

Schedule at a Glance

All agenda items are scheduled in Central Time.

Monday, June 28, 2021	
10:00am - 12:00pm (CT)	MAFWA Executive Committee Meeting
12:00pm - 1:00pm (CT)	Speaker Help Desk <i>Stop by to test your audio, practice sharing your screen, and ask any questions that you may have about using the platform.</i>
1:00pm - 3:30pm (CT)	<ul style="list-style-type: none"> * Welcome by Keith Warnke (WI), President * Special Address by FWS Principal Deputy Director Martha Williams * State Hot Topics Session <i>Moderated Discussion facilitated by: Keith Warnke (WI), President</i> Each state director will describe a recent agency challenge and response as a teaching moment.
3:30pm - 3:45pm (CT)	Break
3:45pm - 4:45pm (CT)	Midwest Landscape Initiative <i>Kelley Myers, U.S. Fish & Wildlife Service Midwest Region</i>
5:00pm - 6:00pm (CT)	Welcome Social & Mixology Event <i>Sponsored by Brandt Information Services</i> Join us for this interactive social with a master mixologist who will demonstrate the pro tips of mixing signature cocktails. A full ingredients list will be provided ahead of time. Show off your own bartending skills or just sit back, sip and enjoy. Cheers!
Tuesday, June 29, 2021	
11:00am - 12:00pm (CT)	Speaker Help Desk <i>Stop by to test your audio, practice sharing your screen, and ask any questions that you may have about using the platform.</i>
12:30pm - 1:30pm (CT)	<p>Awards Presentation Presented by: The Awards Committee – Terry Steinwand, Chair Sponsored by Sovereign Sportsman Solutions, LLC Celebrate the recipients of these prestigious awards:</p> <ul style="list-style-type: none"> • Law Enforcement Officer of the Year • Wildlife Biologist of the Year • Fisheries Biologist of the Year • "Spirit of the Shack" Achievement Award • Excellence in Conservation • Sagamore Award • Special Recognition Service Award • President's Award
1:30pm - 1:45pm (CT)	AFWA State Contributions Program <i>Dean Smith, AFWA</i>
1:45pm - 2:00pm (CT)	Southern Wings <i>Deb Hahn, AFWA</i>
2:00pm - 2:30pm (CT)	AFWA Report <i>Sara Parker Pauley, AFWA President</i> <i>Ron Regan, AFWA Executive Director</i>
2:30pm - 3:30pm (CT)	Federal Partners Session <ul style="list-style-type: none"> • U.S. Fish and Wildlife Service — <i>Charlie Wooley, Region 3, Director</i>

	<ul style="list-style-type: none"> • U.S. Fish and Wildlife Service — <i>Noreen Walsh, Region 6, Director</i> • U.S. Forest Service — <i>Steve Kuennen, Region 9, Renewable Resource Director</i> • USDA/APHIS-Wildlife Services — <i>Keith Wehner, Western Region Director</i> • USGS Midwest Climate Center — <i>Olivia LeDee, Deputy Director</i>
3:30pm - 3:45pm (CT)	Stretch Break
3:45pm - 4:45pm (CT)	<p>MAFWA Committee Reports <i>Facilitator: Ollie Torgerson, MAFWA Executive Secretary</i></p> <ul style="list-style-type: none"> • Climate Change — <i>Amy Derosier</i> • Deer and Wild Turkey — <i>Michael Tonkovich</i> • Feral Swine — <i>Terri Brunjes</i> • Furbearers — <i>Adam Bump</i> • Hunter and Angler Recruitment and Retention — <i>Megan Wisecup</i> • Law Enforcement — <i>Ken Fitz</i> • CITES — <i>Carolyn Caldwell</i> • Private Lands — <i>Cody Strong</i> • Public Lands — <i>Anne Reis</i> • Wildlife Diversity — <i>Eileen Dowd Stukel</i> • Wildlife and Fish Health — <i>Lindsey Long</i>
4:45pm - 5:00pm (CT)	<p>CWD Technical Assistance <i>John Fischer, WMI; Matt Dunfee, WMI</i></p>
Wednesday, June 30, 2021	
8:00am - 12:00 (CT) (with a break from 10am-10:15am)	<p>MAFWA Business Meeting <i>Sponsored by National Wild Turkey Federation</i></p> <ul style="list-style-type: none"> • Call to Order and Roll Call • Agenda Review • Approval of Oct. 20, 2020 Meeting Minutes • Treasurer's Report — <i>Roger Luebbert</i> • Audit Committee Report — <i>Keith Warnke (WI)</i> • Investments Committee Report — <i>Jim Douglas (NE)</i> • Bylaws Committee Report — <i>Sara Parker Pauley (MO)</i> • Resolutions Committee Report — <i>Sara Parker Pauley (MO)</i> • Awards Committee Report — <i>Terry Steinwand (ND)</i> • Executive Secretary's Report — <i>Ollie Torgerson</i> <p>Old Business</p> <ul style="list-style-type: none"> • Angler R3 Update — <i>Dave Chanda (RBFF)</i> • Mid-Continent Monarch Strategy Report — <i>Ed Boggess</i> • National Wild Pheasant Plan Update — <i>Scott Taylor</i> • Midwest Fish & Wildlife Conference — <i>Sara Parker Pauley (MO)</i> • Midwest Landscape Initiative — <i>Jim Douglas (NE); Craig Czarnecki (FWS)</i> <ul style="list-style-type: none"> ◦ Forming Ad Hoc CWD Committee — <i>Kelley Myers (FWS)</i> • Non-Lead Partnership Recommendations — <i>Keith Warnke (WI)</i> <p>New Business</p> <ul style="list-style-type: none"> • MAFWA Banking Fee — <i>Keith Warnke (WI)</i> • Forming MAFWA Human Dimensions Committee — <i>Kevin Robling (SD)</i> • Funding Streams Survey of State T&W Agencies — <i>Charles Booher, University of Montana</i> • 2022 Budget Approval — <i>Roger Luebbert</i>
12:00pm - 12:15pm (CT)	Save the Date: South Dakota Spotlight (2022 Host)

Final Sponsor Report

Company Name	Sponsorship Level	Amount
APHIS/Wildlife Services	Gold Level Sponsor	\$3,000.00
Association of Midwest Fish and Game Law Enforcement Officers	Contributing Sponsor	\$500.00
Bass Pro Shops	Bronze Level Sponsor	(In-Kind)
Brandt Information Services	Major Level Sponsor	\$5,000.00
DJ Case & Associates	Bronze Level Sponsor	\$1,000.00
Ducks Unlimited	Silver Level Sponsor	\$2,000.00
Kalkomey Enterprises	Gold Level Sponsor	\$3,000.00
National Archery in the Schools Program	Silver Level Sponsor	\$2,500.00
National Wild Turkey Federation	Gold Level Sponsor	\$3,000.00
Sovereign Sportsman Solutions	Major Level Sponsor	\$5,000.00
Terra Technology Group	Bronze Level Sponsor	\$1,000.00
The Wildlife Society	Bronze Level Sponsor	\$1,000.00
US Fish & Wildlife Service	Major Level Sponsor	\$6,000.00
USFS	Gold Level Sponsor	\$3,000.00
USGS Midwest Climate Adaptation Science Center	Bronze Level Sponsor	\$1,000.00
TOTAL		\$37,000.00



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2021

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**ILLINOIS
STATE REPORT
JUNE 2021**

Colleen Callahan, Director
Illinois Department of Natural Resources
One Natural Resources Way
Springfield, IL 62702-1271

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 licenses 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.

Introduction

Behind the individual program reports shared below is the backdrop of COVID-19. Agency staff and administrators transitioned to remote work for (we thought) two weeks on March 17, 2020. We are just now (in June 2021) beginning our transition back to regular office work after 15 months. During that time, we developed COVID protocols in accordance with the Centers for Disease Control guidance and Illinois Department of Public Health directives that allowed critical work to continue while keeping the public and state employees safe. In short, IDNR staff re-invented the wheel over and over again. Dove, waterfowl, deer and upland game hunting continued under strict controls, while some events, like urban fishing clinics, regrettably were cancelled. Overall, IDNR staff did an extraordinary job providing continuity of our popular programs, scientific research and habitat stewardship, while preventing COVID spread in the workplace.

Division of Fisheries

Lake Michigan Program

Charter and non-charter recreational anglers expended 229,520 angler-hours to harvest 7,090 yellow perch and 40,256 trout and salmon from the Illinois waters of Lake Michigan last year. Effort and harvest during the March-September season declined by over 40% compared to the previous year due in large part to lakefront and harbor closures for COVID-19 precautions during mid-March through May, the active spring fishery. The popular late fall and winter fishery for yellow perch continued off Chicago where anglers expended an estimated 33,975 angler-hours to harvest 48,034 yellow perch from October 2019 through February 2020.

Fish Hatcheries

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 FY20, the hatchery system produced and stocked a total of 6,640,211 fish of 16 species into state and public waters. These stockings included 800 alligator gar, 217,372 black crappie, 568,061 bluegill, 132,221 brown trout, 767,257 channel catfish, 317,577 Coho salmon, 185,734 Chinook salmon, 248,676 largemouth bass, 29,503 muskellunge, 82,984 rainbow trout, 644,579 redear sunfish, 1,795,852 sauger, 239,652 striped bass hybrids, 225,580 smallmouth bass, 59,126 steelhead, and 1,125,237 walleye. In addition, the Hatchery System supplied 969,457 fish from

fry to 12” fish for district and program rearing ponds, several state university research programs, neighboring states, and 4,500 eyed eggs for Trout in the Classroom programs in the greater Chicagoland area school system. Brood fish for Muskellunge, Walleye, and Sauger were not collected or collected at very reduced numbers due to COVID 19 restrictions during spring spawning resulting in less than average fish production in FY20.

Aquatic Nuisance Species

Asian carp continues to take significant effort in Illinois. Ongoing efforts in partnership with the ACRC has established standardized monitoring for all stages of carp in the Illinois River to inform management actions. Offensive removal actions continue to harvest 1 to 1.5 million pounds of carp annually in the upper Illinois River with the leading population showing densities falling nearly 97% since being monitored in 2012. Additional, downstream actions enhance removal with contracts to fishers to remove from Peoria Pool, and marketing/branding tools to be launched this summer. These efforts should heighten commercial efforts (for management purposes) not only in the Illinois River, but provide tools for other commercial fishers, processors, and seafood industries across the country.

Considerable work on Asian carp assessment and removal is ongoing in the Mississippi River and Ohio/Wabash in partnership with our state and federal partners.

Starry Stonewort (*Nitellopsis obtusa*), not previously found in Illinois, was confirmed in April 2021 in a 232 acre glacial lake in southwestern Lake County. Lake Zurich is part of the Flint Creek drainage of the Fox River Watershed and is at the top if the Flint Creek Watershed. Early detection and rapid response (EDRR) efforts are underway in partnership with Lake County Health Department.

Be A Hero, Transport Zero continues to be the messaging campaign in Illinois to prevent the introduction and transport of invasive species in Illinois waters. A non-aquatic campaign is ongoing as well.

www.transportzero.org

Urban Fishing

Urban fishing has been hampered with the COVID-19 pandemic and lack of many outdoor activities this past year. 2021 looks brighter but, stocking efforts in the country, responding to increased fishing activity, has proven to be a significant challenge in procurement of a new contract for hybrid bluegill to be stocked at education locations. The industry will be affected for several years (nationally) due to increased stocking and utilizing younger year classes in meeting current needs for both catchable panfish and channel catfish.

Region 1

An Intensive Basin Survey of the Spoon River basin was completed in 2020. Fish population samples were taken at 31 sites. The surveys were highlighted by improved index of biotic integrity values at all the main stem sites, and only 2 tributaries fell into the Limited Aquatic Resource Category (D). The 2020 surveys produced stable population levels for Flathead Catfish, Channel Catfish and Smallmouth Bass in the Spoon Basin.

The Rock River was sampled in the fall of 2020 by the Illinois Department of Natural Resources (IDNR) Region 1 Fisheries crew. A total of 11 locations were sampled within the Illinois portion of the Rock River using a large DC electro-fishing boat. The surveys produced a high catch rate of Walleye, which are stocked annually, in addition to natural populations of Smallmouth bass, Channel catfish, Sauger, Flathead Catfish and Northern Pike. The state threatened American Brook Lamprey was also collected at 3 locations.

The Nature Conservancy’s Emiquon Preserve is cooperatively managed with the IDNR Division of Fisheries. In 2020, the fish population in Thompson and Flag Lakes were sampled by D.C. boat electro fishing in October. The Largemouth Bass, Bluegill, Black Crappie, White Crappie, Bowfin, Warmouth Sunfish, Pumpkinseed Sunfish, Golden Shiner, Channel Catfish and Gizzard Shad populations were stable in 2020. Bigmouth Buffalo, Freshwater Drum, Yellow Bass and White Bass have now all been consistently sampled over the past 3 years. The total non-native fish collected in these surveys were 61 Common Carp, 6 Silver Carp and 2 Grass Carp. Large numbers of Silver Carp were also observed jumping throughout the lake basin during the October boat electrofishing survey. The Silver Carp and Grass Carp probably entered the Preserve from the Illinois River through the new control structure site. No reproduction and recruitment has been

documented at this time. The presence of an expanding population of Grass Carp and Silver Carp is an ominous sign for the future aquatic habitat in the Preserve. The rapid removal of the submerged aquatic plant community through consumption by the Grass Carp, and decreased water clarity from algal blooms stimulated by the Silver Carp biomass may soon reach a critical tipping point. Then the reduced water clarity will allow the Common Carp to achieve very high reproduction and recruitment in the Preserve. A rapid degradation of the aquatic habitat, the submerged aquatic plant community and native fish population is the factual, proven result from a high Common Carp density.

The Lake Le-Aqua-Na rehabilitation project: During the dewatered status, the lake has been excavated in areas with organic materials to reduce the nutrient load and increase water volume. A total of three new jetties have been created and an underwater island to create more fish habitat and angler opportunity on the lake. Fish habitat structures are being placed now around the lake to attract fish for better fishing success. The lake's inflow has been reconstructed to reroute the water over riffles and back water areas to improve water quality and reduce the sediment load on the lake. Fish stocking will begin this fall with a bright future for this lake.

A state record pumpkinseed was certified from Hennepin-Hopper. The fish was 254 mm long and weighed 1.12 pounds. (Recent surveys suggest even larger fish are available at this location, and perhaps elsewhere in Illinois).

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 2020. 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 1,300 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.

In another cooperative project, the Illinois B.A.S.S Nation and district fisheries biologist planned and implemented habitat improvements at the Mazonia Lake Complex's North Unit (Mazonia-Braidwood State Fish and Wildlife Area). Twelve habitat structures were placed into Goose Lake in 2020, and two other lakes will receive structures in 2021. Illinois B.A.S.S Nation procured grants from The Bass Fishing Hall of Fame and AFTCO to fund the project.

Region 3

An Intensive Basin Survey of the Mackinaw River basin was completed in 2020. Fish population samples were taken at 29 sites. The surveys were highlighted by signs of a recovering Smallmouth Bass population. A five-year Smallmouth Bass stocking program was initiated in the basin following surveys that revealed missing year classes and declines in catch rates up to 80% from historic highs throughout the basin. The 2020 surveys produced significant increases in catch rates and the collection of young-of-the-year Smallmouth Bass at several sites. Among the nongame species collected, there were notable increases in the populations of Goldeye and Chestnut Lamprey.

An Intensive Basin Survey of the Iroquois River basin was completed in 2020. Fish population samples were taken at 23 sites. The surveys produced good numbers of Walleye, which are stocked annually, in addition to natural populations of Channel Catfish, Northern Pike, and Smallmouth Bass.

Region 3 Streams personnel took possession of a Lake Sturgeon that was illegally harvested from the tailwaters of Lake Bloomington in Money Creek of the Mackinaw River basin on May 7, 2020. The fish was a sexually mature male 45 inches long and 41.3 pounds. The incident prompted a Lake Sturgeon Alert posted to the IFish webpage to remind fishermen that it is illegal to harvest Lake Sturgeon from Illinois waters.

For the second year in a row, Region 3 Streams assisted the City of Charleston in their efforts to de-water the stilling basin at the Charleston Dam on the Embarrass River. Flow was maintained to the river utilizing multiple pumps to avoid a fish kill in this diverse section of the river.

Within the first year following the removal of Ellsworth Park Dam on the North Fork Vermilion River and Danville Dam on the Vermilion River, first collections of two fish species were recorded from the river system in 2020. The Tippecanoe Darter and Streamline Chub were discovered in Illinois for the first time. Both species were collected at multiple sites in the Vermilion River up to the former location of the Danville Dam, and the Tippecanoe Darter was found upstream of the former dam site into the North Fork Vermilion River at the former location of the Ellsworth Park Dam. These are promising signs of recovery for this river system that suffered from these barriers to fish migration for over 100 years.

In cooperation with Eastern Illinois University, the results of several years of a fish kill recovery study were published in 2020. "Recovery of riverine fish assemblages after anthropogenic disturbances" was published in the journal, *Ecological Applications*.

The Kaskaskia River in Shelby County has been supplementally stocked with relatively low numbers of Smallmouth Bass since 2006. This isolated population of Smallmouth Bass is located downstream of the Lake Shelbyville Dam and suffers from unnatural and inconsistent flows released from the reservoir that result in lost year classes from failed spawning seasons. Thanks to captive spawning efforts undertaken at Jake Wolf Memorial Fish Hatchery, the river received a full stocking rate in 2020. The stocked fish received a pelvic fin clip to identify them as stocked fish as biologists monitor the stocking success for years to come.

With assistance from the IDNR Fisheries Division, U.S. Army Corps of Engineers, fishing clubs, and local businesses the Lake Shelbyville Fish Habitat Alliance (LSFHA) continues to enhance the quality of the Lake Shelbyville fishery for anglers and the economic benefit of local communities. Since January 2017, the LSFHA has raised well over \$100,000 through fundraising and grant writing activities, solicited tens of thousands of dollars' worth of donated materials, and coordinated thousands of hours' worth of volunteer time to put towards projects to improve aquatic habitat in Lake Shelbyville. To date, the LSFHA has built and placed 1,153 cube structures (PVC/field tile cubes, 270 artificial stumps, 420 porcupine balls, 18 rock reefs (380 tons of total rock), as well as raising and planting numerous aquatic/semi-aquatic plants. The Illinois Natural History Survey is conducting a study monitoring the changes in fish assemblages in coves where cubes or full trees have been added as habitat, which will help quantify the benefits of these various habitat additions.

Lake Shelbyville had an almost complete loss of its muskellunge population 10-15 years ago. Efforts to restore the population have shown little promise until the most recent survey. Several muskie were captured during the latest survey, all of which represented a subset of fish that were held in a rearing pond and stocked later in the year. Although these results are preliminary, we have hope that this new stocking regime may help rehabilitate a once popular fishery in Lake Shelbyville.

Region 4

In 2020, with the assistance of the local crappie club, 70 artificial 'caterpillars' were placed at 10 sites within the year-round fishing zone at Sangchris Lake State Park. These structures utilized almost 100% free materials, and early angler reports indicate that they are holding fish. A map indicating the waypoints of the sites was made available to the public. Additionally, ongoing efforts to reestablish aquatic vegetation were conducted. Existing exclosures were expanded, and several new ones were created. One of the exclosures was removed from the most successful planting. Careful monitoring is being done to determine the success of the area without any protection. Key species transplanted are: American pondweed, White Water Lily, and American Lotus.

Stocking efforts continue at Lake Springfield, with the hope of establishing a trophy Blue Catfish fishery. In 2020, almost 28,000 fish were stocked, bringing the total to almost 150,000 since their initial stocking in 2006. A joint research project is being conducted in partnership with Eastern Illinois University, where catfish length-at-age data, sampling methods, and exploitation are being studied. In the past 2 years, over 500 Blue Catfish have been tagged with a T-bar style tag. Anglers are encouraged to call the number on the tag to report their catch. A small incentive is offered for their information.

IDNR fisheries completed the placement of about 40 Christmas trees at fish attractor locations in Washington County Lake. IDNR adds new trees collected annually by the City of Nashville, IL to 11 attractor locations in

the lake. The 301-acre lake is located in Washington County State Recreation Area in Southern Illinois and is home to numerous bass tournaments each year.

Region 5 Fisheries Habitat Partnerships

Fisheries managers worked cooperatively with both Federal partners, municipalities, and private entities to place fish habitat structures at 19 lakes in southern Illinois. Most notably, approximately 250 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 cedar tree structures were constructed and placed at 10 sites and 174 spider blocks were placed in Crab Orchard Lake with the assistance of the U.S. Fish and Wildlife Service and Blue Heron Boat Club.

In addition, 40 structures were placed in Lake Murphysboro with assistance from the City of Carbondale, 80 cedar tree structures and 20 pallet structures were placed in Little Grassy Lake, 24 spider blocks at the Crab Orchard Visitor Pond, 50 spider blocks at Mermet Lake, 85 structures at Pyramid State Park, and 16 structures in USFS lakes in the Shawnee National Forest.

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.

Illinois River

The Illinois River Program, in conjunction with the state hatchery system, stocked over 1.3 million sauger fry ranging from 1-2 inches into the upper Illinois River in 2020. 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 75,335 smallmouth bass measuring 1.5 inches and 7,242 black crappie measuring 4 inches and 10,350 northern pike measuring 9.4 inches into the middle and upper Illinois River in 2020.

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

The Illinois River Program annual sport fish community monitoring funded by the Sport Fish Restoration Act surveyed 16 Illinois Waterway sites via boat electrofishing in 2020. The 2020 fish survey resulted in the collection of 63 species of fish and 6 hybrids.

Mississippi River

Fish community assessments occurred at 29 locations using boat electrofishing throughout the 581-mile section of river bordering Illinois. Additionally, 40 small-fish community assessments using a minnow seine supplemented electrofishing samples in the lower river reach. These efforts were completed as a component of the historic Mississippi River fish monitoring program.

IDNR biologists continued collaborating with state and federal partners on important river projects such as: Habitat Rehabilitation and Enhancement Projects as part of the Upper Mississippi River Restoration Program, onsite dredge material placement inspections, bridge demolition fish surveys, aquatic nuisance species management, and water level management discussions.

Mississippi South Central Stream Basin Survey –

The Mississippi South Central Stream Basin Survey was successfully completed in 2020 as part of routine monitoring to assess stream health in Illinois. A total of 16 stations were sampled in June – August. Conditions remain relatively consistent with recent surveys (2010, 2015). Some of these stations and watersheds occur in the heavily populated Metro East St. Louis urban area and therefore do not offer much in terms of habitat and species diversity. However, other watersheds and sampling stations in this basin are quite unique and considered ‘hidden gems’ despite their proximity to the Metro East St Louis area. It is not uncommon to find cool water species such as the banded sculpin, or a diversity of darter and minnow species in some of these watersheds including Fountain Creek, Prairie DuPont Creek and Mill Creek. Sportfish opportunities for channel catfish, flathead catfish, white bass, largemouth bass, and panfish are available in these watersheds, although some are limited.

Sangamon River Mainstem Biennial Survey -

Three stations on the Sangamon River are sampled every other year (Riverton, Petersburg, and Oakford). The Sangamon River offers adequate habitat including riffle/run/pool sequences, rock/gravel/sand, and large woody debris. The Sangamon River continues to show good catfish populations for channel and flathead catfish. Additional sportfishing opportunities for species such as white bass, largemouth bass, bluegill, walleye and sauger are present. The widespread prevalence of Asian carp, primarily silver carp, continue to pose a problem in the Sangamon River system. IDNR received a few reports from recreational anglers regarding the catch of shovelnose sturgeon in the Sangamon River during 2020. Potential further investigation into the shovelnose sturgeon population in the Sangamon River may be warranted in the future.

Division of Wildlife

2020-21 Deer Season Harvest

Hunters in Illinois harvested a total of 162,752 deer during the 2020-21 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. The prior year’s total deer harvest was 153,174 (55:45 male to female ratio), and the Illinois record harvest of 201,209 occurred in 2005-06.

Chronic Wasting Disease (CWD)

During the period of July 1, 2019 – June 30, 2020 (FY2020), IDNR staff collected and submitted 9,300 tissue samples statewide from white-tailed deer, yielding a total of 176 CWD cases in 17 northern Illinois counties from 9,264 testable samples. Disease prevalence in CWD counties for adult deer harvested by hunters was 3.2%, with adult males (3.9%) less than twice that of adult females (2.2%). To date in FY2021, 148 cases of CWD have been confirmed from 8,281 tested samples, and we are waiting for confirmation on an additional 12 sharpshooting samples. If the remaining samples are confirmed, this will be a 9% decrease in cases from last year. A total of 5,767 hunter-harvested samples were collected (5,735 tested) revealing 73 CWD-infected animals; however, firearm deer check stations were not held this past fall due to Covid-19 which would have resulted in additional hunter samples and CWD-positive deer. IDNR sharpshooting operations concluded on March 25, 2021 and 69 CWD-infected deer were identified from 1,544 collected samples (1,542 tested). These include 18 samples from Kaskaskia Island (Randolph Co.) as part of surveillance to detect potential CWD-positive deer across the Mississippi River from Missouri. No CWD-positive deer were found on Kaskaskia Island. Since 2002 when first detected in Illinois, CWD has spread from 4 initial counties to include 19 counties in northern Illinois. Lee County was added this year from two archery harvested deer which tested positive for CWD. Prevalence rates which approximate 1% have remained relatively steady over the 19-year history of the disease in this state.

