

Boat Fee Revenues & Expenditures

Fiscal Year 2018 Report

.08 **DON'T GO OVERBOARD**
Know your alcohol limit when boating.



 **STOP AQUATIC HITCHHIKERS!**
Prevent the transport of nuisance species.
Clean all recreational equipment.
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BE THE DAM SAFE **THE DROP CAN BE DEADLY**

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www.iowawhitewater.org



Department of Natural Resources
Conservation and Recreation Division
December 31, 2018
Bruce Trautman, Acting Director



EXECUTIVE SUMMARY

In 2005, the Iowa General Assembly amended Iowa Code Chapter 462A.52 to increase boat registration fees for all types of watercraft, to change the registration cycle, and to require the Iowa Department of Natural Resources (DNR) to report on the increased revenues due to the fee increase and how they are expended. This is the twelfth such annual report and includes data for FY18 compared to the base year in 2006.

The increased fees are required to be used to control the spread of aquatic invasive species, the administration and enforcement of navigation laws, and water safety education. The mandate required the Department to submit a report to the General Assembly by each year beginning in 2007. It was directed that the report contain summaries of the activities of the Department for the following:

1. Administering and enforcing programs to control aquatic invasive species
2. Administering and enforcing navigation laws and water safety
3. Amount of revenues collected as a result of fee increases
4. Detail of how the boat fee revenues were expended
5. Amount and source of all other boating related funds expended

Revenues: Comparisons and projections

When boat fees were increased in the 2005 legislative session, the registration period also was changed from two years to three years. For planning purposes, the Iowa Department of Natural Resources now plans revenues over three years.

Table 1 Previous Revenues Under Two-year Registration Periods

| | FY03 | FY04 | FY05 | FY06 |
|----------------|----------------|----------------|----------------|----------------|
| Boat fees | \$2,563,493 | \$372,481 | \$2,611,295 | \$387,908 |
| Federal match | \$1,298,443 | \$1,296,070 | \$1,411,585 | \$1,533,266 |
| Total Revenues | \$3,861,936.00 | \$1,668,551.00 | \$4,022,880.00 | \$1,921,174.00 |

Boat fees generated an average of \$1,483,794 per year (calculated from Table 1 above) during the last four years of the two-year registration cycle.

Table 2 Collected Revenues Under Three-year Registration Period

| | FY16 | FY17 | FY18 | 3-Years of Revenue |
|----------------|-------------|-------------|-----------|--------------------|
| Boat fees | \$6,849,215 | \$1,146,265 | \$502,466 | \$8,497,946 |
| Federal match | \$1,311,291 | \$403,667 | \$376,488 | \$2,091,446 |
| Total Revenues | \$8,160,506 | \$1,549,932 | \$878,954 | \$10,589,392 |

Looking at the past three years of collected annual revenue (FY16-FY18) the average increase of boat fees is \$1,348,854 in additional state revenue per year over the base year. Federal funds include the safety and education portion and motorboat access portion from the Federal Aid in Sport Fish Restoration program and Aquatic Invasive Species matching funds.

Expenditures: Comparisons and Projections

The final year under the previous fee structure, FY 2006, is the baseline year to measure future years' expenditures. Note that part of the seasonal Water Patrol Officer costs came from the Marine Fuel Tax fund in FY18 at a cost of \$142,036, and \$137,016 was expended from the same fund for navigational safety patrol boats, for an additional \$228,745 for navigation enforcement and boating safety this year.

Table 3 General Expenditure Categories

| | Base FY06 | FY18 |
|---|------------------|-------------|
| Navigation Enforcement and Boating Safety | \$1,995,996 | \$3,097,650 |
| Boat infrastructure maintenance/mgmt. | \$749,406 | \$501,984 |
| Aquatic Invasive Species | \$164,556 | \$473,178 |
| Water Trails and Dam Safety | \$10,410 | \$165,807 |
| Total Expenditures | \$2,920,368 | \$4,238,619 |

More detailed reporting of program-level expenses follow in this report.

