

**ILLINOIS
STATE REPORT
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Overview

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

Fish and Wildlife Highlights

Division of Fisheries

Illinois Asian Carp Actions in Northeastern Illinois

The Illinois Department of Natural Resources (IDNR), as a major partner in the Asian Carp Regional Coordinating Committee, continues to work above and below the Corps of Engineers' electric barrier system to monitor and prevent the upstream migration of Asian carp on the Illinois River and in the Chicago Area Waterway System (CAWS). Some highlights (as of Spring 2019) from our coordinated Asian carp efforts are as follows:

Contracted harvest efforts have contributed to over 7.8 million pounds of Asian carp removed from the IWW below the Electric Dispersal Barrier since 2010.

- Asian carp mean density in Dresden Island Pool, as described by Southern Illinois University hydroacoustic estimates, appears to have decreased by an estimated 96% from 2012 to 2018. This is likely influenced by continued commercial harvest efforts in the IWW.
- Only two Asian carps have been found upstream of the electric dispersal barriers since intense actions began in 2010 despite continued and intensive monitoring in the CAWS.
- Coordination between IDNR and other local, state, and federal partners on this issue remains high.
- Recent model results suggest heightened removal, both in the upper Illinois Waterway from contracted efforts and intensified commercial efforts in the lower Illinois and Mississippi rivers may further aid in prevention of spread and local negative impacts to native species. Contracting with commercial fishers shall commence in Peoria Pool of the Illinois River to enable increased management and control of this invasive population. Strategy identified here: https://www.ifishillinois.org/programs/CARPreport_news.html

- For further details regarding ongoing efforts: www.asiancarp.us

Aquatic Invasive Species

On September 5, 2018, IDNR Fisheries Biologist, Blake Ruebush, and City of Pittsfield staff removed 3,000 pounds of Water Lettuce *Pistia stratiotes* from King Park Pond in Pittsfield, Illinois. Water Lettuce is a non-native and invasive plant that was introduced into the pond, likely an illegal stocking. This plant can be possessed for aquariums and those in the aquarium industry only and is not legal in any public waters within Illinois.

Water Lettuce was first observed in King Park Pond on August 7, 2018. In less than a month this aggressive aquatic plant went from covering less than 1% of the pond to nearly 75% coverage on September 5th when it was removed. The plants were hauled away and disposed of. Subsequent efforts from IDNR included herbicide treatments to any remaining plants in the pond.

These plants were removed for multiple reasons:

- Water Lettuce is not native to Illinois and is considered invasive in some parts of the U.S.
- This plant was likely illegally stocked into the pond without permission from IDNR.
- The Water Lettuce had the potential completely overtake the pond and possibly cause a fish kill.
- The density of the plants interfered with fishing activities.
- This location has fall stocking of trout in October for those with trout stamps, the Water Lettuce would prevent shore access to the water.

IL Department of Natural Resources and IL Department of Corrections partner to create fish habitat

In the summer of 2018, the Illinois Department of Natural Resources and Illinois Department of Corrections developed a partnership to create and install fish habitat in public lakes. The first habitat installation project occurred at Pittsfield City Lake on August 15th where 132 ‘fish attractors’ were deployed.

IDOC provided recyclable materials to construct fish attractors and IDOC staff to coordinate and oversee fish attractor construction. IDNR provided additional materials to construct fish attractors and transported and deployed the attractors into Pittsfield City Lake. Fishermen can find the attractors in two different coves.

Lake Michigan Program

Charter and non-charter recreational anglers expended 328,547 angler-hours to harvest 17,342 yellow perch and 80,817 trout and salmon from the Illinois waters of Lake Michigan last year. The sport fishery remains stable; estimates of fishing effort decreased by 8%, salmon and trout harvest decreased by 18% and yellow perch harvest increased by 81% compared to the previous year. Despite the increase in 2018, yellow perch harvest remained near historic lows for the spring-summer season (March-September). However, a strong 2015-year class of perch contributed to a popular late-fall and early-winter fishery at Chicago.

Illinois River

IDNR biologists conducted a targeted catfish survey on the Illinois River in May – June using large hoop nets. A total of 84 hoop nets were fished for 48 hours each in side channel and main channel habitats in the Alton, LaGrange and Peoria reaches from River Mile 56 upstream to River Mile 196. A total of 797 catfish were collected, which included 608 channel catfish, 183 flathead catfish and 6 blue catfish. One net

set near Chillicothe collected 145 catfish. In addition to spring catfish monitoring, 16 sites along the Illinois Waterway were surveyed as part of the Illinois River Project's Annual Fish Community Monitoring. Many of the catfish collected in the Illinois River hoop net survey and electrofishing survey were tagged with an external Floy Tag to help assess catfish demographics in Illinois as part of a state-wide effort and collaboration with Eastern Illinois University. The lower Illinois River continues to support a thriving catfish fishery both for sportfish angling and commercial harvest.

The Illinois River Program, in conjunction with the state hatchery system, stocked over 15.5 million sauger fry ranging from 1-2" in the upper Illinois River in 2018. The upper Illinois River continues to be known for producing a world-class sauger fishery and hosts the Master's Walley 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.

In 2018, the Illinois DNR, in conjunction with other agencies continued to prepare for lock closures for lock maintenance on the Illinois Waterway in 2020. The 2020 lock closures will provide an invaluable learning opportunity to evaluate the response of the aquatic ecosystem to reduced boat and barge traffic during the lock closures.