Urban Deer Population Control

A total of 45 Deer Population Control Permits (DPCPs), not including permit extensions for additional time and/or deer, were issued to 12 natural resource management agencies, arboretums/botanical gardens, federal research facilities, park districts, and homeowner associations in eight northern Illinois counties during winter 2020-2021. Permittees were authorized to remove a total of 1,747 white-tailed deer via sharpshooting (1,727) and live-capture followed by mechanical euthanization (20); 1,467 (84%) deer were collected over the five-month period (November 2020-March 2021). All usable deer carcasses were processed for human consumption, resulting in the donation of 59,779 pounds of venison to charity. 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 231 Deer Removal Permits (DRPs) were issued in 53 counties in 2020, compared to 239 permits in 60 counties the previous year. Four permits authorized hazing of deer only; 227 DRPs authorized the lethal removal of 1,877 deer. These permits resulted in the collection of 950 animals (51%). Excessive damage to corn and soybeans accounted for 71% of the DRPs issued during 2020. Approximately 19% of the 2020 DRPs were issued due to concerns about deer on airport runways/taxiways. Permits were also issued for deer-related damage to specialty/truck crops (e.g., strawberries, tomatoes, bell peppers, etc.), nursery stock, and fruit trees/orchards. As usual, DRP issuance peaked in June and July with 61% of the permits issued during these months.

Epizootic Hemorrhagic Disease (EHD)

IDNR produces news releases each summer asking citizens to report dead/moribund deer they observe in their area, particularly those associated with water. Reports are compiled by local biologists and conservation police officers throughout the summer, and staff follow-up when possible to collect samples for potential virus isolation.

HD was nearly non-existent in 2020 with 17 suspected cases reported from 11 counties. The disease was reported at very low levels across the southern third and western central portions of the state. HD virus was not isolated this past year.

HD reporting levels in 2020 were lower than 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).

2021 Spring Turkey Harvest

Through May 6th, Illinois turkey hunters had harvested a preliminary total of 12,800 wild turkeys during the 2021 spring turkey season, including the youth season. This date is the first day of the 5th season segment in the North Zone and the last day of the 5th season segment in the South Zone. This harvest total compares with 14,873 birds harvested at the same point in the 2020 season. The total harvest in 2020 was 15,831 and the state-record total harvest of 16,605 turkeys was set during the spring of 2006. Youth turkey hunters harvested a preliminary record total of 1,310 birds during the 2021 Illinois Youth Turkey Season. Last year's youth season harvest total was a record setting 1,744 birds. The number of Illinois counties open to spring turkey hunting remained at 100 of the 102 counties statewide.

2019-20 Waterfowl Season

Unlike several other recent years, wetland habitat quality across much of Illinois was above average in fall 2020. Growing season water levels on many of Illinois' major rivers remained below flood-stage, allowing

management practices beneficial for migrating waterfowl on associated wetlands. Similarly, lack of nesting-season flooding appeared to contribute to average or better temperate-breeding Canada goose production throughout the state.

As fall migration began, a slight cold front at the end of August into early September brought abundant blue-winged teal to the Illinois and Mississippi River valleys, with peak counts along both rivers reaching over double the most recent 10-year average on September 2. As fall advanced, ducks arrived along the Illinois and Mississippi Rivers in relatively high abundance, presumably taking advantage of quality food resources developed during the summer growing season. Peak abundance in the Illinois River valley reached 427,525 on 17 November, 28% above the most recent 5-year average. Peak abundance along the Mississippi River reached 830,485 on 2 December, 7% above the most recent 5-year average. Unfortunately, aerial surveys were not conducted consistently in other portions of the state. Only the Mid-Winter Survey, conducted during the first full week of January, was completed for northeast, west-central and southern Illinois, thus, comparisons of abundance and migration chronology to previous years is difficult, but anecdotal observations indicated average or better duck numbers in many areas. Despite above average duck numbers, hunter success was inconsistent or below average at many sites. Hunters and waterfowl managers in several Mississippi Flyway states reported wary ducks that moved out of refuges or rest areas infrequently and provided fewer opportunities for harvest than in most years. Preliminary harvest reports from state managed waterfowl hunting areas indicate mixed success around the state, with some areas reporting average harvest and others reporting harvest well below average.

Goose hunters in Illinois reported significant success, especially for Canada geese in the north and central portions of the state through mid- and late-January. An extended period of cold temperatures coupled with snow cover forced many Canada geese out of southern Wisconsin and the most northern tier of Illinois to hunters further south. Midwinter survey results revealed more Canada geese in Illinois during the 2021 survey period than in 2020, but fewer greater white-fronted geese. However, white-fronted goose abundance was 274% above the 5-year average along the Illinois and Mississippi Rivers throughout fall migration, while Canada goose abundance was 22% above the 5-year average, potentially contributing to increased harvest in those regions.

2018-19 Upland Harvest

The 2019-20 survey estimated that 13,706 hunters (11% increase) shot 23,570 wild pheasants in Illinois (24% decrease), compared to the 2018-19 totals of 12,241 hunters and 31,066 wild birds. The number of days each hunter spent in the field decreased from 2018-19. The 2019-20 quail survey estimated that 6,749 hunters shot 45,270 wild quail (27.6% increase) compared to 6,995 hunters and 35,490 quail in the 2018-19 survey. The number of quail per hunter/day was up 33%. This is the second year in a row harvest and birds harvested per day increased. Estimates from 2019-20 indicate that 25,958 hunters (down 10.2%) harvested 387,185 doves (down 20.8%). The number of birds per hunter/day was up 10.6% for mourning doves. The number of rabbit hunters in 2019-20 (23,258) was up 4% from the previous year and they harvested 76,627 rabbits (down 1.5%). The number of rabbits per hunter/day also decreased 12%.

Hunter Heritage: Recruitment, Retention, and Reactivation

The IDNR Hunter Heritage Program saw successes and challenges during the pandemic. Our Hunter Heritage Program Manager, Jared Duquette left us to become Michigan's Wildlife Chief in November 2020. Congratulations, Jared! The position remains vacant for the foreseeable future.

In an effort to provide contemporary resources for hunters, we launched the new Hunt Illinois website in the fall of 2020. The website includes information on Illinois hunting seasons, places to hunt, licenses and permits needed, hunting and trapping regulations, hunter harvest reporting, hunter safety, wildlife management, and conservation programs. The new website was developed by the IDNR in cooperation with the National Great Rivers Research and Education Center, with funding support from the U.S. Fish and Wildlife Service Wildlife Restoration Program. The Hunt Illinois website can be accessed through most desktop and laptop computer web browsers, or by using most mobile devices, at <https://huntillinois.org/>. We are also working on moving our annual hunting and trapping digest to a modern software platform and translating the full digest into both Spanish and Polish.

The Learn to Hunt Program is part of a PR-Wildlife Restoration funded research grant that investigates “hands-on” approaches to recruit new adult hunters. It provides free workshops to teach adult participants how to hunt deer, turkey, squirrels, pheasants, ducks, geese and other game. The in-person workshops were cancelled due to the pandemic. The team pivoted and developed eLearning Modules on how to hunt waterfowl, deer, turkey, and upland game. The modules were quite popular, and they garnered invitations for the Department to provide presentations on R3 at two State Senators' virtual sportsmen's updates.

The Department hosted a mentored archery hunt on one of our state sites in east-central Illinois. We have proposed an administrative rule change to allow for special hunts focused on youth and new and lapsed adult hunters. We are nearing completion on a user-friendly deer hunting program development guide for municipalities.

Feral Swine

IDNR (IL Department of Natural Resources) 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 527 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 36 FS reports were investigated in 2020, but no new populations were discovered.

After local hunters and agricultural producers alerted WS to an emerging FS population in Pike County, IL in 2017, 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 a total of 26 FS from the Township. No reports of FS among this area have been received nor has WS surveillance identified any FS damage or documented their presence upon trail cameras in this area since January 2019.

WS received reports of FS in both Pope and Pulaski Counties in southern Illinois in 2019. 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 confirmed one adult boar among private properties in Pulaski County and it was successfully removed on 1/09/2020. Blood samples collected from the boar indicated this FS was negative for Classical Swine Fever, Swine Brucellosis and Pseudorabies. Genetic samples were analyzed, and results indicated a very close association with FS located in Wayne County, Missouri over 50 miles away. No other FS have since been confirmed in Pulaski County.

A self-sustaining breeding population was identified in Pope County among private properties and Shawnee National Forest lands spanning approximately 50 sq. mi in 2019. Extensive WS management efforts (trapping, ground sharpshooting & aerial control) resulted in the successful removal of 41 FS from this region in 2020. All FS tested negative for Classical Swine Fever, Swine Brucellosis and Pseudorabies in 2020. Genetic analysis is still underway to determine the possible source population and what state/region these FS were translocated from.

Bobcat Hunting

Illinois offered its Fifth hunting and trapping season for bobcat since 1972. Almost 6,500 people applied for 1,000 permits to take a bobcat by hunting, trapping, or salvage (roadkill, incidental, etc.). The season starts November 10 and ends on February 15. Successful permit holders tagged a total of 361 bobcats. Hunters and trappers took 339 bobcats, and an additional 22 bobcats were salvaged by permit holders.

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. Due to the Covid pandemic, opened positions remain unfilled and the Habitat Team continued operations with two full-time employees and one part time employee. For the year 2020, the team reported the following accomplishments: sprayed 364.3 acres for invasive plant control and site preparation, mowed 230.0 acres for exotic control, fire breaks and site preparation, cleared 10 acres of trees along waterways to manage for treeless landscapes and conducted prescribed burns on 140.2 acres and planted 185.0 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 2020, IRAP had over 25,000 acres under lease in 49 counties for spring turkey, archery deer, youth shotgun 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.

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 2020, the INPC permanently protected 13 sites, including two new nature preserves, five additions to existing nature preserves, five new land and water reserves, and one addition to an existing land and water reserve. The total acreage dedicated was 771.80 and the total registered 726.34 acres. Adding these 13 sites into the Illinois Nature Preserves System brings the statewide, total number of dedicated Nature Preserves to 404 comprising approximately 61,682 acres; and the total number of registered land and water reserves to 200 with approximately 54,767 acres. Altogether, at the end of 2020, there were 604 sites comprising close to 116,450 acres.

Division of Natural Heritage

Endangered Species

Throughout 2020, Department personnel further refined an enhanced recovery planning process for setting priorities and developing conservation actions for the full range of native species in the State. In a broad sense, this collaborative iterative process has three cyclical components with the goal of delisting threatened and endangered species: Assessment, Planning, and Implementation. Thus far, a Recovery Charter has been created that spells out the roles of various groups or individuals. Priority species for recovery have been selected, and species leads have been named.

IDNR staff are participating in a continental-scale study of acoustic phenology to improve population monitoring and inform management of hibernating bats. Acoustic monitoring at cave entrances during spring emergence may provide a less invasive, low-cost alternative to internal cave counts if acoustic data provide a reliable index of numbers of bats roosting in each hibernaculum. The objectives of the initiative are: 1) Measure

phenology of fall swarm, hibernation duration, and spring emergence across the latitudinal gradient of the WNS-established zone for Little brown bat and Tri-colored bat, and, 2) Determine whether indices of bat activity during spring emergence correlate to colony counts during late winter with enough precision to serve as a monitoring option during years when internal counts are not feasible or desired. IDNR biologists installed acoustic bat detectors at the entrances of two Illinois hibernacula which will be monitored through 2022.

During the summer of 2020, IDNR staff joined other agencies in a “last-minute” rescue of a small group of Federally endangered piping plovers coming from Wisconsin. Several pairs of piping plovers nesting near Green Bay, Wisconsin had been impacted by avian botulism, with resulting piping plover mortality. The USFWS recovery team was able to capture five fledgling plovers in the area of major concern and sought release of the birds further south in their migratory path to avoid further threat from botulism outbreaks in the region. The birds were released on the protected lake front of Illinois Beach State Park. It is our hope these young birds will return to nest in 2021.

IDNR staff developed a habitat model for Hall’s bulrush (State threatened) to inform surveys for the species. Hall’s bulrush was found at 13 locations during these Spring 2020 surveys: 7 out of 13 were known locations; 6 out of 13 were new locations. Using this predictive habitat model, biologists then initiated surveys in the Fall of 2020 with an emphasis on historic locations in both eastern and southern Illinois. Based upon data collected in late 2020, staff are now better prepared to implement a broader statewide sampling initiative beginning in 2021.

Natural Areas Stewardship

The Illinois Natural Areas Stewardship Grant Program was established and is currently accepting applications through May, 2021. \$500,000 was made available for the program’s inaugural round of grants. Authorized by Natural Areas Stewardship Act, grants will provide funding to Conservation Land Trusts in Illinois to expand their stewardship capacity and conduct stewardship action on land permanently protected by the Illinois Nature Preserve Commission.

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 235 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, solar 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.

Monarch Butterfly Conservation

The Illinois Monarch Action Plan was signed into action on September 28, 2020 by the leaders of the Department of Natural Resources, IL Department of Agriculture, IL Department of Transportation, and IL Environmental Protection Agency. The plan includes five goals to reach Illinois’ stem goal of 150,000,000 new stems of milkweed embedded in diverse nectar sources by 2038. Five virtual engagements, held October, 2020 – May 2021, helped moved Illinois’ monarch conservation efforts from planning to implementation. Nearly 400 people participated in the virtual events, and 65 volunteered for committees and leadership roles.

Division of Forestry

IDNR Nursery Program (Mason Nursery)

For FY21, the IDNR Nursery Program produced 602,000 native bare-root trees and shrubs of 29 different species. Additional production included 3,000 native containerized trees and shrubs of 24 different species; 6,000 containerized native wildflowers and prairie grasses of 52 different species; 1,515 pounds of cleaned wildflower seed of 45 different species; 2,314 pounds of cleaned prairie grass seed of 5 different species. The Mason Nursery also produced 785 pounds of Monarch/Pollinator native wildflower seed mix consisting of 38 different species. Most of this material was sold and distributed widely across Illinois habitats and projects.

Wildland Fire Programs

IDNR staff prescribe burned approximately 9,500 acres in several 100 units during the last burn season. Five introductory wildland firefighting classes were held for IDNR staff and volunteers. The Midwest Wildfire Training Academy was canceled due to Covid. Six G130 – 190 Wildland Fire classes were presented to the volunteer fire departments. A total of 28 fire departments were represented with 420 firefighters completing the classes. Through federal excess equipment programs, IDNR acquired approximately \$17,000,000 of surplus fire equipment, including fire, trucks, rescue boats, trailers, generators, small tools and a variety of other items. IDNR Forestry had two 20-person Type 2IA crews deployed to Colorado and Idaho to assist on 3 different fires. Illinois also has a representative on the esteemed NASF Wildland Fire Committee and represents the Big Rivers Fire Council on the Eastern FS Region. The Fire Program recently hired a new Manager to replace a retirement. We are extremely optimistic for new growth.

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 545,000 enrolled forest management acres engaging 9,700 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.

Illinois Forest Utilization & Marketing Program

IDNR Division of Forest Resources bonded and licensed 351 individual timber buyers or companies listing 726 total authorized agents who may legally purchase timber from any Illinois forestland owner. Seventy 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 again this year. The total economic value of the forest products industries to Illinois, including all primary and secondary sectors, exceeded \$23 billion as measured in 2012 and measured again in 2020. A new current economic output analysis for forestry is available from the Division.

IDNR Urban and Community Forestry Program (UCF)

IDNR's 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 City USA Growth, Tree Campus, and Tree Line USA programs in partnership with the Arbor Day Foundation and the USDA Forest Service. In 2020, IDNR's Urban and Community Forestry Program touched 10,054,336 Illinois residents through direct and partner assistance which included directing \$228,197 in USFS dollars to local communities resulting in \$393,634 in local match for a total of \$621,831 in tree planting, urban forest inventory data collection and urban forest management plan development work. In 2020 Illinois has maneuvered to be among the top three states in Tree City USA programs, among the top two in TCU Growth communities and top five in Tree Campuses in the nation. In 2020 Illinois approved 188 Tree City USA Communities, 40 Tree City Growth Award communities (all-time best) 19 Tree Campus USA campuses, and 2 Tree Line USA utilities.

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, 1,324 easements have been placed, protecting 90,427 acres. Due to the lack of a state budget for fiscal years 2016 and 2017, the State of Illinois was unable to offer state options under CREP; therefore, USDA and the State of Illinois suspended CREP enrollment. Recently, funding for the state side of CREP has been restored and revisions to the Memorandum of Agreement between the USDA, CCC and the State of Illinois has begun. It is hopeful that CREP enrollments will begin again in the near future.

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 32 State Wildlife Grant (SWG) Projects. Collectively these projects include monitoring and assessment for hundreds of amphibian, bird, fish, insect, mussel, and reptile SGCN. The four Projects completed over the past year identified an approach for determining restoration criteria for freshwater mussels in Illinois, assisted with coordinating our state strategy for Monarch Butterfly conservation, inventoried amphibians and reptiles in the Green River Conservation Opportunity Area, and assessed SGCN of bottomland forest and swamps in southern Illinois. Five new Projects were started that focus on surveys and conservation assessments of dragonflies, updating biological characterizations of streams and rivers, providing information necessary for conservation planning of the Blanding's Turtle and the Eastern Massasauga Rattlesnake, and conducting stewardship work at Illinois Natural Areas Inventory sites that contain populations of state-listed endangered or threatened species. Four new Projects are being developed that will provide information on the health of turtle and snake populations, seasonal habitat use of grassland birds, and provide stewardship in high-quality natural communities and large connected grassland habitats.

For More Information

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Indiana

**INDIANA
STATE REPORT**

May 27, 2021

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Covid-19 Response

On March 6, the State of Indiana confirmed its first case of COVID 19. Ten days later, Indiana DNR began following CDC guidance for large gatherings and staff were asked to begin working from home. Shortly thereafter, Governor Holcomb executed a stay-at-home order that would result in a series of weekly Executive Orders that would impact Indiana Division of Fish & Wildlife (DFW) daily business through the remainder of the year. While people were told to stay home, the Governor did encourage local outdoor recreation. Public lands remained open and DFW made countless adjustments in ensuring access to our outdoor recreation opportunities remained open while complying with the ever-changing CDC guidelines and sanitation best practices to keep our staff and customers safe. Annual hunting and fishing licenses set to expire on March 31 were extended through June 30. While there is no doubt that 2020 proved to be one of the most challenging years in most of DFW staff's lifetime, staff stepped up to the plate to ensure we continued to fulfill our mission to enrich the quality of life for present and future generations by balancing the biological, ecological, recreational, and economic benefits of Indiana's fish, wildlife, and their habitats. As a result, we saw increased use of public lands and access sites, increased participation in outdoor recreation, increased engagement on social media channels, and increased activity on our websites.

License Sales

One positive of COVID 19, despite continued license extensions was the increase in our license sales. We observed a 15% year-over-year increase in overall license sales in 2020. The two largest revenue-generating licenses – the annual fishing and deer bundle licenses – increased by 21% and 16%, respectively. Hunting and trapping license sales increased by 10%, while all other fishing license sales (excluding the annual fishing license) rose by 15%. Deer and turkey license sales increased by 9% and 21%, respectively. The hunt/fish combo license increased by 28%. The increase in license sales among women (32% gain) outpaced that of men (13% gain). The 35-44 age group showed the largest year-over-year increase (20%), followed by the 18-24 and 25-34 (18%), 45-54 (13%), 55-64 (11%), and 65+ (9%) age groups. Customers were more apt in 2020 to purchase licenses online (38% gain) than by traditional retail channels (-6% loss).

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

In 2020, many workshops and trainings were cancelled due to COVID-19. Throughout the year, efforts were made to replace in-person events with virtual options. While many workshops were cancelled, a few went virtual. Workshops were held throughout the state, including in 12 targeted urban areas and attended by urban and suburban participants. Of those hunting and fishing workshop participants that completed a Post-workshop survey, 92% and 95% were confident or slightly confident of the newly learned skill, respectively. Participants were searched in the license database to determine if participants purchased licenses before or after the workshop. A greater percentage of participants (compared to 2019) plan to purchase a hunting, fishing, and/or trapping license in 2021-2022 season: Hunting- 44%, Fishing- 67%, and Trapping- 6%.

The Division's R3 Specialist position overseeing our hunting, shooting, and trapping programs was vacant for most of 2020.

Public Lands

2020 was an exceptionally challenging year for Indiana's public lands program. Public use of properties and access sites was up nearly 30% from pre-pandemic times and many of those new users were unfamiliar with property rules or even basic public land etiquette. Staff not only had to navigate the challenges of a pandemic but had to do so while dealing with tens of thousands of new visitors. DFW properties and access sites remained open throughout 2020. Staff developed protocols and processes to continue to host in-person draws for hunting opportunities, hosting 806 in person draws. Not a single draw was missed as staff managed around family and coworker quarantines. Shooting ranges remained open at 50% capacity in accordance with CDC guidelines and Executive Orders. Hatcheries did suffer some reduction in production because of COVID first hitting the state during Walleye and Muskie egg take. While 2020 presented many challenges, it did bring many new visitors that the Division plans to work on retaining into 2021.

Land Acquisition

DFW acquired 1,089 acres which included 366 acres for Fish & Wildlife Areas, 50 acres for game bird areas and one small tract for a public access site. In addition, the Indiana Department of Transportation donated 673 acres of land that was acquired for mitigation purposes. Once the mitigation process is complete, these acres will open to the public.

DFW started a new Sport Fish Restoration grant to fund acquisition of land for public access sites. This grant will result in increased opportunities for fishing activities and protect high-priority lands for public access.

Promoting Recreational Hunting as a Preferred Management Tool

DFW continues to partner with local communities to facilitate the use of recreational hunting as a deer management tool. Many communities face overpopulated deer herds resulting in damage to property and threats to human safety. Communities often lack the technical knowledge needed to utilize hunting as a management tool and either choose to do nothing or take steps that are not effective. To assist communities, DFW developed a method for providing financial assistance to communities for hiring a hunt coordinator professional. These professionals receive training facilitated by DFW and are experienced in hunt coordination. Communities also gain momentum for hunting by associating their efforts with a DFW program. In 2020 DFW partnered with 6 communities to open 3,353 acres to recreational hunting and help citizens manage wildlife resources.

Working to Improve Wildlife Connectivity

DFW environmental biologists worked with partners to increase wildlife connectivity on a variety of projects. In Indiana's natural lakes region, the team provided technical assistance to lake associations to encourage residents to create healthier shorelines. Biologists assisted the Winona Lake Association with developing the Healthy Shorelines Initiative which provides financial assistance for property owners to implement shoreline practices that create more space for wildlife and allow for greater connectivity along the lake shore.

The team also worked with roadway and bridge designers to promote wildlife friendly designs such as natural benches along roadways and under bridges that allow for better wildlife passage. Natural benches provide increased wildlife passage when compared with infilled riprap embankments.

Expansion of technical services provided to private landowners

DFW recently worked to secure new federal monies through the implementation of a CRP agreement with the NRCS. Monies secured from the agreement will be used to hire two new full time private lands biologists. These new positions will work with agricultural producers to provide more and better wildlife habitat on their lands. By providing additional technical assistance for federal programs such as CRP, DFW ensures that wildlife benefit from farm bill monies is being maximized.

Epizootic Hemorrhagic Disease

In 2020, DFW received 126 reports of potential EHD cases involving 258 sick or dead deer from 37 counties. Testing for EHD requires fresh samples of the spleen, liver, kidney, or blood. DFW tested deer to confirm only the presence of EHD in a county and not the total number of infected animals. A total of 11 deer from 10 counties were tested, and 5 (45%) deer from 5 counties tested positive for EHD. Reports of EHD were clustered in the northwest, northeast, and southeast corners of the state. The spread of EHD this year was less widespread in comparison to the 2019 outbreak that occurred in over half of the States' counties. Prior to 2019, the last major outbreak of EHD in Indiana occurred in 2012. A less widespread but significant

outbreak occurred in 2013. Maps of deer reported, tested, and confirmed to have EHD are available online and updated daily.

Chronic Wasting Disease

After the CWD surveillance efforts in northwest and northeast Indiana during the 2019 season, DFW returned to those areas during three weekends in November 2020 to conduct targeted CWD surveillance. Biologists were stationed at 8 northwest locations throughout Newton, Jasper, Lake, LaPorte, Porter, Pulaski, St. Joseph, and Starke counties, and at 5 northeast locations throughout Steuben, LaGrange, Noble, and DeKalb counties. Submission of samples for CWD testing was voluntary, and hunters received a metal tag reminiscent of historic confirmation tags for participating. In 2020 a total of 855 hunter-harvested deer, 13 road-killed deer, and 15 targeted deer from Indiana were tested statewide. To date, no wild deer from Indiana have tested positive for CWD.

Gray Fox Investigations

Gray foxes are a valuable and understudied furbearer not only in Indiana, but across their entire range. Several indices suggest populations declined between the 1970s and 2010s in Indiana and other Midwest states. Indiana DFW has initiated a comprehensive study with Wildlife Ecology Institute and Luther College to assess factors potentially contributing to the long-term declines. Multi-county study sites were established in central and southern Indiana, and 12 foxes were fitted with GPS collars during the fall 2020 field season. Location data from collared foxes will be used to assess habitat use, home ranges, and cause-specific mortality. Carcasses from 32 additional gray foxes were collected from trappers and DNR staff for ongoing genetics, disease, and diet studies. Field seasons are planned for 2021 and 2022 to coincide with Indiana's regulated trapping season for gray fox.

Effects of Harvest and Habitat Conditions on Northern Bobwhite

Indiana DFW initiated a research project with the University of Georgia to better understand the effect harvest regulations, habitat conditions, and their interaction have on population growth and density of northern bobwhites. The study, now in its 2nd field season, is being conducted on Goose Pond Fish & Wildlife Area in southwest Indiana. Ultimately, the empirical data collected during this three-year project will be used to develop an adaptable framework to inform harvest management on public land areas using site-specific habitat and population characteristics.

