

**IOWA
STATE REPORT
January 2016-December 2016**

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

Iowa DNR Vision Statement: Leading Iowans in caring for their natural resources.

The Department of Natural Resources – Conservation and Recreation Division

The Iowa Department of Natural Resources (DNR) is led by Chuck Gipp, Director, and Bruce Trautman, Deputy Director. The current Divisions within the DNR are Environmental Services Division (regulatory) and the Conservation and Recreation Division. Management and administrative services are under the Director's purview.

The Conservation and Recreation Division (CRD) is charged with the management of Iowa's fish, wildlife, and natural resource management. CRD includes its management team and six bureaus: Fisheries, Forestry, Land and Waters, Law Enforcement, State Parks, and Wildlife. These bureaus have statewide responsibilities for Iowa's natural resources and public areas. In February 2017, Dr. Dale L. Garner was appointed to serve as Division Administrator. Prior to that, Kelley Myers, served from June 2014-January 2017.

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. The results obtained by the Advisory Committee confirmed that supporting the benefits connected to natural resources would be a feasible financial investment. 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. 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

Big Creek Barrier Study: A collaborative project between the U.S. Army Corps of Engineers, Iowa State University, Central Iowa Anglers, and the Iowa DNR Fisheries Bureau was initiated in 2016 to evaluate a physical fish barrier that was installed at the Big Creek Lake spillway in 2012. Automated PIT tag readers and solar charging systems were installed at the Big Creek Lake and Brushy Creek Lake spillways in April 2016 to monitor escapement of tagged walleye and muskellunge. Brushy Creek Lake does not have a barrier, so it is being used as a control lake for this project. A variety of environmental variables are also being monitored as part of the barrier evaluation project. Researchers will later determine how these environmental variables relate to fish movement and escapement. To date, researchers have tagged a total of 2,512 walleye and 631 muskellunge at Big Creek and 2,125 walleye and 628 muskellunge at Brushy Creek. Researchers have captured and tagged a significant portion of those fish (1,512 walleye and 31 muskellunge at Big Creek; 1,100 walleye and 73 muskellunge at Brushy Creek). The remaining fish were tagged as advanced fingerlings, prior to stocking. The preliminary results indicate that the fish barrier is effective at reducing walleye and muskellunge escapement. To date, 60 walleye and 11 muskellunge have escaped from Brushy Creek Lake. No muskellunge and only 7 walleye (<17 inches) have escaped from Big Creek Lake.

New Urban Fishing Program in Iowa: The goal of Iowa's Urban Fishing Program is to increase participation and opportunities within Iowa's larger populated areas. The intent of the program is to increase or enhance existing angling opportunities and access within urban centers by working with city governments and partners to promote fishing as a safe, family friendly activity and to identify and address barriers to fishing in urban areas. An Urban Fishing Program plan was developed to address multiple objectives set forth by the Urban Fisheries Biologist and the Urban Fishing Committee. These objectives outline the work that will help achieve the overall goal of having more customers in urban areas. Work in the future will focus on the top 30 cities by population along with their surrounding suburban areas. This would include cities with a current population of greater than 15,000 residents. The primary focus in the immediate future, however, will be to work with the 15 cities in the state with a population of greater than 30,000 residents.

Turtle Study: The Iowa DNR Fisheries Bureau implemented a comprehensive statewide turtle monitoring program in the summer of 2016; however, collections started in some regions of the state as early as 2010. To date, fisheries staff collected 11 turtle species at 136 sites across five statewide regions in lake/pond, marsh/wetland, interior-river, and large-river habitats. Sample collections have been dominated by western painted turtle (45%), common snapping turtle (27%), red-eared slider (19%), and softshells (7%). Map, Blanding's, and box turtles composed the remainder of the catch. Common snapping turtles were, on average, 1.1 in. longer and 4.3 lbs. heavier in northwest Iowa as compared to snappers in other regions; the largest snappers were caught in the northern half of the state. Sex ratios were slightly skewed male for common snapping turtle (54:46) and western painted turtle (59:41) across regions while softshells were more strongly skewed female (29:71). Length frequency distributions suggest potential harvest impacts for all of Iowa's harvestable turtle species, most notably for common snappers and softshells. Turtles are long-lived and have a high age at sexual maturity, low fecundity, and high nest and hatchling mortality leading to vulnerability in conjunction with ongoing harvest. The Iowa DNR closed commercial harvest of turtles from May 15-July 15 each year and

implemented daily bag and possession limits for common snapping turtle (4/20), western painted turtle (1/5), and softshells in combination (1/5) in March 2017. Fisheries biologists will continue to monitor Iowa's turtle populations and report their findings to the State Legislature in 2021 to allow review of current regulations.