Region 1 Streams

Rock River Basin

The Rock River in Northwestern Illinois continues to be a popular destination for anglers looking for record size Walleye, Shovelnose Sturgeon and Catfish. Each year the IDNR stocks around 70,000 fingerling Walleye into the upper end of the Rock River and this has created an outstanding fishery, with the Upper Rock Basin (Pecatonica River) holding the state record for Walleye. Due to the success of the stocking program, anglers regularly report catching memorable Walleye (25"- plus) from Rockford to Prophetstown.

The Rock River also holds the State and North American record for the Shovelnose Sturgeon and the state record for the Black Buffalo. In addition, Flathead and Channel Catfish are abundant, with trophy size Flathead Catfish common. In 2015, in response to a large fish kill between Dixon and Sterling, the IDNR biologists collected and relocated 80 large flathead catfish into the kill area and built and installed 20 catfish spawning structures into the kill area. Heavy spring flooding in 2016-2018 prevented biologists from checking these structures though, so their effectiveness is still to be determined. However, the Rock River continues to maintain a nationwide reputation for catfish which attracts a large number of tournament anglers. In 2018, 18 large catfish tournaments were held on the Rock River totaling 830 boats. In addition, two large tournaments, the Cabela's King Cat and the Bass Pro Catfish Tournaments were also held with support from the IDNR, with each boasting more than 150 boats. In 2018 the IDNR conducted a general basin survey and collected a total of 108 Flathead Catfish. Included were 72 adult fish (greater than 11") and 36 young fish. The largest adults were over 40" in length with a total of 6 fish in the trophy range, which represents 8% of the adult fish collected. In addition to the large number of trophy size fish, 58% of the fish over 11" were also over 16" in size (quality size). This is quite good and at the top of the acceptable range, with 19% of the adult also over 24" (preferred size) and 15% over 28" (memorable size).

Upper Mississippi River Basin

IDNR biologists are continuing to work with the Galena River watershed group to develop a plan for the Galena River and have also begun looking at a dam removal project on the Apple River near Hanover. Both projects are in the early stages, but enthusiasm is high with lots of local support.

Region 1 Impoundments

IDNR Fisheries and the City of Eureka completed the dewatering and rehabilitation of Lake Eureka. A fish toxicant was applied to remove a very dense common carp population. IDNR Fisheries completed a restocking of bluegill, redear sunfish, hybrid crappie and channel catfish in the fall. Largemouth bass will be stocked in the spring of 2019.

IDNR Fisheries continues to assist The Nature Conservancy with the management of the sport fishery and aquatic habitat in the Emiquon Preserve. However, in 2018, with the introduction of the Asian carp species from the Illinois River, negative impacts on the aquatic vegetation and native sport fish have begun to be documented and observed within the site. Future monitoring and management will be necessary to maintain quality aquatic habitat at this site.

IDNR Fisheries continues to assist The Wetlands Initiative with the management of the sport fishery and aquatic habitat in Hennepin & Hopper Lakes. These lakes are currently providing a great fishery for multiple species as well as being a destination for bird watchers and other outdoor enthusiasts.

Region II Streams Program Update

Dam Removal/Fish Passage Update

Two additional dams have been removed in the past year, bringing the total to 29 projects completed in Illinois in recent years. Three fish passage structures have also been installed. Fishery evaluations have been completed on a number of these projects and have clearly established the benefits of dam removals. Many miles of stream habitat have been reconnected and fish have rapidly recolonized areas where they were previously absent due to dams. On the Upper Des Plaines River, removal of 9 out of 11 dams has facilitated recolonization of species throughout the watershed. Removal of the two remaining dams has been delayed but is still on track to complete the reestablishment over 100 miles of free-flowing river; a nationally significant accomplishment. Several other dams are under evaluation for removal and fish passage at a flood control dam is in final stages of evaluation as well. The Army Corps of Engineers and IDNR have an ongoing feasibility study for the remaining dams on the Fox River as part of the Section 519 Ecosystem Restoration Program.

Brandon Road Lock and Dam Fish Passage Project

The Brandon Road Lock and Dam (BRLD) is located on the Des Plaines River in northeastern Illinois and is part of the Illinois River Waterway, an important biological and commercial connection to Lake Michigan. The leading edge of the Asian Carp invasion is located eight miles downstream of the 39 ft. high structure. Although the leading edge has not advanced for many years and numbers of Asian Carps have been reduced in the downstream reach, the threat of upstream movement remains. BRLD represents a “pinch point” as the only viable fish pathway to Lake Michigan. As a result, the Army Corps of Engineers proposed installing an invasive fish barrier at the BRLD to stop Asian Carp. Unfortunately, this barrier will also stop native fish movement which will impact both restoration and recruitment source for upstream fish assemblages.

The upper Des Plaines River (UDPR) upstream of the BRLD is a highly urbanized river which is still in recovery from historic water quality degradation and ongoing problems caused by combined sewer overflow (CSO) events. Since 1974, a total of 44 species, previously extirpated due to water quality problems have been documented in the UDPR. It appears that many of the 44 “new” species found in the UDPR migrated through the BRLD from lower Des Plaines and Illinois River Waterway, which has also seen dramatic improvements in fish species richness since the Clean Water Act.