White Nose Syndrome

During late-winter of 2020, White Nose Syndrome (WNS) related projects included elements of disease surveillance and population monitoring. Winter bat surveys were conducted in 20 hibernacula during January and February. Counts of little brown (*Myotis lucifugus*), big brown (*Eptesicus fuscus*), and tri-colored (*Perimyotis subflavus*) bats all

increased marginally since 2018, and Indiana bat populations increased significantly. This increase in Indiana bats is attributed to hibernacula-shifting, which has been observed across all Indiana hibernacula. All four species have declined since the first detection of WNS in Indiana in 2011. Little brown and tri-colored bats have been hit especially hard, with both species declining approximately 90%. Populations generally appear to be stabilizing in recent years, although multiple little brown bats still exhibited signs of WNS at the time of the 2020 surveys.

Online Sick or Dead Wildlife Reporting Tool

Indiana DNR launched a new website for public reporting of sick or dead wildlife in 2020. The new online tool is designed to collect information about Indiana wildlife that appears sick or has died without an apparent cause. Reports are added to an active database that helps DNR track wildlife health over time and detect wildlife disease outbreaks.

White River Survey

Fish community, water chemistry, and benthic macroinvertebrate sampling were conducted on the West Fork White River and White River mainstem from its headwaters to its confluence with the Wabash River in 2020. This was a collaborative effort between the Indiana DNR, Indiana Department of Environmental Management, and the Muncie Sanitary District's Bureau of Water Quality.

Over 17,000 fish comprising 94 species were collected from the 62 fish sample stations. Some of the less commonly found species collected were the American Eel, Shovelnose Sturgeon, Mountain Madtom, and Harlequin Darter. Sites will be evaluated using the Index of Biotic Integrity which gives a site a numerical value representing the overall health of the fish community. More detailed information was collected on game fish species including Smallmouth Bass, Rock Bass, and catfish species.

Fisheries Information System (FINFO)

2020 was the first full year for Fisheries Information System (FINFO) to be in use. FINFO was developed to store pertinent fish survey, water quality survey, and fish stocking data into one central database. A total of 252 fish surveys including over 50,000 fish, 695 water quality surveys, and 540 fish stockings have been entered into the system. Having all the data centralized will be advantageous for research initiatives, data security, providing timely information to the public, and grant reporting.

DNR assumes long-running yellow perch survey

DFW had contracted Ball State University to conduct perch survey and research on Lake Michigan for over 40 years. The resulting dataset is one of the longest running and complete surveys in the Great Lakes. DNR purchased a new Lake Michigan research vessel which made in-house completion of the perch survey possible. During 2020 the Lake Michigan office

completed the first full field season of DNR-conducted yellow perch survey work. Gillnet assessments for adult spawning stock, summer adult gillnetting, young-of-year trawling, and micromesh gillnetting to assess juvenile yellow perch were completed at 4 different sites across Indiana's lakefront. Among notable results were a large uptick in adult yellow perch catches during the spawning assessment, low observed recruitment of juvenile perch, and a record amount of alewife captured during the summer adult perch gillnet survey.

Online Muskie Angler Reporting Survey

An online tool for Muskie anglers to report their fishing trip info to DNR biologists was created in the spring of 2020. The muskie survey was designed as a pilot to test software, gauge use/interest and what data could be collected electronically from anglers. Using Survey123 anglers are asked a series of questions about their fishing trip. Biologists plan to use this info to help manage muskie fisheries across the state. A real time "Live Summary" of submissions was also created using ArcGIS Dashboards to display # of trips, muskie caught, and numbers of follows. In the 1st year a total of 140 fishing trips were submitted with 124 muskies being caught. Biologists hope to see that number increase in 2021.

Where to Fish in Indiana Interactive Map

The where to fish interactive map web page is a resource for anglers and other recreational water users to get information on what opportunities are available. In 2020, the site had major updates including information on over 600 access sites, individual lake fisheries reports, lake depth contour maps, public lands property boundaries, low head dam locations, navigable streams, and fish consumption advisory for "do not eat" waters.

Relevancy Roadmap Pilot

The Relevancy Roadmap pilot project focused on understanding how the Relevancy Roadmap can apply to the DFW Stewardship Program, which is managed statewide by one DFW employee. Using an exploratory qualitative approach, DFW chose to understand the values, motivations, and barriers to volunteering on an urban-adjacent and a rural fish & wildlife area, each of which are in the southwest part of the state. During the interviews, a variety of social and psychological processes were uncovered, such as social identity, psychological distance, and beliefs about appropriate use of resources, that may play a role in DFW's ability to recruit and retain volunteers. Findings indicated blind spots in the approach or traditional framing of volunteer activities in terms of recreation, which may exacerbate social conflict among all DFW users. When examined through theoretical lenses, DFW was able to gain key insights into opportunities to frame volunteering as something that is relevant to a broader set of individuals. This project showcased how using a theoretical social science lens can help shape program decisions and better achieve program outcomes.

Iowa

**IOWA
STATE REPORT
January 2020-December 2020**

**Pete Hildreth, 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 a Forestry Section and the Bureaus of Fisheries; Land and Waters; Law Enforcement; State Parks, Forests, and Preserves; and Wildlife. In October 2020, Pete Hildreth 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, and the issues of 2020 did not help advance the cause. 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.

Fisheries Bureau: 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). Levels of interest in fishing were 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: 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 246 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. Forest Service studies show 4.5 million trees were lost due to development in Iowa from 2010 to 2015. Additionally, over 4 million trees were damaged or lost in Iowa communities from the August 10, 2020, derecho storm.

Foresters continued to monitor for serious insect, disease, invasive plant species, and environmental problems in Iowa's woodlands. Aerial surveys of 1,842,932 acres were mapped to determine forest health problems and potential management plans. There were 1,688,862 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 3,841 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, 2,789 ambrosia beetles, Pityophthorus beetles, and weevils that were collected and were submitted as part of the national survey. A total of 18,352 maples in 17 counties were examined for the presence of Asian longhorned beetle. None of the trees were positive for Asian longhorned beetle. Several remote meetings were held to cover non-native invasive plants and various other plants.

Land and Waters Bureau:

Public Land Acquisition and Management Program: This program provides assistance to operating bureaus to acquire public 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 2020, public land and conservation easement acquisitions totaling 4,090 acres, protected natural resources, provided Iowans with new and enhanced outdoor recreational opportunities, impacted water quality and watershed improvement efforts, and impacted recovery efforts for threatened and endangered species.

Rivers Program: This program contains multiple program areas over four major areas, including: 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 1,008 miles of dedicated water trails have been developed, 91 miles are pending designation and, 209 additional miles are under evaluation. On major rivers, 33 dams have been removed or made fish passable and safer since the low-head dam public hazard program began in 2008.

Environmental Review & Sovereign Lands Program: This program provides services for DNR and the public to ensure compliance with state and federal rules and regulations pertaining to public trust resources in Iowa. Staff apply information about protected 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 through the Environmental Review and Sovereign Lands Construction Permit sections. The Threatened & Endangered Species staff coordinate the conservation of 17 federally listed species of plants and animals and over 300 state-listed species. Staff also 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 2020, 83 engineering, construction, and public capital improvement projects totaling \$11,005,533.38 on public lands were contracted; \$1,799,433.47 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 27 lakes, with 17 projects underway, and 18 projects in the initial planning stages. Additionally, restoration work has been completed on over 35 shallow lakes/wetlands across the state.

Law Enforcement Bureau: 2020 was a challenging year for law enforcement in general. The world was dealing with the COVID-19 pandemic as well as added challenges with social movements that contained anti-law enforcement sentiments. The Iowa DNR Law Enforcement (LE) Bureau worked effectively through this challenging year. Our Conservation Officers continued to work and practice safe methods of proactive enforcement, especially with the thousands of new users who engaged in the outdoor recreation opportunities managed by the Iowa DNR. The State Parks were packed, water trail and public lands usage increased, and more fishing and hunting customers engaged in the sport. This increased usage, with our current level of staffing, caused us to increase active coordination with our other bureaus to ensure there was adequate coverage at the many recreation sites across the State.

With more people participating in water related activities, navigation enforcement was busy. This was challenging because we were only able to operate with about half the number of seasonal Water Patrol Officers (WPOs) due to being unable to hold our hands-on training in May because of COVID-19 restrictions. The shortage of available WPOs was made up by increased efforts by Conservation Officers. Officers traveled out of their regular areas to help out at busy lakes and areas of the State's rivers.

Administratively, we were able to address support staff needs by updating assignments; a Support Services Captain was identified who, along with other tasks, has the core responsibilities of handling training planning and fleet management; and six Sergeants, spread out equally across the State, provide support for the District Captains. And, for better identification and consistency, the Bureau also began a program to mark all LE patrol trucks with decals identifying them as State Conservation Law Enforcement Officers.

On the technology front, body cameras were rolled out to all Conservation Officers and Captains. This was the culmination of two years of body cam testing and evaluation. The decision was made to go with Visual Labs for the cameras. These were deployed to the Officers in the fall of 2020.

All of the LE Bureau stepped up in a dynamic and difficult year to provide proactive enforcement and excellent customer service.

State Parks, Forests, and Preserves Bureau:

State Parks: The DNR manages 71 State Parks, Recreation Areas and State Forest Campgrounds. These areas encompass 102,000 acres and host an estimated 15 million visitors each year. The State Park infrastructure system has 4,406 campsites, 94 rental cabins, 31 day use lodges, 157 picnic shelters, and over 450 miles of trails. Park amenities also include shower buildings, restrooms and latrines, beaches, lodges and shelters, concession buildings, boat ramps, docks and piers. Providing service to these amenities requires the construction and maintenance of sewer systems, lagoons, water systems, wells, electric lines, transformers, roads, parking lots, sidewalks, lights, offices and storage buildings. In 2020 there were more than 80 maintenance and renovation projects underway in Iowa State Parks and Forests areas.

New Legislation: In 2018 the Iowa Legislature passed Senate File 2389, which authorizes the Department of Natural Resources (DNR) to establish certain fees at state parks and recreation areas. This significant change eliminates the need for the DNR to go through rule making to establish, change and manage fees for camping, use of rental facilities, and other special privileges in state parks and recreation areas. The new pricing structure allows the DNR flexibility to set and change fees to attract new park visitors, expand state park visitor customer base, maximize facility use, manage capacity issues, maintain state assets and respond to trends and promotional opportunities in a timely manner. DNR spent most of 2018-2020 compiling data to use in its creation of new fee schedules for all state park, recreation area and forest campgrounds and rental facilities, and began the rule making process to adopt new rules to implement the new legislation. The new rules went into effect in 2019 and 2020 with a soft roll out, and will be fully implemented in 2021.

State Forests: Iowa's state forest system of over 46,000 acres is comprised of four large 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, wildlife habitat, soil, and water protection, protection of unique plant and animal communities, and outdoor recreational opportunities. They are the backbone of several of Iowa's Bird Conservation Areas. State Forest staff completed 927 acres of forest stand improvement, 33 acres of reforestation, 524 miles of trail maintenance, 3,031 acres of prescribed fire, 126 acres of prairie and savanna management, collected 105 bushels of seed, and conducted 14 educational programs in 2020. Through the public bid process, in relation to timber stand management and harvesting, they also sold over 500,000 board feet of timber.

Wildlife Bureau: The Wildlife Bureau, through multiple partnerships, provides support to a growing workforce of wildlife and forestry professionals that provide private lands conservation assistance to private landowners across the state. Staffing includes 19 private lands forestry

positions and 29 private lands wildlife biologists, technicians, habitat specialists, and depredation staff. In total, this 48-person workforce includes 26 DNR full time employees, 13 contract positions, and 9 Pheasants Forever Farmbill Biologists. In addition to the substantial support provided by NRCS, these staff reflect our partnerships with Conservation Districts of Iowa, Pheasants Forever, and the Wildlife Management Institute.

During the 2020 pandemic, Iowa DNR has been able to keep all public lands open and conduct all hunting seasons, for both residents and non-residents. All of our public lands experienced higher usage during 2020. Iowans expressed increased appreciation for public lands and outdoor recreation opportunities. These trends are evidenced, in part, by increases in hunting license purchases and increases in harvest for those species which have harvest reporting requirements. For example, deer license sales increased from 330,185 for the 2019-20 season to 349,663 for the 2020-21 season, a 6% increase which is the largest single year percentage increase since 2005. Deer harvest increased from 99,999 for the previous year to 109,549 for the 2020-21 season, a 10% increase. Number of deer hunters participating was 160,519. The 5-year average for number of spring turkey hunters is 38,989 with a 26.2% success rate. In spring 2020, 43,991 spring turkey hunters participated with a success rate of 28.5%. Of the 43,991 spring hunters: 59% hunted last year, an additional 18% within the past 5 years; and 17% were new hunters. The number of new hunters (7,611) is a 177% increase over the 5-year average for new hunters (2,749). Hunters included a record number of youth participants. The highest number since 2005 which was the initial year of electronic licensing data allowing us to track hunters by age. Spring turkey harvest increased in 15 of the 16 wildlife management units covering the state, with the only decline occurring in the SE corner of the State.

We continue to see increase in interest in hunting as a source of protein. Iowa deer hunters also support the Food Bank of Iowa by donating harvested deer to the Help Us Stop Hunger (HUSH) program. For the 2019-20 deer season, hunters donated 3,750 deer to the Iowa Food Bank (630,000 meals) which were processed by one of the 60 participating lockers. During 2020, meat locker participation in the HUSH program dropped from 60 to 35, but final numbers on donated deer are not yet available. In response to this drop in local meat locker participation, Iowa DNR launched the Iowa Deer Exchange in August 2020 modeled after a successful effort in Nebraska to connect hunters with people interested in receiving venison. The Iowa Deer Exchange registered 91 hunters interested in donating venison and 558 people interested in receiving venison. Donors were most interested in donation of field dressed deer (73%), but also showed significant willingness to provide quartered or boned-out meat. Recipients most frequently requested “any condition” (48%), with an additional 13% requesting field dressed deer, 7% quartered or boned-out venison. Overall, 81% of hunters were interested in donating entire deer and 74% of recipients were interested in receiving the meat from an entire deer.

Landowner interest remains strong in Iowa’s Iowa Habitat Access Program (IHAP) which provides public hunting on private land. During the 2020-21 hunting season, 160 IHAP tracts totaling 22,000 acres were open to public hunting. Iowa received its 3rd USDA Voluntary Public Access grant in 2020 and has subsequently enrolled/re-enrolled 78 sites that will open 14,940 additional acres to public hunting. As of today, 233 sites and 36,202 acres are enrolled in IHAP and scheduled to be open for public hunting during the 2021-22 hunting season.

Kansas

Kansas
State Report
May 25, 2021

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

2020 License Sales A Pleasant Surprise

KDWPT staff began planning for revenue shortfalls in early April when the sale of nonresident turkey permits was suspended in order to protect the health of Kansans. The potential financial impact to the agency's Wildlife Fee Fund was estimated at more than \$2 million. Fortunately there is good news. Thanks to the fact that outdoor recreation as an allowable activity in Governor Kelly's Executive Orders, the department has kept state parks, reservoirs, state fishing lakes and wildlife areas open. And Kansans have responded. State parks, reservoirs and state fishing lakes enjoyed record visitation. State parks were at nearly full capacity every weekend from April through November, and revenue set records. Overall, fishing license and permit sales increased by nearly 30 percent in 2020, compared to 2019.

Chronic Wasting Disease Confirmed in Captive Elk Herd

The Kansas Department of Agriculture confirmed a case of chronic wasting disease (CWD) in a captive elk herd in Osage County. KDWPT staff are collaborating with KDA to mitigate risk to the captive cervid (elk and deer) industry, as well as the local wild deer population. This is the first documented positive CWD case in eastern Kansas and the first in a captive herd since 2001. The captive herd was depopulated and surveillance for CWD in Osage County this year turned up no positives.

Fatmucket Mussels Produced at Hatchery

KDWPT hatchery staff at the Kansas Aquatic Biodiversity Center (KABC) (part of KDWPT's Farlington Fish Hatchery) successfully produced fatmucket mussels, a species of mussel that is on Kansas' Species In Need of Conservation (SINC) list. This summer, the mussels will be available for reintroduction into selected sites where they are native or they could be stocked back into the stream that the adults came from (Drywood Creek near the hatchery).



The KABC was developed so fish culture could be used to restore imperiled species. Staff at the center will breed native aquatic species to be reintroduced into bodies of water where they've native.

New Name, Same Good Fishing

Last summer, Walk-In Fishing Access (WIFA) signs went up around Kansas on properties that were originally enrolled in the Fishing Impoundments and Stream Habitats

(F.I.S.H.) program. The program leases fishing access to private waters and opens it to all Kansas anglers. The program was recently rebranded with the new name to improve awareness and more closely align it with the popular Walk-In Hunting Access (WIHA) program. Fisheries staff hope this change increases usage of the properties and attracts more pond and stream owners to participate in the program. There are hundreds of thousands of small farm ponds across Kansas and 10,000 miles of privately owned streams, which provide fantastic fishing. In 2020, 189 sites were enrolled in WIFA, including 45 miles of streams, five navigable river access sites and 1,590 pond acres.

Habitat Program Opens Access To Hunters

KDWPT district wildlife biologist James Svaty and habitat specialist Davis Ostermeyer secured a five-year Walk-In Hunting Access (WIHA) lease on a 2,500-acre working cattle ranch in Lincoln County through a habitat improvement project. The WIHA lease, which provides public hunting access, was the culmination of a collaborative effort to remove Eastern redcedar trees from the grassland, improving both wildlife habitat and cattle grazing conditions. The property, located in the heart of the Smoky Hills, is owned by Mid-Continent Farms based in Washington County, and is now excellent greater prairie chicken habitat and provides high-quality hunting opportunities for white-tailed deer, bobwhite quail, and wild turkey. Ostermeyer, fills a habitat specialist position made possible through an agreement between KDWPT and Pheasants Forever/Habitat Forever. This single position has opened hunting access to more than 5,000 acres of new WIHA, and has cleared more than 1,100 acres of cedars. Invasive Eastern redcedars are the number one habitat concern in the Smoky Hills Ecological Focus Area outlined within Kansas' State Wildlife Action Plan.

Aquatic Nuisance Grants Secured

The KDWPT Aquatic Nuisance Species (ANS) program received five federal grants worth more than \$500,000, which will be used to prevent the spread of aquatic nuisance species in Kansas. Over the next two years, these grants will fund: 1) boat inspections across the state, 2) a feasibility study of a potential barrier to prevent upstream migration of Asian Carp in the Kansas River, 3) commercial harvest of Asian Carp in the Kansas River, and 4) study of the Neosho River bighead carp population. KDWPT's ANS Program coordinator Chris Steffen led the effort to apply for these grants.

RBFF Lapsed Boat Registration Mailing Yields Results

Last March, KDWPT collaborated with the Recreational Boating and Fishing Foundation (RBFF) to renew lapsed Kansas boat registrations. Mailers, designed, printed, mailed, and paid for by RBFF, were sent to lapsed boat registrants, encouraging them to register their boat, or return the mailing indicating a change of address or sale of the boat. Boat registrants who also held a fishing license were mailed a fishing specific mailer, which included a map of a lake in their area, with landmarks like fish habitat, boat ramps, and feeders indicated. The campaign resulted in a much cleaner and more accurate mailing list, removing nearly 9,000 outdated addresses, registered 970 boats and brought in \$41,225 in revenue.

Mountain Lion Sighted Numerous Times In Same Area

KDWPT staff reviewed and confirmed a trail camera photo taken in southcentral Kansas of adult mountain lion carrying a recently killed porcupine. This photo follows three earlier confirmations (20 miles total apart) in the same area over a three-month period, which biologists assumed is the same cat headed south. This is the first time multiple photos of a cat have been confirmed in the same area within a time frame that could indicate the presence of a resident lion. However, it's too early to tell because it could be a different lion coincidentally in the same area.



More recently, a mountain lion was photographed by a backdoor Ring video camera as it walked casually down the alleyway in the heart of Wichita, Kansas' second largest city. The footage was taken at 4 a.m. on May 10, 2021. KDWPT biologists confirmed the location and searched the area in case the cat was still nearby. It was not located.

<https://ring.com/share/6823c39e-819f-4e79-bb02-18208d042bae>

There have been 36 confirmed mountain lion sightings in Kansas since 2007, and most have appeared to be young adult cats on the move.

KDWPT Refunded Nonresident Deer Hunters Who Couldn't Travel Due To COVID

Not long after the lottery drawing for nonresident deer permits last April, hunters began inquiring whether refunds would be available if hunters could not travel due to COVID. The decision was made in June to provide refunds on request, and to offer returned permits to unsuccessful hunters next in the draw order. Refund requests were light through the summer, and department Licensing Section staff successfully re-issued permits to hunters next in line.

Through the fall months, the COVID situation in Kansas made national news, and more hunters requested refunds. Some couldn't adhere to mandatory quarantines they would face back home after traveling to Kansas, and others were dealing with their own exposure to the virus. Overall, licensing staff processed 285 refunds and re-sold 102 permits.

KDWPT Public Lands Helps Those In Need

KDWPT Public Lands staff decided to clean out department freezers last year and help those in need during the pandemic. Each year staff must harvest some bison and elk on state reserves to ensure the herds are maintained at sustainable levels. Culled animals are butchered and meat is usually used for education and outreach efforts during the year. However, this year, such gatherings were nearly non-existent. With more meat on hand than was needed, Public Lands staff delivered more than 1,900 pounds of bison and elk meat to various food banks and pantries across the state in 2020-2021.

New Regulation Allows Night Vision Equipment for Coyote Hunting

Coyote hunting has always been allowed at night in Kansas, but until 2021, the use of lights, night-vision and thermal imaging equipment could only be used by nuisance wildlife control permit holders and landowners protecting livestock. After hearing from predator hunters, trappers and landowners for several years and with an indication that legislation may be introduced to allow night vision equipment, KDWPT began developing a regulation. After researching other states' experiences and discussing the issue at four public meetings, the commission passed a regulation in August 2020 with overwhelming public support.

On Jan. 1, 2021, a limited night vision equipment season opened, requiring a \$2.50 Night Vision Equipment Permit, which allowed the use artificial light, scopes and equipment that amplify visible light, and thermal-imaging scopes and thermal-imaging equipment, when hunting coyotes at night. The season was open Jan. 1-March 3, and only coyotes could be taken. The use a vehicle was prohibited and the activity could only occur on private land.

For the inaugural season, 5,776 Night Vision Equipment permits were sold, representing about 17 percent of total coyote hunters. A random number of permit holders were surveyed and extrapolated data indicated that those who hunted harvested an average of 7.6 coyotes during the season – 4.4 at night and 3.2 during the day. Nearly 19,000 coyotes were taken at night by hunters, 141,000 were taken by traditional hunters and 37,000 were taken by trappers. There were no safety or poaching concerns reported during the season and 96 percent of those surveyed indicated they had no concern about target identification.

Fisheries Research

KDWPT's Fisheries Division, in cooperation with Missouri State University, has initiated a study looking at crappie exploitation in three southeastern Kansas reservoirs. One thousand crappie were tagged in Big Hill and Elk City Reservoirs and in Parsons City Lake.

Anglers report tagged fish by calling the number on the tag and successful anglers that report tags will be placed into a drawing for prizes.

Information gathered through this study will provide a better understanding of angler induced mortality, allowing for more accurate population modeling and better management of crappie populations in the state.

Walleye, Saugeye and Sauger Egg Collection Goals Met

KDWPT's Fisheries Division staff met egg collection goals needed to produce walleye, sauger and saugeye requested for stocking in Kansas waters. The goals were lofty – 68 million walleye, 24.3 million saugeye and 1.8 million sauger for a total of 94.1 million eggs. Crews battled late-March weather extremes and high winds at Kirwin, Cedar Bluff, Perry, El Dorado and Hillsdale reservoirs, but pulled all nets on April 3 after goals were met. The results were welcome after egg collection efforts were cancelled in March 2020 because of the pandemic.

iWIHA Shines During Youth and Archery Spring Turkey Season

The Interactive Walk-In Hunting (iWIHA) program's popularity continued to grow during the 2021 youth and archery spring hunting season (April 1-13). iWIHA opened 53 tracts totaling almost 11,000 acres for the 2021 spring turkey season. The program leases land for public hunting just as the regular WIHA program does; however, iWIHA limits the number of hunters who can hunt on a tract at any one time through an electronic check-in system. This relieves landowners' concerns about overcrowding, which is a concern in more populated areas, and ensures hunters enjoy high-quality experiences. Check-ins and turkey harvest were much higher in 2021, compared to 2020.

Record Number of Nonresident Deer Permit Applications Received

During the April nonresident deer permit application period, a record 29,881 applications were received for the 22,026 permits allocated for the 2021 season. Last year, 24,240 applications were submitted for the 22,003 permits allocated. Application numbers had been relatively stable until this year. Allocations are set using a series of adjustment factors listed in statute. Those applicants unsuccessful in the draw will receive a refund and preference point for next year's draw.

Diversity and Inclusion

Through partnerships with the Kansas Wildlife Federation and the Kansas Hispanic and Latino American Affairs Commission the department produced the first-ever Spanish-language hunting and furharvesting regulations last fall, available online and in a printed version. The regulation pamphlet is just one facet of a new language access program, "Afuera Para Todos" meaning "Outdoors For All." This spring, the *2021 Kansas Fishing Regulations Summary* was produced and distributed. The program also includes plans to offer additional Spanish-translated materials, to include the *2022-2023 Kansas Boating Regulations Summary* (produced every two years), area signage, website and social media content, and more. In addition to offering Spanish-translated materials, KDWP has increased its capacity to field phone and email communications in Spanish through the hiring of a dedicated bilingual information representative.

