Farm Supply were awarded \$30,000 for habitat improvement efforts on Lake Barkley. The project will include the installation of cypress tree plantings, simulated laydown cover, fish attractors, and long lasting artificial spawning beds throughout Lake Barkley.

Catfish Spawning Boxes - Pilot-Test: Due to limited spawning habitat, channel catfish populations are maintained in many of KDFWR's smaller lakes through stocking. However, after attending a fisheries conference in Pennsylvania, KDFWR staff are now experimenting with a catfish spawning box design presented at that conference. Our hope is that the department can transition from stocking to a naturally recruiting population through the use of the spawning boxes. If successful, this could open up hatchery ponds for production of other important sport fish to be stocked in Kentucky waters. KDFWR tested out the boxes in 2019 at a 39-acre lake in the northeastern part of the state. Twelve boxes were placed in the lake and boxes were checked weekly starting in June. The result was twenty-three individual channel catfish nests found in the boxes with some boxes being used more than once. In 2020, KDFWR plans to expand the testing by placing spawning boxes in a half dozen lakes ranging in size from 10 to 200 acres. The boxes will be monitored for three years, and no channel catfish stocking will take place in these lakes during this time. If full recruitment to catchable size is found, the department will assess whether this can successfully replace the current stocking program at small lakes across the state.

Kentucky Wetland and Stream Mitigation Program -Sponsored by KDFWR: The KDFWR has sponsored an in-lieu fee mitigation program under an agreement with the US Army Corps of Engineers since 2002. In 2019, the program completed a stream restoration project on Goose Creek in the upper Green River system of Kentucky. Early monitoring results of the project produced a new distribution record of *Phenacobius uranops*, stargazing minnow, listed in Kentucky's Wildlife Action Plan as a species of greatest conservation need. There was only one previous record 35 years ago from the upper Green River system.

Assessing Potential Regulation Changes on Smallmouth Bass Stream Fisheries in Kentucky: Smallmouth bass are a valuable natural resource, and are one of the most highly targeted species in Kentucky's streams and small rivers. Prior to 2012, the Kentucky Department of Fish and Wildlife Resources (KDFWR) had little data on stream and river smallmouth bass populations. Sampling events were infrequent and were often localized to only one site. Efforts in the past 8 years have focused on collecting population demographic data such as catch rate, size structure and species composition. An exploitation study was also conducted in 2016 – 2017 on a highly popular system that indicated smallmouth bass exploitation was low at 6.8%. Recently, anglers have expressed their concerns with potential overharvest, citing issues such as decreased catches and lack of larger fish. These anglers are supportive of more stringent regulations such as increased minimum length limits and reduced creel limits. To address these concerns, KDFWR began resampling many streams in 2020. Subsamples of the populations from each waterbody were sacrificed to gather information on age structure, growth, and mortality. Growth has been similar across most populations, with smallmouth bass reaching the current statewide minimum length limit of 12 inches between 4 and 5 years of age. Total annual mortality rates have ranged from 25.4 – 37.7% thus far, and fall within the range of smallmouth bass populations from surrounding states. Biologists are currently modeling data at different levels of exploitation to assess the effectiveness of potential regulations changes.

Michigan

**MICHIGAN
STATE REPORT**
June 1, 2020

Mr. Daniel Eichinger, Director
Michigan Department of Natural Resources
P.O. Box 30028
Lansing, Michigan 48909

STAFFING

The Michigan Department of Natural Resources (DNR) has 1,485 permanent employees, more than 1,600 non-career/seasonal employees and a \$439.7 million budget that supports programs for wildlife and fisheries management, state parks and recreation areas, trails, boating programs, conservation and law enforcement, forest management, state lands and minerals, the historical museum and archives.

Dan Eichinger continues to serve as the director of the DNR and Shannon Hanna as the Natural Resources Deputy. Russ Mason has vacated the Wildlife Division chief position. Deb Begalle who served as the Forest Resources Division chief has retired. The positions have not been filled at this time due to a hiring freeze.

FISCAL YEAR 2019-2020 BUDGET

The DNR budget is \$439,717,700 for fiscal year (FY) 2020. The General Fund decreased less than one percent from \$49,081,800 in 2019 to \$46,985,000 in 2020. This decline was due to the removal of one-time appropriations that were provided in FY 2019. The DNR is funded by state General Fund revenues, federal funds, and a variety of restricted funds. The budget consists of 11 percent General Fund, 19 percent federal funds and 70 percent restricted funds.

Federal funding consists mainly of special purpose categorical grants from various federal agencies, such as the U.S. Department of the Interior, the U.S. Department of Homeland Security, and the U.S. Department of Agriculture. Federal funds support programs for wildlife and fisheries habitat and management, forest management, recreation and other natural resource programs. Restricted funding is generated from sales of licenses, user fees, and other charges. These funds support wildlife and fisheries programs, operation of Michigan's 103 state parks, harbor and boating access site development, marine safety enforcement and education, snowmobile and off-road vehicle trail repair and development, and operation of Michigan's 135 state forest campgrounds. The DNR also generates timber sales revenue from state lands. Approximately 90 percent of timber sales revenue goes to the Forest Development Fund and is used for the protection and development of our state forests. The other ten percent of timber sales goes toward the Game and Fish Protection Trust Fund.

The DNR budget contains an additional one-time \$2.0 million along with \$2.6 million on-going for disease surveillance in wildlife. This will assist with the continued efforts in Michigan to perform surveillance and monitoring in relation to Chronic Wasting Disease (CWD) and Bovine

Tuberculosis. In 2019, the DNR awarded slightly less than \$3.3 million in grants in partnership with Michigan State University for CWD. The funds are being used to address outstanding research, coordination, and communication needs.

The DNR received an increase of \$2.4 million for Parks and Recreation to accommodate the increase in minimum wage. State parks hires approximately 1,300 short-term workers annually and the increase in the minimum wage directly affects those employees. Forestry continues to invest in technology to equip the foresters and loggers with the latest in technology utilizing mobile devices. Significant funds are being invested in forest health and regeneration. Infrastructure investments continue in both state parks and state forests.

LEGISLATIVE ACTIVITY

Legislative activity has been reduced significantly since the COVID 19 event. Work on the Fiscal Year 2020 and 2021 budget years is expected to increase over the next several weeks as revenue impacts to the General Fund continue to be assessed.

This past fall, a legislative bill was introduced and approved by both the House and the Senate to eliminate the baiting ban established in response to CWD. The bill was vetoed by the Governor.

NOTEWORTHY DIVISION ISSUES

The DNR tested over 20,000 animals during the past year for CWD. Positive detections continue in Michigan's deer herd in specific areas of the central lower portion of the state. Last year the first CWD positive deer was identified in the Upper Peninsula. No additional positives were detected this year in the Upper Peninsula. The Natural Resources Commission and the DNR continue to work to address this disease. The DNR will determine its monitoring efforts during the 2020 deer season. Research is still needed to assist with the management of this disease. As stated earlier, the DNR and MSU are working together to address the outstanding research issues which include funding for the development of a live animal rapid test.

The State of Michigan and DNR continue to advocate for the construction and operation of the Brandon Road Lock and Dam to prevent the spread of invasive carp. The appropriation supplemental approved in September 2018; included \$8 million for the future operation of the Brandon Road Lock and Dam and was placed in an infrastructure fund. The funds were set to be appropriated from the fund earlier in 2020. However, the funds were vetoed as the COVID 19 event had just begun. The DNR continues to work to have the funds appropriated and available for use for this vital project.

COVID 19

During the COVID 19 event, the majority of the DNR staff have been teleworking. Employees who primarily work in the outdoors are slowly returning to work as appropriate safety procedures and protocols are approved and implemented. The foresters are in the process of returning to the state forests to mark timber. This activity normally generates in excess of \$40

million annually. The state park campgrounds remain closed although planning continues for the opening. Camping generates approximately \$40 million in revenue annually. Refunds continue to be issued for previously reserved camp nights. Day use of the state parks and trails has increased significantly. The sale of spring turkey and fishing licenses have increased substantially.

Due to the impact of COVID 19 on Michigan's economy, the DNR is anticipating a General Fund reduction before the end of the fiscal year which is September 30, 2020. Michigan has a constitutional obligation to balance the budget. The depth of the reduction is unknown at this time as federal assistance with this pandemic has not been finalized. All discretionary spending has been halted. We have had 264 employees on a temporary layoff from April 26, 2020 through May 9, 2020. Starting May 18, 2020 through July 25, 2020, almost all DNR employees except for Law Enforcement will be laid off one day per week or will have three lay off days during that timeframe. A hiring freeze has also been executed.

Minnesota

**MINNESOTA
STATE REPORT**
June 4, 2020

David P. Olfelt, Director
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Update on Constitutionally Dedicated Legacy Funding

Since 2008, a portion of Minnesota's sales tax has been constitutionally directed to protect, restore, and enhance forests, prairies, wetlands, and habitat for fish, game, and wildlife through the Outdoor Heritage Fund (OHF). The funding must supplement, not substitute for, work funded through traditional sources. The DNR, along with other agencies and organizations, applies for these funds annually on a competitive basis. In 2019, the Legislature approved almost \$130 million in projects statewide, with about \$25 million awarded for DNR projects.

The DNR administers the Conservation Partners Legacy (CPL) small grants program, which awards competitive and non-competitive grants of \$5,000-\$400,000 to conservation groups, non-governmental organizations (NGOs), and local governments for habitat projects. To date, nearly \$80 million has been appropriated to CPL, with \$10 million slated for this year. This program has improved or protected over 250,000 acres of habitat with 760 grants, leveraging more than \$10 million in non-state funding from more than 200 conservation clubs and government entities in Minnesota.

Ice Fishing Pressure

Ice fishing continues as the fastest growing sector of sport fishing in Minnesota. The last decade has seen a rapid expansion of wheeled fish houses. Older "permanent" shelters, transported on trailers and moved onto lakes on skids, made it difficult for anglers to change lakes or even fishing spots. Now more mobile, anglers spend many more hours on the lake each trip. Basically hard-sided campers, wheeled houses commonly have generators, kitchens, satellite dishes, flat screen televisions, a biffy, and comfortable beds. This comfort has stimulated family participation, akin to a summer camping trip, albeit in the winter. Minnesota requires licenses for hard-sided fish houses, and of over 43,000 licenses sold in 2019, most were for wheeled houses.

The DNR does not index ice-fishing pressure statewide but conducts creel surveys on important waters. The winter of 2019-20 saw a combined seven million hours of winter fishing pressure on Mille Lacs Lake, Upper Red Lake, and Lake of the Woods. In part, this pressure resulted from high catch rates. In addition, Mille Lacs Lake and Lake of the Woods avoided early snowstorms on thin ice that prevented establishing ice roads on several other large, popular fishing lakes.

Mille Lacs Lake Management

Under a "consensus agreement" with the 1837 Treaty Bands, Mille Lacs Lake walleye are managed for a spawning stock biomass (SSB) goal of 20 pounds per gill net lift (fall assessment).

After a year just under target followed by a likely anomalous year well over target, 2019 sampling yielded a more realistic SSB just below target. The SSB increased as the 2013 class recruited. It will likely remain stable or decline as they die, but will be offset by 2017 class recruitment. Since 2013, only the 2014 class is obviously weak, with other classes through 2018 of moderate strength.

The 2019 fishing year had about 30,000 pounds harvested in the winter and May. Thanks to allowing harvest in May, summer 2019 had the highest pressure since 2013, which remained the case through the summer. In turn, an unplanned closure was enacted in September 2019 to stay under allocation. For the 2020 fishing year (December 1, 2019-November 3, 2020), the DNR and the bands again agreed to a safe harvest level of 150,000 pounds, with a state allocation of 87,800 pounds, including hooking mortality. With 30,000 pounds harvested in winter 2019-2020, about 58,000 pounds remains for the 2020 open water period. To avoid another unplanned closure, a planned closure has been enacted during July, with the hope of keeping the fishery open through the fall.

Looking forward, the “consensus agreement” has expired, and new control rules are being considered for the walleye fishery. A lake management plan is also nearly complete.

New Brook Trout Strain

Brook trout are the only stream trout native to Minnesota but experienced habitat degradation in the late 1800s, and were considered extirpated. Hatchery-reared brook trout originating from the northeastern United States were reintroduced. However, genetic testing in southeastern Minnesota identified a strain of brook trout, unique from the eastern origin brook trout that likely represent a remnant “Heritage” population. Genetic testing also revealed the previous hatchery strain, Minnesota Wild (MNW), was mixed with an eastern strain. This finding raised concerns that MNW was becoming domesticated, so disease testing on Heritage brook trout streams began in 2009, to inform developing a new hatchery strain.

After ten years of failed disease testing, it was finally possible to collect gametes in southeastern Minnesota in fall 2019. Fertilized eggs were transferred to the Peterson Hatchery to be incubated, hatched and reared, to be developed and maintained as a captive brood stock of wild brook trout, referred to as Minnesota Driftless (MND). Staff will return to specific streams for three to four years to gather additional gametes to improve genetic diversity. Captive brood fish will provide eggs for future brood and fish for recreational stocking, anticipated in 2023.

Forest Management and Coordination

The DNR is implementing the Sustainable Timber Harvest (STH) initiative. The Division of Fish and Wildlife (FAW) participates in management of over five million acres of state forestlands, for a full spectrum of ecological and economic values. Staff coordinate at the local level on timber and stand development, and contribute to Section Forest Resource Management Planning (SFRMP), currently in northern and northeastern Minnesota. Management opportunity areas allow for site-specific management for moose, deer winter areas, old forest complexes, and other diverse habitat needs. Timber harvest policy incorporates alternative guidelines for species-specific harvest rotation ages and reserve patch allowances to enhance future habitat. Sustainable timber harvest uses ecological section level analysis to ensure harvest targets are distributed across the landscape.

Fish and Wildlife partners with conservation organizations on multiple Outdoor Heritage Fund, sales tax funded projects to enhance wildlife habitat in forested portions of Minnesota, and on enhancing access through a proposal to expand the hunter walking trail network on state managed lands. The DNR has an interdisciplinary Forest Policy Matrix Revision Project to update and clarify operational orders, policies, and guidance documents so that coordination efforts and procedures are more transparent and clear to field staff, stakeholders and partners.

White-tailed Deer Management

Winter 2019-2020 was relatively mild, except for in some areas in northern Minnesota that experienced severe and prolonged snowpack conditions. Consequently, deer populations continued to increase or remain stable, while local deer populations in northern Minnesota remain well below public desires. Reflecting these trends, abundant harvest opportunities will exist in northwestern, central, and southeastern Minnesota for 2020, while more conservative bag limits are planned in the northeast and southwest. Disease management areas will expand south of the Twin Cities, resulting in liberalized harvest opportunities and regulations to control the spread and transmission of Chronic Wasting Disease (CWD).