AQUATIC INVASIVE SPECIES EXPENDITURES

The Iowa Department of Natural Resources Aquatic Invasive Species Program (DNR-AIS) is responsible for monitoring and managing aquatic invasive species (AIS) in Iowa. Goals of the DNR-AIS as stated in the “Plan for the Management of Aquatic Nuisance Species in Iowa” are:

- I. Minimize the risk of further introductions of AIS into the state of Iowa.
- II. Limit the spread of established populations of AIS into uninfested waters in Iowa.
- III. Eradicate or control to a minimum level of impact the harmful ecological, economic, social, and public health impacts resulting from infestations of AIS in Iowa.

Priority AIS in Iowa include zebra mussels (*Dreissena polymorpha*), Bighead Carp (*Hypophthalmichthys nobilis*), Silver Carp (*Hypophthalmichthys molitrix*), Eurasian watermilfoil (*Myriophyllum spicatum*), and brittle naiad (*Najas minor*).

This report reflects expenditures for FY18; however, seasonal staff and survey information is from the summer of 2018 (i.e., May through September). Actions utilized to detect, manage, and prevent the introduction and spread of AIS in Iowa in FY18 included employing seasonal staff, developing partnerships to coordinate AIS activities, increasing public awareness of AIS, managing AIS infestations, and monitoring AIS populations. Major accomplishments included the following.

- Employed 18 Seasonal Natural Resources Aides
- Conducted 7,045 watercraft inspections reaching almost 18,882 people
- Conducted 166 angler interviews on 26 trout streams
- Supported 22 partnerships and cooperative projects
- Leased 4 billboards with AIS prevention messages on interstate and state highways
- Ran 184,638 video ads targeting water recreation user groups
- Used geo-fencing to target 388,191 ads to visitors at high use boat ramps
- Ran 132 television ads about AIS and the Iowa AIS Law
- Targeted water recreationists with AIS prevention messages using boat ramp signs, print media, radio and television interviews, websites, displays, and presentations
- Chemically treated invasive aquatic plants in 27 waterbodies
- Completed 104 full-lake vegetation surveys
- Surveyed vegetation at 201 access points on 76 lakes
- Surveyed adult zebra mussels in Bluebill Lake, Blue Pit, Center Lake, Clear Lake, Lake Cornelia, Lost Island Lake, Storm Lake and the Spirit/Okoboji chain of lakes
- Placed zebra mussel veliger settlement samplers in lakes and reservoirs across the state
- Collected and analyzed 79 water samples from 42 lakes and rivers for zebra mussel veligers
- Surveyed Asian carp and/or bigmouth buffalo populations 6 times in interior and border rivers
- Purchased supplies for DNR Fisheries management stations and hatcheries to prevent the spread of AIS during operations

Aquatic Invasive Species Program Personnel and Activities

A Natural Resources Biologist has coordinated the DNR-AIS program since 2000, and a permanent, full-time Natural Resources Technician was added in October 2006. Seasonal staff for 2018 consisted of 15 Natural Resources Aides who conducted watercraft inspections, 2 Natural Resources Aides who surveyed waterbodies for AIS across the state, and 1 Natural Resources Aide who provided field sampling assistance to the DNR-AIS. Lakeside Laboratory interns supported by a Dickinson Clean Water Alliance Grant and the Okoboji Protective Association assisted with watercraft inspections in Dickinson County in 2018. Watercraft inspectors discussed inspecting watercraft for AIS with operators from May through September 2018. They collected information on AIS presence and location, watercraft type and state of registration, number of people, last and next waterbody visited, and operator familiarity with Eurasian watermilfoil, brittle naiad, zebra mussels, Asian carp, and Iowa’s AIS Law. Trailer stickers reminding boaters to prevent the spread of AIS were given to each operator after inspection. The table below summarizes the watercraft inspection effort of the DNR-AIS in 2018 and prior to receiving boat registration funds in 2006 when 2-3 seasonal employees split their time between watercraft inspections and AIS surveys.

Table 4 Watercraft Inspection Summary

| | 2006 | 2018 |
|----------------------|-------------|-------------|
| Seasonal Employees | 3 PT | 15 FT |
| Watercraft Inspected | 791 | 7,045 |
| Personal Contacts | 2,350 | 18,882 |
| Waterbodies | 16 | 74 |

New Zealand mudsnails (*Potamopyrgus antipodarum*) have been found in Wisconsin; therefore DNR-AIS seasonal staff for the Decorah and Manchester areas interviewed Iowa trout stream anglers to gauge their knowledge of AIS. The seasonal staff conducted 166 interviews on 26 trout streams in 2018. Eighty-one percent of those anglers (the highest ever recorded) were familiar with AIS or knew about the AIS Law; however, only 19% were familiar with New Zealand mudsnails, which are prohibited AIS in Iowa.