Kentucky

**KENTUCKY
STATE REPORT**
May 2021

Rich Storm, Commissioner
Brian Clark, Deputy Commissioner
Kentucky Department of Fish & Wildlife Resources (KDFWR)
#1 Sportsman's Lane, Frankfort, KY 40601

Fisheries Division

Habitat Program

During the 2020 calendar year, KDFWR's habitat branch and districts staff worked on several large-scale fish habitat projects in the state. Phase 3 of 7 was completed in Barren River Lake, including 45 new fish habitat sites with 1,300 habitat structures including large cedar trees, pallet structures, rock/log spider hump structures, deep water stake beds, plastic trees, mossback structures, and bamboo bundles. Reservoir Fish Habitat Partnership's Friends of Barren River Lake partnered with KDFWR on a \$1000 grant to build rock/log combo structures for bass and crappie. Ten structures were built in two locations with 75 tons of rock and 120 cedar logs. The Northwestern District staff partnered with the USACE on a Reservoir Fish Habitat Partnership grant in 2018 that allowed for the purchase of \$30,000 worth of reef ball molds and accessories. In 2020, as part of this partnership, district staff participated in training by Reef Innovations to construct reef balls. Training allowed for the construction and deployment of 27 reef balls at Nolin River Lake. An additional 32 pre-constructed reef balls purchased by Nolin River Lake USACE were deployed. Northwestern district staff also partnered on a USACE Handshake Grant that allowed for the purchase of additional reef ball molds and materials. Western District Fisheries staff partnered with the 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 on a habitat improvement grant for Lake Barkley. Work on this grant will begin in 2021.

Along with these large-scale habitat projects, the KDFWR habitat branch and district staff continue to conduct smaller projects on state-owned and managed lakes. Varying materials are used, including large trees, Christmas trees, native vegetation, rock, wooden pallets, and plastic. The Christmas tree drop-off program in 2020 resulted in collection of 5,085 trees at 28 drop-off sites across Kentucky.

Kentucky Wetland and Stream Mitigation Program

KDFWR has sponsored an in-lieu fee mitigation program under an agreement with the USACE since 2002. In 2020, the program completed a stream restoration project on Indian Creek and Licking River in the lower Licking River system of Kentucky. The project restored eight miles of Indian Creek and its tributaries, over one mile of riparian zone along Licking River, ten acres of wetlands, created a new small boat and paddle-craft access point on the river, and added over 450 acres to the Clay Wildlife Management Area for public use in Bath County, Kentucky. The program also acquired four (4) new stream and wetland mitigation sites statewide

that will restore streams and wetlands in the Big Sandy River, Cumberland River, northern Kentucky, and the Jackson Purchase regions of Kentucky.

Dam Removal

KDFWR has worked with Beam Suntory Brands at the Jim Beam Old Granddad Plant in Frankfort, Kentucky to remove a dam on Elkhorn Creek. The 100-year-old dam formerly served as a water source for fire suppression for the plant which has been replaced by a more modern system. The company is working with KDFWR and other state, local, and federal agencies as well as private interest groups in the removal effort expected to be completed in 2021. The removal will restore natural stream flows and remove a safety hazard to one of the state's best smallmouth bass streams and an extremely popular canoe and kayak stream.

Asian Carp

Since 2013, Kentucky has worked with several other agencies and developed unique programs to decrease potential for ecologic and economic impacts of Asian carp. The invasive fishes are being confronted on two fronts with a coordinated, multi-state effort on the Ohio River and in western Kentucky's Kentucky and Barkley lakes. The multi-agency efforts in the Ohio River at or above Louisville Kentucky employ several strategies against the carps. They include monitoring population demographics, examining the invasive fishes' use of tributaries and movements among pools, early detection in Ohio River pools in West Virginia and above, and removing all Asian carp collected in the Ohio River from the Cannelton Pool and above. From 2013 to 2020, the only Asian carp released in this area were the 700+ fish that have been implanted with transmitters for the telemetry efforts that will be expanding much further downstream beginning in 2021. So far, these efforts have revealed much information about the movements, habitat use, and densities of the Asian Carp populations, as well as the removal of thousands of pounds of these invasive fish. In addition, population control efforts in 2021 will continue to be augmented with a contract fishing program, initiated in July of 2019, which used monitoring data to determine the best locations to place contracted effort to reduce carp numbers. In 2019 and early 2020, this program increased invasive removal by more than 200% and is planned to expand downriver as KDFWR begins to see significant impacts to carp numbers. In Western Kentucky, KDFWR's Critical Species Investigations Branch is engaged in the battle against Asian carp on several fronts. The Bio-Acoustic Fish Fence (BAFF) was constructed at Barkley Lock on the Cumberland River in fall of 2019. This is an experimental technology that utilizes sound, bubbles and lights to deter Asian carp from moving through the Lock and upstream into Lake Barkley. Study of fish reactions to the BAFF have begun and will continue through 2022. This effort is a partnership between the USFWS, USGS, KDFWR, USACE, and Fish Guidance Systems.

Telemetry work in conjunction with neighboring states, the USGS, USFWS, and Murray State University has increased in scope in an effort to assess Asian carp movement patterns throughout the Tennessee and Cumberland Rivers, with an emphasis on monitoring crossings through lock and dam structures. These efforts will inform future Asian carp deterrent placements.

We are also continuing work to assess relative population sizes of bighead and silver carp in the two reservoirs through gill netting and partnering with the USFWS using electrified Paupier nets. Kentucky continues to work with the commercial fishing industry targeting Asian carp to help processors and commercial fishers. The Commonwealth has partnered with the Kentucky Fish

Center to encourage increased commercial harvest of Asian carp in Kentucky. Since the partnership began in 2019, the Kentucky Fish Center has facilitated the removal of 10.2 million pounds of Asian carp. KDFWR offers an Asian Carp Subsidy Program on Kentucky and Barkley lakes to incentivize harvest from those two very economically important reservoirs.

KDFWR has also begun an Asian Carp Experimental Gear Master Agreement with two entities that are testing new methods for capturing Asian carp in Kentucky waters. In February of 2020, KDFWR partnered with the USGS to conduct a test of the Modified-Unified Method of capturing Asian carp in two embayments of Kentucky Lake. These efforts resulted in the harvest of 69,000 lbs. of Asian carp. In 2020, federal appropriations towards Asian carp work in the Mississippi River Basin increased to \$25 million. Therefore, most Kentucky's Asian carp work in Western Kentucky were also funded by WRRDA funds throughout this next field season.

Information and Education Division (I&E)

Kentucky Afield Television

Kentucky Afield is the longest running outdoor show in the nation. This weekly television show is shot, edited, and produced by the Kentucky Department of Fish & Wildlife Resources. Online viewership of the show continues to increase. Total viewership since the department started posting the show on YouTube equals 79,035,222 views and has 132,000 subscribers.

National Archery in the Schools Program

This past archery season was severely impacted by the COVID-19 pandemic. 662 schools participate in Kentucky's archery program, but participation was extremely limited as most of the schools conducted virtual learning for the 2020 school year. The 2020 state championship tournament was canceled due to COVID-19.

Conservation Education

Department of Fish & Wildlife educators delivered 5 different regularly scheduled programs both in person, virtual and pre-recorded 4th, 5th, and 6th grade students. The department's weeklong residential summer camps were virtual with over 500 students participating.

Law Enforcement Division

Staffing

During the past year, 12 new hires have completed the basic law enforcement academy and all agency required training to become Conservation Officers. There are currently 11 recruits in the field training officer program. Covid-19 restrictions have significantly impacted the training timeline for getting these officers fully trained and into the field.

Outreach

The number of boating accident fatalities and open water drownings have increased significantly during this past year. This increase has garnered the attention of both the KDFWR Commission and state legislators and sparked action to help decrease these numbers. The agency has produced and disseminated numerous PSAs focused on the importance of PFD wear, alcohol on the water and open water drowning safety. In addition to the PSAs, the KDFWR Commission

tasked Conservation Officers with placing a higher emphasis on the current regulation that requires PFDs to be of the appropriate size and readily accessible. Officers have always stressed the importance of appropriately sized but have not always emphasized the importance of the PFDs being readily accessible.

Marketing Division

New Shows

“Struttin In the Bluegrass,” a semi-live spring turkey hunting show ran the first week of spring turkey season in 2020 and was replicated anew in 2021. This show is the first of its kind for a state agency and presented live turkey hunting action from the Kentucky turkey woods the first 7 days of the season. Results were spectacular—each year we’ve reached nearly 1 Million Facebook fans and 60,000 Instagram Followers, over 250,000 ROKU subscribers, with over 200,000 views on Waypoint, and 225,000 views on Facebook, and 500,000 Amazon prime views.

“Ruttin in the Bluegrass,” an analogous semi-live deer hunting show aired the first week of modern gun season (November 11-16, 2020) and featured segments from Archery Season, Youth Season, Early Muzzleloader Season, and the first three days of Modern Gun Season. We also featured “Rut Reports” in late October and early November, and three Facebook livestreams during the early days of Modern Firearm Season. The reach of the show surpassed our projections for engagement at every level. Regarding Facebook engagement, Facebook video views were up 731%, Facebook net followers up 181%, and the Facebook Lives were HUGE! Currently sitting on 214,000 Views on KDFWR’s platforms. New audiences were reached, and existing audiences were further engaged thanks to the team effort with “Ruttin in the Bluegrass.”

Department-level Social Media - continued growth:

- Facebook: 176,016 Likes; 176,092 followers
- Instagram: 16,900 followers
- Twitter: 11,400 followers
- YouTube: 2,100 agency subscribers; >200,000 Kentucky Afield TV - subscribers

Kentucky Wild Memberships

The Kentucky Wild program, garnering funding for wildlife diversity conservation in Kentucky, currently has about 3,000 active members. All time total members have surpassed 6,000 and raised more than \$240,000. Kentucky Wild members have joined online through various social media promotions, radio advertising, website and signage at events. Fulfillment of membership packets continue through a third-party vendor. Members who joined during the holiday season were able to take advantage of various opportunities to receive the \$25 T-shirt promotion by actively entering a special promotional code.

Wildlife Division

Deer and Elk Program

In the 2020-21 season, deer hunters harvested 141,601 deer, above the ten-year average of 137,008. This reflects a stable 10-year harvest trend. Modern gun harvest was down but this

deficit was made up for by an increased take of deer during the early archery and crossbow season. Crossbow harvest represented approximately 43% of the total early season harvest and indicates that many hunters are using this method to take deer earlier. We had a strong overall archery and crossbow harvest of approximately 30,000 deer for the 2020 season.

For the 2020 elk season, Kentucky offered 594 permits through the drawing process and about 50 more through landowner permit programs, resulting in 269 elk harvested. The overall harvest/success rate was 47%, slightly higher than the 41% observed in 2019 when we had very hot temperatures. In the second year of our elk calf survival project with the University of Kentucky, over 150 elk have been captured to date with 56 vaginal implant transmitters deployed in pregnant adult cows. These transmitters are used to study calving sites and calf survival. These survival metrics will allow researchers to better inform our statistical population reconstruction model to manage elk into the future.

Small Game

The Small Game Program continues to focus the majority of its capacity on northern bobwhite restoration. The program recently sunsetted its 10-year restoration plan, *Road to Recovery*. The results of the plan detail the successes and failures of the ambitious effort. In the end bobwhite increased on areas in which we practiced high intensity management; however, we were not able to change enough of the landscape in Kentucky to illicit a statewide population response. Moving forward beyond 2020 the small game program plans to take what we have learned from the plan and work more in private production lands. The program also continues to support 3 National Quail Focus Areas in two counties. The program is also monitoring the RHDV2 outbreak among wild and domestic rabbits in western states.

Completion of Long-term Black Bear Research

With a cooperative research agreement with the University of Tennessee, researchers examined bear abundance and density of a population of bears residing in the Big South Fork area spanning about 4 million acres in Kentucky and Tennessee. Field research was conducted in the summer of 2019 and utilized 440 hair snare locations to sample resident bears. Genetic mark-recapture techniques, coupled with a spatially explicit habitat analysis, allowed researchers to derive density and abundance estimates of this interstate bear population. Abundance coupled with reproduction and survival estimates will allow researchers to develop a population viability model.

Wildlife Diversity

Although it has been a difficult year with limitations from SARS-COV2, staff continue to address species-at-risk needs by identifying and prioritizing status assessments, surveys and management opportunities. Currently, we are continuing work on 53 federally listed species, 5 candidate species, 3 species proposed for listing, and 40 species petitioned for listing. Emerging issues including snake fungus, Bsal, and continued work on white-nose syndrome (WNS). National attention has been directed at minimizing any possibility for reverse zoonosis with SARS-COV2, as policy measures have been developed and issued to protect bat species and human

health. Substantial progress is being made in the freshwater mollusk field at the Agency's Center for Mollusk Conservation. *In vitro* fertilization techniques have proved very successful in over 30 species to date and critical success has been confirmed in the purple catspaw with over 19,000 juveniles now in our grow out facility. Hellbender research is showing promise to determine habitat use and use results from the agency's cooperative work with the University of Kentucky, to develop a restoration and monitoring plan for the species. At-risk pollinator species are a focus of management; staff are engaging partners to implement the state's Monarch Conservation Plan.

Wildlife Health Program

In 2020, the wildlife health program responded to hundreds of reports of wildlife health issues from hunters, members of the public, and wildlife biologists. There were approximately 100 wildlife submissions received for diagnostic evaluation. Samples from 71 elk and 2724 white-tailed deer collected from across the state were tested for chronic wasting disease, all samples were not detected. In response to the expansion of tick vectors into Kentucky, a statewide tick monitoring program was implemented. The Asian longhorned tick was detected on a black bear and an elk in eastern Kentucky in 2018; surveillance is ongoing. A statewide disease surveillance project in amphibian populations was completed in 2018; the data analysis is still ongoing but both chytrid fungus and ranaviruses were detected. In 2020, the first case of canine distemper in a black bear was confirmed in eastern Kentucky. Additionally, staff are opportunistically sampling for mange on trapped bears. A bobwhite quail health assessment was also initiated in late summer early fall of 2020. Arbovirus surveillance in grouse habitat was initiated in 2020 and will continue into 2021. Meningeal worm in elk is being monitored annually and samples are routinely collected and sent for diagnostics from suspect animals. Liver samples have been opportunistically collected from these animals along with hunter-harvested animals for a trace mineral analysis. The goal is to establish reference ranges for elk in Eastern Kentucky.

Private Lands Program

KDFWR's private lands program has spanned nearly 30 years within district organization, but we recently hired a statewide coordinator to help the program be more effective and are re-focusing efforts to deliver services mainly through USDA offices; our 17 Farm Bill biologists will work with Natural Resources Conservation Service and the Farm Service Agency to more intensively help to administer Farm Bill Programs such as Environmental Quality Incentive Program (EQIP), Conservation Reserve Program (CRP), and Wetland Reserve Easement (WRE).

Feral Swine

Wildlife Services (WS) personnel in KY initiated an aggressive surveillance and outreach effort during the fourth quarter of FY20 with the goal of identifying pockets of feral swine left in the state. As a result of the outstanding cooperative work of KDFWR and WS, many large pockets of swine have been eliminated and many other pockets have been greatly reduced. As a result of pig surveys in historic range and surveillance KY was officially reduced from Level 3 to 2 for the upcoming FY21. This is a great accomplishment for KY and the National Feral Swine Damage Management Program!

Michigan

**MICHIGAN
STATE REPORT**
June 1, 2021

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 1,453 permanent employees, more than 1,600 non-career/seasonal employees, and a \$469.6 million budget that supports programs and infrastructure 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 Lott as the Natural Resources Deputy. Jared Duquette now serves as the Chief of the Wildlife Division and Jeff Stampfly as the Chief of the Forest Resources Division.

FISCAL YEAR 2020-2021 BUDGET

The DNR budget is \$469,594,100 for fiscal year (FY) 2021. The General Fund increased 3.4 percent to \$50,697,300 from \$49,081,800 in 2020. The increase was due to a one-time appropriation (\$1.8M) to provide grants to county sheriff departments to enforce slow-no wake zones to mitigate high water impacts on local infrastructure. Restricted and federal funds were added for construction of a mass timber customer service and storage facility (\$5.0 M), to expand work done under the Good Neighbor Authority on National Forests (\$8.1 M), and infrastructure improvements to fish hatcheries (\$2.5 M), shooting ranges (\$4.4 M), state forests (\$2.5 M), and state parks (\$19.0 M). 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 continues to operate under a discretionary spending directive issued in response to the COVID 19 pandemic. This affected spending in 2020 and continues to impact 2021. DNR employees continue to work remotely as the primary means to accomplish work unless an approval for on-site work has been granted. Travel and training have been reduced significantly. It is anticipated the current restrictions will change as the vaccination rates increase.

LEGISLATIVE ACTIVITY

Legislative activity has been reduced significantly since the COVID 19 event. Work on the Fiscal Year 2022 budget year is expected to culminate in the next two months as the legislature and the Governor work to allocate higher than expected General Fund and federal relief funds.

This past year, a legislative bill was introduced and approved by both the House and the Senate to allow the use of pneumatic bows during the archery season. This bill was vetoed.

Work continues with the legislature, stakeholders, and industry on the revision of the Commercial Fishing statute.

The voters approved a constitutional change to the State Park Endowment Fund (SPEF) which redirects royalties and bonuses from mineral leases to the Michigan Natural Resources Trust Fund (MNRTF) once the SPEF reaches \$800 M. In addition, the MNRTF program which provides funds for state and local recreation development and acquisition projects was amended to allow more flexibility between the spending ratios of development vs acquisition.

NOTEWORTHY DIVISION ISSUES

The DNR tested approximately 3,500 animals during the past year for CWD which is a significant reduction from 2019. With the impact of COVID 19 restrictions and a change in the disease monitoring and surveillance approach, Wildlife greatly reduced the hours of operations for their annual check stations. This approach allowed the department to focus its surveillance efforts in those areas known to have CWD and continue to monitor with limited statewide sampling where positives have not been detected. Positive detections continue in Michigan's deer herd in specific areas of the central lower portion of the state. 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. Research is still needed to assist with the management of this disease. DNR and MSU continue to work together to address the outstanding research issues awarding approximately \$960,000 in grants during 2020.

An Intergovernmental Agreement was signed in late December 2020 by the Illinois Department of Natural Resources and the Michigan DNR formalizing the collaboration and funding for the pre-construction engineering and design of the Brand Road Lock and Dam to prevent the spread of invasive carp. An escrow agreement was also formalized with US Bank, Illinois Department of Natural Resources, and the Michigan DNR for \$8.0 M of the estimated \$10.1M needed to fund the design and engineering. The State of Illinois will provide the balance.

During 2020, the DNR provided firefighting personnel and equipment to various western states to assist during the very active fire season. Our staff were approved to travel to the various states as COVID 19 plans and precautions were put in place. In addition, several of our Incident Management Team members assisted with the establishment of alternative care locations during the initial COVID 19 response.

The Department continues to negotiate with the affected tribes to replace the 2020 Consent Decree.

The DNR has been working to incorporate renewable energy sources in strategic locations throughout the state. To date, a solar array has been installed at a fish hatchery. Other locations are currently being bid out for other solar applications. The DNR has also executed a contract for carbon sequestration as a pilot in the Pigeon River State Forest.

Over the last year due to the COVID 19 event, the majority of the DNR staff have been teleworking. Employees who primarily work in the outdoors are returning to work as appropriate safety procedures and protocols are approved and implemented. State Parks were not opened until June 22, 2020 which is a little over two months later than normal. This resulted in a significant decline in revenue although it was not as large as originally estimated due to the overwhelming demand from the public for safe outdoor spaces. Camping reservations to date continue to increase for the current year. Hunting and fishing licenses sales exceeded the previous year sales by \$5.1 M. ORV and non-motorized trails continue to experience high usage. The increased demand presents an interesting challenge in how to retain these individuals and keep them engaged as COVID 19 restrictions continue to ease.

Minnesota

MINNESOTA STATE REPORT

May 28, 2021

David P. Olfelt, Director
Division of Fish and Wildlife
Minnesota Department of Natural Resources
DNR Building – 500 Lafayette Road
Saint Paul, Minnesota 55155-4020

Agency and Division Response to COVID-19

The Minnesota Department of Natural Resources (MN DNR) is in the 15th month of managing natural resources during the COVID-19 pandemic. Many sections of this report highlight how we changed management activities to mitigate COVID risk, and we continue to evolve our response. First and foremost, our goal is to keep our staff and the public safe. In March 2020, most state employees were required to telework to the extent possible. Hatcheries and license center staff have consistently reported to work locations. For office-based work, we are preparing for a gradual return to work locations starting around Thursday, July 1, and we are using the learnings from virtual workplaces and meetings to adapt our work. We have adjusted some of our hiring practices and are exploring options for work locations given our experience teleworking. Field and office activities we undertake have been re-engineered to incorporate social distancing, personal protective equipment (PPE), and workflow changes to minimize viral spread.

Diversity, Equity, and Inclusion

George Floyd's killing took place 11 miles from our state capital and the MN DNR headquarters. The event, coupled with strong desire by our governor and agency leadership, has fueled new efforts to improve our division's cultural competence and attention to diversity, equity, and inclusion (DEI). In the past year, we ensured all staff completed DEI training. Our division leadership team and another group of line staff will soon undertake personal intercultural development inventory (IDI). The IDI will foster the division's ability to shift cultural perspective and appropriately adapt behavior to cultural differences. This is a necessary skill as we become a more diverse state. We are also reviewing required qualifications for various job classifications, and removing unnecessary barriers to the application and hiring process. This summer, our division will host two interns that are in their second year of a program called IDEC: Increasing Diversity in Environmental Careers. The IDEC is a partnership between three state agencies and Conservation Corps of MN and Iowa. Each IDEC student learns about careers at natural resource agencies in the first year, and works as an intern at their chosen agency in their second.

Legacy Funding

Since 2008, three-eighths of one percent sales tax has been constitutionally dedicated to four Legacy Funds. The Outdoor Heritage Fund (OHF) receives one-third of these proceeds in order "to protect, restore, and enhance forests, prairies, wetlands, and habitat for fish, game, and wildlife." This funding must supplement, not substitute for, work funded through traditional sources. The MN DNR, along with other agencies and organizations, applies for these funds annually on a competitive basis. The Division of Fish and Wildlife (FAW) was awarded nearly \$55 million in OHF funds in FY20.

The MN 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 \$90 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 850 grants, leveraging more than \$10 million in non-state funding from more than 200 conservation clubs and government entities in Minnesota.

Initiative for New Funding Model

The MN DNR is preparing to launch and lead a future-focused initiative to identify a new vision and framework for conservation and outdoor recreation funding in the state. Traditional funding sources have supported the outdoor opportunities available today, but user fees and general fund allocations are insufficient to meet the current demand for high quality and diverse outdoor experiences and properly steward and manage our natural resources.

Throughout 2021, the project will focus on research, interdivisional collaboration with staff, and public engagement to identify possible solutions. By the last half of 2022, we will have an actionable funding framework that is reflective of research, best practices, staff expertise, and diverse public input.

Ice Fishing

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. Wheeled houses, which function like hard-sided campers, are easier to transport than older permanent shelters, and this ease of mobility allows anglers to spend more hours on the lake each trip. Minnesota requires licenses for hard-sided fish houses, with over 58,000 licenses sold in 2020, which represents a 33 percent increase over 2019.

The MN DNR does not index ice-fishing pressure statewide but conducts creel surveys on important waters. The winter of 2020-2021 saw a combined 7.2 million hours of winter fishing pressure on Mille Lacs Lake, Upper Red Lake, and Lake of the Woods. While we do not have annual creel data on many of our smaller lakes, anecdotal information suggests increased winter activity across Minnesota. Overall fishing license sales in 2020 were the second highest recorded in the past 20 years.

Minnesota Driftless (MND) Brook Trout Strain

Brook trout are the only stream trout native to Minnesota, but their populations were thought to be extirpated by habitat degradation in the late 1800s and early 1900s. Hatchery-reared brook trout originating from hatcheries in the northeastern United States were used to reestablish populations. However, recent genetic testing in southeastern Minnesota identified brook trout in 37 streams that did not match any known hatchery source, with at least three unique sub-populations, likely representing a remnant “Heritage” population. The strain is referred to as Minnesota Driftless (MND). Genetic testing also revealed that the previous hatchery strain, Minnesota Wild (MNW), was mixed with an eastern strain.

Rearing of MNW brook trout ended in 2015 when all brood fish in the hatchery were depopulated due to disease. Since then, Minnesota hatcheries have not had a strain of brook trout suitable for stocking into streams where genetic origin is of importance. After ten years, two streams tested clean for three consecutive years and it was finally possible to collect gametes in

southeastern Minnesota in 2019 and 2020. The MN DNR plans to rear offspring from the wild fish to develop captive brood stock of wild brook trout genetics.

Mille Lacs Lake Management

The draft Mille Lacs Lake Management Plan identifies the following goals for the walleye fishery: maximize fishing opportunity, eliminate unplanned fishing closures, and allow harvest when the state share of the harvestable surplus allows. Using these goals, state and tribal fisheries managers agreed to a harvestable surplus of 150,000 pounds, of which 87,800 pounds is the state's share for the 2021 fishing year. The harvestable surplus, and the state's share, have remained unchanged since 2018. Lower than expected winter harvest, and relatively high forage abundance suggest that angling success for walleye will be slower in May and June than it has been for the past several years. These factors allow for some walleye harvest opportunity during the open water season, though most of the season will remain catch-and release.