Implementation of the 2018 White-tailed Deer Management Plan continued, with initiation of the statewide Deer Advisory Committee. Topics discussed included proposed deer hunting regulation changes, improvement of public engagement opportunities, CWD management, and deer population goal setting. Other plan implementation included improvement of “real-time” online deer harvest information, initiation and continuous improvement of deer population goal setting, and initiation of hiring processes to expand deer program staffing.

White-tailed Deer Projects Funded through the Deer Initiative

For the past two winters, the DNR has studied white-tailed deer in the forest zone to enhance wildlife managers’ ability to prescribe forest manipulations that support deer population goals. These manipulations will consider composition, area, edge, edge-to-area ratio, shape, and abundance, as well as juxtaposition and interspersions of cover types. Cutting-edge global positioning system (GPS)-collar, remote sensing and geographic information system (GIS) technologies allow fine-scale measurements of habitat use and selection by 73 adult females at the stand or cover type level under varying winter conditions and deer densities. Compositional and resource selection function analyses are ongoing at multiple orders.

In the southern farmland region, the DNR used an unmanned aerial vehicle with thermal imaging to determine the efficacy of using drones to locate fawns in wildlife management areas (WMAs) and to validate performance of expandable GPS-collar components on free-ranging neonates. Through locating 43 fawns (33 confirmed) at 18 WMAs over ten days in May and June 2019, we found locating fawns via drones worked well during optimal conditions (e.g., nighttime, cloudy) but became difficult under poor conditions (e.g., sunny). We find drone searches are the best approach to locate fawns in the farmland region, compared to the effort of other methods (e.g., opportunistic ground searches, vaginal implant transmitters). We will GPS-collar 75 fawns each of the next two years to determine survival and cause-specific mortality, estimate dispersal, and assess whether landscape and habitat characteristics affect dispersal and migration. Vital rates (e.g., fawn survival) will help improve the deer population model.

In southeast Minnesota, a study aims to better understand dispersal, movement patterns, and survival of white-tailed deer, particularly in and around the CWD management zone covering Houston, Fillmore, Olmsted, and Winona counties. Deer movement data will identify potential routes of disease spread via wild deer, informing management. Home range size varied greatly among individual deer, but generally increased between summer and fall. Females' home ranges more than doubled in size, from 1.37 km² in the summer to 3.35 km² in the fall. Males' home ranges also expanded from 1.88 km² to 4.29 km². Global positioning system collars include mortality sensors, and staff typically respond within one to two days to alerts to determine cause of death.

Chronic Wasting Disease (CWD)

In 2019, the DNR conducted hunter-harvested surveillance in central, north central, and southeast surveillance areas, in response to CWD-positive cervid farms or detections in wild deer. For central, fall 2019 marked the third year of precautionary surveillance around a depopulated CWD-positive cervid farm. In the southeast, CWD management and control zones respond to the increasing number of positive wild deer in Fillmore County, a depopulated positive cervid farm in Winona County, new cases in wild deer within a mile of the Winona farm, and the encroaching positive wild deer in Wisconsin and Iowa. Finally, a new CWD management zone was created in the north-central Crow Wing County, where a CWD-positive cervid farm remained in business for several years, leading to the discovery of a positive wild deer found dead a half mile from the farm's fences. Chronic wasting disease management zones allow the DNR to impose mandatory testing for all adult deer and enforce carcass movement restrictions to prevent the disease from spreading. The CWD control zone creates a buffer to implement carcass movement restrictions, along with less restrictive mandatory testing requirements.

In fall and winter 2019, 18,543 deer were tested, with 36 CWD-positive detections. During just the fall hunter-harvested surveillance, 17,717 deer were tested, including 544 deer in the central with no new detections; 3,966 deer in the north-central with no new detections; and 13,207 deer in the southeast with 26 CWD-positive detections. In the southeast, additional management actions over the winter included landowner shooting permits (37 deer with no detections) and U.S. Department of Agriculture culling (463 deer with seven CWD-positive detections). Symptomatic deer are tested opportunistically year-round across the state; 356 deer were tested with three positive detections (two found dead in Fillmore and Houston counties and one reported sick from Dakota County). Finally, two new positive CWD-captive cervid farms were announced over the winter in Douglas and Pine counties.

Fall 2019 surveillance included an inaugural, legislatively mandated dumpster program for all CWD management and control zones. Intended to be marketed like Wisconsin's adopt-a-dumpster program, most of the funding came from the DNR, with donations from several deer groups. Dumpsters enabled hunters to quarter their deer and dispose of carcasses within the CWD management and control zones, to abide by carcass movement restrictions. Dumpsters, tables, and quartering tripods were available starting with archery season and expanded during firearms season when most hunters are afield. The program was a roaring success, with more than 200 tons of deer parts brought to certified landfills, costing the DNR and its partners \$170,000.

Duck and Pheasant Plans

In 2019, the DNR updated its 2006 Long-range Duck Recovery Plan and 2015 Minnesota Pheasant Summit Action Plan, incorporating agency expertise and input from partner agencies and NGOs, and the public. Instead of long-term objectives that are often hard to operationalize, both plans focus on shorter-term goals within the DNR's management scope, through both habitat and human dimensions issues strategies. The plans recognize the multifaceted benefits of grassland and wetland conservation and management (e.g., pollinator habitat, clean water, carbon storage), while continuing to support wildlife habitat.

Wetland Management Program

Using Outdoor Heritage Fund dollars and modeled after Minnesota's successful Shallow Lakes Program, the new Wetland Management Program will assess and implement management on small wetlands, with initial work focused on wetland complexes in the prairie region. Two wetland specialists have been hired. Funding is being requested to add another wetland specialist and create a dedicated supervisor to oversee the program's implementation in the field and guide anticipated growth.

Marketing

Seasonal direct emails in partnership with our electronic licensing system (ELS) vendor Aspira continue to show great outcomes. Emails sent to past licensed hunters and anglers encourage purchasing a license for the new year. Emails have included seasonal themes like spring turkey hunting, fishing, and deer hunting. Spring fishing emails increased online sales of resident individual angling license by 85 percent from last year. With the February start to the license season, an ELS reminder email was sent to ages 50+ encouraging them to purchase a lifetime license. Resident Individual Lifetime angling sales remain consistent from last year, while non-resident lifetime angling licenses are seeing a slight increase.

A partnership with the national Recreational Boating and Fishing Foundation's Take Me Fishing (TMF) campaign was co-branded with the DNR in 2019. A total of \$50,000 was invested in May and June (\$10K creative, \$6.5K Take 5 emails, \$23.5K digital display, \$10K paid search, \$10k paid social). Paid search alone generated \$321,361 in revenue.

Recruitment, Retention, and Reactivation (R3)

The Minnesota R3 Advisory Council continued to meet, laying the foundation for development of a statewide R3 plan in 2020. The DNR and partners at Minnesota Backcountry Hunters and Anglers, and the Grand Rapids chapter of Minnesota Deer Hunters Association, are expanding Adult Learn to Hunt Deer programs to new regions and participants. In 2019, 20 committed volunteers mentored 25 first, second, and third year hunters at three hunt locations. We also marked the first year one of our new hunters (2014 program) returning as a mentor, and the first year a partner organization (Minnesota Backcountry Hunters and Anglers) supervised a hunt. The DNR also held trainings for the pilot Certified Mentor Training network.

Outreach Grants and Education and Skills Programs

The fifth and currently final-funded round of the capacity-building Angler and Hunter Recruitment and Retention Grants were awarded in 2019, resulting in a cumulative 67 grants and \$990,000 awarded. \$1.2 million was also appropriated for a new "No Child Left Inside" grant

program to support youth natural resource education and outdoor recreation, including fishing, hunting, and shooting. Interest has been high, with almost 100 small and large grants awarded in recent months. Our grantees deliver programs to expanded and diverse audiences.

Becoming an Outdoors Woman and National Archery in the Schools programs continue to receive high interest and participation. The MN DNR Division of Parks and Trails partnered to place summer interns at eight state parks to offer fishing skills programs. The DNR has expanded efforts to reach diverse and new audiences by hiring two community fishing and hunting skills liaisons to build capacity with Latino and Karen communities. Latino outreach resulted in over 24 programs and events, serving over 1,250 participants. Our Southeast Asian programs had over 1,000 participants, with another 1,000 people reached through emails, phone calls, and office visits.

Wildlife Action Plan

The Minnesota Wildlife Action Plan 2015-2025 is a statewide conservation strategy developed with and implemented by conservation partners under the leadership of the MN DNR's Division of Ecological and Water Resources, with goals around habitat, species, and engagement.

- Sustaining and enhancing terrestrial and aquatic habitats is done within the context of the larger landscape/watershed and a changing climate. Stressors like fragmentation, invasive species, and climate change are addressed within a mapped Wildlife Action Network.
- 346 species in greatest conservation need (SGCN) identified in the plan require conservation actions directed at issues like disease, deliberate killing, low reproductive capacity, or poor dispersal ability. Species for which information is needed to assess their conservation status or factors contributing to their decline are also addressed.
- Engagement with conservation partners and citizens involves sharing data, tracking efforts and accomplishments, and other opportunities.

Wildlife Action Plan projects leverage diverse partnerships and funding sources. For several years, the Minnesota River Reptile Project has studied the five-lined skink and gopher snake on public and private land. Both species are listed SGCN and in decline. Findings will identify key habitat features, such as nesting and overwintering sites, and provide information to landowners and managers, with the goal of conserving these and other prairie species in the Minnesota River Valley. Another project, SGCN Enhancement in the Driftless Area, supports a diversity of plants and animals unique to the Upper Midwest. The DNR has restored and enhanced public and private lands (over 7,000 acres) using prescribed burning, conservation grazing, invasive plant control, and prairie plantings. Species including Leonard's Skipper, Rusty Patched Bumble Bee, Blanding's Turtle, and Whip-Poor-Will have increased as a result.

Missouri

**MISSOURI
STATE REPORT**
May 19, 2020

Sara Parker Pauley, Director
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Financial Update

The Fiscal Year (FY) 2020 budget for the Missouri Department of Conservation (MDC) continues to represent less than 1 percent of the total state government budget in Missouri. The primary sources of revenue are the one-eighth of 1 percent Conservation Sales Tax, at about \$121 million, and permit sales and federal reimbursements, at about \$64 million. Total receipts for FY 2019 were \$196.7 million.

Conservation pays by enriching our economy and quality of life. In Missouri each year, more than 1 million individuals go fishing, 576,000 hunt, and 1.7 million view wildlife. Hunting, fishing, and wildlife recreation generate \$5.2 billion in economic impacts, and there is an additional \$10 billion in economic impacts from the forest products industry, for a total of \$15.2 billion in economic impacts. This economic activity supports 111,000 jobs. Conservation makes Missouri a great place to live, work, fish, hunt, view wildlife, and be outdoors.

Organizational Update

Sara Parker Pauley continues as the ninth director of MDC. In October 2019, MDC began transitioning to a new organizational structure to include a Statewide Resource Management Branch Chief, Assistant Deputy Director – Resource Management, and eight Regional Administrators. MDC is implementing a multi-year market-based pay plan and performance management approach. The director, deputies, and branch leaders continue meeting with regional staff twice yearly in the eight administrative regions and the headquarters office to increase awareness and alignment of the strategic plan.

Highlights of Conservation Challenges and Successes

COVID-19 Response. Understanding the physical and mental benefits nature provides, conservation areas, nature center trails, and boat accesses remain open to the public with physical distancing requirements in place. MDC facilities were closed to the public, programs were canceled, and telework policies implemented to protect the health of the public and staff. The Missouri Conservation Commission temporarily waived fishing permit and daily trout tag requirements for residents and nonresidents whose fishing privileges were not otherwise suspended.

Implementing the Strategic Plan. The MDC strategic plan, *Missouri Conservation: Design for the Future*, was unveiled in 2018 and developed to guide MDC during FY19-23. The

plan outlines three simple goals: take care of nature; connect people with nature; and maintain the public trust. Through input from the public and conservation partners, MDC has identified 6 desired outcomes, 17 strategies, more than 150 specific actions, and 42 measures that will be used to track progress.

International Recognition for Sustainable Forest Management. MDC is proud to maintain its Sustainable Forestry Initiative® (SFI) certification for management of public lands. Managing forest resources in a sustainable manner is critical to providing habitat needed to maintain fish and wildlife populations.

Tree Seedling Program. The George O. White Nursery grows and distributes about 2.3 million low-cost seedlings every year to Missouri citizens. Each year, it processes nearly 10,000 customer orders. It provides free seedlings to approximately 95,000 fourth-grade students for Arbor Day and assists the Monarchs Collaborative with hundreds of milkweed root stock to be planted by Master Naturalist and Master Gardener groups.

Hatchery Program. MDC manages nine fish hatcheries (5 cold water and 4 warm water). In the past year, we stocked approximately 1.7 million trout, 11.1 million warm water fish, and 66,000 fish that are considered species of conservation concern to help maintain quality fishing and restore native populations of selected species.

Mobile Applications. Staying on the forefront of technology, MDC developed the free mobile app MO Outdoors, which enables users to find MDC conservation areas, fishing accesses, hiking trails, shooting ranges, and nature centers around the state based on their desired types of outdoor activities. MO Outdoors also connects users to area regulations and seasonal information, hours of operation, images, area closings, and interactive maps. In addition, MO Fishing allows anglers to buy fishing permits and see fishing structures in Missouri water bodies. MO Hunting allows hunters to buy permits and check-in animal harvests, such as turkey or deer. In the fall of 2019, hunters made 141,301 telechecks for their animal harvests using the MO Hunting app.

Chronic Wasting Disease. Chronic wasting disease (CWD) is a deadly deer disease that has been found at low prevalence in 16 counties throughout Missouri since 2012. For the 2019-2020 season, MDC tested over 32,000 deer, including approximately 18,800 deer sampled by MDC staff on opening weekend of fall firearms season and over 9,300 deer sampled by 160 partnering taxidermists and meat processors throughout the season. MDC worked cooperatively with approximately 1,400 landowners on a voluntary basis to remove and test an additional 2,399 deer after the close of regular deer seasons in localized areas where CWD has been found. A total of 46 new cases of CWD were detected. This latest tally brings the total number of free-ranging Missouri deer detected with the disease to 160 out of over 162,000 tested since sampling efforts began in 2001.