Recirculating Aquaculture System: In 2015, the construction of a recirculating aquaculture system (RAS) was completed at the Iowa DNR's Rathbun Research Fish Culture Facility. This pilot-scale RAS, with 8,600 gallons of rearing capacity, was constructed to evaluate its use for Walleye culture. Our goal for this system was to culture Walleyes using the least amount of replacement water while testing increased production densities to produce fish and obtain system performance data that will optimize future facility designs.

As compared to culture systems using surface water sources, RAS have several advantages: 1) they use far less "new" water on a daily basis when compared to "flow-through" systems. RAS are typically designed to have 10-20% of the system volume added on a daily basis. For example, at a 15% replacement rate, a RAS with a system volume of 15,000 gallons would need 2,250 gallons of new water added per day or 1.6 gallons per minute (gpm). A corresponding "flow-through" culture unit for Walleyes would require 252,000 gallons per day or 175 gpm. 2) RAS offer increased biosecurity for pathogens and aquatic invasive species (AIS). The increased biosecurity that RAS provide is because their water source is typically ground water or dechlorinated tap water. Having increased biosecurity for pathogens means healthier fish are produced with fewer disease outbreaks to control with chemicals. Also, ground and dechlorinated tap water are AIS-free, which means there is no risk of spreading AIS while stocking fish in public bodies of water. And, 3) RAS may provide optimization of production performance in a controlled production system as compared to the use of surface water sources. We are expanding our research into RAS with construction of pilot-scale egg incubation and intensive larval culture system in 2017 and construction of a small fingerling system in 2018. Our research efforts will result in RAS design and operation criteria to improve walleye production for Iowa and other agencies while demonstrating AIS control with a biosecure system.

Forestry Bureau

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 (BCAs). State Forest staff completed 748 acres of forest stand improvement, 125 acres of reforestation, 363 miles of trail maintenance, 1295 acres of prescribed fire, 82 acres of prairie and savanna management, collected 900 bushels of seed, and conducted 16 educational programs in 2016. They also sold 56,341 board feet of timber valued at \$447,325.

District Forester Program: The Bureau's 15 District Foresters promoted private lands forest stewardship by providing technical forestry assistance to Iowa's private forest landowners with a focus on sustainable care of Iowa's woodland resources. Forestry planning assistance was provided to 1,674 woodland owners in 2016, resulting in an additional 30,511 acres being

brought under improved forest management. New forest plantings to improve water quality, control soil erosion, and enhance wildlife habitat increased by 1,226 acres. DNR foresters also assisted Iowa's private forest landowners with forest stand improvement on 5,557 acres and marketing of 789,000 board-feet of timber valued at \$373,148. They also provided 179 forestry educational programs. The total economic impact of DNR private land forester activities is estimated to be \$2,945,560 and supports almost 55 private sector jobs. District Foresters assisted with the forestry practice components of the state Resource Enhancement and Protection (REAP) program, the Farm Service Agency's CRP, and the Natural Resources Conservation Services' Environmental Quality Incentive Program (EQIP). They were also highly involved with gypsy moth trapping, community forest inventory and planning, and numerous grant related projects.

Forest Health: Foresters continued to monitor for serious insect, disease, invasive plant species, and environmental problems in Iowa's woodlands. Aerial surveys of 820,255 acres were conducted to determine potential forest health problems. There were 268,102 aerial acres mapped out that were being impacted by emerald ash borer. Ground confirmations were conducted to resolve any issues identified in the aerial survey. Bureau 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 and flood damage. In cooperation with the IDALS State Entomologist and the USDA, the Forestry Bureau assisted in contracting, placing, and monitoring 4,214 gypsy moth traps that captured 110 male gypsy moths. IDNR worked with IDALS to treat three sites for gypsy moth using mating disruption in Allamakee and Jackson Counties. A total of 10,299 acres were treated for gypsy moth and none were captured in the treatment areas. EAB larvae or adults have now been identified in 45 of 99 counties. A total of 1,712 walnut twig beetle monitoring traps were placed around the state. No walnut twig beetles were captured. However, 12,203 ambrosia beetles, Pityophthorus beetles, and weevils that were collected and submitted as part of the national survey. Several invasive plant workshops were hosted with the demand being on Oriental bittersweet control. Ninety-three pest workshops were held to cover the pests detailed above.