Smallmouth bass fishing has become popular on Mille Lacs Lake as the population expanded following the invasion of zebra mussel and the development of a high quality size structure. Anglers targeting smallmouth bass comprise about 33 percent of the angling pressure, which is up from 3 percent in 2011.

COVID-19 Field Guidelines

Early in the pandemic, the Section of Fisheries assembled a team to develop guidance for fish sampling and water-based field activities during the COVID-19 pandemic. Team members developed protocols that allowed staff to safely complete fieldwork in a COVID environment. This work helped lay some of the groundwork for the agency's guidance documents.

Forest Management and Coordination

The MN DNR continues to implement the Sustainable Timber Harvest (STH) initiative. 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 stand development and contribute to the creation and maintenance of management opportunity areas allowing for site-specific management for moose, deer winter areas, small block management 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 is distributed across the landscape. FAW participates fully in the development of the STH Midpoint monitoring project to help evaluate forest conditions to ensure overall forest health and sustainability of wildlife habitats throughout the forested portions of Minnesota.

Chronic Wasting Disease (CWD)

During the fall 2020 hunting season, CWD surveillance took place across five areas of the state. Three of the five were designated as management zones, as CWD had been found in wild deer; the remaining two zones were newly created in response to recent detections of disease on captive deer farms. Due to COVID-19 safety concerns, only voluntary surveillance was conducted and resulted in poor participation from hunters. There were 27 new detections of CWD in wild deer in fall 2020-winter 2021. A dumpster program was in place for hunters to dispose of butchered remains for deer harvested in all management and control zones where carcass

movement restrictions existed. The dumpsters were well used; 41 dumpsters collected more than 200 tons of deer waste that went to lined landfills or incinerators.

White-tailed Deer Projects

Over the past year, the MN DNR has been conducting deer research in three areas of the state. In the forest zone, research is focused on enhancing wildlife managers' ability to prescribe forest manipulations that support deer population goals. Locations from 89 collared deer are allowing fine-scale measurements of habitat use and selection at the stand or cover type level under varying winter conditions and deer densities. In the southern farmland region, the MN DNR used an unmanned aerial vehicle with thermal imaging to determine the efficacy of using drones to locate fawns for capture in wildlife management areas (WMAs) and to validate performance of expandable GPS-collar components on free-ranging neonates. We identified 122 fawn thermal signatures in 2020. We flew the drone for 41.1 hours and covered 1,640 hectares (40 hectares per hour). In southeast Minnesota, deer were captured and collared to better understand dispersal, movement patterns, and survival, particularly in and around the CWD management zone covering Houston, Fillmore, Olmsted, and Winona counties. About 51 percent of males and 24 percent of females dispersed from their natal range on average about 20 km. Average annual survival for females and males was 0.73 and 0.54, which spanned the yearling and young adult age classes.

Duck and Pheasant Plans

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

Specific to Duck Action Plan objectives, the MN DNR led an extensive review of waterfowl harvest regulations in the last year with the goals of simplifying regulations and increasing recruitment. FAW is implementing a new Roving Crew model that will streamline reporting and, hopefully, lead to increased habitat restoration and enhancement work on both grasslands and wetlands in the long-term. We are also refining our mapping efforts to identify strategic or focal areas across the farmland/prairie pothole region of the state. Last, we continued outreach to partner agencies and NGOs on a range of topics related to these plans, especially around the areas of climate change.

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. Initially, two wetland specialists were hired to establish assessment protocols and pilot management processes. Funding has been obtained to add two additional wetland specialists, still focused on prairie wetland complexes, and create a dedicated supervisor to oversee the program's implementation in the field and guide anticipated growth.

Minnesota 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. The goals, which are focused around habitat, species, and engagement, include the following: sustaining and enhancing terrestrial and aquatic habitats within the context of the larger landscape/watershed and a changing climate; conservation actions directed at issues like disease, deliberate killing, low reproductive capacity, or poor dispersal ability for the 346 species in greatest conservation need (SGCN) identified in the plan; and engagement with conservation partners and citizens that involves sharing data, tracking efforts and accomplishments, and other opportunities.

Outreach Grants and Education and Skills Programs

In 2020, our Fish and Wildlife Outreach Team wrapped up the remaining open grants of the capacity-building Angler and Hunter Recruitment and Retention Grants and pivoted to administering the new "No Child Left Inside" grant program to support youth natural resource education and outdoor recreation, including fishing, hunting, and shooting. We had an overwhelming response to the No Child Left Inside grants, with over \$6 million of requests in two short grant phases, and we were able to fund 93 projects distributed to six regions of the state totaling \$872,996.30.

COVID-19 shut down most in-person fishing and hunting programming for much of 2020; however, our National Archery in the Schools (NASP) program was able to recruit seven new NASP Schools during 2020 that will potentially reach 2,200 students. Our Becoming an Outdoors Woman (BOW) program was able to host several events in early 2020 that were attended by 821 total participants. In response to the pandemic, BOW developed an on-line newsletter to both provide resources for women to learn outdoor skills and provide social support for women. The newsletter has been well received with a distribution list of over 3,253.

Our Latino and Karen Fishing and Hunting Skills Liaisons, who are both multi-lingual, served as a regular resource for Latino and Karen community members by responding to questions in their native language. Additionally, we were able to organize a pre-pandemic Firearms Safety Class for Karen, expand our online content in Spanish, and provide several translated fishing factsheets and other virtual content to these communities.

Recruitment, Retention, and Reactivation (R3)

The Minnesota R3 Advisory Council has continued to meet and develop a statewide R3 plan to be released in 2021. Due to the Covid-19 pandemic, all of our MN DNR and partner-led Learn to Hunt programs and mentored hunts were canceled. We quickly shifted our attention to presenting our Learn to Hunt series to an online format. We had a successful two-part series on Learn to Hunt Turkey in April that was well received. In the fall, we launched an 11-part lunch hour series on Learn to Hunt Deer, which had 300 individuals representing eleven states and provinces, and five different countries—including participants from Finland and New Zealand. In addition, we have had over 3,500 people view the recordings after the event. Due to the success of this online programming, we have started a weekly webinar series titled Minnesota Outdoor Skills and Stewardship Series, which officially launched in early 2021. We are continuing to update and develop our Mentor Network to include more virtual opportunities. We are looking forward to serving even more Minnesotans in the future with a combination for both virtual and in-person trainings as we move forward.

Missouri

**MISSOURI
STATE REPORT**
May 18, 2021

Sara Parker Pauley, Director
Missouri Department of Conservation
2901 West Truman Blvd.
Jefferson City, MO 65102

Financial Update

The Fiscal Year (FY) 2021 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 \$127 million, and permit sales and federal reimbursements, at about \$72 million. Total receipts for FY 2020 were \$202.7 million.

Conservation pays by enriching our economy and quality of life. In Missouri each year, more than 1 million hunt or fish and nearly 2 million view wildlife. In Missouri, the total economic impact of fish and wildlife recreation and the forest products industry is more than \$15.3 billion annually. Expenditures and retail sales from fish and wildlife recreation and forest products support over 111,000 jobs.

Organizational Update

Sara Parker Pauley continues as the ninth director of MDC. In July 2021, MDC fully implemented a new organizational structure to include a Statewide Resource Management Branch Chief, an Assistant Deputy Director – Resource Management with 8 Regional Administrators, a Relevancy Branch, and an Assistant to the Director for Inclusion and Diversity.

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. MDC facilities were closed to the public, in-person programs became virtual, and telework policies were implemented to protect the health of the public and staff.

The Conservation Commission waived permit requirements for sport fishing and daily trout tags for anglers whose fishing privileges were not otherwise suspended. The fishing permit and daily trout tag waiver ran from Friday, March 27, through April 15, 2020. Anglers across the state took advantage of this opportunity. Many anglers continued to enjoy the outdoors even after the waiver ended as we observed an increase in permit sales over the previous year.

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 3 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 2.1 million low-cost seedlings every year to Missouri citizens. Each year, it processes nearly 13,000 customer orders. It provides free seedlings to approximately 90,000 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 9 fish hatcheries (5 cold water and 4 warm water). In the past year, approximately 1.3 million trout, 9 million warm water sportfish, and 5,000 Topeka Shiners that are federally listed endangered species were stocked to help maintain quality fishing and restore native populations.

Mobile Applications. MDC continues to use technology as a tool to connect people to nature, including its 3 free mobile applications. The MO Outdoors app enables users to find MDC conservation areas, fishing accesses, hiking trails, shooting ranges, and nature centers around the state by location or based on their desired types of outdoor activities. MO Fishing allows anglers to buy fishing permits and see fishing structures in Missouri water bodies. MDC's most popular app, MO Hunting, allows hunters to buy permits, view regulations, and check-in animal harvests, and app telecheck usage now exceeds traditional methods. At the end of FY20, the 3 apps had more than 811,000 lifetime installs.

Wildlife Health. Through the process of reorganization in MDC, a Wildlife Health Program was formally established. This realignment was conceptualized to address the Department's increased prioritization of health across taxa and systems. In the first year, the Wildlife Health Program has increased response to reports of sick and dead wildlife and made progress on the development of a web-based wildlife health application. The new application will provide a platform for the public and staff to report wildlife health concerns and provide a data management system for tracking results and analyzing trends.

Chronic Wasting Disease (CWD) remains a top wildlife health priority for MDC. New intrastate carcass transport regulations and disposal requirements for taxidermists and meat processors this year were an important step in reducing CWD transmission risks. The ongoing COVID-19 pandemic presented many challenges, but core CWD surveillance and management actions continued. Total deer tested for CWD decreased from over 32,000 in 2019 to approximately 15,300 for the 2020 surveillance year. Cooperating taxidermists and meat processors were even more important than ever this year, contributing nearly 60 percent of the year's samples. Staff worked with willing landowners to collectively cull 2,695 deer after seasons closed in areas where CWD has been found, removing 18 CWD-positive deer. Overall, 44 CWD-positive deer were detected, including 3 deer in 2 new counties.

Invasive Species. MDC is actively engaged with 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 lead to successes in management, control, and eradication of priority 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 removed 12,635 hogs from Missouri's landscape in 2020. The Partnership dedicated significant resources to greatly expand efforts to strategically scout for and eliminate feral hogs in and around the Mark Twain National Forest and Ozark National Scenic Riverways while still maintaining elimination efforts elsewhere in the state. The Partnership set up the first Incident Command Structure (ICS) in 2020. The ICS has integrated staff from various agencies and improved communication while ensuring accountability and improving efficiency. Missouri successfully applied for 3 Farm Bill grants to aid in the elimination of feral swine. Funding will be utilized to hire 4 private landowner outreach specialist positions through the University of Missouri Extension. Funding will also be utilized to purchase equipment that will aid landowners in repairing feral hog damage to their property. MDC also added 6 full time trappers during the summer of 2020. These trappers are now working with USDA full-time trappers and other Partnership staff.

Helping Missourians Discover Nature. MDC's Discover Nature Schools (DNS) conservation education curriculum is being used in 1,328 (44 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.

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 100,000 Missouri students from over 800 schools participate in MoNASP. This year's MoNASP State Tournament was held in Branson with over 3,000 archers from 178 schools participating.

Protection. MDC's newest class of 16 conservation agent trainees started the academy April 1, 2020. The training is conducted through 6 months. The 1200-hour training academy is POST certified and consists of training in legal studies, criminal investigations, defensive tactics, boating operations, communications, and resource management. Protection Branch also initiated a canine program with 5 retriever-style breeds and five handlers scheduled to graduate the canine training academy in French Lick, Indiana on May 14, 2021.

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 2 large reservoirs, the future elk hunting season, 2021-2025 waterfowl hunting season framework, and Missouri's black bear management plan. MDC also hosted its fourth annual Missouri Conservation Partners Roundtable event, this time a virtual gathering of over 500 partners representing more than 230 organizations. The event provided partners an opportunity to hear from MDC and strengthen collaborative efforts.

Conservation Volunteers. COVID-19 affected many Missourians, including MDC volunteers. However, in spite of the pandemic, people continued to volunteer their time on conservation projects. In calendar year 2020, Master Naturalist volunteers contributed 49,893 hours of service to conservation projects and activities in their local communities. In addition, 2,843 volunteer members of the Missouri Forestkeepers Network contributed 10,455 hours monitoring forest health and taking care of trees. Volunteers at nature centers, interpretive sites, and shooting ranges, along with hunter education instructors and fishing education instructors, recorded 26,357 hours in 2020. Stream Team volunteers contributed 74,878 hours during calendar year 2020.

Communicating with Missourians. All MDC social media channels, including Facebook, Twitter, Instagram, and YouTube, continue to increase followers and engagement. Facebook is MDC's largest social media channel with more than 309,000 followers. MDC's website has 6.86 million unique visitors annually. MDC utilizes email communications to reach 788,653 subscribers, and the free *Missouri Conservationist* and *Xplor* magazines, mailed to more than 770,000 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, Nature Boost, in late spring 2020 to connect more youth and young adults to nature.

Comprehensive Conservation Strategy (CCS). 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 integrates the Missouri State Wildlife Action Plan, Forest Action Plan, and other conservation priorities into a comprehensive plan meeting the requirements of both the U.S. Fish and Wildlife Service and U.S. Forest Service.

Community Conservation. 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. A Community Land Trust is being developed to help pursue acquiring additional vacant lots and managing those as green space.

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 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 management and restoration of glades, woodlands, and forest habitats. MDC received new RCPPs, funded by NRCS in FY23, for a total of \$2.3 million in additional funding. The funding will be in the form of landowner financial and technical assistance and determining the conservation and economic outcomes of buffer projects. The Sand Prairie Restoration project will focus on restoring and protecting sand prairies in southeast Missouri. The Precision Farm Data and Buffer Placement project will target conservation activities to unprofitable cropland acres and leverage existing voluntary carbon and other ecosystem services market opportunities.

Technical Assistance for Landowners. MDC provides landowners with technical assistance to benefit fish, forest, and wildlife conservation. Over 20,000 contacts were made last year helping landowners with \$2.4 million in funding for conservation practices and program cost-shares. MDC's Missouri Outdoor Recreational Access Program (MRAP) enhances habitat management and public access to outdoor recreation opportunities on private land. Currently, 64 property owners have signed agreements to provide recreational access on nearly 18,000 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. Since inception, over 4,300 landowners who own over 480,000 acres have received a free packet of information.

Helping Communities One Tree at a Time. In FY21, MDC funded 40 Tree Resource Improvement and Maintenance grants totaling \$394,234. 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.

Assisting Communities Improve Wildfire, Prescribed Fire, and Emergency Response. MDC awarded \$402,768 in Volunteer Fire Assistance grants to 148 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 aided in training and equipping 3 Prescribed Burn Cooperatives for habitat restoration on private lands.

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. To date, the collaborative has been successful at creating or improving over 435,000 acres of new pollinator and monarch habitat. Current focus of the collaborative is on monitoring milkweed numbers on these acres to ensure that milkweed population goals are being met.

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 that would not otherwise come to MDC for assistance. MDC partnered with the University of Missouri to open a Center for Regenerative Agriculture to promote practices that improve soil health and biodiversity.

Kansas City Community Conservation Partnerships. 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. A subset of these partners in Kansas City is developing a Green Jobs Corps aimed at under-represented youth that will help maintain public access to nature and promote native plants.

Inaugural Black Bear Hunting Season. The Conservation Commission recently established the state's first black bear hunting season. The limited and highly regulated hunting season was established to provide opportunity for Missourians to participate in the sustainable harvest of this valuable natural resource. Conservative permit and harvest quotas were established for the state's 3 Black Bear Management Zones (BMZ) to provide for sufficient hunter opportunity while allowing for continued growth of the bear population. The inaugural season will open on October 18, 2021 and run for 10 days or until the BMZ-specific harvest quota is reached. Hunters will be allowed to use firearms or archery. The use of bait or dogs is prohibited.

First Elk Season. Missouri's first elk-hunting season was held in October and December 2020. A random drawing was conducted to select 5 permit holders, from more than 19,215 permit applications, including 33 for a single resident-landowner antlered-elk permit and 19,182 for 4 general permits. All 5 hunters were successful during the December firearm season.

Nebraska

NEBRASKA
MAFWA - STATE REPORT
June 8, 2021

Jim Douglas, Director
Nebraska Game and Parks Commission
2200 N. 33rd Street, Lincoln, NE 68503

MAINTAINING THE PUBLIC TRUST - Public outreach and partnerships have helped the Commission create and maintain the trust of Nebraskans. A multi-state survey completed in 2019 called Wildlife Values in the West looked at the values, attitudes and beliefs of residents across the nation and in Nebraska, in relation to fish and wildlife management. Information from this survey can help the Commission understand the public's interest in fish and wildlife and its perspectives on management of natural resources. The study found that 69% of Nebraskans expressed trust in the Commission to do what is right for the state's fish and wildlife.

NAVIGATING THE COVID-19 PANDEMIC - The agency took actions to limit activities and operations of facilities where social distancing could and would be an issue, with safety of our staff and the public as our number one priority. While there has been a disruption of normal routines, the agency has maintained essential functions and served the public. Activities were phased back in to operation following the Directed Health Measures issued at the state or local levels, and operations are back to more normal (eg. the new normal) across the entire state. Safety of our staff and the public has been and will continue to be our number one priority. Many of our educational programs, R3 and skills-based programs, and naturalist programs were converted to virtual programming. We see that the virtual programming options allow great reach across the state for schools, families, adults, and children and provides new tools that we will continue to use into the future. Hunting and fishing activities have been popular and largely unhindered summer through fall.

EDUCATION EVENTS GET CREATIVE ONLINE - Nebraska Game and Parks educators took initiative during the pandemic to develop virtual programming for outdoor enthusiasts of all ages and interests. Programming ranged from wildlife identification to skills development to educator workshops. We created science-based online videos designed to teach students about natural resources, ecological topics and Nebraska's native species. Each video in the series takes students on a journey of discovery and exploration. All videos are tied to Nebraska state education standards, as were our virtual continuing education workshops for educators that covered Project WILD, Trout in the Classroom, and Growing up WILD. By using a virtual format, teachers from across the state - some who had never utilized agency education programs - were able to connect their students with natural resource experiences and high-quality education. As we go back to more "in-person" education events, we clearly see the need to continue to offer virtual programming to reach a larger audience.

HUNTER EDUCATION GOES ONLINE - The Commission also in 2020 waived the in-person classroom requirement for new hunters to obtain a hunters' education certificate, by allowing students to complete the class online.

LANDOWNER OPINIONS ON BIG GAME AND DEPREDATION- In Nebraska, working with private landowners that provide wildlife habitat and hunter access is important, especially for big game, along with understanding/responding to landowners wildlife issues and challenges.

The agency periodically surveys landowners. In 2020, we worked with the University of Nebraska to send more than 7,500 surveys to landowners about deer (4,500), antelope (1,500), and elk (1,500). Results have been posted on outdoornebraska.gov/landownerprograms. Additionally, Commission staff met with landowners in seven areas that have had depredation issues to get input and opinions on moving forward with elk management in the state.

Landowner information about elk, deer and antelope were used by the agency to get legislation proposed and passed to 1) create nimble special depredation seasons for antelope, deer and elk; 2) increasing antelope and elk permits available to landowners; and 3) create a new program allowing landowners to earn a free either-sex elk permit for successful harvest of multiple (eg. 10) cow/calf elk on their property.

To add capacity for responding to depredation complaints, the Commission created and hired three new positions for a Depredation Program Manager and two Depredation Biologists stationed in western Nebraska. The agency has continued with outreach to landowners via press releases, broadcast announcements, letters and phone calls to remind them of the many resources available to address depredation issues.

HIDDEN HILLS OUTFITTERS POACHING CASE - 2020 saw the near conclusion of a poaching case involving Hidden Hills Outfitters that uncovered the most egregious abuse of natural resources in Nebraska's history. An intensive, multiyear investigation led to the prosecution of more than 32 people involved in the illegal take of our state's wildlife. Public outcry has expressed support for our efforts and the court that has levied more than \$570,453 in fines and restitution, more than 53 years of hunting and fishing permits being forfeited and 30 months in jail time. This case is not an isolated incident, as we continue to investigate several similar abuses of our natural resources.

RIFLE DEER SEASON SHIFTS TO ALL TELECHECK FOR FIRST TIME - Because of the coronavirus pandemic, Game and Parks waived the mandatory in-person deer check for firearm season in fall 2020. Hunters instead were required to check their deer online or via a toll-free telephone number. This was a first for the nine-day firearm season - though muzzleloader, archery, and late-season antlerless deer hunters have used Telecheck for the previous 10 years.

In-person check stations will resume in 2021. In-person checks allow us to collect more accurate harvest data, as well as age and disease data that can only be collected by physically examining a deer. In-person check stations also provide the most and best opportunities for biologists and hunters to have conversations that may not otherwise happen. Hunters noted their traditional visit to the check station was one thing they missed this year.

NEBRASKA OUTDOOR RADIO REFRESHES AND EXPANDS - Stretching statewide Nebraska Outdoor Radio has expanded its mission-oriented messaging to the public from weekly 15- and 60-minute radio programs, to on-demand podcast downloads and topical, local Outdoor Tips of the Week. The program is produced in partnership with Alpha Media, hosted by Communication staff, with relevant content delivered by agency experts from all districts and divisions...Nebraska Outdoor Radio builds on the rich-tradition of the past while mixing in new means of reaching our constituents.

NEW CONSERVATION LICENSE PLATES -Nebraskans now have a new way to support wildlife and Nebraska's state parks trails. Beginning January 2021, three new Wildlife Conservation plates – featuring a bighorn sheep, a sandhill crane and an ornate box turtle - became available at the Department of Motor Vehicles. In addition to bringing attention and support for the Commission's wildlife conservation mission, the agency receives \$5 from registrations for each regular plate and \$30 from each specialty plate in the Wildlife Conservation Fund. As of April 1, the Bighorn Sheep plate was the most popular (916 plates), followed by the Ornate Box Turtle (724) and Sandhill Crane (676) plates.

LEARN TO HUNT SERIES - Nebraska Game and Parks helps hunters learn the skills they need to be safe and successful in the field. The new Learn to Hunt Series education program focuses on key needs of the novice or beginning hunter in various areas of pursuit, including deer, turkey, waterfowl, small game and predators. Through a series of how-to videos and online workshops, novice hunters find answers to many of their questions, learn new skills and better understand the game animals they are hunting. This series has three main components:

- How-to video series – Short videos teaching basic to advanced knowledge and skills
- Hunter FAQs – Short videos answering many of the more common questions hunters have in the field
- Hunting Happy Hour – Online interactive Learn to Hunt programs for most of our popular game species in Nebraska

SHE GOES OUTDOORS - In its first year, She Goes Outdoors reached adult women through podcasts and outdoor education subscription boxes to help them find the equipment and skills they need to enjoy the outdoors. The boxes are in partnership with the Iowa Fish and Game Department and provide women with outdoor equipment linked to online education programs teaching them how to use the equipment and outdoor skills. The podcast is an outreach effort targeting busy moms with a series of fun and educational outdoor recordings. Topics included hunting and fishing, to birding, with interviews of experts from agency and partner groups.

RIVER OTTER IS A COMEBACK STORY - The Commission de-listed the North American river otter from the state's Threatened list in 2020. In 1986, otters were listed as Endangered in Nebraska under the Nebraska Nongame and Endangered Species Conservation Act. Soon after, biologists began translocating otters from other states and reintroducing them at seven Nebraska locations over six years. By 2000, substantial recovery progress resulted in a down-listing from Endangered to Threatened. With otters now secure in Nebraska, that completed a comeback for a species that historically resided in Nebraska's waters. A River Otter Management Plan has been developed and regulations are proposed for a managed river otter harvest with trapping in 2021.

OFFICERS SEARCH AND RESCUE - Search, rescue and recovery operations were conducted day and night, weekends and holidays, on everything from missing persons to searching for evidence in a 20-year-old cold case. Our response to accident investigations involving lost or missing persons consumed more than 762 man hours and more than 8,000 miles during 2020. Highly trained conservation officers used underwater sonar equipment. This tool and associated skills proved to be a valuable resource for other law enforcement agencies in the recovery of evidence for various crimes.

SOMETHING NEW FOR DUCK HUNTERS: TWO-TIER SYSTEM - Nebraska duck hunters will have a choice to make before the 2021 season – a six-duck daily limit or a three-duck limit. The U.S. Fish and Wildlife approved the two-tier Harvest Information Program system in October 2020. The two-tier HIP system allows a duck hunter to choose between:

Tier 1 – traditional six-duck daily bag limit with species and sex restrictions, or

Tier 2 – three-duck daily bag limit with no species and sex restrictions

Hunters will select their tier – and bag limit –when they complete their HIP registration at the start of each new hunting season.

The number of waterfowl hunters has declined significantly in the past 10 years. The goal is to see if the two-tier system can encourage new waterfowl hunters. The two-tier system will be in place in Nebraska and South Dakota during the duck seasons from 2021 through 2025, and will include evaluation regarding recruitment and other potential impacts.

RECORD 1.2 MILLION ACRES ACCESSIBLE TO PUBLIC FOR HUNTING AND FISHING

- Nebraska currently supports more than 1.2 million acres of public-accessible lands, which includes state, federal and conservation partner lands, as well as private lands enrolled in the Open Fields and Waters program. Nebraska is more than 97% privately-owned and increasing access to private lands continues to be one of the agency’s primary objectives. Open Fields and Waters provides financial incentives to private landowners willing to allow public, walk-in access for hunting, trapping and/or fishing. The program has grown substantially over the past several years, with a net gain of nearly 140,000 acres since 2016. We enrolled more than 373,000 acres statewide for the 2020-21 hunting season – an all-time high.