Invasive Species. MDC is actively engaged in and serving in leadership roles within key invasive species collaborations, including the Scenic Rivers Invasive Species Partnership, Missouri Invasive Plant Task Force, Missouri Invasive Forest Pest Council, and Missouri Feral Hog Elimination Partnership. MDC's internal Invasive Species Coordination Team (InSCT) uses the principles of the Comprehensive Conservation Strategy (CCS) to prioritize invasive species to

be addressed, locations of focus, and timing of actions. The emphasis and strategic approach, complemented by increased partnerships, will hopefully lead to successes in control and eradication of priority invasive species. MDC, the Missouri Prairie Foundation, and the Missouri Department of Transportation have partnered to spray roadside invasive plants in priority conservation landscapes in southeast Missouri. In addition, MDC enhanced and refocused outreach efforts to motivate Missouri's citizens to help remove invasive species.

Eliminating Feral Hogs in Missouri. MDC is part of a very productive network of federal and state agencies called the Missouri Feral Hog Elimination Partnership (Partnership). All members of the partnership are dedicated to total elimination of feral hogs from the state and worked together to remove 10,495 hogs from Missouri's landscape in 2019. On December 7, 2019, the U.S. Forest Service passed an order prohibiting feral hog hunting, except for incidental take of feral hogs during turkey and deer seasons, in the Mark Twain National Forest (MTNF). As a result, the Partnership dedicated significant resources to greatly expand efforts to strategically scout for and eliminate feral hogs in and around the MTNF while still maintaining elimination efforts elsewhere in the state. The Partnership set up the first Incident Command Structure in 2020. As of March, that effort combined with the continued normally scheduled feral hog removal efforts, culminated in 340 landowners assisted, 2,904 feral hogs removed, and nearly 669,000 acres scouted.

Helping Missourians Discover Nature. MDC's Discover Nature Schools (DNS) conservation education curriculum is being used in 1,621 (69 percent) Missouri schools to help teachers engage students with hands-on, outdoor learning from grades pre-K to 12. In addition, the Discover Nature Fishing program helps children and families have fun outdoors by learning to fish. The statewide program provides lessons and events to help kids and families gain skills and confidence to fish on their own. MDC staff also provide formal nature-based educational programs to over 300,000 citizens yearly. These programs cover a diverse array of topics including but not limited to: hunting, angling, hiking, birdwatching, kayaking, shooting sports, and native plants. MDC is currently working with several conservation partners to implement a new R3 plan.

Archery in the Schools Program Builds Champions. MDC provides Missouri National Archery in the Schools Program (MoNASP) grants to schools for equipment, as well as free teacher and staff training for those administering the program. More than 200,000 Missouri students from over 700 schools participate in MoNASP. This year's MoNASP State Tournament was cancelled due to concerns about the coronavirus (COVID-19).

Protection. One call to *Operation Game Thief*, a hotline sponsored by MDC and the Conservation Federation of Missouri (CFM), led to a litany of charges in Miller and Shannon counties for a man suspected of killing deer and removing only the heads, tenderloins, and other parts. Conservation Agents also investigated the poaching case of a female adult elk that was shot in Carter County on National Park Service property. Operation Game Thief is offering a \$20,000 reward for information leading to a conviction in this case.

Listening to Missourians. In the recent fiscal year, there were numerous public engagement opportunities, including open house meetings, annual hunter and angler surveys, conservation area plan comment periods, regulation committee comments, and Ask MDC contacts.

MDC held open houses around the state to gather input on CWD management zones, proposed crappie regulations on two large reservoirs, the future elk hunting season, 2021-2025 waterfowl hunting season framework, and Missouri's black bear management plan. MDC also hosted its third annual Missouri Conservation Partners Roundtable event, a gathering of over 200 partners representing 131 organizations. The event provided partners an opportunity to hear from each other, voice unique perspectives, and strengthen or develop collaborative efforts while discussing the importance of Healthy Lands and Waters, Healthy People, and Healthy Partnerships in Missouri.

Conservation Volunteers. In calendar year 2019, Master Naturalist volunteers contributed 74,538 hours of service to conservation projects and activities in their local communities. In addition, 2,690 volunteer members of the Missouri Forestkeepers Network contributed 6,159 hours monitoring forest health and taking care of trees. During the first half of FY20 staff volunteers at nature centers, interpretive sites, and shooting ranges, along with hunter education instructors, and Discover Nature Fishing instructors, recorded 26,956 hours. Stream Team volunteers contributed 232,687 hours conducting water quality monitoring, removing trash and invasive species, planting trees, and stenciling storm drains.

Communicating with Missourians. All MDC social media channels, including Facebook, Twitter, Instagram, and YouTube, continue to have increased numbers of followers. Facebook is MDC's largest social media channel with more than 290,000 followers. MDC's website has 5.45 million unique visitors annually. MDC utilizes email communications to reach 721,794 subscribers, and the free *Missouri Conservationist* and *Xplor* magazines, mailed to more than 750,000 individuals, to share the value of fish, forest, and wildlife resources. The MDC Wild Webcast series highlights key conservation topics and provides a unique opportunity to ask live questions of MDC experts. MDC launched a new podcast in late spring 2020.

Comprehensive Conservation Strategy (CCS). Conservation agencies will only meet future fish and wildlife commitments to the public within a system of healthy and connected habitats. MDC is being proactive with habitat and species conservation programs by integrating the conservation priorities of our agency and conservation partners into a common framework, which includes the identification of a prioritized network of lands and waters. The focus of the habitat-based portion of the work will be within Conservation Opportunity Areas and subset landscapes called Priority Geographies that have specific objectives to accomplish measurable goals at a landscape level. The CCS will integrate the Missouri State Wildlife Action Plan, Forest Action Plan, and other conservation priorities into a comprehensive plan to be submitted to both the U.S. Fish and Wildlife Service and U.S. Forest Service.

Community Conservation. MDC celebrated the Urban Fishing Program's 50th year of bringing close-to-home fishing to our urban communities. Last year, MDC provided 76,744 channel catfish and 64,207 rainbow trout to the Kansas City and St. Louis urban lakes. The Green City Coalition, a partnership between the City of St. Louis, MDC, Metropolitan St. Louis Sewer District, and St. Louis Development Corporation, addresses social, economic, and environmental issues surrounding vacant properties by working with member organizations and residents to convert vacant land to community green spaces. Over 200 vacant publicly owned parcels (23 acres) have been reimaged by neighborhood residents and students through community events.

Private Land Partnership Programs. MDC has matching fund agreements with the USDA Natural Resource Conservation Service (NRCS) for the Audubon Conservation Ranching-Regional Conservation Partnership Program (RCPP), the Regional Grassland Bird and Grazing Land Enhancement RCPP, and the Restoring Glade and Woodland Communities RCPP. The Conservation Ranching RCPP annually provides \$80,000 of MDC match for \$290,000 of financial assistance from NRCS. The Regional Grassland Bird RCPP helps cattle producers implement grazing practices that provide habitat for prairie chickens and other grassland birds while providing quality forage for cattle. MDC provides approximately \$100,000 annually to match NRCS' annual financial assistance contribution of \$192,000. Through the Restoring Glade and Woodland Communities RCPP, MDC provides approximately \$64,000 annually, in combination with NRCS' annual financial assistance contribution of \$272,000, directly to private landowners to assist in the management and restoration of glades, woodlands, and forest habitats.

Technical Assistance for Landowners. MDC's Private Land Services Division provides landowners with technical assistance to benefit fish, forest, and wildlife conservation. Over 25,000 contacts were made last year helping landowners with \$2.3 million in funding for conservation practices and program cost-shares. MDC implemented the Missouri Outdoor Recreational Access Program (MRAP) to enhance habitat management and public access to outdoor recreation opportunities on private land. Currently, 60 property owners have signed agreements to provide recreational access on nearly 15,000 acres. The MRAP is funded through the USDA Voluntary Public Access and Habitat Incentive Program. Missouri's Call Before You Cut program provides information to forest landowners who may be contemplating a timber sale. To date, over 4,100 landowners who own over 452,000 acres have received a free packet of information.

Permit Delivery Approach. In 2019, MDC launched a Permit Auto Renewal System to allow customers to enroll eligible permits in a service that automatically renews their permits prior to the start of the next season or permit year. More than 22,000 individuals enrolled prior to the beginning of the 2020 hunting and fishing permit season. Permits can be purchased at retail stores, by phone, online and from smartphones through the free MO Hunting mobile app. The app lets users upload electronic copies of all their permits to the mobile device to show, as needed, eliminating the need for paper permits.

Stream Team. The Missouri Stream Team Program celebrated its 30th Anniversary in 2019. This statewide volunteer program is a cooperative effort sponsored by MDC, Missouri Department of Natural Resources, the Conservation Federation of Missouri, and citizens who care for Missouri streams. More than 6,000 Stream Teams comprised of nearly 800,000 individuals have volunteered over 3.1 million hours connecting with and improving our stream resources through a multitude of education, stewardship, and advocacy activities.

Helping Communities One Tree at a Time. In FY20, MDC funded 38 Tree Resource Improvement and Maintenance (TRIM) grants totaling \$438,000. This funding helps communities with urban forestry projects, such as master plans, tree inventory, education, hazard tree removals, pruning, and planting. MDC continues its partnership with Beyond Housing in north St. Louis by providing funding to employ a community forester who assists underserved communities with community forestry needs, including outreach and education, technical assistance, grant writing, and management plans. The partnership helps citizens access and enjoy the benefits of trees.

Assisting Communities Improve Wildfire, Prescribed Fire, and Emergency Response. MDC awarded \$404,802 in Volunteer Fire Assistance grants to 172 rural fire departments to purchase wildfire clothing, small equipment, and provided vehicles and emergency response equipment through its Federal Excess Property programs. Federal Hazard Mitigation funds assisted 12 rural communities with the development of Community Wildfire Prevention Plans to provide outreach on how to minimize the threat of wildfires. Funds also aided in training and equipping Prescribed Burn Cooperatives for habitat restoration on private lands. New this year, MDC funded 47 grants to volunteer fire departments to purchase workman's compensation coverage, protecting 928 volunteer fire fighters.

Missourians for Monarchs Collaborative. MDC is working with Missourians for Monarchs, a collaboration of more than 40 conservation and agricultural organizations, state and federal agencies, utility companies, agribusinesses, academia, volunteer organizations, and cooperatives, to carry out a collaborative monarch and pollinator conservation plan for Missouri. This collaborative has a goal of establishing more than 19,000 acres of pollinator habitat per year over the next 20 years or 385,000 new acres of habitat by 2034. To date, the collaborative has been successful at creating or improving over 370,000 acres of new pollinator and monarch habitat and is in the process of updating their plan to guide efforts for the next three years.

Agriculture Partnerships. In partnership with MDC, the Missouri's Corn and Soybean Associations, and the USDA Natural Resources Conservation Service, a position was established to develop and oversee efforts that promote soil, water, and wildlife conservation approaches to Missouri corn and soybean farmers. A similar position has been established with the state's largest landowner cooperative, MFA. The position is instrumental in piloting precision conservation using the cooperatives crop consultation to analyze ag producer yield and determine areas of the farm that would be more profitable to convert to conservation buffers for pollinators and bobwhite quail. Agreements were implemented with MFA and University of Missouri Extension to promote native grass forage systems through workshops and demonstrations resulting in hundreds of livestock producers being trained on native grasses forage establishment and management.

Widespread Flood Damage. 2019 was another wet year as many conservation areas, fish hatcheries, wetland areas, river accesses, levees, and construction projects were negatively impacted by major flooding along the Missouri and Mississippi Rivers.

Deep Roots KC. Deep Roots is a network of more than 60 private, public, and nonprofit organizations in the Kansas City Metropolitan area that have a shared vision – a future of beautiful, native landscapes connecting heartland communities where nature and people thrive together. The partners are expanding their efforts to engage the communities surrounding MDC's Anita B. Gorman Discovery Center and increase program attendance.

Ruffed Grouse Reintroduction. In partnership with the Wisconsin Department of Natural Resources, Quail and Upland Wildlife Federation, and private landowners in the restoration area, MDC has been working to reestablish a viable ruffed grouse population in Missouri. The three-year project (2018-2020), involving the translocation of 300 grouse, continued in 2019 with another 100 grouse from Wisconsin that were relocated to the River Hills Region of east-central Missouri. Extensive habitat management has been conducted to make the area suitable for grouse.

Nebraska

**NEBRASKA
STATE REPORT**
June 17, 2020

Jim Douglas, Director
Nebraska Game and Parks Commission
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Take ‘em Hunting- Last fall, we announced the Take ‘em Hunting Challenge – asking hunters to take along a new or beginning hunter. Partners included AKRS Equipment, Pheasants Forever, Ducks Unlimited, the National Wild Turkey Federation and SCHEELS.

2,367 people took the pledge online to take someone hunting and 2,916 entries were submitted from 2,175 people in the challenge. Most hunters took youth including children and grandchildren. 54 percent of entries took a first-time hunter. Most mentors took people deer hunting (48 percent) followed by turkey (14 percent), upland (13 percent) and waterfowl (10 percent).

We created a series of videos, encouraging hunters to take someone hunting and shared them on social media. Marketing also included paid social and a paid PSA featuring Husker football coach Scott Frost. Direct mail and emails were sent to current and previous hunters. The challenge had a strong social media presence and following. Highlights, photos and stories from submissions were shared weekly our Facebook page. This helped create tremendous excitement from both participants and additional prospective hunting mentors. One story of a mom who took her young kids turkey hunting, reached 92,000 people!

Each week, we announced prizes winners from our partners. The Grand Prize, a John Deer UTV was awarded Wednesday, June 10 to a family from Grand Island, Nebraska. For more information go to OutdoorNebraska.org/TakeEmHunting.

Mountain Lion Season - The Commission held Nebraska’s third harvest season for mountain lions during January – March 2020 in the Pine Ridge Unit (northwest Nebraska). The season allowed for up to 8 mountain lions to be harvested, with a limit of 4 lions and a sublimit of 2 females in each of two sub-units.

The 2020 harvest season was a success with 7 cougars harvested. Our objective is to provide a harvest opportunity that allows the population to remain resilient and healthy, while halting growth or moderately reducing the population size. Our target density is 5-7 mountain lions/100km² of suitable habitat, similar to other states. We also want to reduce depredation events.

Our new 2019 Pine Ridge population estimate is 34 total animals, down from 59 in 2017, and our estimated density is on target at around 5 mountain lions/100km² of suitable habitat. We also had no documented depredation events in the Pine Ridge since 2019.

State Parks Engage People in the Outdoors - Our parks are at the heart of many Nebraskans' lives. They provide the perfect place for people to get in touch with nature, explore the outdoors and find new outdoor pursuits. Over the past decade, the Commission has dramatically expanded its educational offerings at our 76 state parks and recreation areas. Park naturalists plan educational and recreational events to draw new visitors to our parks, while teaching outdoor skills. Popular events include outdoor expos attended by more than 60,000 people; and outdoor discovery programs that introduce more than 5,000 fourth and fifth graders to hands-on activities such as outdoor cooking, kayaking, fishing, and shooting sports. Bioblitzes invite the public to come count unique species. Guided hiking tours and horse rides give people the chance to see parts of the state they would not otherwise have. Fishing clinics and family fishing events introduce thousands to the sport of fishing. Shooting ranges in parks provide great introductions to shooting activities for families, kids, and new shooters in a safe and friendly atmosphere. These events and others bring people together in the outdoors to create family memories.