To document that fish passage through the lock is possible and that the barrier project could impact native fish migration, IDNR collaborated with Southern Illinois University on a microchemical analysis of upstream migrants. A difference in strontium/calcium ratio between the Illinois and Kankakee Rivers, downstream of BRLD and the UDPR, allowed analysis of microchemistry levels in the cross-sectioned fin rays to determine natal origin of individual migrants collected in the UDPR. Results show that individuals from four families, including suckers, catfish, black bass, and gar, which were found upstream of BRLD originated downstream of BRLD. This microchemical evidence documents movement of native fishes through the BRLD and indicates mitigation for the barrier project is needed to continue restoration of upstream fish assemblages and for attainment of “Full Use of Aquatic Life” as required by the Clean Water Act.

Des Plaines River Restoration /CSO Abatement

The Des Plaines River Basin Survey was completed in 2018 as part of routine sampling to monitor stream health in Illinois. Typically, for most Illinois streams, we observe only minimal changes over the five-year sampling cycle. However, as noted above, the Des Plaines River continues to show improvements in fish assemblages. The improvements were due in part to progress in reducing Combined Sewage Overflow (CSO) events resulting from the Tunnel and Reservoir Plan (TARP) managed by Metropolitan Water Reclamation District of Greater Chicago. Results from the 2018 Des Plaines River survey demonstrated dramatic improvements in the lower segments of the upper Des Plaines River. This can largely be attributed to the addition of a reservoir with a 3.5 billion gallon carrying capacity in 2017, greatly reducing CSO events.

Four stations within the lower segment had an average increase of eight points in the Index of Biotic Integrity score, a fish-based measure of stream quality which ranges from 0 to 60. Another surprising result from 2018 was the increase in Smallmouth Bass within the lower segment of the upper Des Plaines River. In 2013, before the reservoir addition, the mean Smallmouth Bass catch rate was only 6 per hour which increased to 35 Smallmouth Bass per hour in 2018.

The two lowermost stations had catch rates of 68 and 83 per hour, with a wide range of size classes present. These catch rates are comparable to high quality fisheries in less urbanized streams like the Kankakee River. Size structure and abundance of Des Plaines River Smallmouth Bass populations prior to 2017 were insufficient to support the size/age classes collected in 2018. It appears that many of Smallmouth Bass found in 2018 likely migrated up through the Brandon Road Lock and Dam.

Chicago Area Waterway Habitat Improvement Project

Friends of the Chicago River and IDNR received a grant from the Chi Cal Fund in late 2017 to reconnect Mill Creek to the Cal Sag Channel. A natural limestone shelf as well as the base of a bike trail bridge blocked fish passage into Mill Creek from the Cal Sag Channel. The Cal Sag Channel, like other rivers of the Chicago Area Waterway System (CAWS), has experienced a recovery in recent years with increases in fish species diversity and abundance. In 2016, only five fish species were collected in Mill Creek, despite the presence of excellent habitat. Typically, a stream the size of Mill Creek can support over 20 fish species. The loss of species richness occurred over time due to poor water quality stemming from septic tank out flows in the creek. In recent years, updated sewer systems have been installed in the surrounding communities and the water quality has improved markedly.

However, without connection to a downstream recruitment source, fish could not repopulate Mill Creek. In April 2019 the bridge foundation was notched to allow fish passage and rock riffle structures were installed at the mouth of the creek to restore the natural morphology. We will conduct a follow up survey this summer. We hope to see many new species taking advantage of the great habitat available in Mill Creek.

The Kankakee River Walleye Enhancement Program

The Kankakee River Walleye program entered its 19th year with collection of brood fish in Wilmington and Kankakee. Fifty-one brood fish from the Kankakee River were sent to the LaSalle Hatchery, 19 of which were female. Over 2 million eggs were fertilized producing 1,512,000 fry. Five hundred thousand fry were stocked in a rearing pond at the hatchery. The remaining 1,012,000 fry were released in Monster Lake of Mazonia's South Unit. The hatchery fry will be stocked in the river in May and June as 2-inch fingerlings. The number of fingerlings placed throughout the Kankakee and Iroquois Rivers averages approximately 90,000 per year. Electrofishing catch rates were 46 walleye per hour below the Wilmington dam and 18 per hour in Kankakee. Many anglers have reported having a very successful spring thus far.

Des Plaines River Sauger Stocking

IDNR Region II Streams Program released approximately 25,000 Sauger fingerlings into the Upper Des Plaines River. Although there has been a successful stocking program downstream of the Riverside/Lyons area since 2000, this is just the second release of Sauger in the upper Des Plaines River. During the past several years, nine of the eleven dams on the Des Plaines River have been removed by IDNR, Army Corps of Engineers, Cook County Forest Preserve and Lake County Forest Preserve. These removals have created many additional miles of natural, free-flowing riverine habitat, allowing for expansion of the stocking program. The recently released Sauger were raised at IDNR's LaSalle Fish Hatchery and were released at Irving Park Road and upstream of the former site of Dam #2. The Des Plaines was once a highly degraded urban stream. Thanks to the Clean Water Act, TARP and the cooperation of State, Federal, and Local entities, the river has become the focus of restoration efforts and a great recreational resource for Illinois' urban residents.