NEBRASKA UPLAND SLAM MAKING IMPACT -The Nebraska Upland Slam, initiated in 2018 by Game and Parks and Pheasants/Quail Forever, is now in its third season challenging hunters to harvest a sharp-tailed grouse, greater prairie-chicken, ring-necked pheasant and northern bobwhite quail. During the 2020-2021 upland bird seasons, 314 hunters from 17 states participated with 144 completing the slam. The 144 finishers by state include NE-124, AL-1, CO-9, IA-1, KS-1, MI-1, MO-1, NY-1, OH-1, OK-1, SD-1, WI-1, WY-1. Nearly 60% of harvests were on public land. The Upland Slam was developed to improve upland hunter recruitment/retention/reactivation and increase awareness of Nebraska’s mixed-bag opportunities, and is generating new excitement and exposure for our great upland hunting.

DUCK SLAM RENEWING EXCITEMENT IN WATERFOWL HUNTING - People from across the state and the country are participating in the second year of the Nebraska Duck Slam, for a chance at completing the slam and winning prizes. The Slam challenges hunters to harvest four ducks during the season: a teal (blue-winged or green-winged) of either sex and drakes of: an American wigeon, a mallard, and a northern pintail. The Slam, in partnership with Ducks Unlimited, has renewed a sense of excitement in the waterfowl world. In the 2020-2021 seasons, 316 hunters participated from 13 states - and 127 hunters completed the duck slam from 6 states (NE-117, CO-1, IA-3, IL-2, MN-2, SD-1, WI-1). Many hunters who harvested a species for the first time mentioned how this program got them to target other waterfowl species. Nearly half of the hunting/harvest of waterfowl is taking place on public lands. The number of first-time hunters, youth and re-activated hunters has made this program successful in Nebraska.

SPECIAL YOUTH HUNTS PROVIDE OPPORTUNITIES - For the 10th consecutive year, pheasants were released on select wildlife management areas prior to the youth pheasant season in October, enhancing harvest opportunities for youth and other novice hunters. Over 9,000 rooster pheasants were purchased and stocked on 19 publicly-accessible areas (at a targeted density of 0.5 birds per acre). Special Youth Hunts were held at the 19 areas, in which one adult accompanying a youth hunter was allowed to hunt pheasants and bag one rooster. We surveyed 330 hunting parties during the weekend, consisting of 444 adult mentors and 500 youth hunters. Hunters harvested 820 released and 31 wild roosters during the Special Youth Hunts and success averaged 0.90 roosters per hunter, similar to recent years. More than 97% of participating youth indicated they would participate again and more than 96% intended to hunt the regular season.

PETERSON WMA ADDITION MAKES FAMILY'S WISHES COME TRUE - A consortium of partners, including the Rocky Mountain Elk Foundation, National Wild Turkey Federation, Wild Sheep Foundation, and Bass Pro shops worked with Nebraska Game and Parks Commission to make the wishes of a Sioux County landowner come true. The McDowell family wanted its 1,520-acre ranch, which sits adjacent to the Peterson Wildlife Management Area, to belong to Game and Parks so it can be enjoyed by the public and used for hunting and recreation for generations to come. The property is in the Pine Ridge and includes pine savannahs, timber, grasslands, a cool water seep, and rock outcroppings. It is home to turkeys, mule deer, elk and bighorn sheep. It is part of high-priority landscape (Pine Ridge), provides unique recreational opportunities (back-country hunting), and holds critical lambing habitat for the Fort Robinson bighorn sheep herd.

TAKE 'EM HUNTING – RECRUITING NEW HUNTERS- Game and Parks held the second Take 'em Hunting Challenge – asking hunters to pledge and then take along a new or beginning hunter in the field Sept 1, 2020 – May 31, 2021. Participants share a photo of their adventure for a chance to win prizes. Take 'em hunting concluded May 31 with more than 1,390 entries – successfully creating new hunters in Nebraska. Promotional and prize partners included AKRS Equipment, Pheasants/Quail Forever, Ducks Unlimited, the National Wild Turkey Federation and SCHEELS. In total, 2,916 entries were submitted from 2,175 people in the challenge. Game and Parks created a series of videos, encouraging hunters to take someone hunting and shared them on social media. Prizes were awarded weekly. The winner of the grand prize, a John Deer UTV, was just drawn the first week of June.

SEEING THE GRASSLAND THROUGH THE TREES - In recent years, Game and Parks has been shifting more focus to protection of our abundant and beautiful grasslands. They are disappearing through conversion to agriculture and are being invaded by eastern redcedar and other trees. In 2020, staff affected more than 53,000 acres of native grasslands across the state through tree removal (40,000 acres) and prescribed fire (13,000 acres) by providing incentive payments to landowners; this improved habitat for greater prairie-chickens, sharp-tailed grouse, mule deer and many other grassland species. Game and Parks and its many partners are working with researchers and University of Nebraska-Lincoln students to study the invasion of cedars and are collectively working toward a statewide cedar management plan. This plan will increase our efficiency and effectiveness in cedar management efforts.

ENGAGING NEW ANGLERS - Nebraskans spent a lot of time fishing in 2020 – and many of them were new anglers. With more than 35,000 new and reactivated anglers in 2020, Game and Parks developed a plan to provide information to help people on their journey for a successful fishing trip — helping to ensure retention. More than 15 fishing-related articles were distributed to news outlets, through blogs, radio, social media and through email engaging new and current anglers. Each article directs readers to our How to Fish page and Going Fishing Guide on our website. Topics included 1) Importance of tying good knots; 2) Simple setup to get started fishing; 3) How to plan a successful trip; 4) Handling fish; 5) Rods, reels and line; 6) Hooks, bobbers and weights; 7) Bait; and 8) Where to fish. Later articles covered late-summer white bass and wiper fishing and fall stocked trout fishing. Looking forward to 2021, we are producing fishing trip planners to provide ideas of new places to go, lists of different species people can catch, and a challenge for beginners to catch and identify a variety of common sportfish.

STREAMS PLAY HIGHER ROLE IN HABITAT RESTORATION - Long Pine Creek is one of our most pristine cold-water streams, and its habitat and public access were improved at Pine Glen Wildlife Management Area. Eastern red cedar trees were removed along the valley floor and boulder structures placed in the stream, enhancing the critical aquatic and riparian habitats.

The restoration of Dry Spotted Tail Creek was completed, adding more than three quarters of a mile of new trout stream habitat and creating several acres of new wetlands along the North Platte River valley. This project was the result of a partnership with Platte River Basin Environments, Nebraska Environmental Trust, Trout Unlimited, Ducks Unlimited and Pheasants Forever to restore this rare floodplain habitat and cold water stream.

TAKE 'EM FISHING IS BIG SUCCESS IN SECOND YEAR - Game and Parks marked the success of its second year of Take 'em Fishing, a program in which we challenged anglers to share their passions and introduce someone to fishing. When mentors take someone fishing and share a photo they can win great prizes. Many great memories were created and thousands of people were introduced to fishing. In 2020, we had more than 6,000 entries surpassing 2019's numbers by more than 1,500 entries. Entries came from around 3,614 individuals, most of whom were new to the program. The grand prize boat donated by the Nebraska Game and Parks Foundation and Bass Pro Shops/ Cabela's was awarded to the Liebhart family from Columbus. The program continues in 2021 as we help create our next generation of anglers.

FRESHWATER MUSSEL PROJECT - Since 2014, when our efforts began to augment and/or restore native freshwater mussels back into streams where they historically were found, we have released 26,542 plain pocketbook and 16,137 fatmucket mussels. They have been marked and released into 17 streams across the state over the past five years. More than 7,500 have a Passive Integrated Transponder tag glued to the outside of the shell. The tag identifies the individual mussels and allows the biologists to determine growth, mortality and movement from the original release location.

North Dakota

**NORTH DAKOTA
STATE REPORT**
June 2021

Terry Steinwand, Director
North Dakota Game and Fish Department
100 N. Bismarck Expressway
Bismarck, ND 58501

Big Walleye Verified as State Record

A 16-pound, 6-ounce walleye caught March 13 by Dickinson angler Jared Shypkoski is the new state record, according to North Dakota Game and Fish Department personnel.

Shypkoski reeled in the 33-inch fish in the Eckroth Bottoms area of upper Lake Oahe.

The previous record of 15 pounds, 13 ounces was taken in 2018 by Neal Leier of Bismarck, approximately 30 miles upstream on the Missouri River near the Fox Island boat ramp.

New Legislation

The North Dakota Game and Fish Department tracked 21 outdoors-related bills during the 2021 legislative session, nine of which were passed by both chambers and signed into law.

The following bills take effect Aug. 1. A complete list of bills is on the Game and Fish website, gf.nd.gov.

HB 1017 – Appropriates \$92,368,134 to the Game and Fish Department for the biennium beginning July 1, 2021 and ending June 30, 2023. Passed House 81-13. Passed Senate 46-1.

HB 1081 – Relates to access and activities on trust lands and provides a penalty. Passed House 68-25. Passed Senate 40-7.

HB 1113 – Requires written permission from the owner of the property, or an individual authorized by the owner, to place bait for the purpose of attracting wildlife and to install camera/video equipment that must have identification. In addition, provides a penalty. Passed House 94-0. Passed Senate 47-0.

HB 1218 – Nonresidents who own land in North Dakota may hunt during the first seven days of the pheasant season on land they enroll in the PLOTS program. Passed House 92-0. Passed Senate 46-1.

HB 1221 – Adds clarification to section 47-05-17 of century code, relating to an exemption from prohibition against severing hunting rights from surface estates. Passed House 65-26. Pass Senate 45-2.

HB 1242 – An individual who was issued an apprentice hunter validation license in 2020-21 may receive another. Passed House 91-0. Passed Senate 45-2.

HB 1411 – An individual may use an artificial light to pursue on the individual's premises at any time throughout the year any predatory animal attempting to destroy property. Passed House 92-2. Passed Senate 47-0.

SB 2036 – Legislative management shall continue to study the electronic land access database and application during the 2021-22 interim and expand it to all counties. Passed Senate 45-2. Passed House 91-2.

SB 2144 – Allows the owner or an individual authorized by the owner the option to designate land as posted or closed to hunting in an online database and provides a penalty for trespass. Passed Senate 44-2. Passed House 89-3.

Game and Fish Offices Open to Public Access

North Dakota Game and Fish Department offices, except for Riverdale, are open to public access after being closed to walk-in traffic since last spring due to the coronavirus pandemic.

The Riverdale office will remain closed to walk-in traffic since it does not have an administrative assistant. Individuals will need to call ahead and make an appointment or contact the Bismarck office for assistance.

Following the North Dakota Smart Restart guidelines, outdoor enthusiasts must sign in upon entering for contact tracing purposes, and face coverings are recommended.

Hunters and anglers are reminded that all **hunting and fishing license purchases**, boat registrations and lottery applications are conducted online, including gratis deer applications. In addition, licenses can be purchased at more than 140 vendor locations throughout the state.

For more hunting, fishing, trapping and boating information, visit the Game and Fish website at gf.nd.gov.

Deer Season Set

North Dakota's 2021 deer season is set, with 72,200 licenses available to hunters, 3,150 more than last year.

In total, any-antlered licenses increased by 1,500 from last year, any-antlerless by 1,250, antlered whitetail by 100, antlerless whitetail by 100, antlerless mule deer by 200 and antlered mule deer licenses remained the same.

In addition, muzzleloader licenses increased by 60 and restricted youth antlered mule deer licenses remained the same.

As stated in the 2021-22 chronic wasting disease proclamation, hunters harvesting a deer in units 3A1, 3A2, 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, 3A4, 3B1, 3C west of the Missouri River, 3E1, 3E2, 3F1, 3F2, 4A, 4B and 4C.

A deer carcass or boned-out meat must be accompanied by the head to the final place of storage, with the following exception: tag as currently required, then take two pictures using a cell phone with location, date and time stamp turned on. One picture of the entire animal at the kill site with tag attached, and a second picture of a closeup of the tag so that tag information is readable. If you leave the deer head in the field at the kill site, after taking pictures and saving them, the ear or antler with the tag attached must be cut off and accompany the meat or carcass while in transport. The photographs of the tagged deer must be shown to any game warden or other law enforcement officer upon request.

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 similar to last year and 21% above the long-term average.

Biologists counted 2,671 mule deer in 306.3 square miles during this year's survey. Overall mule deer density in the badlands was 8.7 deer per square mile.

Big game management supervisor Bruce Stillings said he is encouraged with current mule deer densities across the badlands.

"But we are concerned that mule deer are beginning the summer with poor rangeland conditions due to the extreme drought across the western part of the state, which could negatively affect fawn survival," Stillings said.

The spring mule deer survey is used to assess mule deer abundance in the badlands. It is conducted after the snow has melted and before the trees begin to leaf out, providing the best conditions for aerial observation of deer. Biologists have completed aerial surveys of the same 24 study areas since the 1950s.

Cleaning Stations and ANS

In a continuing effort to stop the introduction and spread of aquatic nuisance species, particularly zebra mussels already anchored in some North Dakota waters, the North Dakota Game and Fish Department installed a boat cleaning station near the Red River in Grand Forks and at Lake Ashtabula and Lake Metigoshe.

The self-serve, waterless CD3 units are free and open to the public and include a high-powered air hose, broom, wet/dry vac, a tool for removing vegetation from underneath boat trailers and flood lights to illuminate the cleaning process in low light.

Ben Holen, Game and Fish Department ANS coordinator, said the CD3 unit installed at the North Landing boat ramp in Grand Forks likely won't be the only one found along the Red as another could be installed later near Wahpeton.

Lake Ashtabula and the Red River are popular recreational destinations that have zebra mussels. Larval-stage veligers were discovered in the Red River more than a decade ago and adult zebra mussels were found for the first time there in 2015.

Holen said the CD3 units, like the one installed in Grand Forks, are designed to minimize the chances of the larval-stage and adult exotic mussels from hitching a ride out of the Red River to waters elsewhere.

“Understanding this, we certainly encourage people coming off the river to use this free cleaning stations wherever they are installed,” Holen said. “These units are designed to get your boat clean, drained and dried pretty quickly.”

Zebra Mussels Found in Moss Balls at Pet Stores

Zebra mussels were recently found in moss balls at some pet stores in North Dakota and several other states. The North Dakota Game and Fish Department is urging customers who recently purchased moss balls to properly dispose of them by placing in a bag, freezing solid and discarding into the trash. It's important to not put moss balls down the toilet or drain.

North Dakota pet stores that received the contaminated shipment have been notified and have removed the moss balls from shelves.

For additional aquarium decontamination instructions, visit the U.S. Fish and Wildlife Service website at <https://www.fws.gov/fisheries/ANS/zebra-mussel-disposal.html>.

Paddlefish Snagging Season Opens May 1

North Dakota's 2021 paddlefish snagging season opens May 1 and is scheduled to continue through May 21. However, depending on the overall harvest, an early in-season closure may occur with a 24-hour notice issued by the state Game and Fish Department.

Paddlefish Snagging Season to Close

Effective Sunday, May 9, the North Dakota Game and Fish Department has closed the state's 2021 paddlefish snagging season to any additional harvest to provide long-term protection of the paddlefish population.

An additional seven-day snag-and-release season will begin Monday, May 10 and run through Sunday, May 16. Paddlefish snaggers with an unused paddlefish tag can continue snagging during the additional snag-and-release season but must release all fish immediately. If a snagger has already used their tag on a harvested paddlefish, they are not allowed to participate in the additional snag-and-release period.

Snag-and-release will be open only in that area of the Missouri River starting on the north shore from the Confluence boat ramp then east (downstream) to the pipeline crossing (river mile

1577), and on the south shore from the Confluence with the Yellowstone River then east (downstream) to the pipeline crossing (river mile 1577).

Paddlefish snagging is allowed only from 7 a.m. to 9 p.m. Central Time during each day of the additional seven-day season. The use or possession of a gaff on snag-and-release days is illegal.

Record Count of Bighorn Sheep

The North Dakota Game and Fish Department's 2020 bighorn sheep survey, completed by recounting lambs in March, revealed a record 322 bighorn sheep in western North Dakota, up 11% from 2019 and 13% above the five-year average. The count surpassed the previous record of 313 bighorns in 2008.

Altogether, biologists counted 97 rams, 170 ewes and 55 lambs. Not included are approximately 40 bighorn sheep in the North Unit of Theodore Roosevelt National Park and bighorns recently introduced to the Fort Berthold Indian Reservation.

Big game biologist Brett Wiedmann was pleased to see an increase in the survey for the third consecutive year.

"The increase in the 2020 count reflects lessening effects of bacterial pneumonia that was detected in 2014," Wiedmann said.

The northern badlands population increased 13% from 2019 and was the highest count on record. The southern badlands population declined again to the lowest level since 1999.

"We were encouraged to see the count of adult rams increase after declining the last four years, and adult ewes were at record numbers," Wiedmann said. "Most encouraging was a record lamb count corresponding with a record recruitment rate."

Game and Fish Department biologists count and classify all bighorn sheep in late summer, and then recount lambs the following March as they approach one year of age to determine recruitment.

Department staff, in conjunction with biologists from the Three Affiliated Tribes Fish and Wildlife Division, also reported that the bighorn sheep that were translocated in January 2020 from Rocky Boy's Reservation in Montana to the Fort Berthold Reservation performed exceptionally well their first year in the state. Only one adult ewe died but 19 lambs were recruited. Consequently, the population increased from 30 to 48 in the first year.

There are currently more than 400 bighorn sheep among populations managed by the North Dakota Game and Fish Department, the National Park Service and the Three Affiliated Tribes Fish and Wildlife Division. Wiedmann said the last confirmed native bighorn sheep in North Dakota was killed in 1905, and Theodore Roosevelt reported that bighorns were scarce by the time he hunted them during the 1880s.

“So, it’s likely there are more bighorns today than before North Dakota’s statehood in 1889,” he added. “It really illustrates the historical significance of this year’s count.”

Game and Fish Violations Tallied

The North Dakota Game and Fish Department’s enforcement division has tallied the number of hunting, angling and boating citations for 2020, and failure to carry a license was the number one violation.

Game wardens issued more than 2,600 citations last year. Counties with the most violations were Ramsey (320), Williams (163) and McKenzie (128).

The most common violations and number issued were:

- Boating (659): inadequate number of personal flotation devices (261); use of unlicensed/unnumbered boat (138); and failure to display boat registration (108).
- Licensing (515): failure to carry license (306) and hunting/fishing/trapping without proper license (182).
- Small game (377): using shotgun capable of holding more than three shells (96) and exceeding limit (68).
- Fishing (315): aquatic nuisance species violations (84) and exceeding limit (65).
- Miscellaneous (227): criminal trespass (76); minor in possession (46); and possession of a controlled substance (33).
- General (226): hunting on posted land without permission (72); loaded firearm in vehicle (59); and use of motor vehicle in restricted area (47).
- Big game (170): illegal taking/possession of big game (72); tagging violations (17); and failure to wear fluorescent orange (15).
- Wildlife management areas/refuge (165): PLOTS access violations (60) and failure to obey posted regulations (57).
- Furbearer (21): use/possession of illegal snares (8) and harassing with motor vehicle (6).

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
2021**

Kevin Robling, Secretary
South Dakota Game, Fish and Parks
523 East Capitol Avenue
Pierre, SD 57501

Law Enforcement Program—Hunting, fishing and camping trends from last year in our state have continued. Overall license sales have been on the incline with parks use and reservations for camping near or above all time highs. The new year brought about expanded COVID-19 vaccination efforts across the state. With that, our operating procedures have begun to normalize with training and meetings going back to face-to-face settings. In the fall of 2020, a newly formed Law Enforcement Section was developed and launched, which included the merger of all Parks (ranger) and Wildlife (conservation officer) law enforcement operating under one Section Chief. Planning and coordination of statewide efforts for the law enforcement section have continued into 2021 with coverage of Parks taking priority over the summer months and a shift of personnel from the Parks into the hunting and fishing realms planned for the fall seasons. There is much work to do with the merger of all law enforcement into one section, but the overarching goal is to form a unified team that will improve efficiencies across the board and ultimately provide a better service to the outdoor users of South Dakota.

Habitat and Access – To meet its fish and wildlife resource stewardship responsibilities, as well as provide opportunities for the public to use and enjoy these resources, GFP recognizes it must continue to partner with private landowners to restore, create, enhance, and protect fish and wildlife habitats while also providing the public with reasonable access to hunting and fishing opportunities. Habitat restoration, creation, enhancement, and conservation, along with public hunting and fishing access remain top priorities for GFP. With this also comes the need to provide the financial and human resources specifically dedicated to supporting and enhancing these efforts.

To help identify and achieve habitat and access goals GFP conducted broad agency-wide outreach with staff to solicit habitat and access ideas, and later convened an internal workgroup to consider these ideas and ultimately evaluate current private lands habitat and access programs to determine their effectiveness in meeting GFP terrestrial and aquatic habitat goals for private lands along with public expectations for hunting and fishing access opportunities.

Current funding for both public and private land habitat and access programs is primarily dependent upon hunting and fishing license fees and Pittman-Robertson/Dingle-Johnson funds, with occasional funding for specific projects from various outside grant and program sources. Revenue levels available for GFP habitat and access programs will of course change correspondingly with changes in the number of licensed hunters and anglers over time. With the number of licensed hunters and anglers changing over time the GFP workgroup is working to identify new revenue sources and innovative approaches to ensuring sustainable funding for priority habitat and access programs. Finally, effectively delivering GFP habitat and access programs requires identifying and quantifying delivery capacity needs, determining the most

efficient and effective approaches to meeting those needs, and identifying and securing the correct people to fill those needs.

Habitat Stamp – The habitat stamp requirement in South Dakota has been in place for a year as of July 1, 2021. Game, Fish and Parks Division of Wildlife staff have spent much of that time planning and beginning to implement spending plans associated with these funds. Staff are extremely excited at the prospects for habitat and access improvement that have been opened by the additional revenue. There are dozens of projects planned for 2021 and beyond.

Aquatics staff have been taking advantage of partnerships for dam repairs and access improvements. To date, projects finished include a new ramp and parking lot at Long Lake boat access, Fairfax Lake GPA spillway repair and road graveling, Murdo Dam spillway repair (Partners included City of Murdo, Jones County Conservation District, NRCS, local PF Chapter) and Belvidere Lake spillway repair (Partners included NRCS, Jackson County Conservation District, City of Belvidere, Ducks Unlimited, West River Water Development District). Currently, staff are in the scoping phase for two full lake restorations at Lake Alvin and Stockade Lake. There is also a large list of dam maintenance repairs scheduled for this summer along with numerous habitat and access improvements around the state.

Terrestrial Habitat crews focused their habitat stamp project efforts on the 285,000 acres of Game Production Areas (GPA) located across South Dakota. Many of the habitat improvements projects completed in 2020 were previously identified in the 2018 GPA assessment - an evaluation process undertaken to identify specific habitat and access improvement opportunities on GPAs. Completed projects included improved public access trails completed on seven GPAs; improved grazing management infrastructure on eight GPAs; establishing 881 acres of high diversity grassland nesting cover on 19 GPAs; developing a waterfowl hunting access trail at the Chip Allen GPA; completing a 14 acre buckthorn removal project to enhance an existing riparian woodland at the Gary Gulch GPA; enhancing 34 acres of mountain mahogany through hinging and pine removal at the Friendshuh Ranch GPA; enhancing 19 acres of oak forest through pine thinning and removal at the Badger GPA; and preparing seven new sites totaling 56 acres for tree and shrub plantings in spring 2021.

Rapid City Shooting Range – GFP is currently working to develop a firearm range in western South Dakota. This opportunity will serve as a free public rifle, shotgun, and handgun range within a 30-minute driving radius of Rapid City, open to the public, youth groups, shooting sports groups and others. The range will also serve airmen and women from Ellsworth Air Force Base and public from Rapid City and Box Elder along with public in Sturgis and Piedmont. GFP has identified a 400-acre property that is well suited to accommodate this opportunity. The Department is collaborating with the South Dakota Parks and Wildlife Foundation to purchase the land for the firearm range and hold it while GFP works through the Pittman-Robertson grant process and is prepared to purchase the land. The Foundation purchased the land in late March. Current efforts include working on the range design and meeting with stakeholders to take input and help inform the public of plans to build the range.

2020 Walk-In Area Program for Hunter Access – The Walk-In Area (WIA) program leased over 1.27 million acres of private land for public hunting access from 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. Seventeen CHAP areas totaling 27,909 acres were enrolled statewide and provided 1449 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. At year end, we’ve finalized agreements with 21 new private land cooperators signing a total of 36,374 acres of new Walk-In Access Areas which have unlocked 31,754 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.

2-tiered waterfowl regulation experiment in the Central Flyway (3 duck daily bag limit) – Declines in duck hunters in many states across the Central Flyway are well documented. In an attempt to recruit, retain, and reactivate hunters’ experimental regulations will be used to evaluate the potential barrier of identifying waterfowl on the wing. Beginning in the 2021-2022 duck hunting season South Dakota and Nebraska will begin a two-tiered 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 duck daily bag limit). The three-duck option will begin to be available to hunters on July 1. Hunters who choose the 3-duck option will be asked to participate in both a harvest diary and parts collection, sending in wings to be used in comparison to hunters using current duck regulation. Post season surveys will be used to track satisfaction and avidity of 3 duck option participants. Internal and external outreach efforts are ongoing and will increase as the duck season approaches.