Reaching Broad Audiences Through Social Media- The Commission has very diverse customers, from hunters, to wildlife viewers and park-goers, and boaters and anglers. Each person's motivation for outdoor participation varies depending on what they love to do outdoors. Social media is an important part of the agency's promotional mix, educating diverse audiences on the state's fish and wildlife, promoting opportunities for fun and recreation and sharing important reminders. Live streaming of big game meetings allows for statewide participation from hunters. Promoting unique special events and training opportunities through social media helps the Commission engage with people in a cost-effective and timely manner. Social media also connects us to our customers, creating engagement and allowing people to share their experiences with us. This brings awareness of the diversity of outdoor opportunities in Nebraska. Instagram is the Commission's fastest growing channel, with over 24,000 followers that are mostly urban-area residents under the age of 25. Facebook is where most of our customers go to for timely information. With 115,000 followers, it is second only to the website and word of mouth. In 2019, the Commission's website had close to 1.8 million unique visitors.

Growing Education and Interpretation- The Commission developed a new education plan in 2019 to help connect constituents to our natural and cultural legacy and outdoor recreation opportunities. Developed through an analysis of our current education initiatives and a broad look towards the future, this plan has six goals: natural resource education, cultural and historical education, outdoor and recreation education, cohesive team development, maintaining and growing strong partnerships, and developing ideas to ensure sustainable funding. A new Fish and Wildlife Education Division was created to assist with implementation of the plan and to educate Nebraskans about our state's natural resources. This division will work to advance and expand ecological education development of Nebraska-specific resources.

Mentoring Videos Encourage People to Share Their Passion- Hunting is an important part of our Nebraska heritage, and the sale of hunting and fishing permits fund conservation efforts in our state. For these two reasons, it is critical that we attract new hunters and re-engage those who may have let hunting fall by the wayside. Game and Parks worked with several partner groups in 2019 to produce a sixpart video series underscoring the reasons mentors take new hunters

into the field each year. The reasons shared included anything from creating family memories, spending time with friends, and spending time in the field with the dog. The videos were released on Facebook channels between August 2019 and November 2019, in tandem with the agency's Take 'Em Hunting campaign. Partner organizations shared the six videos throughout the year on their own social media channels. In total, the six part series received over 40,000 views.

Addressing Wildlife Damage - Nebraska's landowners are important partners in conservation. Creating and providing wildlife habitat, providing access for public hunting to control populations and continual communication provide for successful wildlife management.

The Commission has been proactive in response to crop damage by deer, pronghorn and elk. The agency's Damage Control Permit protocol was rewritten in 2019. The new protocol removed obstacles preventing the use of damage control permits as a tool for addressing crop damage done by big game. Although damage control permits have been issued for deer for many years, 2019 saw a more aggressive use of these permits for pronghorn and elk. Other steps taken to address depredation were:

- Landowner meetings in areas with high prevalence of damage complaints.
- Encouraging landowners to contact Commission personnel to report damage caused by big game.
- Commission staff contacting landowners who have had damage in the past.
- The Commission issued a series of outreach messages throughout the year, through news releases and broadcast announcements, reminding landowners of the many resources available to address depredation issues.
- The new Antlerless Hunter Database was created in the summer. Hunters willing to harvest only antlerless deer can sign up online and offer their contact information. Landowners can access this database to find hunters in their area willing to harvest antlerless deer.
- A Contact a Biologist online tool was created to allow landowners to contact the Commission and get immediate help addressing depredation issues.

The Commission's renewed and increased response to depredation is an effort to connect landowners experiencing damage losses by big game to solutions that work.

Expanding Public Access on Private Lands- Nebraska supports nearly one million acres of publicly-accessible lands, much in part to the Open Fields and Waters (OFW) Program. Nebraska is over 97% privately-owned and increasing access to private lands continues to be one of the agency's primary objectives. OFW provides financial incentives to private landowners willing to allow walk-in hunting, trapping and/or fishing. The program has grown during each of the last four years, and last years enrollment totals nearly 347,000 acres – a record for the program. Since 2016-17, over 113,000 acres have been added to OFW, a 48% increase. In recent years, new OFW enrollments have been targeted within the Berggren Plan priority areas in an effort to increase public hunting opportunities for pheasants and other upland gamebirds, and public access opportunities have increased by 93% within these priority areas. Over the past two years, we also targeted additional hunting opportunities for prairie grouse, deer and turkey, and 1 northern bobwhite. A 2020 Voluntary Public Access and Habitat Incentive Program (VPA-HIP) award for \$3M from USDA-NRCS will help continue our efforts to grow the program.

Bighorn Sheep Research Continues-

South Dakota State University researchers in 2019 gathered another year of information in the effort to keep Nebraska bighorn sheep populations healthy. Preliminary information from the 2019 lamb crop indicated higher success rates than in years past. In particular, Pine Ridge herds had nearly doubled lamb survival rates from 2018 as five out of 15 lambs were well. The researchers and Commission staff experimentally removed ewes chronically ill with the deadly strain of pneumonia, which had been identified as influencing poor lamb survival over the last decade. The Wildcat Hills herd saw another banner year for lamb survival, with 14 of the initial 22 captured in the spring still alive. The study will continue for another year with hopes of gauging the effectiveness of removing chronically sick adults on lamb survival. Researchers also hope to understand what is influencing the continued high lamb survival in the Wildcat Hills, where since 2018, 38 of the 73 lambs observed survived.

Salt Creek Tiger Beetle Releases- The Commission continued its recovery efforts for the endangered Salt Creek tiger beetle in 2019 by releasing 315 lab-reared larvae and adult beetles onto critical habitat at Little Salt Creek WMA. It was the first time the agency released Salt Creek tiger beetles onto Commission property. Also in 2019, the Commission partnered with a Kansas zoo to help raise the tiger beetles in the lab. In March, staff at the Topeka Zoo and Conservation Center began raising larvae transferred from Omaha's Henry Doorly Zoo and Aquarium. Having another zoo partner will help us increase our lab-reared beetles and help speed our recovery efforts. Other partners raising beetles include the Lincoln Children's Zoo and the University of Nebraska-Lincoln.

Rehabilitating Waters for Future Recreation - The Aquatic Habitat Program works to improve conditions for aquatic life through better management or rehabilitation of existing resources, and collaborates with partners to do so. Funding is provided by the purchase of the Aquatic Habitat Stamp, included in the price of a fishing license. Major projects in 2019 were:

- The Conestoga Reservoir rehabilitation was completed, producing a fantastic recreational area for Nebraskans. Investments in the angler and boating access will provide facilities for anglers, birders and hikers and bikers. Work began in 2011, and three years of construction were needed to modify the outlet structure, excavate over one-half million cubic yards of sediment, stabilize shorelines, install sediment retention cells and build wetlands to protect water quality. The Aquatic Habitat Program, Nebraska Environmental Trust, Nebraska Department of Environment and Energy, Environmental Protection Agency and Sport Fish Restoration provided the funding for the \$8 million project.
- A major coolwater stream restoration project on Dry Spotted Tail Creek is nearly complete. Efforts to restore natural stream function, riparian and wetland habitat has involved the replacement of the straightened and incised channel with a new, constructed reach of meandering stream to support healthy aquatic and wetland communities. Public access improvements will be included when the project is completed in 2020 with help from Platte River Basin Environments, Trout Unlimited and Ducks Unlimited.
- Fort Robinson State Park's Gabel, Cherry Creek and Ice House ponds are being rehabilitated. They are being excavated to remove sediments, water-control structures are being modernized, shorelines are being shaped for better access and underwater habitat structures are being installed to improve fishing. Maintaining fishing opportunities throughout construction is a goal of this project.

Enhancing Coolwater Streams - Coolwater streams account for less than 28 percent of all stream miles in Nebraska, but they are still a tremendous resource. Good land stewardship has preserved the relatively pristine condition of some stream reaches, which provide habitat for a variety of aquatic organisms, including native and at-risk species, and angling opportunities for trout. In 2019, staff and partners completed projects to create or enhance an estimated 1.6 miles of coolwater streams. Staff conducted pre- and post-construction surveys to assess the fish community's response to stream enhancements and sampled several at-risk species.

In addition, instream flow appropriations were renewed at Long Pine Creek for another 15 years. These flows sustain naturally reproducing rainbow and brown trout populations.

Fighting Aquatic Invasive Species - Aquatic invasive species (AIS) continue to threaten Nebraska's waterways. The Commission partners with the University of Nebraska-Lincoln to educate people about AIS and how to combat them. The agency also is exploring new cleaning stations, and renovating lakes to reduce threats. A new, waterless boating-cleaning station was installed at Lewis and Clark Reservoir in 2019. It was used 391 times in its first two months as zebra mussels continue to be an issue for Lewis and Clark and the Missouri River. Glenn Cunningham Lake was found positive for zebra mussels in 2018, was drained to facilitate freezing the mussels during the 2018/2019 winter, and will be refilled and restocked in 2020.

Restoring Freshwater Mussels - Efforts began in 2014 to restore native freshwater mussels back into their historical range in Nebraska streams. Since 2016, 14,000 plain pocketbook mussels and 5,700 fat muckets have been released. Mussels were not released in 2019 into streams where high water existed; instead, those mussels are being held in hatcheries. Mussel production in 2019 includes 42,000 plain pocketbook and 23,000 fat muckets. All released mussels have been marked or tagged to identify them.

Law Enforcement and Public Safety - Conservation officers frequently answer the call for assistance from a variety of other agencies whenever a tragedy occurs. These calls for service triggering a response from our enforcement personnel in 2019 ranged from searching for homicide and cold-case victims to retrieving stranded motorists during the Thanksgiving blizzard. Our personnel are well equipped for many of these search operations, utilizing drones, 4-wheelers, side-scan sonar and a fleet of vessels.

Three large, long-term cooperative investigations into the illegal and fraudulent take of fish and wildlife are in the prosecution phase. Investigations have involved state and federal officials, and 21 defendants have pled to fines of more than \$117,000, along with multiple years of probation and permit revocation. In addition to the illegal take of wildlife, many of the cases centered on the illegal commercialization of natural resources. With a number of plea agreements still in process, the case is expected to culminate in 2020.

Helping protect our natural resources and landowner rights is important to the Wildlife Protectors Association (WPA) and the Commission. The two collaborate in implementing the successful Nebraska Wildlife Crime Stoppers Program. The WPA solicits private funds to offer as possible reward monies for information in solving wildlife crimes, which has resulted in more than 1,000 arrests.

North Dakota

**NORTH DAKOTA
STATE REPORT**
June 2020

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Bismarck, ND 58501

Game and Fish to Close Offices to Public Access

North Dakota Game and Fish Department offices will close to public access today at 12 p.m. Central Time, due to coronavirus disease health concerns. This includes the main headquarters and district/lab offices in Bismarck, and district offices in Devils Lake, Dickinson, Jamestown, Harvey, Riverdale and Williston.

Game and Fish offices will remain closed until April 6.

Outdoor recreational facilities, including boat ramps that are accessible on the Missouri River, the department's 229 wildlife management areas, and the pond and nature walk on the outdoor wildlife learning site adjacent to the main office in Bismarck, remain open.

While most Game and Fish staff will work remotely during business hours Monday through Friday, the main telephone line at department offices will be staffed. In addition, district game wardens will conduct daily patrols as regularly scheduled.

For hunter and anglers who are already familiar with Game and Fish, it's most likely business as usual as all hunting and fishing license purchases, boat registrations and lottery applications are conducted online. For others with questions, visit the Game and Fish website at gf.nd.gov, and search the many links and resources available that provide a user-friendly experience.

The moose, elk and bighorn sheep application deadline will remain at March 25. Applicants can apply online, or call 800-406-6409.

For questions, comments or concerns, contact your local Game and Fish office, or email ndgf@nd.gov. In addition, stay connected with Game and Fish by following along on Facebook, Instagram and YouTube.

Game and Fish Offers Up the Outdoors

The North Dakota Game and Fish Department encourages hunters and anglers to make mindful decisions on outdoor activities by following guidelines provided by the Centers for Disease Control and Prevention.

Customer, volunteer and employee well-being is of top priority. Earlier this week, Game and Fish canceled upcoming public gatherings such as the National Archery in the Schools state

tournament. In addition, late-season ice fishing tournaments have canceled events to minimize crowding, and several hunter education classes scheduled to begin in the next few weeks were canceled or postponed.

Students enrolled in any classes scheduled to start in March or April can find information on class status on the Game and Fish website at gf.nd.gov.

With social distancing in mind, the Game and Fish Department encourages hunters and anglers to purchase licenses online, rather than making an in-person visit. The same philosophy applies to watercraft registrations. Contact a local Game and Fish office for assistance with a purchase or registration.

During this time of uncertainty, Game and Fish is offering several suggestions for students and parents to consider while K-12 schools and some businesses are closed due to public health concerns:

- Use free time to take the state's boating safety course. State law requires youth ages 12-15 who want to operate a boat or personal watercraft by themselves with at least a 10 horsepower motor, must pass the boating course. And parents, it's not just for kids. Some insurance companies give adult boat owners who pass the course a discount on boat insurance. The course is available for home study, and there is also an online version.
- New fishing licenses are needed starting April 1. Take care of that important detail online now so you're not scrambling to get that license just prior to your first fishing trip of the open water season.
- 2020 is the first year of the new 3-year boat registration period. If you have a motorized watercraft and haven't renewed yet, register online so you're ready to go when the ice goes off your favorite lake.
- March 25 is the deadline to apply for a moose, elk or bighorn sheep hunting license.

Since it's important to avoid crowds, North Dakota's outdoors is a great place for recreation. You can put a boat on the Missouri River right now, or still get in some ice fishing on lakes where ice is still safe for travel. If you're just looking for some exercise, take a hike on one of the department's 229 wildlife management areas.

Anglers and Social Distancing

With a pleasant weekend in the forecast and a lot of North Dakotans anxious to do something outside, the State Game and Fish Department reminds anglers to practice social distancing, whether it's on shore, from a boat or on the ice.

"We encourage people to get outside and fish and enjoy the outdoors," said Game and Fish Director Terry Steinwand, "but we also need to practice the recommendations for minimizing the risk of spread of the COVID-19 virus."

Especially for anglers at popular shore-fishing locations, Steinwand said a good rule of thumb is that if you can reach out with a fishing rod and touch the person fishing next to you,

you're too close. "In other situations, we urge people to follow the 6-foot separation guideline as well," Steinwand added.