Region 3 Streams Program

The removal of two low head dams in the Vermilion River basin, near Danville, IL, was initiated in 2018. Removal of these dams on the Vermilion River mainstem and North Fork Vermilion River, built in 1914 and 1920, provides unobstructed access to an over 1,290 square mile drainage area upstream of these dams. The 11-foot high Danville Dam on the Vermilion River created an effective barrier between the lower 22 miles of the river and the remainder of the basin, including Illinois' only National Scenic River – the Middle Fork Vermilion River. The basin is particularly biodiverse with at least 96 species of fish and 46 species of mussels, many state-listed. A strong monitoring program with partners from Eastern Illinois University, the Illinois Natural History Survey, and Le Moyne College with funding from a State Wildlife Grant has already resulted in six publications.

We worked with researchers at the University of Illinois to complete a thermal tolerance bioassay on the Illinois state-endangered Bigeye Chub (*Hybopsis amblops*) to provide data in support of ongoing 316(a) permit reviews. Publication is in review.

We completed a Listing Package for the state-endangered Redspotted Sunfish (*Lepomis miniatus*) with partners from the Illinois Natural History Survey. Several years of successful propagation, the establishment of multiple refuge populations, and translocation efforts has led to a recommendation to the Illinois Endangered Species Protection Board to upgrade the status of the species from state-endangered to state-threatened.

The Mackinaw River is 129 miles long with a drainage area of 1,136 square miles. The basin has experienced a decline in the Smallmouth Bass population in recent years. Electrofishing catch rates have dropped up to 80% from historic highs with strong evidence of missing year classes. 2018 marked the third year of a supplemental stocking effort. An additional 9,824 Smallmouth Bass, including 200 spawn-ready retired broodfish from Jake Wolf Memorial Fish Hatchery, were stocked in the river at multiple locations in 2018. We continue to study reasons for the decline with researchers from the Illinois Natural History Survey, while jumpstarting natural reproduction in the river through the supplemental stocking effort. Early results are showing promising signs of successful population recovery.

Region III Reservoirs

With the coordination of the district fisheries biologist and the help of the U.S. Army Corps of Engineers, anglers and fishing clubs statewide, and local/regional businesses and industry the Lake Shelbyville Fish Habitat Alliance successfully completed its second year of operation to enhance the quality of the fishery for anglers and the economic benefit of local communities. Since January 2017, the many volunteers that comprise the LSFHA has acquired local and statewide donations and funds to build and place an additional 250 Lake Shelbyville cubes (66%) and Georgia cubes (33%) and 55 recently-built artificial stumps in Lake Shelbyville. Through sonar evaluation, angler catch, and Illinois Natural History Survey electrofishing, we know that the cubes are attracting large numbers fish (crappie and others).

The upgraded design of the Shelbyville cube has been so successful that anglers have suggested that the LSFHA quit building the original Georgia cube design. Anglers have caught crappie off of the Shelbyville cubes in less than an hour after they were placed! The INHS will continue to conduct further evaluations. The LSFHA applied for and successfully obtained a \$30,000 grant from Friends of Reservoirs, which was announced in 2017. An additional \$27,000 was allocated by the Friends of Reservoirs to the LSFHA. This was in addition to the original \$30,000 due to the success of our program. The money was received late in 2018 and will be utilized to build more cubes and stumps and add more plantings and rock piles to enhance angling on the lake. Other grants and funding sources are being sought to build many thousands of additional cubes.

In coordination with the Lake Shelbyville project U.S. Army Corps of Engineers staff, district fisheries biologist, Mike Mounce, suggested that fingerling striped bass and hybrid striped bass be acquired to help enhance the fisheries on the project lakes. In 2018, the USACE obtained 111,000+ striped bass fingerlings for Lake Shelbyville to enhance the diversity and quality of this fishery. This trophy species will benefit the anglers and economic health of local communities if successful. In coordination with a federal hatchery, these fish should be stocked soon, and the USACE plans on continuing this stocking for many years. The striper stocking was recently repeated in May 2019.

Mike Mounce received the “Commander’s Award (and medal) For Public Service” and a “General’s Coin” from the USACE commanders over Lake Shelbyville for his efforts to improve the fishery of Lake Shelbyville. Mike was very surprised and humbled by the award, as many people have been involved with the projects to improve angling quality on the reservoir.

Region 4 Streams Program

The Lower Sangamon River basin survey was successfully completed with 15 sites sampled in July-August. Conditions remain fairly consistent with recent surveys (2008, 2013) with the mainstem sites showing fair diversity and sportfish opportunities for channel catfish, flathead catfish, white bass and (limited) panfish. Many of the lower basin’s tributaries are sluggish, silt-laden streams harboring low diversity fish

communities. One exception, Crane Creek, is a cool, well-vegetated sand prairie stream supporting relict populations of ironcolor shiner, lake chubsucker and starhead topminnow, none of which are found elsewhere in the Sangamon and for that matter, central Illinois. One encouraging find was evidence of range expansion for smallmouth bass, which was collected for the first time in Crane Creek and Panther Creek within Jim Edgar Panther Creek Conservation Area.

Kaskaskia River sampling continues to show good catfish populations below Carlyle (channel, flathead and occasional blue catfish) but widespread prevalence of Asian carp, primarily silvers. Bass, crappie, and bluegill add to the fishery of the oxbow lakes along the navigation channel, but these populations appear to be in decline lately. Alligator gar stocked into the river since 2012 have yet to appear in our electrofishing, this warrants special netting surveys in the coming year.