Wildlife Damage Management/Animal Damage Control Programs and Implementation – Over the past 2 years, the department has implemented a number of improvements to the services provided under our ‘umbrella’ wildlife damage management program, including predator control services and efforts to assist producers with big game, Canada goose and other wildlife damage concerns. Most recently, the department developed a Strategic Plan for this important program that outlined 3 primary goals: 1) Provide excellent customer service and program transparency; 2) Foster landowner relations while enhancing communications; and 3) Mitigate livestock and property loss through effective delivery of wildlife damage services. The department held a second round of virtual public meetings within each of the four administrative regions to gather producer input, comments, concerns and ideas for additional program improvement needs. A new customer service satisfaction survey will be implemented later this year to measure program success and identify additional areas for improving effective delivery of services. The department has also implemented measures to improve and maintain effective internal communications and recently implemented an on-line Canada goose take permit process in order to expedite timely responses to landowner damage concerns. Finally, 2 additional full-time

positions were added to our program in western South Dakota, including one field-level supervisor and 1 wildlife damage specialist, to enhance predator control efforts and ensure program administrative oversight and effectiveness.

CWD Status and Action Plan Implementation – Enhanced surveillance efforts from the 2020 deer and elk hunting seasons detected chronic wasting disease (CWD) in four additional counties. CWD is now confirmed within 16 counties and for the first time detected east of the Missouri River in free-ranging cervids. Test results received on 1,746 samples indicate 38 white-tailed deer, 9 mule deer, and 9 elk were CWD positive. As a result, new priority areas will be targeted for surveillance during the 2021 hunting seasons. In addition, the GFP Commission recently modified regulations for the transportation and disposal of deer and elk carcasses. Any deer or elk transported outside the county of harvest would have to be disposed of with a waste management provider or permitted landfill. Additional information on CWD in South Dakota can be found at <https://gfp.sd.gov/wildlife-disease/>.

Nest Predator Bounty Program 2021 – As part of Governor Noem’s Second Century Initiative, GFP implemented the third year of the Nest Predator Bounty Program in 2021. While the focus of this program is to enhance pheasant and duck nest survival by utilizing predator control (a management tool that has been used for decades in South Dakota), the program was also designed to engage youth and others in the outdoors. Participants have the opportunity to 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. Since the program started in 2021, over 2,000 participants have removed nearly 30,600 nest predators (i.e. raccoon, striped skunk, opossum, red fox and badger), primarily in eastern South Dakota.

The 2021 program started on April 1st and will conclude on July 1st or sooner if the \$500,000 maximum is reached. Nearly 16,000 nest predators have been removed (\$10/predator bounty) so far, with over 35% of participants being youth (i.e. 17 years old or younger). To encourage more youth participation in 2021, GFP implemented a weekly prize giveaway for youth participants 17 years old and younger. These giveaways will continue every week throughout the program and consists of a GFP-sponsored trapping package that includes three live traps, knife, and the *National Trappers Association Trapping Handbook* (the total package is worth approximately \$350/package). So far, there have been five youth winners and the kids have been extremely excited about winning and participating in the program. Strong participation from youth and others is expected throughout the remainder of the 2021 program.

AIS Field Operations and Communication Plans for 2021 - Zebra mussel management is the focus of 2021 AIS field operations and outreach and marketing efforts this year. Zebra mussels have been documented in the lower three Missouri River reservoirs and six eastern South Dakota waters, as of April 2021. Management objectives for field operations in 2021 include preventing the spread of zebra mussels to western South Dakota reservoirs, use inspection stations to develop best management practices, and maximize contacts with boaters who use mussel-infested waters. Grant funds have been provided by the U.S. Bureau of Reclamation for access-based watercraft inspection stations at five western reservoirs this summer. Roadside inspection

stations will be used in central and eastern South Dakota to aid in adoption of best practices to minimize movement of water by watercraft.

The three main messages being shared through the 2021 Outreach and Marketing campaign are “Clean, Drain, Dry”, “Don't move water” (mostly bait/fish related), and “Inspections are easy. If you see a station, you need to do your part”. In addition to standard news releases, advertisements, and social media posts, gas station TV and a zebra mussel “Instant Experience” will be the main outreach tools. The “Instant Experience” is a short series of slides viewed on a cell phone on how to reduce the spread of AIS. Geolocation technology will be used to place ad content on cell phone applications for people who stopped at an inspection station or a gas station in the TV network.

Go Outdoors South Dakota - SDGFP has partnered with Brandt Information Services to enhance our customer experience. While we currently have an in-house system on the Wildlife side and a vendor system for Parks, our goal is to have a one-stop-shop customer experience where our customers go to one place to do business with our Department. Go Outdoors South Dakota will launch December 15, 2021. This is a big lift that will enhance interactions with our customers. Some of the amplified features we are working on are:

- **One cart where you can purchase your hunting and fishing licenses, make reservations at campgrounds, and be able to purchase merchandise in one location with one transaction.**
- **New Go Outdoors South Dakota app.**
- **Integrated target marketing in our licensing system.**
- **Package options to give our customers peace of mind when they purchase a license. This will give them the ability to purchase all the licenses necessary to do a certain activity as opposed to having to figure it out on their own.**
- **Enhanced call center hosted by Brandt.**
- **360 views of campsites so customers can see what they are reserving.**
- **Camping this weekend feature to show available campsites across the state to fit user's preferences.**
- **Harvest Survey access through their customer profile.**

While we only kicked off this project in February 2021, we are making quick progress. This is going to be a new way for us to do business and will align with our customer service goals for the Department.

Wisconsin



WISCONSIN DEPARTMENT OF NATURAL RESOURCES
2021 STATE REPORT
May 25, 2021

Keith Warnke, Administrator
Division of Fish, Wildlife, & Parks
101 S. Webster St.
Madison, WI 53707

BUREAU OF WILDLIFE MANAGEMENT

Staffing

Due to retirements and internal transfers, the Bureau of Wildlife Management faces a program vacancy rate of 19%, including 26 field staff vacancies and three staff specialist vacancies. At this time, 12 of Wisconsin's 72 counties have no Wildlife Management staff present to serve the public and manage wildlife resources. The Northeast and Northern districts have been particularly impacted, with vacancy rates of 30% and 36%, respectively.

Throughout the first year of the COVID-19 public health crisis, the Wisconsin DNR maintained a voluntary hiring freeze, limiting recruitment efforts to essential positions providing human health and safety and front-line contact at state parks. With the number of coronavirus cases on the decline across WI, there has been an increase in the number of positions approved to proceed to recruitment with the goal of filling positions over the next calendar year.

Elk Management

Updates to Wisconsin's Elk Management Plan began in 2019, and the process is nearing completion. An opportunity for public input concluded Jan. 23, 2021, and the DNR administration has reviewed the final draft. The plan will be considered by the Natural Resources Board at its May 2021 meeting. Final formatting will be completed following approval, and the final plan will be available to the public in summer 2021. Any approved changes identified in the plan are scheduled to be in place for the 2022 elk hunting season.

Major changes to elk management include:

- Renaming elk ranges to "northern" and "central" management zones. Recommended as elk herds are no longer centrally located near original release locations. "Northern" and "central" are less geographically specific and "management zone" is more consistent with other species.
- Central elk management zone expansion. Recommended to better represent an elk herd's spatial needs, to incorporate large areas of highly suitable habitat and public land, and to

allow for increased management efficiencies through habitat management efforts, alignment with proposed elk hunting units, and use of all available management tools.

- Reduce central herd population goal. Recommended to better align population goal with small zone and conflict potential surrounding the central forest. These are long-term goals, not anticipated to be reached over the course of this plan.
- Establish elk-hunting units. Recommended to allow for targeted harvest control to more evenly distribute harvest and allow for better population control of individual elk sub-groups. Units may be grouped together each year and share a quota. Hunters would need to apply for an individual unit (or grouping of units) and could only hunt within that unit (or unit grouping).
- Eliminate split-season framework. The plan recommends eliminating the split in the season and have a single, consecutive season from the Saturday nearest Oct 15 to the Sunday nearest Dec 15 to allow for increased opportunity for hunters and reduce season complexity.

February Wolf Harvest Season

The U.S. Fish and Wildlife Service removed gray wolves from the federal list of endangered species on Jan. 4, 2021, returning management authority to the lower 48 states and tribes. In Wisconsin, state statute 29.185 requires the implementation of a regulated wolf hunting and trapping season whenever wolves are not listed as a threatened or endangered species. The law also identifies much of the framework for the season including season dates, license issuance and methods of take. In December 2020, the Wisconsin DNR announced that a wolf harvest season would begin in November 2021. On Feb. 11, 2021, a state circuit court judge ordered the DNR to schedule a wolf harvest season in February 2021. The Wisconsin Department of Justice filed an appeal and requested a stay, which was denied on Feb. 19. The DNR complied with the circuit court order to implement a wolf harvest season in February 2021. State statute closes the wolf season on Feb. 28 or earlier to achieve harvest goals. The season began on Feb. 22 and officially ended at 3 p.m. Feb. 24, resulting in a total harvest of 218 wolves.

The DNR has had a rigorous monitoring program for decades, and this commitment to annual monitoring of the wolf population will continue. Currently, the wolf population is estimated through a variety of methods including snow tracking surveys, statistical occupancy modeling, reports from the public, and data from radio-collared wolves. The latest minimum overwinter estimate was 1,195 wolves statewide.

The department continues its planning efforts for the fall wolf season to open on Nov. 6, 2021 while simultaneously working towards completing a 10-year wolf management plan.

A [full report on the February 2021 season](#) is available on the DNR website.

Wolf Management Plan

The Wisconsin DNR is in the process of updating our state's wolf management plan. Today, the DNR manages wolves following the current [Wisconsin Wolf Management Plan](#) and in accordance with state statute. The plan underwent a review process in 2005-06 and was updated in 2007. Wisconsin's wolf population has changed in the years since the current management plan was last reviewed. In that time, our understanding of population dynamics has improved as well. The current process to revise Wisconsin's wolf management plan will equip the DNR and

stakeholders with scientifically sound and culturally relevant management of this iconic, native species.

A new wolf management plan committee (WMPC) has been formed through an application process in spring 2021. The WMPC's purpose is to provide input to the DNR, ultimately resulting in an updated wolf management plan with broad public and scientific support.

The WMPC will be an inclusive and diverse committee made up of individuals representing hunting/trapping organizations, wolf advocacy/education organizations and agricultural/ranching organizations. In addition to these stakeholder seats, representation by certain government agencies, tribes and the Wisconsin Conservation Congress will also be invited by the department.

In July, the WMPC will begin a series of four meetings to determine the input it will provide to the department. A draft plan will be available for public comment in February 2022, and we anticipate a final draft going before the Natural Resources Board in June 2022. More information on updating the wolf management plan can be found on the [department website](#).

Chronic Wasting Disease

In 2020, statewide CWD surveillance focused on annual areas of interest, disease assessment, disease detection and hunter-requested testing for adult deer anywhere in the state. With disease assessment the intent is to monitor and measure disease patterns to understand how prevalent the disease is in an area. Disease detection often refers to surveillance in a county with low volume sampling in recent years or surrounding a CWD positive farm-raised deer location.

New for 2020 was surveillance in northeast Wisconsin, where surveillance has not been conducted across the entire area for many years. This is part of a multi-year rotation conducting surveillance in west central, northern, & northeast Wisconsin. Wildlife Management continued a second year of enhanced surveillance in northern Wisconsin in some counties where additional samples were needed. Wildlife Management also continued to sample deer within the Southern Farmland Zone as well as around CWD positive wild deer locations and CWD positive farm-raised deer locations throughout the state.

Multiple COVID-19 safety protocols were developed to protect DNR staff, hunters, and cooperator staff safety during CWD sampling. More than 18,800 deer were sampled and tested for CWD statewide in the 2020 surveillance year (April 1st – March 31st) with 1,578 positive detections, primarily within the endemic area in southern Wisconsin. CWD was also detected in wild deer in Shawano, Washington, & Wood counties for the first time during the 2020 deer season along with additional wild positive detections in already CWD-affected counties in central and west central Wisconsin. There are currently 57 CWD-affected counties due to wild and farm-raised deer CWD positive detections.

During the 2020 season the department continued enhanced communication and outreach efforts including emailing CWD sample results, GameReg & GovDelivery messaging, a CWD brochure, and an awareness campaign on social media channels. New in 2020, Wildlife Management created an online process to allow hunters to submit data associated with CWD samples through their Go Wild account. This allowed hunters a faster and easier way to submit the data required for getting a deer sampled for CWD.

New with CWD operations, after years of planning and anticipation the department completed construction of a new CWD Processing Center with a planned move in early 2021. The new facility will allow for a more efficient work environment and a greater capacity to process CWD samples.

Wildlife Management continued the Adopt-a-Kiosk and Adopt-a-Dumpster programs while expanding the cost-share option. The main goal of the programs is to work with individuals and organizations to enhance CWD sample numbers, sampling locations, and provide hunters an option for appropriate deer carcass waste disposal, especially in areas where carcass waste disposal options are limited or not already available. The cost-share option was expanded to more counties where the department contributes 50% of the dumpster cost, up to \$500, for up to two dumpsters in those select counties.

The department also received two CWD USDA-APHIS grants. One grant focused on expanding deer carcass waste disposal dumpsters statewide. A second grant focused on outreach for engaging hunters with a statewide digital ad campaign promoting sampling for CWD and proper deer carcass waste disposal.

Conservation Grazing and Farming Agreements

In 2018, the Bureau of Wildlife Management hired a conservation agriculture and grazing specialist to expand the use of conservation grazing as a management tool on DNR-owned grasslands. An initial survey showed 23 wildlife areas using grazing in combination with other management tools such as prescription burning, mowing and haying. Over the past three years, grazing on DNR land has grown to more than 50, including state parks and state natural areas. Each new grazing site receives an initial assessment and Natural Resource Conservation Service 528 Prescribed Grazing Plan written in concert with the property manager. The plan identifies habitat management strategies and target goals for the site based on the property master plan. Grazing on state land has proven to be an effective tool for habitat management and has been very well received by agricultural producers who manage livestock in grazing systems. A Grazing Operations Plan is in development and will provide additional guidance as we continue to expand the use of this habitat management tool.

In 2021, the divisions of Fish, Wildlife and Parks and Forestry implemented an updated Farming Agreement Policy. All staff must now manage farming agreement data in the department's Land Management System (an integrated system for tabular, policy and geographic data) and adhere to policy for calculating rental payments, use of funds and new pesticide guidance. In conjunction with the new farming agreement policy, the FWP division will implement a phased discontinuation of neonicotinoid pesticides on DNR-managed lands. Neonicotinoid insecticides have been highly correlated with pollinator declines over the last decades. Moving forward, any new agreements and all agreements involving lands identified as high potential range/zones for federally listed invertebrates, may not include use of neonic-treated seeds. Existing agreements may continue use of treated seeds until their contract expires. Cooperators who have difficulty sourcing non-neonic seeds may continue to use treated seeds for one year only. Emergency use is allowed if all integrated pest management practices are followed.

Trumpeter Swans Telemetry Study

The Interior Population (IP) of trumpeter swans was re-established in the Upper Midwest beginning in the late 1960s. Across much of their current breeding distribution, IP trumpeter swans have transitioned from a rare to a common component of the regional waterfowl community. However, unlike many other waterfowl species, very little is known about the ecology of IP trumpeter swans, including movement ecology and habitat use at multiple spatial scales. Wisconsin DNR is partnering on a multi-state project lead by graduate student David Wolfson at the University of Minnesota to address some of these information needs through a collaborative project to deploy GPS/GSM transmitters on trumpeter swans distributed across the IP range. In 2019, 19 transmitters were deployed on IP trumpeter swans (7 in Minnesota and 12 in Michigan). In 2020, an additional 77 transmitters were deployed on IP trumpeter swans (10 in Manitoba, 40 in Minnesota, 9 in Iowa, 5 in Wisconsin, 1 in Michigan, 12 in Ohio). Movements of marked swans have been highly variable across the IP breeding range, with swans that breed at higher latitudes more likely to migrate and travel longer distances during the winter.

Great Lakes Mallard Telemetry Study

Wisconsin DNR is partnering on a multi-state project to assess differences in movement, habitat selection, survival and the rate of return to the same breeding regions in rural and suburban nesting mallards across the Great Lakes region. Along with Illinois, Indiana, Ohio and Michigan, the Wisconsin DNR will work collectively to deploy a minimum of 350 backpack-style satellite transmitters on hen mallards across the project study region. This project was motivated in part by changes in observed mallard breeding abundance during spring aerial surveys across traditional nesting habitat in the last decade and anecdotal increases in mallards nesting in suburban and urban habitats. In addition to the regional objectives of the project, the Wisconsin DNR will use habitat selection data from birds marked within the state to help further inform and refine models depicting priority habitats for conservation and restoration in the Wisconsin Waterfowl Habitat Conservation Strategy.

BUREAU OF FISHERIES MANAGEMENT

Inland Trout

From July 1, 2018 to June 30, 2019 over 83 stream reaches were improved, including over 20 miles of habitat development work, such as erosion control, stream channel realignment, and habitat installation. Additionally, over 16 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. We have also been fortunate to partner with the Wisconsin Water Resources Institute to support a postdoctoral fellowship (Dr. Bryan Maitland) to examine groundwater withdrawal and climate change impacts on trout populations in Wisconsin streams.

Great Lakes

The Wisconsin Fisheries program initiated several updates to commercial harvest quotas in Lake Michigan and Lake Superior. In Lake Superior, we updated both our lake trout and cisco harvest quotas and in Lake Michigan updated our lake whitefish quota in Green Bay. 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.

We are also in the process of updating our guide reporting requirements for guides that take anglers on fishing trips on both Lake Michigan and Superior. We hope to have these revised rules completed by January 1, 2022.

In 2020, we completed a majority of our fishing assessments and those that could not get completed in 2020 are slated for 2021 with a few minor exceptions due to COVID-19.

Culture

Fisheries staff raised and stocked over 5.1 million fish during 2020, and we continue to plan for numbers at or near these for 2021. The program is currently working out final equipment issues prior to taking possession of our 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)

Northern Highland Fishery Research Area (NHFRA) – 75th Anniversary

On June 20th, 2021, we celebrate the 75th anniversary of the Northern Highland Fishery Research Area (NHFRA), the longest running fisheries research project by the Wisconsin Department of Natural Resources (DNR). The NHFRA sits in the Northern Highland American Legion State Forest about 10 miles south of Boulder Junction in Vilas County. Thanks to its diverse lake types and fish populations, the NHFRA has been a rich resource for researchers since it began and is well-known by fisheries professionals. However, few outside of the research community know how much the NHFRA has contributed to the state.

One of the NHFRA's most notable and unique contributions is its angler survey dataset. This dataset is one of the longest, continuous fish harvest datasets in the world. The dataset stems from a mandatory angler survey first imposed on all five lakes in 1946 (when the NHFRA was established), which requires anglers to stop by the Escanaba Lake creel station twice to fill out a free permit – once prior to fishing the lakes and once afterwards. The major benefit of having anglers go through these extra steps is that it creates a complete record of every angler who has fished the lakes and every fish that has been legally harvested from the lakes since 1946.

Snapshot Wisconsin

Snapshot Wisconsin, one of the DNR's largest citizen science programs, has reached two big milestones in 2020. Snapshot Wisconsin is made up of a community of volunteers who host trail cameras that take "snapshots" of wildlife as they pass by. Volunteers classify the species from their trail cameras with help from more volunteers on the crowdsourcing platform, [Zooniverse](#). The data helps the DNR understand the distribution of wildlife populations around the state and make important wildlife management decisions.

Thanks to the nearly 2,000 volunteers already with the program, Snapshot Wisconsin celebrated collecting its 50-millionth photo and released an interactive map in November 2020 of the team's favorite photos from across the state. The map highlights each photo and tells a story about the photo itself or the species shown. Rare species sightings, unusual animal behaviors, and even a few multi-species encounters can all be seen in the [interactive map](#).

Also in 2020, Snapshot Wisconsin released the first version of its [Data Dashboard](#), an interactive tool that offers volunteers and the public a new way to explore our Wisconsin wildlife species. Anyone can discover how species are spread across the state, when they are most active and how many sightings Snapshot has observed in each county. The data for 18 wildlife species is currently available to explore, and more species will be added over time.

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

Note – most of these summaries are adapted from the program's [2020 Field Notes](#).

Wisconsin Citizens Show Strong Support for The Recovering America's Wildlife Act

The department's "Spring Hearings," held annually in conjunction with the Wisconsin Conservation Congress county meetings, are designed for citizens to provide input on numerous proposed fish and wildlife management issues and Conservation Congress advisory questions. In 2021, twenty counties voted on citizen resolutions to support the Recovering America's Wildlife Act (RAWA), and there was overwhelming support with 86% voting in favor of the

legislation. RAWA would provide significant funding for Wisconsin and other states to implement their state Wildlife Action Plans which would benefit both non-game and game species and their habitats.

Trail Cameras Reveal High Marten Survival Rate

NHC and partners have worked for over 50 years to recover endangered American martens. Now, trail cameras are efficiently adding important insights about these secretive nocturnal animals and documenting gains from past marten reintroductions, research and monitoring with partners Chequamegon-Nicolet National Forest, Apostle Islands National Lakeshore, UW-Madison and the Great Lakes Indian Fish and Wildlife Commission. NHC's trail camera project reveals a stable and sustainable Nicolet population, with a very high annual survival rate of 81%, and documents a shift in active hours to avoid fishers, a larger competitor and predator. Trail camera and genetic research in the Apostle Islands show martens thriving and some animals dispersing to boost mainland Wisconsin populations; genetic testing confirms them as recent migrants from Michigan's Upper Peninsula.

New Strategy for Wisconsin's State Natural Areas

State Natural Areas protect some of Wisconsin's best remaining prairies, oak savannas, wild lakes, old forests, and geological and archaeological features. These nearly 700 sites owned and managed by DNR and 60 other partners are also critical to sustain Wisconsin's biodiversity: populations of 90% of endangered plant species and 75% of endangered animal species live on these sites. Our native landscapes — and the science for how best to protect them — have changed since the first State Natural Area was designated in 1951. In 2020, NHC staff completed 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; high populations of whitetail deer; excessive nitrogen and phosphorus deposition; and climate change. New strategies to manage these challenges provide a framework for establishing State Natural Areas protection and management priorities for the next decade.

Record Number of Terns Fledged In 2020

A newly refurbished "Ashland Tern Island" helped common terns, one of four endangered tern species in Wisconsin, fledge a state record high number of young — 510 chicks from four colony sites. Habitat loss, predators and chemical contamination have threatened the birds in past years, with habitat loss the greatest threat. NHC and public and private sector partners worked to provide secure nesting habitat. In addition to the Ashland island sites, nests on dredge spoil islands in the Duluth-Superior estuary and on Lake Butte des Morts in Winnebago County, as well as nests at two rafts maintained on Lake Puckaway in Marquette County by the lake district, also contributed to 2020's high-flying total.

Encouraging Kirtland's Warbler Finds

Habitat work on county and national forests to aid the Kirtland's warbler and other pine barrens species hit a high note in 2020 as the small songbird showed in locations where it hadn't been heard for some time. Connie Weedman heard a singing Kirtland's warbler while looking for native prairie plants in the Jackson County Forest and reported it to the DNR; NHC staff and Weedman subsequently visited the site and confirmed three singing males and later sighted a

female Kirtland's. These discoveries marked the first time in 13 years of statewide censuses the birds had been found there. The discovery followed work to restore the jack pine habitat the bird needs. One male was found much farther north in the Chequamegon-Nicolet National Forest where habitats had been restored, the first time in six years one had been recorded there during the breeding season.

Globally Rare Bedrock Glade Restored

Bedrock glade communities are globally rare and are characterized by prairie and savanna plants on very shallow soil over quartzite. Scattered oaks and red cedars grow slowly due to the shallow soil, so are much older than their size might suggest. In some places, trees only grow 20 to 30 feet tall, earning them the nickname "pygmy forests." In 2019, NHC staff conducting extensive botanical and ecological surveys of Devil's Lake State Park documented numerous rare plants and high-quality natural communities, including bedrock glades. Some of the glades were already in good shape, while others were more degraded and needed to be restored to allow sunlight to reach plants. In 2020, NHC staff and SNA field crews spent a day clearing trees and brush from one degraded glade at the park, opening it up significantly and turning it into the second largest glade at the site. This summer, native plants like skullcaps, spiderworts and shooting stars had already reappeared, a huge success for such a rare community type.

Hatching Success for Rare Turtles

Female wood turtles don't lay eggs until they're 14 to 18 years old and then lay only four to 17 eggs a year, so losing even one adult female a year can potentially sink small, local populations. Since 2014, the DNR and partners have studied and monitored these state-threatened turtles and carried out multiple conservation strategies to protect nests from predators and reduce turtles killed crossing roadways. They've created or restored more than 20 nest sites protected with electric fencing and communal nest boxes protecting over 100 individual nests. A minimum of 410 hatchlings have been documented from those sites. DNR wildlife biologists, U.S. Forest Service, Turtles for Tomorrow, and private individuals maintain similar sites on public and private land.

Turtle Research and Efforts To Reduce Road Mortality

Citizen reports to NHC's Wisconsin Turtle Conservation Program have identified 69 previously unknown populations of rare turtles and updated information on 106 known populations since 2012, greatly boosting information to help better conserve these ancient species. Critically, citizens have reported over 3,000 turtle road crossings, and the DNR has been working with partners like Girl Scout Ella Kreuziger to improve turtle safety at particularly deadly sites. In 2020, Kreuziger contacted the DNR about a county highway along the Bark River in Waukesha County. She raised money to pay for stenciling a turtle crossing sign to alert motorists. The county highway department did the work this fall, and Ella received her Silver Award in scouting for helping turtles cross to safety.