Over the next several weeks, Game and Fish will keep an eye on popular shore-fishing areas to assess the level of activity. "We depend on the public's awareness and willingness to cooperate," Steinwand said, "but we'll be monitoring, and if it appears that the recommendations are not being followed, we might have to consider closing access to those high traffic areas because of the risk involved."

To this point, Game and Fish has not restricted access to its public outdoor facilities such as wildlife management areas and fishing waters, but its office buildings are currently closed to public traffic. "We are continuing to handle phone calls and online traffic," Steinwand said, "so anyone who needs help or has questions can call or email us."

Online Hunter Education Certification

The North Dakota Game and Fish Department is offering an online hunter education course for students who will turn at least age 12 on or before Dec. 31, 2020.

Education supervisor Marty Egeland said with most in-person hunter education classes canceled this spring due to the coronavirus pandemic, Game and Fish needed to find a way to get students certified for hunter education this year. "And with most classes held before the deer application deadline, we had to adjust the way we administer our classes," Egeland said.

The online course is available to students who were already enrolled in classes that were canceled, and also to qualifying students who were not previously enrolled in a class. A 25% discount is being offered for taking the online course.

Students who were already enrolled in a 2020 class that was canceled do not have to register with Game and Fish again. They will automatically receive an email with instructions to start the online course.

Prospective students who had not previously registered, can sign up through the Game and Fish website, gf.nd.gov. After signing up for the class, the student will receive an email with further relevant information and instructions. The online portion of the class must be completed within two weeks of the class closing.

For both pre-registered and new students, when the online hunter education course and an accompanying virtual field day are completed, a temporary hunter education number will be provided, which will allow lottery applications and license purchases in 2020.

Each student will then have until Dec. 31, 2020 to attend one in-person class session, to take the official North Dakota Game and Fish Department hunter education written and practical exams. If this is not completed by the end of the year, the temporary hunter education number will expire and the student will have to retake the course in the future.

Game and Fish will notify students when dates and locations are established for these final class sessions.

Another option for anyone who wants to hunt in North Dakota in 2020, is a one-time exemption called an apprentice license. Individuals who are at least age 12 by the end of the calendar year, and who have not previously had an apprentice license, can apply for one and use that to purchase 2020 licenses without a hunter education number. An apprentice license holder must then complete the official hunter education course before being able to purchase hunting licenses in future years.

Paddlefish Snagging Harvest Season Canceled

The North Dakota 2020-22 fishing proclamation has been amended and the state Game and Fish Department is canceling the upcoming paddlefish snagging harvest season due to the coronavirus pandemic.

However, the amendment does allow for the possibility of a one-week snag-and-release season May 15-21, which is two weeks later than the normal opening day.

Fisheries chief Greg Power said safety of snaggers, caviar processors and data collection staff are a major concern.

“Paddlefish snaggers concentrate in large numbers in a small area, and often participate in snagging while shoulder to shoulder,” Power said. “There is no realistic way to maintain proper separation.”

Paddlefish Snag-and-Release Season Open May 15-21

A one-week paddlefish snag-and-release season will be open May 15-21 for anglers who hold a valid fishing license, the North Dakota Game and Fish Department announced today. However, if conditions warrant, Game and Fish may close the season with a 24-hour notice.

Game and Fish announced April 3 that the annual paddlefish snagging harvest season, which was scheduled to open May 1, was canceled due to the coronavirus pandemic. However, the agency held open the possibility of a snag-and-release season in mid-May.

Fisheries chief Greg Power said with the state transitioning to North Dakota Smart Restart, snaggers should have an opportunity to participate in a snag-and-release season.

“Past history has shown that considerably fewer snaggers will participate, but this one-week season provides an opportunity for the avid snaggers,” Power said.

As with all outdoor activities, Power said it is still important to follow physical distancing guidelines.

“We will have signs in place at popular snagging areas, but obviously a lot falls on the individual to be smart and considerate,” Power said.

Fishing Tournament Permits Revoked

The North Dakota Game and Fish Department has revoked all fishing tournaments for April and May due to the ongoing coronavirus pandemic.

Tournament sponsors were notified of possible rescheduling options if conditions, including public safety and open calendar days, present itself.

In addition, organizers of other permitted North Dakota fishing tournaments scheduled June through October are advised of the possibility of having their permit revoked if the COVID-19 conditions persist.

Deer Season Set

North Dakota's 2020 deer season is set, with 69,050 licenses available to hunters, 3,550 more than last year.

As stated in the 2020-21 chronic wasting disease proclamation, hunters harvesting a deer in units 3A1, 3B1, 3F2, 4B and 4C cannot transport the whole carcass outside of the unit, with the exception that hunters can transport the whole deer carcass between adjoining CWD carcass restricted units.

Also in the CWD proclamation, it is unlawful for an individual to hunt big game over bait, or place bait to attract big game for the purpose of hunting, in deer hunting units 3A1, 3A2, 3A3 north of U.S. Highway 2, 3B1, 3C west of the Missouri River, 3E1, 3E2, 3F1, 3F2, 4A, 4B and 4C.

Spring Mule Deer Survey

The North Dakota Game and Fish Department completed its annual spring mule deer survey in April, and results indicate western North Dakota's mule deer population is up 7% from last year and 22% above the long-term average.

Biologists counted 2,364 mule deer in 267.3 square miles during this year's survey. Overall mule deer density in the badlands was 8.8 deer per square mile.

Deer Test Positive for CWD

Eight deer taken during the 2019 North Dakota deer gun season tested positive for chronic wasting disease, according to Dr. Charlie Bahnson, wildlife veterinarian for the North Dakota Game and Fish Department.

All were antlered deer taken from areas previously known to have CWD – six from unit 3F2 and two from 3A1. Bahnson said six of the eight were mule deer, with two whitetails from unit 3F2. CWD was not detected in any deer harvested in the eastern portion of the state where hunter-harvested surveillance was conducted last fall. In addition, no elk or moose tested positive.

Bahnson said the eight positive deer put the total at 11 detected since Sept 1. As previously reported, two mule deer taken in September tested positive for CWD – one was harvested during the archery season from deer gun unit 4B and one during the youth season in

unit 3A1. CWD was also detected in a white-tailed deer from unit 3F2 that was euthanized in December following a report from the public that it appeared sick and was displaying erratic behavior.

2019 Deer Season Summarized

A total of 57,949 North Dakota deer hunters took approximately 37,250 deer during the 2019 deer gun hunting season, according to a post-season survey conducted by the state Game and Fish Department.

Game and Fish made available 65,500 deer gun licenses last year. Overall hunter success was 64 percent, with each hunter spending an average of 4.3 days in the field.

Hunter success for antlered white-tailed deer was 64 percent, and antlerless whitetail was 58 percent.

Mule deer buck success was 78 percent, and antlerless mule deer was 79 percent.

Hunters with any-antlered or any-antlerless licenses generally harvest white-tailed deer, as these licenses are predominantly in units with mostly whitetails. Buck hunters had a success rate of 68 percent, while doe hunters had a success rate of 65 percent.

Game and Fish issued 11,981 gratis licenses in 2019, and 9,767 hunters harvested 5,416 deer, for a success rate of 56 percent.

A total of 1,206 muzzleloader licenses were issued in 2019, and 1,040 hunters harvested 426 white-tailed deer (222 antlered, 204 antlerless). Hunter success was 41 percent.

A total of 27,582 archery licenses (24,902 resident, 2,680 nonresident) were issued in 2019. In total, 21,960 bow hunters harvested 8,978 deer (7,988 whitetails, 990 mule deer), for a success rate of 41 percent.

2019 Bighorn Sheep, Moose and Elk Harvests

Harvest statistics released by the North Dakota Game and Fish Department show overall hunter success during the 2019 season for bighorn sheep was 100 percent, 87 percent for moose and 62 percent for elk.

The department issued four bighorn sheep licenses and auctioned one. All five hunters harvested a bighorn ram.

Game and Fish issued 475 moose licenses last year. Of that total, 449 hunters harvested 389 animals – 154 bulls and 235 cows/calves.

The department issued 487 elk licenses last year. Of that total, 449 hunters harvested 279 elk – 155 bulls and 124 cows/calves.

Ohio

OHIO
STATE REPORT
May 1, 2020

Kendra S. Wecker, Chief
Ohio Division of Wildlife
2045 Morse Rd., Bldg. G
Columbus, OH 43229

STEWARDSHIP

STEWARDSHIP ACCOMPLISHMENTS FOR 2019

- Provided technical assistance and proposed H2Ohio incentives to implement Farm Bill conservation programs on private lands that improve water quality, reduce soil erosion, and provide quality wildlife habitat. Program assistance was emphasized in the Lake Erie watershed and the Scioto River Watershed Conservation Reserve Enhancement Program.
- As a result of constituent input from the 2019 gamebird summit, the Ohio Wildlife Council received proposed quail and grouse hunting restrictions for the 2020 season to help protect declining populations of these important gamebirds.
- Reduced ecosystem threats of invasive species such as grass carp, bighead carp, and silver carp with the help of partners. Fisheries crews removed 171 adult grass carp from the Ohio waters of Lake Erie as part of a regional adaptive response strategy.
- Worked with partners to restore species such as lake sturgeon in the Maumee River, eastern hellbenders in four sites in eastern Ohio, and helped preserve the Allegheny woodrat in Adams County.

STEWARDSHIP INITIATIVES FOR 2020

- Cooperate with partners to identify and restore wetlands on both public and private lands in Lake Erie's western basin as part of Governor's H2Ohio initiative to reduce nutrient runoff in Lake Erie and Ohio's waterways. Staff will continue to provide expertise and recommendations to benefit people and wildlife.
- Conduct landscape-scale habitat assessments to determine feasibility of reintroducing some wildlife species (loggerhead shrike, fisher, Allegheny woodrat) or restoring others (ruffed grouse, bobwhite quail, gray fox, butterflies, American burying beetle, lake sturgeon, and eastern hellbender) in Ohio.
- Develop a habitat management policy for staff to assess and prescribe appropriate management techniques for grasslands, wetlands, and forestlands on wildlife areas. Steps include completing habitat inventories on wildlife areas, identifying focal wildlife species for management, setting measurable expectations for management by habitat type, and ensuring field staff have the appropriate hardware and software to access habitat inventories.
- Close the connection between the Ohio River and Lake Erie watersheds at the Ohio-Erie Canal and Long Lake (Portage Lakes) by May 2020 to reduce risk of bighead carp and silver carp from entering Lake Erie.
- Remove the Six-mile Dam on the Walhonding River, east of Warsaw during fall of 2020 through a partnership with the U.S. Fish and Wildlife Service. This will restore natural river

conditions and improve habitat for federally endangered sheepshead, rabbitsfoot, snuffbox, catspaw, and clubshell mussels.

- Knox Lake Dam, a Class I structure in Knox County, is being renovated in 2020. This work will bring this dam into compliance with safety standards so that the lake can continue to provide quality fishing opportunities into the future.

OPPORTUNITIES

OPPORTUNITIES ACCOMPLISHMENTS FOR 2019

- Increased hunting, fishing and trapping access and opportunities through the acquisition of 800-acre Andreoff Wildlife Area in Hardin County, 4,213 acres of ReCreation Lands in Morgan and Muskingum counties, and 476 additional acres at Eagle Creek Wildlife Area in Brown County. Partnered with Trout Unlimited to acquire property to access the Mad River in Champaign County, and completed the Darr-Root boat ramp on the Sandusky River in Fremont.
- The purchase agreement with AEP was signed allowing for the acquisition of 31,000± acres in Morgan, Guernsey, Noble and Muskingum Counties to be transferred quarterly beginning March 30, 2020 and providing for the option to purchase the remaining acres known as the ReCreation Lands.
- The restoration of the wetlands at Howard Marsh Metropark resulted in state and national recognition. The publicity from this recognition helped contribute to an increased user base and visitation to participate in birding, hiking, kayaking, and controlled waterfowl hunting opportunities.
- Building on walleye hatch success from previous years, strong reproduction of walleye in 2019 allowed for the increase of daily limits of walleye throughout the year to 6 fish in all waters of Lake Erie, except the Sandusky River and Bay. In this specific location, the limit is 4 fish per day during March and April to promote recovery of fish spawning in the habitats newly available following recent removal of the Ballville Dam. It is estimated that the adult walleye population is around 120 million fish.
- Anglers fishing Lake Erie and the Eastern and Western Units of the Ohio River are now allowed a maximum of three rods per angler, rather than two, which still applies statewide. These changes ease restrictions on specialized anglers.
- Customers can now automatically renew their hunting and fishing licenses. In addition, annual fishing licenses are now valid one year from the date of purchase, instead of the traditional February end date.

OPPORTUNITIES INITIATIVES FOR 2020

- Expand private land hunting access in locations with a lack of public hunting areas. To further this effort, a \$1.8 million grant proposal was submitted and award from the U.S. Department of Agriculture to secure future incentives.
- The 1st transfer of 6,657 acres of AEP lands will occur March 30, 2020.
- Identify approaches to increase visitation and make our wildlife areas more user friendly to the general public. This will include conducting a survey of wildlife area users to gather information about their perceptions on how wildlife areas are currently managed and the purpose for which future management should occur.

- Multiple boat ramp projects are being planned on the Scioto River at South Bloomfield and Elmon Richards. Other planned improvements will occur at Zepernick Lake in Columbiana County, Griggs Reservoir in Columbus, as well as Fox Lake in Athens County. Courtesy docks are planned at Tycoon and Rupert lakes.
- Develop a shooting range access grant to provide opportunities near urbanized centers in Ohio.
- Implement human dimensions studies to understand societal trends and apply findings to increasing relevancy of wildlife conservation among a broader constituency

CONNECTIONS

CONNECTIONS ACCOMPLISHMENTS FOR 2019

- Developed and implemented a permitting process to allow bat exclusion during the restricted period (May 16 – July 31) in cases where human health and safety may be compromised.
- Hosted open houses at all six state fish hatcheries. Also performed hatchery tours for clubs, students, and legislators where staff explained fish production, fisheries management, and demonstrated equipment. Opportunities for youth archery, casting, and other outdoor skills were available at these events.
- Engaged with neighboring jurisdictions and partners to refine yellow perch harvest policies and extend the Walleye Management Plan an additional five years. Lake Erie’s yellow perch and walleye fisheries are certified as sustainable by the Marine Stewardship Council.
- Free range days at Wildlife’s Class A, B and C shooting ranges allowed visitors to gain hands-on experience with firearms at no charge from certified instructors at one of five ranges. Staff offered on-site instruction and provided equipment, ammunition, as well as ear and eye protection free of charge.
- The wild game “mobile kitchen” made its debut at the Governor’s Fall Fish Ohio event and was scheduled at special events around the state to demonstrate cooking techniques and provide samples of delicious wild game recipes.