Region 2 Impoundments

In a cooperative project which has been conducted annually since 2007, artificial fish habitats were placed at various sites throughout Braidwood Lake in 2018. 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 which do not typically experience the highest water temperatures. Since the project's inception, over 900 of these habitats have been placed. Funding for this project is provided by Exelon's Braidwood Generating Station and assistance is provided by the members of various bass fishing clubs.

Coordinated and finalized two new Cooperative Management Agreements, completed surveys on both waters and submitted Administrative Rules for inclusion into the Fishing Regulation Booklet.

IDNR Fish Hatchery System Report

The IDNR operates three state hatcheries located strategically across the state including Jake Wolf Memorial Fish Hatchery, Little Grassy Fish Hatchery and the LaSalle Fish Hatchery. The hatchery section's mission is to maintain, restore, establish, or sustain sport fish populations in lakes, rivers, and Lake Michigan in order to diversify sport fishing opportunities through supplemental production and stocking of hatchery reared fish. Fishing continues as one of the most popular outdoor activities in Illinois and direct spending by anglers in 2011 was nearly one billion dollars, which generated approximately three billion to the State's economy.

Fish produced by the hatchery system are utilized in three types of stockings. They are the stocking of newly impounded or chemically rehabilitated public waters, supplemental stocking of existing fish populations with poor recruitment, and the establishment and maintenance of sport fisheries in existing waters.

In FY18, the hatchery system produced and stocked a total of 25,256,497 fish of 18 species into state and public waters. These stockings included 1,000 alligator gar, 57,739 black crappie, 76,167 blue catfish, 459,292 bluegill, 111,594 brown trout, 688,371 channel catfish, 258,505 Coho salmon, 172,642 Chinook salmon, 1,530,152 largemouth bass, 228,119 muskellunge, 80,891 rainbow trout, 886,230 redear sunfish, 15,800,115 sauger, 372,265 striped bass hybrids, 73,614 smallmouth bass, 54,402 steelhead, 2,989,069 walleye, and 1,416,330 walleye-sauger hybrids.

Division of Wildlife

2018-19 Deer Season Harvest

Hunters in Illinois harvested a total of 151,709 deer during the 2018-19 seasons, including all methods and special hunts. Male to female sex ratio was 55:45 (46% antlered; 54% antlerless) in the total harvest. There were two less late-winter season (antlerless-only) counties open compared to last year. The prior year's total deer harvest was 147,695 (56:44 male to female ratio), and the Illinois record harvest of 201,209 occurred in 2005-06.

Chronic Wasting Disease (CWD)

We experienced a delay in CWD testing this year due to the unavailability of the chemical reagent necessary for tissue staining (IHC method). To date, eighty-seven (87) cases of CWD have been confirmed from 6,705 tested samples in 2018-19, a 16% increase from 75 cases in 2017. A total of 6,863 hunter-harvested samples were collected (5,125 tested) revealing 64 CWD-infected animals, while IDNR sharpshooting operations detected 18 CWD-infected deer from 1,019 collected samples (701 tested). Historically, most CWD positive cases (62 % of the cumulative total of 823) have come from the original 4 counties (Winnebago, Boone, McHenry, and DeKalb), but this has been shifting in recent years. Slightly over half (51%) of the cases this past year came from the counties of McHenry (14), Jo Daviess (10), Ogle (10) and Grundy (10). Although CWD has spread from 4 counties in 2003 to a total of 17 counties in 2016-17 (no new counties were added this past year), prevalence rates have remained low, approximating 1% throughout the 17-year history of the disease in the state.

Urban Deer Population Control

A total of 42 Deer Population Control Permits (DPCPs), not including permit extensions for additional time and/or deer, were issued to 11 natural resource management agencies, arboretums/botanic gardens, federal research facilities, and homeowner associations in seven northern Illinois counties during winter 2018-2019. Permittees were authorized to remove a total of 1,358 white-tailed deer via sharpshooting (1,338) and live-capture followed by mechanical euthanization (20); 1,243 (92%) deer were actually collected over the five-month period (November 2018-March 2019). All usable deer carcasses were processed and donated 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 232 Deer Removal Permits (DRPs) were issued in 55 counties in 2018, compared to 198 permits in 51 counties the previous year. Five permits authorized hazing of deer only; 227 DRPs authorized the lethal removal of 1,724 deer. These permits resulted in the collection of 879 animals (51%). Excessive deer damage to corn and soybeans accounted for 63% of the DRPs issued during 2018. Approximately 19% of the 2018 DRPs were issued due to concerns about deer on airport runways/taxiways. Permits were also issued for deer-related damage to specialty/truck crops (beets, lettuce, peas, pumpkins, strawberries, organic vegetables, etc.), nursery stock, and fruit trees/orchards. As usual, DRP issuance peaked in June and July with 54% of the permits issued during these months.

Epizootic Hemorrhagic Disease (EHD)

Moderate levels of EHD were reported in 2018 with 458 suspected cases reported from 51 counties. The disease was reported at low levels across the southern third and western half of the state. Higher levels of disease were reported along the Illinois River including Peoria, Fulton and Schuyler counties, as well as the southeastern Illinois county of Jasper. EHD virus was isolated from 9 spleen samples submitted; EHDV_2 was detected in 7 cases, EHDV_1 in 1 case, and serotype was not determined in 1 case.

EHD reporting levels in 2018 were somewhat higher than typically observed, but dramatically lower than the worst three outbreaks observed during this period (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).