DNR-AIS staff supported several partnerships and working groups in FY18:

- Aquatic Nuisance Species (ANS) Task Force
- ANS Task Force Boat Standards Committee
- Association of Fish and Wildlife Agencies (AFWA) Invasive Species Committee (Vice Chair)
- Water Resources Reform and Development Act Asian Carp Report Committee
- Asian Carp Carbon Dioxide Deterrent Coordination Team
- Mississippi River Basin Panel on ANS (Interim Chair of Prevention and Control Committee)
- Missouri River ANS Work Group
- Upper Mississippi River Asian Carp Coordination Committee
- Upper Mississippi River Asian Carp Deterrent Strategy Team Member
- Missouri River Basin Asian Carp Technical Committee
- Midwest Invasive Plant Network (Executive Board Member)
- Midwest Invasive Plant Network Education Committee
- Midwest Aquatic Plant Management Society
- Upper Midwest Invasive Species Conference (Program Committee Member)
- Mississippi Interstate Cooperative Resource Association
- Yellowstone National Park AIS Science Panel
- Iowa Weed Commissioners Association
- Lock and Dam 19 Asian Carp Acoustic Deterrent Project Working Group
- Rehoming Our Animas/Aquariums Responsibly (ROAR) Planning/Outreach Committee
- Iowa State University Natural Resources Ecology and Management Outdoor Skills Committee
- Conservation Leaders for Tomorrow
- Outdoor Journey for Girls



Aquatic Invasive Species Outreach Materials

The DNR-AIS has different types of outreach materials targeting water recreationists in Iowa. Targeted internet videos (184,638), geofencing advertisements (388,191), and television advertisements (132) were used around Memorial Day weekend and from August through Labor Day in 2018 to provide messages alerting boaters about the AIS Law and how to “Clean, Drain, Dry” boats and equipment when leaving a water access. “Clean, Drain, Dry” was also the message displayed during a WeAreIowa Local 5 News weather page takeover on Memorial Day Weekend and in rotating banner ads on the website.



The DNR-AIS also provided information through 4 billboards posted along interstate and state highways near high-use and infested waterbodies in Iowa. Signs emphasizing the AIS Law continued to be posted at all boat access sites in 2018. In addition to information available on the Iowa DNR website, the following informational materials were made available during watercraft inspections, at all Iowa DNR Fisheries regional and field offices, during the Iowa State Fair, at state and county parks and nature centers, and at presentations and field days.

- Protect Our Waters brochure
- Protect Our Waterfowl Habitat brochure
- AIS identification cards
- Keep a Lookout for New Invasive Aquatic Plants in the Midwest flyer
- 2018 Iowa Fishing Regulations booklet
- Handbook of Iowa Boating Laws and Responsibilities
- Stop Aquatic Hitchhikers towels, koozies, sun kits
- Spirit Lake, East Okoboji Lake, West Okoboji Lake boaters’ maps with car wash locations

News releases targeted statewide audiences regarding new AIS infestations in Iowa and before high-use boating events such as Memorial Day and July 4th weekends. The DNR-AIS Coordinator appeared twice on the CW Iowa Live morning show during the summer of 2018 to discuss AIS in Iowa. DNR-AIS and Fisheries staff were also interviewed throughout the year for radio programs, television stories, and newspaper articles regarding AIS distribution, identification, management, and prevention. Facebook postings in FY18 also included AIS information and the “Clean, Drain, Dry” message.

The DNR-AIS Coordinator worked with staff from Story County Conservation Board, Iowa State University, and the Iowa Wildlife Center to develop the initiative called Rehoming Our Animals/Aquariums Responsibly (ROAR). The goal of ROAR is to encourage pet and aquarium owners to find alternative options for unwanted pets and plants rather than releasing them into the environment. A successful pilot project was coordinated with Rummage RAMPPage in Ames where students and residents could turn in unwanted pets for rehoming as they were dropping off unwanted household items for the rummage sale.