CONNECTIONS INITIATIVES FOR 2020

- Review and update website content associated with human-wildlife coexistence, and create a wildlife co-existence guidebook for the public that describes management techniques for handling typical wildlife interactions.
- Develop an application to schedule fishing tournaments and report tournament results to help biologists and anglers follow fishing trends and minimize user conflicts.
- Increase participation in Wild Ohio Harvest Community events and experiences, as well as evaluate educational programming.
- Implement strategic marketing and communications efforts with the goal of increasing relevancy of wildlife conservation among a broader constituency.
- Remodel the Migratory Bird Center to provide better connections to the birding community.
- A Birding Academy was developed to teach staff about birding behaviors and identification along with bird-habitat relationships that will help staff to engage birders and be more comfortable working with a broader constituency.

TRADITIONS

TRADITIONS ACCOMPLISHMENTS FOR 2019

- Collaborated with volunteer instructors to educate more than 8,000 students about knowledge, skills, and attitudes to be safe and skilled hunters. These volunteers contribute thousands of hours of in-kind labor while helping to preserve our sporting traditions.
- Organized events to introduce participants to various aspects of hunting, from field dressing to cooking and canning techniques, to help them gain knowledge on how to pursue hunting as a lifelong activity.
- Hosted three Governor's Fish Ohio Days, including the 40th Governor's Fish Ohio Day in the western basin of Lake Erie, the inaugural Inland Governor's Fish Ohio at Cowan Lake, and a second Governor's Fall Fish Ohio Day in Ashtabula County, featuring Lake Erie's Central basin.

TRADITIONS INITIATIVES FOR 2020

- Identify gaps in access to recreational opportunities and identify cost solutions which might include acquisitions or partnership projects.
- Opening two Class A ranges with education centers at Spring Valley and Delaware wildlife areas during the summer of 2020.
- Develop a mobile app to further work with partner organizations to improve availability of information about wildlife recreation education, events and experiences to the public.
- Implement a new event management system and email marketing system tied to wildlife education events and experiences to improve outreach. Develop strategic marketing and communications plans for initiatives that are tied to direction of the national Relevancy Roadmap, aimed at increasing relevancy of wildlife conservation among a broader constituency.

EXCELLENCE

EXCELLENCE ACCOMPLISHMENTS FOR 2019

- Hosted regional meetings including the Midwest Fish and Wildlife Conference and the Midwest Association of Fish and Wildlife Agencies director's meeting.
- Renovations were completed at the St. Marys State Fish Hatchery to add production wells and iron filters, modify a holding house, and upgrade biosecurity to reduce the risk of transferring invasive species between the Ohio and Lake Erie watersheds.
- Improved process efficiency with the development of an online grant application and performance reporting for conservation clubs and streamlined the disabled veteran application process.

EXCELLENCE INITIATIVES FOR 2020

- Complete peace officer basic training for 12 wildlife officer cadets. Conduct and administer the wildlife officer pre-service training academy, manage and document the completion of the field officer training program.
- Host the Association of Midwest Fish and Game Law Enforcement Officers meeting and the U.S. Fish and Wildlife Service Great Lakes Region, Federal Aid Conference.

- Launch a redesigned and updated website on the new Innovate Ohio Platform. The design and usability of the new website will better meet the needs of Ohioans.
- Revise and update the Comprehensive Management System manual and tactical plans (2021-2030) to direct long-term planning and prioritizing of projects and budgeting.

South Dakota

**SOUTH DAKOTA
STATE REPORT
2020**

**Kelly Hepler, Secretary
South Dakota Game, Fish and Parks
523 East Capitol Avenue
Pierre, SD 57501**

Covid-19 Responses and Impacts: Law Enforcement Program – As with many law enforcement agencies across the country, SD Game, Fish and Parks (GFP) conservation officers and park rangers have also been challenged to effectively conduct compliance checks and other routine law enforcement public contacts while adhering to CDC guidance during the COVID-19 pandemic. Our Agency's initial COVID-19 response efforts were to ensure all law enforcement staff had access to personal protective equipment (PPE) and to direct these staff to limit their 'general patrol' activities in early March 2020. By late-March, law enforcement staff were directed to resume regular patrol activities and to effectively 'social distance' during their contacts. Staff were also encouraged to use sound judgement while approaching various law enforcement situations in order to protect their health and that of the public. Officers were discouraged from riding 'tandem' in vehicles to reduce potential exposure to the COVID-19 virus and several changes were made to field training program protocols for these same reasons. Some scheduled annual and semi-annual law enforcement training in firearms, defensive tactics and law enforcement scenarios were rescheduled to late spring and then modified to ensure staff safety. Due to the impact of the pandemic, members of the public continue to exhibit a strong desire to 'get outdoors', so fishing license sales and campground reservations have increased substantially this spring.

Covid-19 Responses and Impacts: Habitat Program – Initial responses to the COVID-19 pandemic had all staff working remotely and only able to complete electronic tasks. The timing of this meant habitat staff lost 1-2 weeks of prep and field time which put them behind schedule. After making allowances for staff to conduct limited field work most crews were able to catch up on priority projects. However, some direct impacts listed below included:

- the cancellation of prescribed fires on nearly 6,000 acres of public property; much of the prep work for these burns had already been completed and will need to be started over if they are to be done next year
- a large reduction in temporary staff which will reduce capabilities over the summer, particularly in noxious weed control
- a reduction in the number and potential quality of food plots on public land
- the cancellation of grassland restoration projects that were scheduled for completion after prescribed fires
- the cancellation of education projects with local schools and youth groups, including "Pollinator Days" and other cooperative projects

Staff have found innovative ways to work with private landowners to deliver seed, sign contracts, and complete other private lands projects.

Covid-19 Responses and Impacts: Fisheries Program – The department response to COVID-19 began on March 13, 2020. Because most fisheries field work involves two or more people working in close proximity, fisheries field work and hatchery stockings were suspended at that time. In late March, fish spawning activities for walleye and yellow perch were canceled for the year. Stocking of trout from GFP hatcheries had to resume, on a limited basis, due to loading concerns and fish mortalities beginning to occur. General field work and stocking activities have since resumed for activities where social distancing and PPE can be utilized to conform with work directives. The biggest impacts to fisheries management related to COVID-19 is the lack of walleye and yellow perch stockings this year and reduced trap-and-transfer stockings to support urban fisheries. However, high water conditions and stable weather set the stage for successful natural production and many fish populations were in good shape in 2019, so impacts to fishery quality should be minimal. In-person creel surveys were canceled though some fishing pressure information will be gathered remotely. Watercraft inspection and decontamination stations will be operated using modified protocols for public interaction and use of PPE.

Covid-19 Responses and Impacts: Wildlife Damage Management Program – With the arrival of COVID-19 in early March, wildlife damage specialist field staff were advised to continue providing these focused services to producers while being mindful of social distancing requirements during the early stages of the pandemic. Because these staff normally work alone and have limited daily public contact, staff were well able to continue their focus on predator control activities despite the COVID-19 pandemic. Historic high-water levels across much of the state have also caused an increase in beaver damage complaints and we expect high water will again require staff to address soybean producer damage caused by a healthy resident Canada goose population. Although ongoing budget challenges have somewhat limited our ability to hire seasonal and intern staff across our agency, the wildlife damage program was authorized to fill at least a portion of the seasonal and intern staff positions necessary to meet our needs to assist producers.

Covid-19 Responses and Impacts: Education Program – All in-person education programs have been postponed until further notice. To continue to meet the needs of community outreach and education, Parks and Wildlife staff have shifted their programming to digital formats.

- Social media “how to” videos, online printable conservation lesson plans, and video conferencing interviews and presentations have been the primary focus of education efforts for the months of April and May.
- State parks have remained open and have offered many self-guided activities for visitors including scavenger hunts, fitness challenges, and virtual park tours for those still at home.
- The field day requirement has been waived for all HuntSAFE students at this time, allowing individuals ages 12+ to become HuntSAFE certified using the all-online course alone. The online class fee has been waived until in-person classes can be scheduled again.

Education staff are currently engaged in discussions for how to potentially hold in person classes in the future while maintaining social distance and taking appropriate precautions to prevent the spread of COVID-19.

Covid-19 Response and Impacts: Parks - State parks and recreation areas were able to stay open during most of the pandemic. Operations were closed for roughly two weeks in March, but fortunately very little activity takes place at this time. Operations resumed shortly after April 1, with camping and cabin rentals available to the public. Comfort stations and fish cleaning stations remained winterized through mid-May but were brought online for Open House Weekend on May 15. Visitor numbers have been extremely strong through April and May, and park entrance licenses were reinstated on May 18 after a grace period was implemented mid-March. Reservations appear to be strong through July, and we are looking forward to providing a safe outdoor opportunity for our customers.

Habitat Stamp – During the 2020 legislative session a bill was passed and signed by Governor Noem that requires a person eighteen years of age or older to purchase a habitat stamp when applying for or purchasing a hunting, trapping or fishing license in South Dakota. The fee for the habitat stamp was set at ten dollars for residents and twenty-five dollars for nonresidents. Exemptions to purchase a habitat stamp were made for the one-day hunting or fishing license, youth hunting licenses, private shooting preserve license, hunt for habitat application fee, and landowner own-land hunting license. All revenue collected from the sale of the habitat stamp must be used for enhancing terrestrial habitat on public lands, providing additional public access to private lands and aquatic habitat enhancements on public waters. Fees collected from persons who only purchase fishing licenses shall be used solely for aquatic habitat and access projects in public waters and fees collected from persons who only purchase hunting or trapping licenses shall be used solely for terrestrial habitat and public access programs. Fees collected from persons that purchase privileges to fish and hunt, or trap must be split equally for aquatic and terrestrial habitat. The legislation also stated that proceeds from the habitat stamp fee collected may not be used to purchase property in fee title. Revenue projections from the new fee should exceed 5 million dollars.

R3 Plan: Participation and Commission involvement – Through monthly meetings of the GFP R3 Work Group, comprised of department staff and members of the GFP Commission, the department has developed the framework for a state R3 plan. The work group considered hunting license data, the R3 achievements of the previous Education Plan, identified current and future needs of the department, and involved all sections of staff for input and suggestions for ways to improve the efficacy of department R3 strategies. The plan includes action items for recruitment, retention, and reactivation in the areas of hunting, shooting sports, aquatic education, conservation, and outdoor skills development. Once finalized and adopted by the commission, the R3 Work Group hopes to host partner summits to discuss how South Dakota can move forward with R3 efforts as a collective whole. Several initiatives are occurring parallel to the development of the R3 Plan and are resulting in greater R3 momentum in the state. The development of a pheasant hunting strategic marketing plan in partnership with SD Department of Tourism, and the potential adoption of the “3-Splash” 2-tiered waterfowl license option have the potential to dramatically increase participation in small game and waterfowl hunting opportunities in the state of South Dakota over the next 3-5 years.

Watertown Shooting Range – In 2019, GFP partnered with the city of Watertown to help build a public gun range. The partnership and agreement were unique in that the GFP not only helped with engineering resources, staff expertise and Pittman Robertson matching dollars, but were also able to work out an operational plan that placed the gun range in the city limits. The gun

range is free to the public and is open on a weekly basis- no easy feat for a town of 25,000 people. The range offers (2) pistol bays that allow (6) shooters per bay, (2) 100 yard bays that allow (10) shooters per bay, (2) 50 yard benches with the 100 yard bay, (1) 200 yard bay that allows (5) shooters and (1) 300 yard bay that allows (5) shooters. There is also a restroom provided along with benches, concrete walkways and each bay has a covering for shooters a dry shooting bench during periods of rain, snow and shade during sunny hot days. The response and participation from the public has been a resounding stream of positive feedback. It is not uncommon for shooters having to wait during peak times of the year as all the bays are full up with shooters. The city has been excellent to work with, they have taken ownership of the range as well as all daily operations.

2019 Walk-In Area Program for Hunter Access – Over 35,000 acres of private land not previously open to public hunting were added, bringing the total acres enrolled statewide in the Walk-In Area (WIA) program to 1.27 million acres providing public hunting access by 1,474 cooperators. GFP also leased private land for public hunting access through our Controlled Hunting Access Program (CHAP) which provides additional flexibility for the landowner and more control of the number of hunters using the area. Sixteen CHAP areas totaling 26,666 acres were enrolled statewide and provided 1489 hunters days of use.

Effort to Gain Access to Landlocked Parcels of Public Hunting Lands – There are just over 300,000 acres of landlocked public lands in South Dakota, primarily in the western half of the state. The Department's goal is to open or improve access to 50,000 acres of previously inaccessible public lands by 2020. As of May 2020, we've finalized agreements with 19 new private land cooperators signing a total of 27,730 acres of new Walk-In Access Areas which have unlocked 24,714 acres of formerly inaccessible public land parcels. In addition, discussions were initiated with the other public land management agencies affected (Office of SD School & Public Lands, US Bureau of Land Management, and the US Forest Service) towards achieving this shared goal of gaining public access to landlocked public lands. We have also gained support from the major conservation NGOs in South Dakota to potentially pool resources and work on any cooperative projects in the future where their help would be beneficial.

Waterfowl regulation experiment in the Central Flyway (3 Splash daily bag limit) – Current duck regulations are designed to maximize harvest potential and necessitate a complex system of species-specific regulations. Many experienced hunters support this approach but present a challenge for inexperienced hunters to comply with. The ability to identify ducks on the wing has been identified as a potential barrier to duck hunter recruitment, retention, and reactivation (R3). A regulatory system where all available duck hunting opportunity is afforded to those individuals that desire it but complemented by a less complex regulatory system that increases participation, would be ideal in meeting these dual objectives. A two-tier regulation system, where hunters indicate their preference for either maximum opportunity or easier regulations may provide a solution. Working cooperatively with the all flyways and the USFWS, a study design and evaluation plan has been developed and approved by the Service Regulations Committee (SRC). Beginning in the 2021-2022 duck hunting season South Dakota and Nebraska will implement and evaluate a pilot two-tier system of duck hunting regulations for a minimum of four years. In this system, duck hunters will register themselves under one of two different regulatory options, where one tier (Tier I) of hunters is afforded maximum hunting opportunity (i.e., current daily

bag limits with all species-specific daily bag restrictions) while the other tier (Tier II) is afforded simplified regulations (i.e. 3 splash daily bag limit).