2018 Spring Turkey Harvest

Through May 12, Illinois turkey hunters had harvested a preliminary total of 14,788 wild turkeys during the 2019 spring turkey season, including the youth season. The season has concluded in the South Zone but is ongoing in the North Zone where will conclude on May 16th. This compares with 13,165 birds harvested at the same point in the 2018 season. The total harvest in 2018 was 13,454 and the state-record total harvest of 16,605 turkeys was set during the spring of 2006. Youth turkey hunters harvested a preliminary total of 1,364 birds during the 2019 Illinois Youth Turkey Season. Last year's youth season harvest total was 1,143 birds. The number of Illinois counties open to spring turkey hunting remained at 100 of the 102 counties statewide.

2017-18 Waterfowl Season

As a mid-latitude state, waterfowl abundance and hunter success in Illinois depends on habitat quality and food resources available. Habitat conditions varied across the state in 2018, as inconsistent weather and precipitation has become more normal during the growing season. These unpredictable growing season water levels continue to complicate waterfowl management in many of Illinois' most important wetlands. As such, habitat was considered average in many locations. Late summer or early fall flooding negated some quality areas making them unavailable to migrating ducks. The 2018-19 hunting season may be remembered as one of inconsistency and frustration for many hunters. Early unseasonably cold weather seemed to move many early-migrant species out of the state in November. Thereafter, a prolonged stretch of mild weather delayed mallard migrations, especially for hunters in the south half of the state. Hunter harvest was down 15–50% at DNR managed sites reporting harvest shortly after the season. Duck abundance along the Illinois River was less than in 2017, but greater than in 2017 along the Mississippi Rivers. Duck numbers peaked along the Illinois River November 14 but were 22% below the 5-year average. Duck numbers along the Mississippi peaked 14 November, 35% above the 5-year average, and the 6th highest peak since record keeping began in 1948. Duck abundance peaked on December 11 in southern Illinois, 96% above the 10-year average, but numbers dropped quickly and remained well below average through the end of January. Northeast Illinois duck abundance peaked November 14 well above the 10-year average; however, the number of completed surveys was lower than in most years. Mild temperatures and little snow cover through late-January allowed Canada geese to remain in Wisconsin throughout most of the hunting season. Goose abundance was below average in northern and central Illinois throughout December and January.

2017-18 Upland Harvest

The 2017-18 survey estimated that 12,575 hunters (23% increase) shot 33,876 wild pheasants in Illinois (128% increase), compared to the 2016-17 totals of 13,955 hunters and 24,316 wild birds. The number of hunters and the number of days each hunter spent in the field both increased from 2016-17. The 2017-18 quail survey estimated that 8,597 hunters shot 29,385 wild quail (18.2% decrease) compared to 7,256

hunters and 35,951 quail in the 2016-17 survey. The number of quail per hunter/day was down 35.8%. Estimates from 2017-18 indicate that 29,770 hunters (down 15%) harvested 514,812 doves (up 1.1 %). The number of birds per hunter/day was down 5.8% for mourning doves. The number of rabbit hunters in 2017-18 (27,332) was up 21.8% from the previous year and they harvested 132,1671 rabbits (up 46%). Despite the decrease in participation, the number of rabbits per hunter/day decreased 15%.

Agency Highlights

Hunter Heritage: Recruitment, Retention, and Reengagement

At the core of the Hunter Heritage Program approach to increasing participation in hunting is a feedback model proven to recruit, retain and reengage (R3) people in an outdoor recreation activity. Many states are using this model framework, but Illinois is taking it a step farther through a combination of science and partnerships with a broad array of constituent organizations.

For example, a part of the scientific approach is using hunting licenses and permit records to estimate R3 rates and project how changes in hunter demographics will impact efficacy of wildlife management and conservation revenue (e.g., Pittman-Robertson funds). Data are also being collected to objectively assess what and how hunter programs are falling short in the R3 process or how likely new types of hunting licenses and permits would be at recruiting or retaining hunters. Through collaboration and data-sharing with partner hunting organizations and human dimensions researchers, the Hunter Heritage Program can greatly improve factual evidence needed to adapt and implement effective hunter programs across Illinois.

Analyses to date show that hunters compose about 2% of Illinois residents, of which hunters are declining 2% annually. This decline is largely attributed to poor hunter retention rates of youth (<18 years) and recruitment rates of adults, with additional attrition related to most hunters becoming older and rarely hunting after age 57. However, a growing segment of hunters appears to be females, which have better R3 rates than males across most age categories. Lastly, records indicate Wildlife Management revenue from hunting licenses has decreased since 1938, even when adjusted for inflation and the increased number of specialty hunting licenses developed ostensibly to increase R3 rates.

The Hunter Heritage Program has also been diligent in building partnerships with constituent groups interested in hunter R3. In March 2019, the Hunter Heritage Program organized a 2-day R3 conclave that brought together 22 state and federal programs or non-government organizations. The team developed several task groups that are commencing development of a statewide strategy that will focus on increasing R3 rates across public demographics and mitigate long-term constraints to hunters, like land access and overly-complicated regulations. Over the next few months additional local to national government and non-government organizations will be included to fully develop a comprehensive strategy that is adaptable and scalable to all levels of our constituents. The Hunter Heritage Program is also working on developing contemporary resources for hunters, such as revised Hunter Fact Sheets, Hunting and Trapping Digest, and websites.