Land and Waters Bureau

Public Land Acquisition and Management Program: The bureau provides assistance to operating bureaus to acquire lands and to address land management issues, such as unauthorized land-uses and boundary issues. It also assists the program bureaus with agreements such as habitat leases, county or city management agreements, office leases and building disposal agreements. In 2016, public land and conservation easement acquisitions totaling 4,070 acres, protecting natural resources and providing Iowans with new and enhanced outdoor recreational opportunities. 3,500 of these acres directly impact water quality and watershed improvement efforts.

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. 916 miles of dedicated water trails have been developed with 807 additional miles under study.

Environmental Review & Sovereign Lands Program: The Environmental Review and Sovereign Lands Construction Permit staff apply information about endangered species, state preserves, natural communities, and other significant natural resources for the review of potential environmental impact of proposed construction and development projects requiring a permit from the Department. The Threatened & Endangered Species staff coordinates the conservation of 13 federally listed species of plants and animals and over 300 state-listed species. Staff develop and maintain a database of locations of listed species and special natural communities such as prairie and fen wetlands and oversee research activities including federally funded projects. The State Preserves staff work with the State Preserves Advisory Board to develop and maintain a statewide network of 96 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 the largest spillway construction project in Iowa, 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, engineering 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 2016, 100 engineering, construction, and public capital improvement projects totaling \$22,495,156.82 on DNR public lands were completed. \$12,637,202.92 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. Iowa has completed restoration work at 22 lakes, with 21 projects underway, and 15 projects in the initial planning stages.

Law Enforcement Bureau

The Iowa DNR Law Enforcement Bureau employs 83 full-time sworn peace officers. The bureau currently has seven vacancies, so most officers cover multiple counties. To supplement these numbers, the Department hires seasonal Water Patrol Officers to work some of the larger bodies of water throughout the state. Again this year, the Department is faced with a status quo budget, with ever increasing costs of doing the business of protecting the resources of the state of Iowa. As such, officers need to prioritize attention toward problem areas and major cases.

Iowa still maintains its place as a destination for deer hunters. DNR Conservation Officers make a number of cases yearly with folks illegally seeking to put a trophy on their wall. One of the biggest cases of the year involved three men that went on a deer killing spree in northwestern Iowa. These men pled guilty to 58 charges with fines of over \$13,000 and liquidated damages of \$35,000. The courts also stripped each of the men of their hunting privileges for 25 years. Officers in a southeast Iowa case caught several men that killed over 20 deer. Officers responded to calls of headless deer located throughout the county. Through investigation and deer DNA samples, officers matched samples from deer heads in the possession of the poachers with the

headless deer. Along with deer poaching, these men were also involved in burglary and drug violations.

Other enforcement activities included a slate of squirrel poachings; a multi-state cooperation between IA and MN to stop a ring of poachers killing Iowa squirrels and deer and taking them to Minnesota to sell; catching several fishermen with a massive over bag of catfish; and cases of people killing songbirds. There, also, have been officers assisting in the chase of an armed suspect who ended up threatening to shoot officers and assisting in at least 7 drowning recoveries on the Mississippi River in the last two years. The Iowa DNR Law Enforcement Bureau is staffed with highly trained, competent officers that are passionate about protecting the natural resources of this state so they can be enjoyed by all.

Although there are many law enforcement challenges that our officers face, there are many rewarding aspects of the job. Last winter, our officers retrieved two men off of dangerous ice, rescued stranded boaters off a mud flat, and even assisted a distraught family whose dog had been injured in traffic. They also teach or mentor youth in hunting or fishing. These types of events do not get much mention, but our officers gladly do them as a part of their duties.