External Review of WDM/ADC Programs – During Governor Noem’s campaign, constituents raised concerns over current programs and services as well as efficacy of program operations. These programs aid South Dakota landowners and producers with all types of wildlife damage and predator control needs. As a result, Governor Noem initiated an external review of GFP’s WDM/ADC program, which the Wildlife Management Institute completed in December 2019. At the conclusion of the review, WMI found that GFP provided some great services but needed to make some adjustments to make these services function better and engage stakeholders to help define clear, measurable program objectives. GFP created a work plan to initiate several immediate changes as well as developed several items that would take several months to complete. In February, GFP started providing a stronger focus on predator control activities which included enhancements in aerial predator control operations, new equipment for staff (thermal scopes and scanners), a pre-approved over-time package, additional staff, and separated some work duties for wildlife damage specialists. GFP will also develop an annual customer satisfaction survey to measure overall program success. Lastly, GFP is in the process of holding several statewide public forums to solicit feedback from producers, landowners and other stakeholders to help develop clear program objectives and ways to measure success of programs. These meetings have been delayed due to COVID-19 precautions.

Pheasant Population Status & Harvest – During the 2019–2020 pheasant hunting season, 47,403 resident and 63,801 non-resident hunters harvested an estimated 830,000 rooster pheasants. Total pheasant hunters decreased by 9.3% while total harvest decreased 13% from the previous year. The decline in hunters and harvest was expected given the 17% drop in the pre-season pheasant population index. Harvest averaged 1,285,000 during the previous ten years. Long term declines in hunters and harvest remains a concern.

CWD Status and Action Plan Implementation – Enhanced surveillance efforts from the 2019 deer and elk hunting seasons detected chronic wasting disease (CWD) in eight additional counties. CWD is now confirmed within Bennett, Butte, Corson, Custer, Fall River, Haakon, Harding, Jackson, Meade, Lawrence, Pennington and Tripp counties, all west of the Missouri River. Test results received on 1,956 samples indicate 57 white-tailed deer, 14 mule deer, and 18 elk were CWD positive. As a result, new priority areas will be targeted for surveillance for the 2020 hunting seasons. In addition, the GFP Commission has created regulations for the transportation and disposal of deer and elk carcasses from other states and from hunting units within South Dakota's known CWD endemic areas. The new regulations will go into effect for the 2020 hunting seasons. Additional information on CWD can be found at <https://gfp.sd.gov/wildlife-disease/>.

Hunt Safe in Schools – In order to increase HuntSAFE instructor recruitment and to meet the need for Hunter Education certification for students who currently struggle to make it to in-person classes, GFP developed the HuntSAFE in the Schools curriculum. Teachers can be trained as HuntSAFE instructors and offer the curriculum to students as part of their physical education or agricultural studies curriculum. HuntSAFE in the Schools is aligned with public school education standards and provides an excellent experiential education opportunity to learn safe firearm practices for students who are interested in hunting or may come across firearms in

the home or in a friend's home. No functional guns are used in the course and all materials are provided by GFP. After running the pilot program in 7 schools during the 2018-2019 school year and through community outreach directly to schools and school administrators, GFP has received great interest in the program. To date 40 teachers and 10 scholastic shooting sports coaches have been certified to teach HuntSAFE in the Schools, with many more interested teachers and coaches waiting to be trained. Those existing instructors have certified 281 students. To continue to grow the program GFP will be working directly with Department of Education to broadly advertise the instructor training opportunity and gain school district support for the program. Additionally, GFP will offer a summer Teacher Academy where teachers can participate in a free 1-stop-shop training in all programs GFP offers including: HuntSAFE in the Schools, National Archery in the Schools Program (NASP), Project Wild, and FISH SD.

Nest Predator Bounty Program – As part of Governor Noem's Second Century Initiative, GFP implemented the Nest Predator Bounty Program, again for 2020. The initial program was conducted in 2019, where more than 3,000 participants removed over 54,000 nest predators (at \$10 per tail), primarily in eastern South Dakota. This initial program ran from April 1 to August 12, 2019. The 2020 program offers a \$5 bounty for the tails of five primary nest predators (raccoon, striped skunk, opossum, red fox and badger) that are submitted at GFP offices. While the focus of this program is to enhance duck and pheasant nest survival by utilizing predator control (a management tool that has been used for decades in South Dakota), the program is also about engaging youth and others in the outdoors. Participants can learn about predators, trapping, obtaining landowner permission, habitat and how all the different components work together across the landscape. In the end, this program is building broader support for habitat and outdoor recreation by people across South Dakota and from a broader group of people than our traditional users. A 2019 survey conducted by Responsive Management, found that 82% of South Dakota residents supported the program. As of May 18, 2020, approximately \$43,000 has been paid out in bounty payments. The 2020 program runs from April 1 through July 1, or if a \$250,000 cap is reached.

ETHICS SD- Furbearer and Trapping Education - ETHICS SD is a comprehensive furbearer education program that is the result of collaboration between GFP, 4-H, the South Dakota Trappers Association, and the Western South Dakota Fur Harvesters. There are six 4-H clubs from around the state who participated in ETHICS SD as a pilot program from October 2019-April 2020. Classes met at least once a month to allow for students to harvest fur during prime fur season. The ETHICS acronym stands for Ecology, Trapping, History, Identification, Conservation, and Stewardship, which are all knowledge and skills emphasized throughout the class, along with the incredible sense of responsibility placed on trappers to ethically and humanely harvest wildlife. Once furs are harvested, students learn skills in fleshing, stretching, salting and drying furs to compete for \$1,000 in scholarships at next spring's South Dakota Trapper's Association youth division fur competition. Each 4-H group has approximately 10 student participants (ages 10-18), one 4-H advisor for classroom management and student development, and at least one trapping expert to assist with the class content. Parental and volunteer involvement has been key to the success of the program. The ETHICS SD program will be increasing in size to allow for twice the number of participants in 2020-2021.

Addition of Spring Creek and Roy Lake Resorts - Spring Creek and Roy Lake resorts have been long standing concession opportunities offered by the Department. Over the last several

years, both leases expired and prospectuses were offered. Neither opportunity generated interest at the appraised value and the department worked to negotiate a selling price for the possessory interest of each concession. The department took possession of the areas in early spring and began needed maintenance of the facilities, including the marina at Spring Creek. The marina was opened to boats on May 1 with occupancy at nearly 90%. In addition to the cabins and marina, Spring Creek provides the opportunity for a restaurant. After several prospectus offerings, a local entrepreneur expressed interest in operating the restaurant and a lease was negotiated. The business was able to open on Memorial weekend with positive reviews from customers. The opportunity to purchase the possessory interest in these two concessions provides the department with solutions to some less than desirable business situations. The department now has possession of the buildings that sit on state owned property and have the flexibility to create more reasonable public/private business opportunities.

Palisades State Park Expansion - Palisades is a small, 167-acre park located about 25 miles northeast of Sioux Falls near Garretson. Over 90,000 visitors each year are drawn to the park's quartzite rock formations along Split Rock Creek. The campground has more than a 98 percent occupancy rating and trails have seen an increasing number of users. With the increasing growth of the Sioux Falls metro area, these numbers are sure to keep growing as well. In the fall of 2018, the South Dakota Parks and Wildlife Foundation (SDPWF) purchased and donated 267.5 acres of adjoining property to Palisades State Park. This more than doubles the current acreage of the park, bringing the new total to 434.5 acres. Development of the property will follow a phased planning approach over the course of five years, with an estimated cost of \$8.3 million. Governor Noem and the Legislature have committed \$500,000 for development and habitat on the new land. The SDPWF has agreed to raise \$1.6 million in private funds to match the Governor's commitment. Beginning in 2020, portions of the new property will be planted into native grasses, pollinator plots and shelterbelts. Construction of the future entrance and campground road system is planned to begin in the fall of 2020 with the final construction anticipated in spring of 2025.

2019 Flooding Impacts - South Dakota Parks continue to deal with the ramifications of flooding events experienced in 2019. The impacts of these floods, and the subsequent financial burden created, will likely be felt over the next decade. The latest estimate submitted to FEMA identifies almost \$14 million in flood damage. This includes damage to dams, bridges, campgrounds and roads. GFP is still working through the FEMA process in hopes of identifying some funding to help with these repairs. Absent FEMA funding, the cost must be borne by license dollars and other federal funding sources. Governor Noem submitted a bill in the most recent legislative session that allows state reserve funds to be loaned to governmental entities for flood projects. Any FEMA dollars provided for these projects will go to offset the loan, with the balance being paid over a seven-year period at low interest. This creative funding program will allow projects to be completed in a timely manner while relieving the burden of funding these projects strictly with dedicated dollars. This process also allows scheduled preventative maintenance to continue by not requiring maintenance dollars to be allocated to flood repair efforts.

Wisconsin



Wisconsin Department of Natural Resources 2020 State Report *June, 2020*

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BUREAU OF WILDLIFE MANAGEMENT

Wisconsin Elk Translocation and Management

In March 2019, DNR translocated 48 adult elk from Kentucky to a pen in northern Wisconsin where they receive 24-hour monitoring during the required quarantine period. During the spring, pregnant cows gave birth to calves, growing the number of elk in the pen to more than 60 animals. The release of 60 translocated elk in summer 2019 concluded the fourth and final year of Wisconsin's elk translocation efforts. This is also the second year that elk have been released into the Clam Lake elk range since their initial reintroduction in 1995. Following two years of translocation efforts in Jackson County, focus shifted back to the original northern herd that resides in Ashland, Bayfield, Price, Rusk and Sawyer counties and originated from 25 Michigan elk.

The Kentucky Department of Fish and Wildlife Resources, Rocky Mountain Elk Foundation, Ho-Chunk Nation, Great Lakes Indian Fish and Wildlife Commission, Jackson County Wildlife Fund, Flambeau River State Forest, U.S. Forest Service, Jackson County Forestry and Park, and several others provided funding and other support for the project.

In fall 2020, Wisconsin will hold the third managed elk hunt in state history with 10 elk tags available, 5 for tribal members, 5 for non-tribal members.

Deer Management

The deer season structure in 2019 was similar to that of the previous year, and the early archery and crossbow seasons saw an increase in registration compared to 2018. The ideal hunting conditions of the 2018 November gun season (earliest possible opener, statewide snow cover, cool temperatures, high corn harvest) were not present during this year's nine-day season, which impacted final registration figures. Going from the earliest to the latest possible opener was likely the most significant factor in decreased registration totals. Looking at this trend over time shows that the earliest/latest scenario routinely causes a 15-25 percent reduction in the gun buck harvest from one year to the next. In addition, a significant amount of corn (over 2 million acres) was still standing when the season opened, offering deer more cover than normal. While hunters saw pleasant temperatures throughout much of the week, milder temperatures were accompanied by wet and snowy conditions (some blizzard-like) during the final five days of the season, which appears to have broadly impacted access and hunter effort.

Due to COVID-19, the spring meetings of County Deer Advisory Councils moved to an online format. Despite the short lead time and new format, the department saw record public participation in the CDAC process. During summer 2020, the department will review applications for seats on County Deer Advisory Councils, which assist with deer management at the local level. The incoming councils will set three-year population objectives for their county as make annual recommendations on antlerless deer quotas and season structure.

Chronic Wasting Disease

In 2019, Wildlife Management expanded CWD surveillance to all 18 counties of its Northern District in the second year of a multi-year effort for concentrated regional sampling. Concentrated sampling continued in parts of the West-Central District to complete the regional sampling that occurred there during the 2018 season. In 2020, targeted surveillance will focus on the 17 counties of the North Eastern District and likely continue in some counties in the Northern District. The department continued to offer CWD testing to all hunters throughout the state. There are currently 56 CWD-affected counties due to wild and captive CWD positive detections. There were no newly identified CWD-affected counties in 2019.

Wildlife Management continued its Adopt-a-Kiosk and Adopt-a-Dumpster programs to increase CWD sampling numbers, to provide appropriate deer carcass waste disposal locations and to improve ease and options for hunters in the world of electronic registration. These programs also provide opportunities for conservation groups and individuals to assist the Department. In the first full year of these programs, 56 dumpsters were adopted along with 22 of our 177 self-service kiosks. To increase sampling numbers at hunters' convenience, 177 in-person stations were also available statewide.

Study of West Nile Virus in Ruffed Grouse

2019 marked the second of three years of data collection on ruffed grouse exposure to West Nile virus across Wisconsin, Minnesota and Michigan.

Ruffed grouse harvested in Michigan, Minnesota and Wisconsin during the 2018 hunting season were sent to the Southeastern Cooperative Wildlife Disease Study in Athens, Georgia, to be analyzed. Sample collection for this project began in fall 2018. Wisconsin hunters assisted in the collection and submission of 235 of the 720 samples submitted by the three participating states.

Hunter-submitted samples underwent two types of tests to help us determine if the birds were exposed to WNV: a blood sample to determine if the grouse had developed an immune response to WNV and the heart to look for traces of viral genetic material. These findings indicate that while ruffed grouse are being exposed to WNV, there are birds that are surviving and clearing the virus from their bodies. The bureau's view is that continued efforts to provide quality young forest habitat for ruffed grouse is our best strategy to maintain a healthy grouse population that can handle impacts from stressors such as disease or weather.

Black Bear Management Plan, 2019-2029

The department implemented a new black bear management plan, approved by the Natural Resources Board in May 2019. The new plan emphasizes a science-based approach to managing our state's black bear population, recognizing the species' ecological importance and relevance to so many people

throughout the state. The plan also addresses current issues such as range expansion into southern counties, agricultural damage and hunting opportunity.

The plan was written with the support of the Black Bear Advisory committee, which includes representatives from 11 partner groups. Changes include redrawn bear management zones that allow greater flexibility in addressing chronic agricultural damage issues. New zones, which will go into effect in 2021, will enable the department to manage bears in the southern portion of the state with higher resolution. The 2019-2029 management plan also eliminates numeric population goals in favor of managing toward cultural carrying capacity alongside the use of a new bear population model.

BUREAU OF FISHERIES MANAGEMENT

Inland Trout

From July 1, 2017 to June 30, 2018 over 70 stream reaches were improved, including over 20 miles of habitat development work, such as erosion control, stream channel realignment, and habitat installation. Additionally, over 28 miles of stream brushing and site investigations were conducted. The projects were completed with the help of various volunteers, partners, and cooperators.

The Wisconsin Inland Trout Management Plan was approved by the Wisconsin Natural Resources Board in October 2019. The DNR Trout Team has been active in prioritization of the plan objectives and implementation planning.

Great Lakes

The Wisconsin Fisheries program initiated an effort to revise our Lake Michigan stocking strategy in 2019 that would set up stocking levels for the next 3 years. This effort was completed and salmon and trout from this plan were stocked in the spring of 2020. In May of 2020, we finalized our Lake Superior Fisheries Management Plan that will guide our efforts on Lake Superior for the next ten years. We also completed and finalized rules that support the Lake Superior Fishing Agreement. Department staff continue to work with commercial fishers on a by-catch study in Green Bay that will inform our management on Lake Whitefish in the Bay and Lake Michigan. In addition to that study, staff continue to work with partners in Green Bay on a variety of projects including walleye diet study, walleye and whitefish movement patterns, fish passage and others. We continue to upgrade our Electronic Fish Harvest Reporting System that is used by commercial fishers to input their harvest information.