Feral Swine

USDA Animal and Plant Health Inspection Service Wildlife Services (APHIS-WS) and IDNR have removed 486 feral swine in Illinois since 2009; removal methods include trapping (286 feral swine removed), shooting (146 feral swine removed, utilized for small groups and as a follow-up to trapping efforts), and aerial control (52 feral swine removed). These efforts resulted in the elimination of two established breeding populations of feral swine in from the state (2015).

More recently USDA WS working in conjunction with IDNR, Pike Co Soil and Water Conservation District, Pike Co. Farm Bureau, IL Dept of Agriculture, USDA NRCS, and the IL State Police were able to remove of a newly emerging population from Pike County resulting from a pork producer who refused to properly contain his livestock. This producer was subsequently issued a citation by the IDNR for chronic neglect of a fence that could lead to the establishment of a FS population (IDNR Title 17; Chapter 1; Sub-Chapter b; Part 700) and ultimately sentenced to 6 days in jail, a 60 day suspended jail sentence, and is not allowed to have livestock of any kind for 2 years as a result of violating his probation.

APHIS-WS efforts are currently directed toward follow-up of citizen reports of feral swine including numerous reports of feral swine from the southern Illinois counties of Saline, Pope, Pulaski and Alexander Counties. Legislation passed in 2014 allows the IDNR to regulate feral swine in Illinois; importation, possession, and commercial take of feral swine are prohibited. Feral swine hunting is limited to firearm deer seasons, and landowners are required to obtain a no-cost nuisance animal removal permit from the IDNR to remove feral swine from private property.

Bobcat Hunting

Illinois offered its third hunting and trapping season for bobcat since 1972. More than 5,000 people applied for 1,000 permits to take a bobcat by hunting, trapping, or salvage from roads. Successful permit holders tagged a total of 343 bobcats. Hunters and trappers took 306 bobcats and an additional 37 road-killed bobcats were tagged by permit holders.

Illinois Recreational Access Program (IRAP)

Utilizing Voluntary Public Access-Habitat Improvement Program (VPA_HIP) grants from the USDA, the IDNR created the Illinois Recreational Access Program (IRAP) so that outdoor enthusiasts have more places to go. In 2018, IRAP leased over 19,438 acres of private land in 44 counties, creating opportunities for spring turkey, archery deer, squirrel, rabbit, quail, pheasant and waterfowl hunting. Several sites are also available for pond and river bank fishing as well as hiking. IRAP has written 76 habitat management plans, in cooperation with IDNR, USDA and SWCDs, on 10,857 acres of qualified leased private property. These plans are specifically written to provide a diverse habitat to improve Wildlife Action Plan targeted species. In 2018, IRAP completed more than 582 acres of nonnative invasive species control, 612 acres of timber stand improvement, 113 acres prairie prep/planting, 3 acres of tree plantings, and 1,844 acres of prescribed burning and 11 miles of burn break. In addition, IRAP saw a substantial increase in public access site applications for a variety of hunting activities in comparison to 2017.

Endangered Species

In Spring 2018, the Department successfully deployed a new web-based Endangered Species Permitting Tool. The new system allows individuals and institutions to apply for new permits, as well as edit, amend, and/or renew existing permits, and allows staff to issue permits electronically. In total, 378 permits for scientific research, personal possession, educational programs, and zoological/botanical institutions were issued for endangered species in 2018. During the reporting period, targeted surveys of state-listed Indiana Bat, Northern Long-Eared bat, Northern Riffleshell, Clubshell, Eastern Massasauga, Rusty Patch Bumblebee, Ornate Box Turtles, Timber Rattlesnake, Franklin's Ground Squirrel, River Redhorse, Eastern Sand Darter, and Eastern Woodrat were conducted. The Department continues implementing recovery actions for state-listed Indiana Bat, Hines' Emerald Dragonfly, Eryngium Stem Borer, Eastern Massasauga, Greater Prairie-Chicken, Osprey, Barn Owl, Blanding's turtle, and Alligator Snapping Turtle. The

Department has continues producing science-based conservation guidance documents for over 20 state listed species.

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 retirements and promotions the Habitat Team was down to one member for most of the year. A Natural Resources Coordinator was hired in September and a Technician II was hired in November. In 2018, the team reported the following accomplishments: sprayed 325.5 acres for invasive plant control, mowed 144 acres, treated 645.0 acres for woody encroachment, conducted prescribed burns on 75.0 grassland acres.

Natural Areas Stewardship

The Department's Division of Natural Heritage implements an active stewardship program on Natural Areas. From July 2015-June 2018, state budget limitations constrained contractual stewardship work. In July 2018, IDNR's budget was restored. Since July 1, 2018, Heritage staff have initiated 124 projects in procurement totaling \$2,473,277.

The Department continues to work toward formalizing the Illinois Natural Areas Stewardship Grant Program. The program will provide grants to eligible Conservation Land Trusts for stewardship activities on lands protected by the Illinois Nature Preserves Commission as Dedicated Illinois Nature Preserves and Registered Land and Water Reserves. The Department has drafted administrative rules to govern this new grant program and has submitted to the Governor office for review prior to submitting to the Joint Committee for Administrative Rules for review, public comment, and adoption of the final rule. The grant program may be implemented in FY2020 pending the adoption of the final Administrative Rule and available funding.