New Rare Mussel Populations

Freshwater mussels are the most imperiled animals globally and in Wisconsin, with nearly half the state's 50 native species endangered, threatened or declining. 2020 brought good news for two very rare species, spectacle case and salamander mussels. NHC biologists documented many new populations of both species in 2019 and 2020 by searching specific habitats not typically

sampled for other riverine mussels. Locating more spectacle case mussels has demonstrated good reproduction in localized areas that can be used for future propagation efforts. Meanwhile, NHC and partners are working with Genoa National Fish Hatchery to propagate salamander mussels and place them on mudpuppies, their host species, to deliver the juvenile mussels to waters within their historic range.

Historic Bat Vaccine Trials Continued In 2020

Wisconsin's four cave bat species are state-threatened and severely impacted by white-nose syndrome, a deadly disease decimating hibernating bats across North America. Since 2014, NHC has worked with the USGS National Wildlife Health Center, UW-Madison, Mississippi Valley Conservancy and Virginia Tech to develop and evaluate vaccines to help bat populations recover, including undertaking the first vaccine trials in the wild for any disease affecting bats. Two vaccine candidates were tested in little brown bats at two hibernacula in Wisconsin just as the bats were entering hibernation. The field trials demonstrated the vaccines were safe for bats, and at least one vaccine increased survival in males and significantly reduced levels of the fungus causing white-nose syndrome. More trials got underway this fall in Wisconsin to test specific vaccine candidates.

New Invasive Grass Contained

Invasive species are a grave threat to native species and landscapes, so the serendipitous discovery and containment in 2020 of an aggressive invasive grass new to Wisconsin was worth celebrating. A volunteer for NHC's Rare Plant Monitoring Program identified the dreaded invasive Japanese stilt grass while checking on rare plant populations in a state forest in La Crosse County, spurring NHC staff and partners to action. They surveyed the property, hand-pulling small patches of the grass, and State Natural Area field crews sprayed larger areas with herbicide. As a result, the stilt grass is being contained. The effort showcases the continued need for quick detection and response, involved citizens, and partnerships to protect Wisconsin's ecosystems and economy from damaging invasive species not yet established within our state's borders.

Targeted Efforts for Some of Wisconsin's Rarest Plants

Prairie bush clover is the rarest of the rare: a federally threatened plant of prairies, which themselves cover less than 1% of their historic acreage in Wisconsin. In 2020, NHC transplanted seedlings to a Nature Conservancy-owned natural area where cattle grazing and fire maintain the prairie's open structure. The hope is that grazing will reduce competition from prairie grasses and allow the clover to thrive, showing how working farms can also meet conservation goals. In other actions to restore globally rare plants, NHC Rare Plant Monitoring Program volunteer Ben Johnston carefully checked sandstone cliffs in Vernon County, a stronghold for northern monkshood and the location where Johnston discovered a new population in 2016. Such monitoring work by volunteers allows NHC botanists to focus on other priority plants. In other Rare Plant Monitoring Program news, volunteer Tara Buehler rediscovered the federally threatened eastern prairie fringed orchid at a site where it had not been seen in six years despite annual surveys. And program coordinator Kevin Doyle was able to hand pollinate it as part of broader efforts to improve the orchid's seed production and genetic diversity.

Adaptation Efforts for A Changing Climate

Climate change is an important consideration for all of NHC's work to conserve species and maintain State Natural Areas. While the conditions shaping natural habitats for Wisconsin's plants and animals have always changed, their evolution can't keep pace with our changing climate. Wisconsin is generally getting warmer and wetter, albeit unevenly across the state. Working as part of the Wisconsin Initiative on Climate Change Impacts, NHC has sought to sustain habitats and native species by analyzing and developing adaptations and offering workshops to help State Natural Area managers translate the science into on-the-ground actions. NHC and WICCI partners are integrating climate considerations as they pursue demonstration projects restoring wild rice beds on Spur Lake in Oneida County and wetlands on a Winnebago County site farmed for over a century. As another example, NHC conservation biologists contributed significantly to WICCI's recent report to the Governor's Task Force on Climate Change, identifying impacts to Wisconsin communities, natural resources and economy and recommending solutions including incentives for property owners who place their land into conservation easements and agree to restore the land to promote native plants and natural communities.

Citizen Scientists Boosted Their Efforts in 2020

Sales of bird feeders, fishing licenses and camping gear soared in 2020 as people turned to nature to help cope with the COVID-19 pandemic. Many used their increased time outdoors to help Wisconsin's rare species by reporting the plant and animal species they saw at home, in local and state parks or while safely distancing on the road. Checklists submitted to Wisconsin eBird surged 27%, bumble bee sightings to NHC's Bumble Bee Brigade exceeded the total from the previous two years, and rare species were documented in new locations, adding information that helps NHC better understand species populations and work to conserve them. In just three short years, NHC's trained Bumble Bee Brigade volunteers have turned in more than 6,800 observations and documented 17 of 20 species, seven of them rare. That's good news for helping preserve and improve habitat and addressing other threats to these important pollinators of native wildflowers and agricultural crops. Volunteers have helped to identify 167 new sites and 12 new counties with endangered rusty patched bumble bees. Importantly, too, these citizen observations confirm that native plant gardens in urban, suburban, and rural areas are making a difference and providing important habitat for pollinators.

BUREAU OF PARKS AND RECREATION MANAGEMENT

Recreation Management Section Highlights

- **Listening to Our Customers**

The PRM bureau has initiated a comprehensive approach to soliciting regular feedback from customers, including an update to customer feedback forms to include online options, and a biennial solicitation of customer opinions on a variety of topics designed to help steer program investments and targeted improvements.

- **The Future of the State Park System**

The Bureau of Parks and Recreation Management (PRM) developed a business plan which will serve as a blueprint for the future of the program, including the Wisconsin State Park

System. While the plan provides an overview of the current status of the program and recent data relevant to proposed initiatives, the plan lays out actionable items to create a sustainable future for the Wisconsin State Park System and the PRM program.

- Collaborative policy making

Working across all land-managing programs of the Wisconsin DNR, the Recreation Management section of the PRM program leads a cross-program team to develop policy for all department lands. Recent initiatives include a policy on neonicotinoids, use of department lands with accessibility devices (track chairs), increasing consistency and communication on COVID-19 operations, and the revision of state code regarding land management.

- Racine County Trail Expansion

The department recently inked a deal to expand a rail trail in southeastern Wisconsin 10+ miles through multiple communities and toward the state's most populated area. The trail expansion will serve as a backbone for the Route of the Badger initiative, a collaborative project with the Rails to Trails Conservancy and other public and private partners.

Camping Program

2020 was a very busy year for camping even amidst the pandemic. Despite being closed for the beginning of the season, we still saw an increase of 6.7% in camping nights for the season as compared to 2019. We are also seeing a trend for longer camping seasons, as RV sales and other equipment is being purchased at a record rate allowing people to camp longer as the weather changes.

- 2020

- 2020 Camping Nights: **477,752**

- Increase from 2019 to 2020 calendar year: **+6.7% (difference of 30,027 camping nights).**

- 2020 Overview

- WSPS campgrounds were closed statewide for more than two months, from 3/20/20 to 6/9/20.
- Once re-opened, campgrounds saw increased visitation compared with the previous summer, with bookings up more than 25% in July and about 15% in August.
- Visitors camped later in the season: the system saw a 62% increase in October bookings and a 190% increase in November bookings—historically a quiet month—compared with 2019.
- A busy summer and fall made up for the delayed start and the system ended with about 10% more bookings and 6.7% more nights camped in calendar year 2020 compared with calendar year 2019.
- The trend looks to be continuing as we are already seeing an increase in advance reservations this year. 33% more bookings have been made for 2021 than had been made at this time last year for 2020.

- 2021
 - 2021 (calendar year) advance camping reservations as of 5/1/2021: **121,656**
 - **70%** increase from 2020 advance camping reservations as of 5/1/2020.

DNR Website Rebranding and Launch:

On July 31, 2020, the DNR launched a new Content Management System (CMS)-based website. The Parks Bureau took advantage of the CMS to completely redesign state park webpages for a better user experience. With over 2,000 webpages, the Parks Bureau has one of the largest presences on the DNR website. Since the launch in late summer, Wisconsin State Park System pageviews have accounted for 22% of all DNR website pageviews.

Annual Sticker Sales:

2020 was also a record year for annual sticker sales, partially because only Annual Passes could be sold due to offices and other outlets being closed. We also saw record visitation to the properties prompting the need for many to purchase the annual passes for visitation. The Bureau had to completely redesign the way we sold these annual passes to the public due to the pandemic and we were able to develop two new avenues to best serve our customers during this time.

We were able to develop and stand up a toll free call center within days to centralize the selling of annual passes, this call center was in operation from May, 2020, until recently in March as office drive up windows and other sales options were once again available.

In May 2020, the Wisconsin State Park System launched an online store for customers to purchase state park vehicle admission stickers – addressing the most common complaint of the last few years – that park stickers could not be purchased online. Through the store, online customers also get instant access to the parks without having to stop at a contact station, by receiving a temporary email receipt to display in vehicle windshields.

The following table represents total sticker sales for 2020 compared to 2019:

2020 WI ADMISSION PASS SALES	<i>TOTAL December 1, 2019 - November 30, 2020</i>			<i>2019 Sales</i>	<i>Percentage Increase</i>
2020 Annual Pass Sales w/trail passes	REVENUE	QUANTITY		QUANTITY	
Resident Annual	\$8,035,158.50	286,970		199,670	43.7%
Resident Reduced Rate Annual	\$600,500.25	38,742		50,178	-22.8%
Non-Resident Annual	\$3,920,158.50	103,162		43,458	137.4%

Non-Resident Reduced Rate Annual	\$43,624.00	2,128			
Senior Annual	\$808,652.00	62,204		53,185	17.0%
<i>Totals</i>	<i>\$13,408,093.25</i>	<i>493,206</i>		<i>346,491</i>	<i>42.3% increase in sales</i>

Bulk Sales:

Another emerging trend is bulk annual sticker sales by companies or organizations for things like employee recognition programs or marketing campaigns. For example, we had a number of large purchases of 100's and even up to 1000 annual stickers purchased by Wisconsin companies as part of employee gift or recognition programs. Another example was a WI auto dealer who purchased approximately 1000 stickers as a test drive promotion where people received a free state parks sticker. In total we have made over 50 bulk sale purchases where a group or organization purchased more than \$500 worth of stickers at once. With the largest purchases being almost \$30,000, which was done twice by two different companies.

Electronic Payment Kiosks:

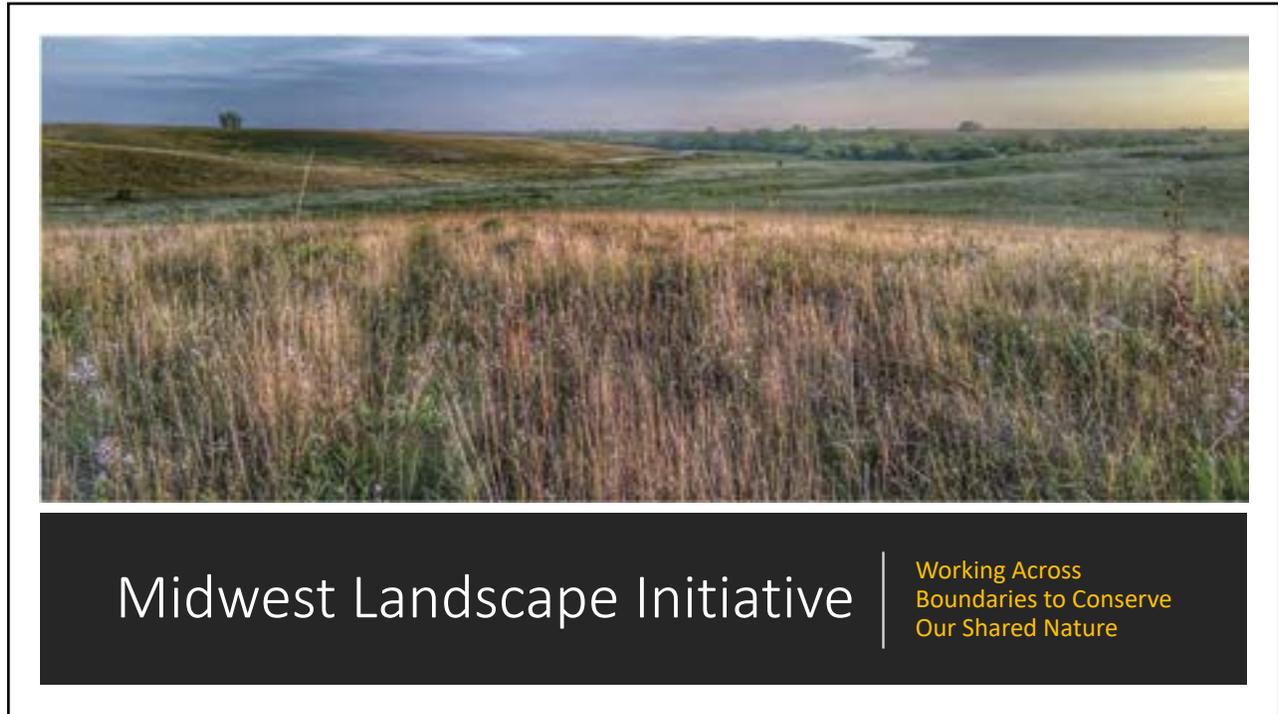
The electronic payment kiosks continue to be a popular customer service feature to be able to sell daily and annual passes through credit card purchases. This program has now grown to 14 electronic kiosks around the State with plans for more at properties around the state.

In March 2021, the newest prototype electronic kiosk was installed at Devil's Lake State Park that will dispense an actual Resident Annual Vehicle Sticker. Prior to this technology, all kiosks dispensed receipts only that could be used as temporary proof of purchase until the sticker could be redeemed at a later date. Once fully tested and successful, the existing kiosks within our properties could be retrofitted to this technology and any new purchases moving forward would have this feature, providing enhanced customer service throughout the State.

Public Relations and Partnerships

- Completed the capital development backlog data collection, phase one of data analysis and completed a report draft
- Successfully executed countless concession, land use and other agreements to continue our long-standing relationships with partners across the state and our collaborative efforts to serve visitors
- Formed new partnerships with the Birkie organization, Thrivent Financial, AARP and handful of new Friends groups in the last year
- Negotiated and closed out multiple historic FEMA grants by work with Wisconsin Emergency Management and FEMA in 2020
- In the last year several significant projects that the program has been working on for at least five years have come to completion:

- Willow River State Park Dam
- Great River State Trail Winona Connector – connecting MN to the WI trail system
- The Winter Depot trail depot restoration on the Tuscobia State Trail
- Completion of the new accessible fishing pier, with the Friends of Potawatomi State Park, at Potawatomi
- Completion of the Eagle Tower at Peninsula State Park
- Completion of \$15 million in work at Peninsula alone since 2019, finishing in 2020 – with over \$3.0 million from partners



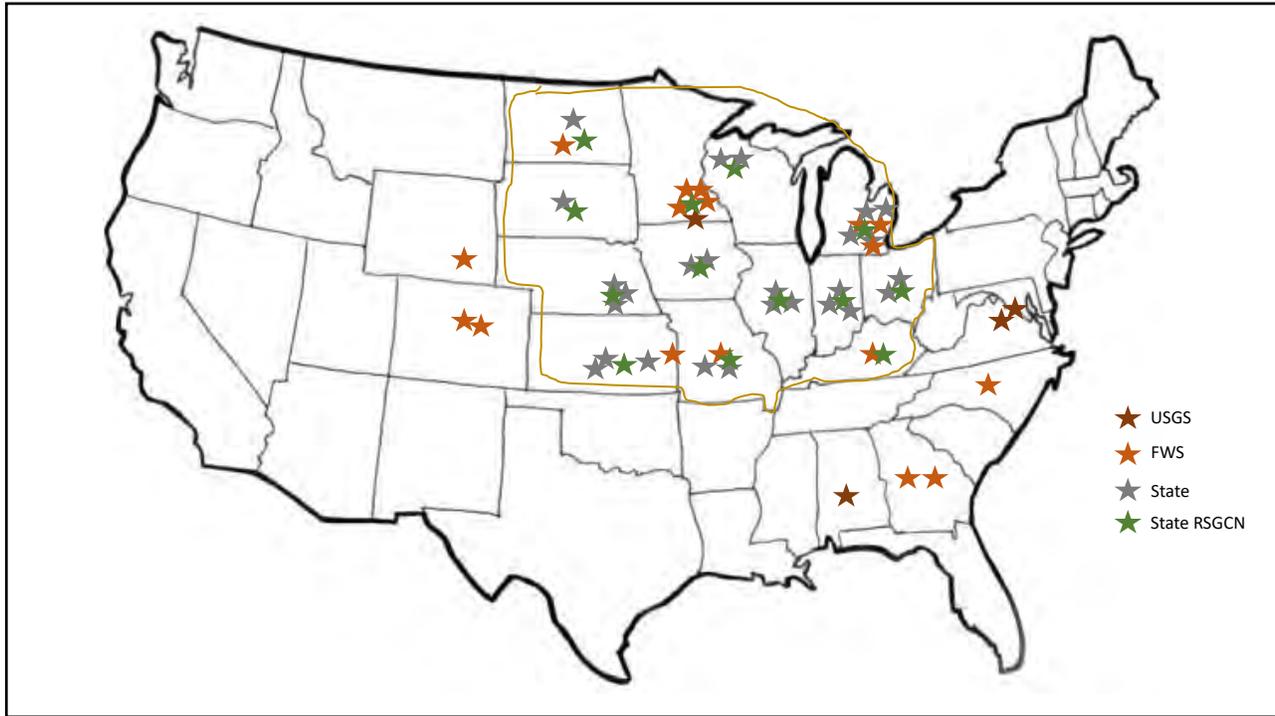
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Updates

- Steering and Technical Committee Changes
- Midwest RSGCN Published
- Vision
- Governance Review completed by WMI
- Communications & Engagement Strategy
- Next Steps
 - Conservation Action Plan
 - Refining Priorities/Focal Areas of MLI

A smaller version of the landscape image from the banner, showing the same field of tall grasses and rolling hills under a cloudy sky.

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RSGCN

- Process:
 - Consultant led
 - 13 Taxonomic groups
 - Participation across MAFWA States, FWS and USGS with leadership in the MAFWA Wildlife Diversity Committee
- Results:
 - 3300 SGCN to about 340 RSGCN
 - Related Habitats and Limiting Factors Identified
 - New Networks Established
- Next Steps:
 - Evaluate and Refine Focal Areas/Priorities of MLI
 - Engage across MLI participating organizations and potential partners to learn about expanded utility

Midwest Regional Species of Greatest Conservation Need
A product of the Midwest Landowner Initiative

The greatest threat to the wildlife resources of the land of the Midwest is the loss of wildlife habitat. The Midwest Landowner Initiative is a collaborative effort to address this threat.

340 Species
We have identified 340 species of greatest conservation need and created a network of landowners to help protect them.

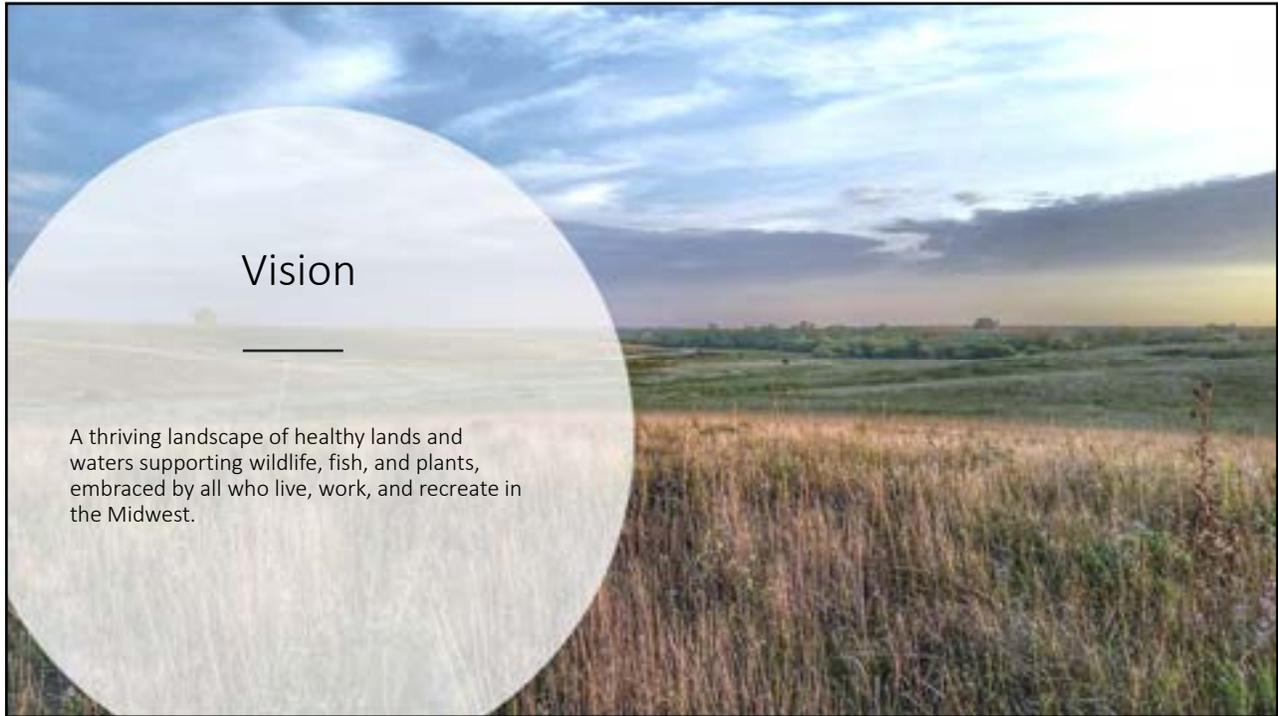
118 Participants
We have identified 118 participants who are helping to protect our wildlife resources.

1,000+ Hours
We have spent more than 1,000 hours working together to protect our wildlife resources.

Working together is one of the best ways to protect our wildlife resources. We encourage you to get involved and help us protect our wildlife resources.

Midwest Landowner Initiative
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www.mlandownerinitiative.org

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**Working Across
Boundaries to Conserve
Our Shared Nature**



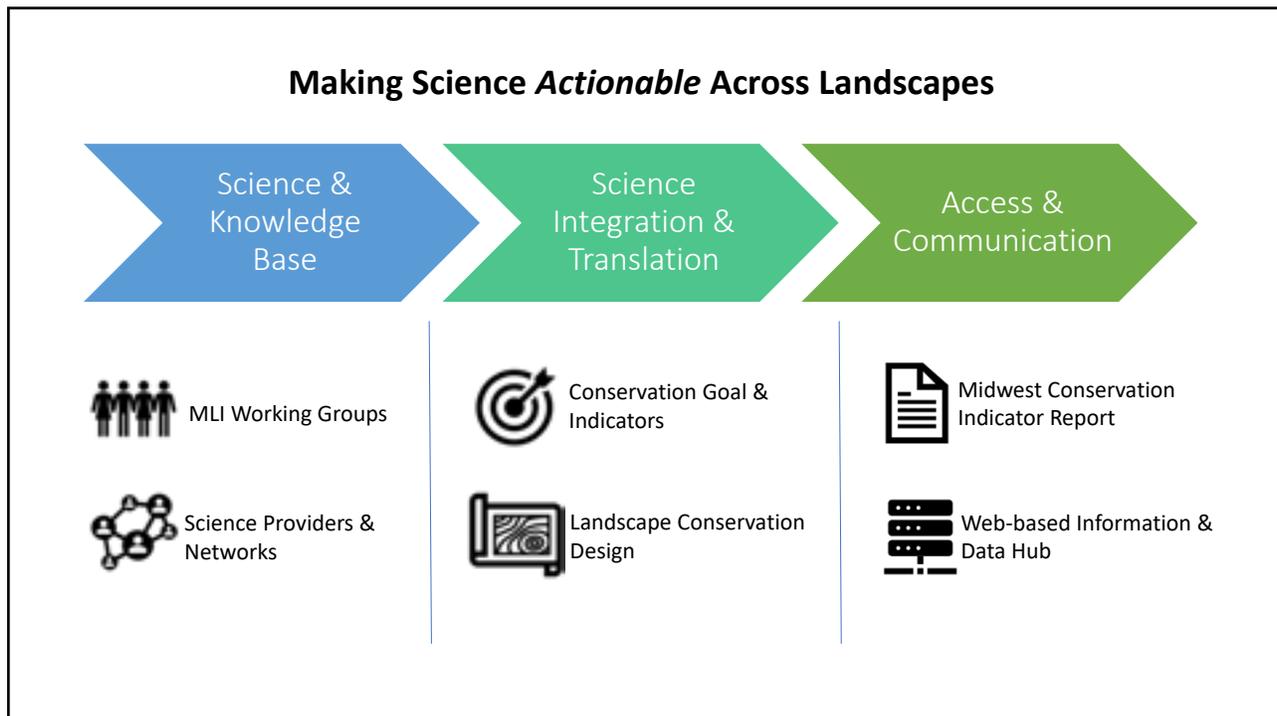
Action Plan

MAFWA Resolution 2019:

Directed the MLI to develop a Comprehensive Regional Conservation Work Plan, which is:

- A regional framework, with clear, specific, practical and measurable objective, performance measures and objectives,
- Intended to address the co-identified conservation priorities of the MLI and to coordinate conservation actions and investments in the region.

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