WWI

The Wisconsin Walley Initiative (WWI) continues to make a large impact on the number of large fingerling stocked walleye within Wisconsin. During 2019, 612,302 walleye were stocked from Department facilities with another 167,803 purchased from tribal and private partners. In the midst of the Pandemic, we are still planning to rear or purchase 813,133 fall stocked walleye during 2020. Fish stocked at the beginning of the initiative are now, or will soon be, mature and susceptible to sampling for adult population estimates to determine how our stocking has improved walleye populations across the state.

Culture

Fisheries staff raised and stocked over 7.5 million fish during 2019, and we continue to plan for numbers at or near these for 2020. The program is currently finishing up the construction of the new Kettle Moraine Springs Hatchery in Sheboygan County, Wisconsin. Our new facility will have the capacity to rear 340,000 steelhead for stocking into Lake Michigan waters as well as starting half of our Coho salmon production during the year. We will be utilizing recirculation aquaculture technology to efficiently use the available ground water.

OFFICE OF APPLIED SCIENCE (Wildlife and Fisheries Research)

Beaver Influence on Coldwater Stream Habitat and Trout Populations in Wisconsin

The Wisconsin DNR's 2015-2025 Beaver Management Plan addresses the complex role that beavers play in cold-water ecosystems. It preserves beaver control as an important management tool for maintaining free-flowing conditions on priority trout streams, but it also highlights the need for studies of the ecological influence, both positive and negative, of beaver activity on trout streams of the Upper Midwest. The Office of Applied Science will lead a study in cooperation with Fisheries Management to quantify the effects of beaver activity and beaver control on salmonids in Wisconsin streams. This study will be statewide in scope, including wadeable trout streams in the Lake Michigan, Lake Superior and Mississippi River basins and across forested and agricultural landscapes. Study site selection began in 2018 in cooperation with regional DNR fisheries biologists. Researchers also plan to work with Wildlife Services, a program in the United States Department of Agriculture's Animal and Plant Health Inspection Service that works to resolve wildlife conflicts. Study sites include streams currently colonized by beavers and streams in which beaver activity is controlled to maintain free-flowing conditions. Initial data collection will include habitat and fish metrics. The second phase of the study will experimentally manipulate beaver populations on study stream.

Southwest Wisconsin CWD, Deer and Predator Study

Field work concluded in spring 2020 for the Southwest Wisconsin CWD, Deer and Predator Study. The study is principally concerned with the potential for chronic wasting disease to negatively impact deer populations. At the end of the 4-year field season, over 1,200 deer and predators were captured and GPS-collared for this ground-breaking study. Analysis now begins on this massive dataset where we are exploring the infection rates at which CWD may reduce population levels. Other factors can influence deer populations too, such as hunting, depredation and habitat quality. Therefore, researchers will closely track these factors as well. This study will also estimate the abundance and distribution of bobcats and coyotes within the study area and will examine their impact on deer survival and behavior. This work was only possible with the participation of volunteer landowners in Grant, Iowa and Dane Counties, where our study area lies. They generously allowed researchers to collar and monitor animals on their land, and we thank them for their support.

BUREAU OF NATURAL HERITAGE CONSERVATION

Volunteers Aid State Natural Areas and Rare Species

In 2019 volunteers helped to collect over \$22,000 of wild lupine seed to help the endangered Karner blue butterfly and other insect pollinators in the central sands landscape of Wisconsin. Seed collecting, habitat management, and invasive species removal are just a few examples of the work volunteers do annually to conserve threatened remnant prairies, oak savannas and barrens around Wisconsin. The

overall volunteer effort at 49 State Natural Areas included thirty-eight volunteer groups completing management work on 2,058 acres, which represents an estimated \$148,000 in value.

Strategy for Special Places

State Natural Areas protect some of Wisconsin's best remaining prairies, oak savanna, wild lakes, old forests and geological features, and play an important role in keeping species from going extinct, supporting 90% of the plant and 75% of the animal species listed as endangered or threatened. The NHC staff drafted the first strategic plan in 35 years to help preserve these special sites in light of six major threats: habitat loss, alteration of the natural processes that shaped them (e.g., fire suppression, wetland draining, damming rivers), invasive species, over-abundant whitetail deer, excessive nitrogen and phosphorus deposition, and climate change.

Investment in Citizen Science Successes

More than 12,000 volunteers now participate in citizen-based monitoring projects coordinated by the department each year. They contribute significantly to our understanding and are essential to many projects on plants, animals, and important habitats. For example, the Wisconsin Breeding Bird Atlas started over 20 years ago to document distribution and abundance of the state's breeding birds. During the second atlas which wrapped up data collection in 2019, 2,000 volunteers submitted over 2.3 million records confirming breeding of 239 bird species across the state.

Last year, NHC created the Bumblebee Brigade, a citizen science initiative to improve our understanding, management, and conservation of Wisconsin bumble bees. Thanks to 140 volunteers, Wisconsin has new information on 16 of its 20 native species, including the federally endangered rusty patched bumble bee. Volunteers added Jefferson and Portage to the list of counties with the rusty patched and reported the first rusty patched documented in Marinette County since 1960. Volunteers also confirmed the presence in three new counties of the Fernald cuckoo, a very rare bumble bee that lays its eggs in the nests of other bumble bee species, which then raise the young to adulthood.

Proactive Monarch Butterfly Conservation

In 2019 Natural Heritage Conservation staff continued to support the MAFWA-led monarch butterfly conservation efforts. State residents reported planting more than 10,000 new milkweed plants, 170 people signed the monarch conservation pledge at wimonarchs.org, and the Wisconsin Monarch Collaborative of 40+ organizations, coordinated by NHC, released its blueprint for voluntarily adding 120 million new milkweed plants in the next 20 years: the Wisconsin Monarch Conservation Strategy.

Trail Cams Reveal Secrets to Marten Survival

NHC biologists again deployed trail cameras in the Chequamegon-Nicolet National Forest in winter 2019-20 to generate a more reliable population estimate and survival rates for the state's only endangered mammal, the American marten. The first year's survey documented a minimum of 45 individual martens across the study area in Forest and Vilas counties. These results along with population demography studies completed in cooperation with many partners will help the department refine recovery strategies.

Wisconsin Cave Bat Conservation

U.S.G.S. National Wildlife Health Center, UW-Madison and NHC have developed the first treatments for bats infected with white-nose syndrome and in the fall of 2019 vaccinated bats at two hibernation

sites. The disease has reduced populations 72 % to 97 % at Wisconsin sites by frequently waking hibernating bats, depleting their energy and causing them to die from starvation, dehydration or exposure. In other efforts, NHC inspected 90 bridges for bat maternity colonies and shared information with transportation officials on bridges with high bat use and their site and structural characteristics to potentially time construction to avoid bats raising their young.

Lake States Forest Management Bat Habitat Conservation Plan

Michigan, Minnesota, and Wisconsin are working collectively on the Lake States Forest Management Bat Habitat Conservation Plan (Lake States HCP). The HCP, on schedule for 2020 completion, will streamline permitting under the federal Endangered Species Act while maintaining quality forest habitat across the three states. The HCP will cover Indiana bats, northern long-eared bats, little brown bats, and tricolored bats for forest management activities.

Wood Turtle Habitat Improvement Project

Wisconsin was an active partner in a three-state partnership to improve turtle nesting success and turtle habitat, reduce adult turtle road mortalities, and assess the effectiveness of conservation actions for river turtle populations including the state-threatened wood turtle. The goals were to decrease nest predation and adult turtle road mortalities and improve potential nesting sites for this species across much of northern Wisconsin. NHC Biologists placed and maintained turtle travel barriers along roadways where stream and river crossings occur to deter turtles from crossing the roads and installed turtle-crossing signs to increase driver awareness near hazardous road crossings. They also constructed and maintained enclosures and electric fencing to protect nests from mammal depredations. NHC biologists created 12 new nesting sites in four watersheds and maintained suitable nesting sites at seven others in two additional watersheds. Nest hatching success for wood turtles varied significantly over the past six years and ranged from 4 to 63%, annually. Wood turtle nests with protection measures successfully hatched 50% of the time, while only 22% of nests without protection measures were successful.

Monitoring Eastern Massasauga Rattlesnakes

In 2019 NHC staff successfully captured, measured, tagged and released Eastern massasauga rattlesnakes as formal long-term disease monitoring began for this state endangered and federally threatened species. Pilot efforts in 2018 uncovered the first Wisconsin massasauga with snake fungal disease; none have been found since and more good news: the rare snakes responded to NHC habitat work by expanding to new habitat in Jackson County. The fungal disease can prevent snakes from feeding and drinking and makes them more vulnerable to predators.

Kirtland's Warbler Recovery and Ongoing Commitment

Kirtland's warblers flew off the federal endangered species list in October 2019, having met recovery goals following years of intensive habitat management, mostly in lower Michigan where the core population is found. Kirtland's numbers in Wisconsin don't yet meet the criteria to be removed from the state list; NHC and partners continue to expand and protect the bird's habitat and monitor nests to increase our small but growing population.

A Big Year for Piping Plovers

2019 was a record-setting year for the Wisconsin Piping Plover population. Ten breeding pairs fledged 26 chicks at 4 sites, including a first successful nest on Stockton Island in the Apostle Islands National

Lakeshore. Over the past 20 years Wisconsin has contributed 118 chicks to the Great Lakes population, which is currently halfway to its recovery plan goal of 150 breeding pairs.

45 Years of Colonial Waterbirds

Forty-five years after NHC's Sumner Matteson and the late James T. Harris first surveyed for colonial waterbirds along Wisconsin's Lake Superior shoreline by kayak, car and motorboat, the survey continues and has documented mixed trends. Herring Gull and Great Blue Heron populations are down, Ring-billed Gulls have risen from less than 500 at one time to more than 40,000 now; Double-crested Cormorants have increased similarly, Piping Plovers have increased, and Common Tern populations have fluctuated. The survey has been conducted every five years by DNR's Matteson and the National Park Service in partnership with the Bad River Band of the Lake Superior Chippewa, U.S. Fish and Wildlife Service, and The Nature Conservancy.

Plant Restorations Bear Fruit

Restoration efforts grew in 2019 for globally rare plants in Wisconsin. NHC staff collected seed from federally threatened northern monkshood clinging to a Baraboo Hills cliff; a private nursery will raise plants from the seeds and NHC will reintroduce them to sites next year.

NHC teamed up with UW-Whitewater to reintroduce the federally threatened Fassett's locoweed to a lake where it was last found 15 years ago. Unexpectedly high summer water levels drowned the seedlings but could ultimately set the stage for future success; locoweed needs periodic flooding to wipe out competing plants.

Finally, a second year of hand pollinating federally threatened eastern prairie fringed orchids is literally bearing fruit: all flowers aided by human hands produced fruit and more of it than plants pollinated by nature! Hand pollination aims to introduce new genes to potentially inbred populations and improve seed set and viability.

Invasive Species Control Targeted on Hunting Lands

NHC helped property managers use federal grant funds to control invasive species on 125 state public lands where hunting is permitted. Funding also went to Cooperative Invasive Species Management Areas to monitor and control prohibited invasive species in their area, including helping the Door County Invasive Species Team tackle black swallow-wort within The Ridges Sanctuary and surrounding areas, and the Southeast Wisconsin Invasive Species Consortium address golden creeper and other invasives.

Wisconsin Bird Conservation Partnership

The Wisconsin Bird Conservation Initiative (WBCI) rebranded as the Wisconsin Bird Conservation Partnership (WBCP) to recognize the maturity of the 15-year effort and emphasize its collaborative approach to bird conservation. The Partnership designated Wisconsin's 93rd Important Bird Area (IBA) – the Milwaukee County Park System – and initiated a threats and opportunities analysis for the statewide IBA system. Results from the analysis will be used to allocate resources to select IBAs within the system.

Statewide Mussel Survey

In 2019 NHC completed Wisconsin's first statewide survey for native mussels in 40 years. The highest numbers and diversity were in the St. Croix River with high diversity on the Manitowish, Chippewa and Peshtigo rivers, and rebounding populations in the Wisconsin River, lower Fox River and Green Bay as clean water regulations and cleanups pay off. Some of the 99 sites surveyed had declining mussel populations, and 10 had no mussels. Major waters in southern Wisconsin, including the Pecatonica and Rock rivers, saw very large declines.

New Blueprint for Karner Conservation

NHC and public and private stakeholders completed a 30-year habitat conservation plan for the federally endangered Karner blue butterfly in 2019. The modernized plan and related federal permit allow roadside maintenance, timber harvests and other activities in Karner habitat but assures they're done in ways that conserve and minimize impacts to Karners, like delaying mowing until after their annual flight. On state lands, NHC land management efforts added 700 acres of Karner habitat from 2016-2019.

BUREAU OF LAW ENFORCEMENT

Law Enforcement Recreational Property Work

Law Enforcement Staff continue to work with their partners in the Parks Program regarding their work handling enforcement activities on Wisconsin's recreation properties. The programs have created a joint leadership team to continue their efforts handling staffing, scheduling, policy updates and training.

New Model of Field Training

The WI DNR Bureau of Law Enforcement transitioned to a new model of field training. Staff completed the transition training for all of our FTO's in the Police Training Officer (PTO) course which focuses training on problem solving and community involvement. The new officer training focuses on journaling, self-reflection and narrative based evaluations. This was a multiyear effort where data was collected from other agency experiences, and surveys of DNR LE staff at all levels of the organization. This new training is self-taught and we are piloting an online version of the training during the COVID Pandemic.

Staffing Changes

The Bureau of Law Enforcement is transitioning many of its leadership positions. Captain Casey Krueger was sworn in as the new Chief Warden in January 2020 replacing retiring Chief Todd Schaller. In addition to starting a new Recruit class, throughout 2019, the Bureau filled many key positions in the Environmental Enforcement Section, Investigative Team, and Recreation Safety and Outdoor Skills Section. Several upper level management positions will be vacated due to retirement and or promotions. Recruitment is underway to fill some of these positions.

UTV Crash Research

The Recreation Warden's teamed up with Wisconsin State Patrol, the Wisconsin ATV/UTV Association (WATVA) and Medical College of Wisconsin to conduct a controlled UTV crash to research the impacts of wearing helmets and seatbelts while operating recreational vehicles. The research was analyzed by Senior Engineers and Master Students from the college. The Recreation Wardens and State Patrol also documented the crash scene to include total station and 3D scanning to help with further investigations and data collection. The Recreation Warden team will continue to work with partners to

establish more trainings and controlled crashes to collect further data to help determine what we need to do to make Wisconsin a safer place to recreate.