State Parks Bureau

Parks Operations: The Parks Bureau is responsible for 87 areas and is organized into five districts. The State Parks Bureau has combined notes and comments from three different process improvement Lean events to formulate an operational plan, stemming from the IDNR's strategic plan. Included in this process have been employee contribution and review of the DNR's mission, vision and strategic plan which contributes to the overall formulation of individual components for interpretation, resource management and operation planning for each park. Structured plans for each component will allow staff to identify priorities for implementation, manage fiscal requirements, and continue the protection of the natural resource for future generations.

Concessions: Nineteen different concession contracts operate and generate revenue in the separate State Parks. Sales at the concession operations include sail, motor and paddle boat rental, facility use, and firewood among other items. These business operations generate over \$1 million dollars to Iowa's economy and ultimately contribute to the overall management of the park. Visitation and use at Iowa's State Parks continues to increase and concession operations enhance the visitor experience.

Parks 2020: The State Parks Bureau continues planning efforts for the 100th anniversary of Iowa's State Parks. Friends Group meetings have taken place around the state and have included presentations by a private citizen group in an effort to raise awareness and build capacity for the 100 year celebration. The citizen group has begun efforts to work with private industry, promoting the impact State Parks have at the local level. Planning is in the early stages, but field staff and management continue to develop the plan for promotion of the centennial celebration.

Wildlife Bureau:

Monarch Conservation: The DNR Wildlife Bureau continues to be active in monarch butterfly conservation projects, both at the state and regional level. Iowa continues to work regionally

with MAFWA and associated States on the Mid-Continental Monarch Conservation Strategy. We participated in the latest National Fish and Wildlife Foundation grant proposal submitted through MAFWA. Our Multiple Species Inventory and Monitoring Program (funded through SWG) continues to collect data on monarchs and other species listed in the Wildlife Action Plan with assistance from Iowa State University.

Private Lands: Our Private lands staff, working with our partners, provided education and assistance to Iowa landowners regarding pollinator CRP programs, resulting in the highest enrollment of any of the states. In 2016, our public land management staff, including the Prairie Resource Center, produced seed for and restored over 1,750 acres to diverse prairie habitat on state-owned lands. Iowa DNR continues to serve on the Iowa Monarch Consortium, which is a broad-based organization representing a multitude of sectors, designed to address monarch conservation in the state and has a representative on the Monarch Science Conservation Partnership assisting with the design of citizen-science based monitoring protocols for the insect and its habitat.

Chronic Wasting Disease (CWD): In 2016-2017, DNR staff collected brainstems and medial retropharyngeal lymph nodes from 4,714 wild deer (254 targeted, 8% road kills, 53% adult males) for CWD testing. This included 2 free-ranging elk, 3 sika deer and one mule deer. Captive animal samples (280) were collected from 11 different facilities. Two diagnostic laboratories were utilized. Iowa State University Veterinary Diagnostic Laboratory completed testing on 4699 samples and the National Veterinary Services Laboratories Ames (NVSL) tested 14 targeted animals. The greatest collection effort (46% of collected samples) continues to be along the 6 counties in Northeast Iowa that are closest to the Wisconsin and Illinois CWD endemic areas and Minnesota's southeast containment area. Sampling efforts also concentrated on three areas in Iowa surrounding captive facilities where captive animals tested positive in 2012. Sixteen percent of the samples were collected from south-central Iowa. This collection area is located north of Missouri's northern-most CWD endemic area and also contained a captive facility that had tested positive. Since 2002, Iowa has tested 62,482 wild deer and 4,100 captive deer and elk. Three captive deer in a shooting facility in Davis County collected by IDNR staff in 2012 tested positive for presence of PrP protein. In 2016, a positive elk collected from a shooting facility in Pottawattamie County was also confirmed.

On April 8, 2014, notification was received from NVSL confirming CWD in a sample collected from an adult wild male white-tailed deer harvested during the fall 2013 firearms season in Allamakee County in northeast Iowa. Increased surveillance in this area since has found 16 additional animals including 11 positives in 2016. Additionally in 2016, a positive deer was found in Clayton County in northeast Iowa. Efforts continue to garner additional information on the deer herd in the vicinity where the positive animals were harvested.