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

Monarchs

During 2018, Illinois Monarch Project (Illinois' monarch collaborative) continued to meet monthly with leaders from agriculture, rights of way, urban, natural lands, communication, and science sectors. In July 2018, the Directors of Illinois Dept. of Natural Resources, Dept. of Agriculture, Environmental Protection Agency, and Secretary of Dept. of Transportation signed a memorandum of understanding to support

monarch conservation efforts in Illinois. In addition to supporting Illinois 150,000,000 milkweed stem goal thru their agency programs, they will review and approve the Illinois Monarch Project Monarch Action Plan, which is slated July 2019. Additionally, design work is underway for Illinois' monarch license plate.

Wildland Fire Programs

IDNR staff managed 9,500 acres in 120 units with prescribed fire during the last burn season. Seven introductory wildland firefighting classes were held for IDNR staff and volunteers. Fifteen IDNR staff completed advanced wildland fire training classes at the Midwest Wildfire Training Academy. Fourteen G130 – 190 wildland fire classes were presented to the volunteer fire departments. A total of 62 fire departments were represented with 345 firefighters completing the classes. Through federal excess equipment programs, IDNR acquired approximately \$14,000,000 of surplus fire equipment, including fire engines, trucks, rescue boats, lighting standards, generators, tools and a variety of other items. IDNR provided two 20-person Type 2IA crew to assist in wildland firefighting efforts in Western States.

IDNR Nursery Program

For FY19, the IDNR Nursery Program produced 590,000 bare-root trees and shrubs in 26 different species. Additional nursery production included 2,000 containerized trees and shrubs in 17 different species; 12,000 containerized prairie forbs and grasses in 45 different species; 1,440 pounds of cleaned prairie forb seed in 45 different species, and 6,525 pounds of cleaned prairie grass seed in five different species. The Mason Nursery also assembled 500 packets of Monarch/Pollinator native seed mix.

Illinois Forestry Development Act (IFDA) Forest Management Program

IFDA requires landowners to have a current IDNR-approved forest management plan. These comprehensive plans define forest resources that are present, current condition, needs of the forested area for long term forest health, and recommendations. Illinois has approximately 538,100 enrolled acres engaging 9,563 forest landowners. As a result, approximately 15% of non-industrial private forest land in Illinois is being managed for long term forest health. Recommended forest improvement practices include afforestation, reforestation and forest stand improvement.

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 forests. Conservation easements are the main tool used for protecting these important forests. The IDNR Division of Forestry maintains eligibility to complete up to three projects per year. Illinois has seven Forest Legacy Properties within its borders totaling 558 acres.

Urban and Community Forestry Program (UCF)

The UCF program administers the Tree City USA, Tree Campus, Tree Line and Growth programs. Communities received education and recognition for their local forest management programs. Illinois has been ranked first for the number of Tree Campuses in the nation since program began. Illinois has 182 Tree Cities, 18 Tree Campuses, 27 Growth Award winners.

Illinois Forest Utilization & Marketing Program

IDNR bonded and licensed 383 individual timber buyers or companies listing 860 total authorized agents to purchase timber from any Illinois forestland owner. Seventy-five sawmills and 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 \$41 million. The total economic value of the forest products industries to Illinois, including all primary and secondary sectors, exceeded \$23 billion as measured in 2012. The agency, through its forestry division Utilization and Marketing Program with support from the Illinois Forestry Development Council is engaged in a 2018_2019 effort, under a multi-state competitive USDA Forest Service grant to closely analyze Illinois and most northeastern US states full timber output and economic forest/forestry values.

Illinois Conservation Reserve Enhancement Program (CREP)

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

Nutrient Loss Reduction Strategy

IDNR staff are involved with planning and implementation efforts for The Illinois Nutrient Loss Reduction Strategy (NLRS). The 2008 Gulf Hypoxia Action Plan, calls for each of the 12 states in the Mississippi River Basin to produce a plan to reduce the amount of phosphorus and nitrogen carried in rivers throughout the states and to the Gulf of Mexico. In 2011, U.S. EPA provided a recommended framework for state plans. Illinois' plan was developed by a policy 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 area 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; and the Urban Stormwater Working Group that coordinates and improves stormwater programs and education.

Illinois Wildlife Action Plan

Illinois' Wildlife Action Plan continued to guide work enhancing and restoring Natural Areas and Species in Greatest Conservation Need (SGCN) including threatened & endangered species throughout the State of Illinois. During 2018, implementation continued on 21 ongoing State Wildlife Grant (SWG) Projects that focus on conservation assessments and management of at-risk species and the habitats required to maintain them. Collectively these projects provide information on at least 35 State-listed wildlife species of amphibians, birds, fish, insects, mussels, and reptiles. Five new SWG Projects were initiated and two others were supplemented with additional funds. New projects focus on conservation assessments of at-risk species including terrestrial and aquatic insects, secretive wetland birds, and the Eastern Massasauga. Supplemented projects focus on wildlife health and conservation assessments of state-listed turtles and snakes. SWG Projects were completed during 2018 that focused on habitat requirements and monitoring of at-risk salamanders and frogs, and on monitoring and habitat improvement for the King Rail. One Regional Conservation Coordination project in Southern Illinois was also completed. Updates made to the IWAP Webpage included: developing written summaries for over 120 completed and ongoing SWG

Projects; posting downloadable versions of the SGCN and IWAP Watch Lists; and creating story maps for each of the habitat-based Campaigns that reflect their current goals, focus areas, focal species, major stressors, and highlighted conservation activities.

For More Information

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