DNR-AIS staff participated in fishing and outdoor events in FY18 to spread the AIS message and also gave presentations about AIS in a variety of settings. Exhibits at the 2018 Iowa State Fair included live Asian Carp.

- Iowa DNR Fisheries Seasonal Aides and Water Patrol Officers Training
- Taking the Road Less Traveled: Career Conferences for Girls
- Outdoor Journey for Girls Workshops
- The Wildlife Society North Central Division Student Conclave
- ISU Natural Resources Ecology and Management Outdoor Skills Weekend
- ISU Student Chapter of the American Fisheries Society Skills Event
- Iowa Children's Water Festival
- ROAR/Rummage RAMPage
- Iowa Weed Commissioners Invasive Species Conference
- Pesticide Applicators Continuing Education
- Ames Anglers Meeting

Data collected during watercraft inspections indicates that public awareness of AIS in Iowa has increased as a result of DNR-AIS outreach activities. Fifty-one percent of boaters interviewed in 2001 said that they were familiar with invasive species. That number increased over the years and was 93% in 2018. Knowledge of the AIS Law has also increased from a low of 22% in 2004 to 95% in 2018. In addition to being aware of the AIS Law in general, 88% of the boaters in 2018 knew of the prohibition on transporting all aquatic vegetation and 95% knew about the draining requirements.

Aquatic Invasive Species Management and Monitoring

DNR Fisheries staff cooperated with DNR-AIS staff to chemically treat 21 brittle naiad (BN), Eurasian watermilfoil (EWM), and parrot feather *Myriophyllum aquaticum* (PF) infestations in 2018.

- Brushy Creek Lake (Webster County), EWM
- Camp Sunnyside (Polk County), EWM
- Cocklin Fish Farm Ponds (Cass County), EWM
- Crawford Creek Lake (Ida County), BN
- George Wyth Lake (Black Hawk County), EWM
- Great Western Pond (Carroll County), BN
- Grundy County Lake (Grundy County), BN
- Hannen Lake (Benton County), BN
- Lake Iowa (Iowa County), BN
- Little Sioux Park Pond (Woodbury County), BN
- Moorehead Park Pond (Ida County), BN
- Nelson Park Lake (Crawford County), BN
- Nine Eagles Lake (Decatur County), BN
- Pleasant Creek Lake (Linn County), BN
- Private Pond (Tama County), EWM
- Private Pond (Des Moines County), PF
- Rodgers Lake (Benton County), BN
- Slip Bluff Lake (Decatur County), BN
- Springbrook Lake (Guthrie County), BN
- Willow Lake (Harrison County), BN
- Yellow Smoke Lake (Crawford County), BN



DNR-AIS and Fisheries staff also cooperated with the monitoring, application and testing of the use Sonar as an under-the-ice treatment for curlyleaf pondweed *Potamogeton crispus* at Union Grove Lake (Tama County) and Hooper Lake (Warren County) during the winter of 2018. Results were promising; however, monitoring and testing will continue at Union Grove Lake, Hooper Lake, and some additional lakes and ponds in 2019 and 2020.

Natural Resource Aides completed 104 full-lake vegetation surveys in June, July, and August 2018 to detect new AIS infestations and monitor managed AIS infestations. Natural Resources Aides also conducted 201 access point surveys at 76 lakes around the state during the summer of 2018. Eurasian watermilfoil was discovered at Plainfield Lake and brittle naiad was discovered at Utterback Pond during access point surveys. Fisheries and wildlife biologists and county conservation board staff also monitored aquatic vegetation in their areas during management activities.

Four new infestations of Eurasian watermilfoil (EWM) and five new infestations of brittle naiad (BN) were discovered in Iowa in 2018.

- Crystal Lake(Hancock County), EWM
- Plainfield Lake (Bremer County), EWM
- Private Pond (Tama County), EWM
- Sawgrass Pond (Polk County), EWM
- Central Park Pond (Jones County), BN
- Cocklin Fish Farm Pond (Cass County), BN
- Horizon Park Pond (Polk County), BN
- Meir Wildlife Area Pond (Hardin County), BN
- Utterback Pond (Monona County), BN

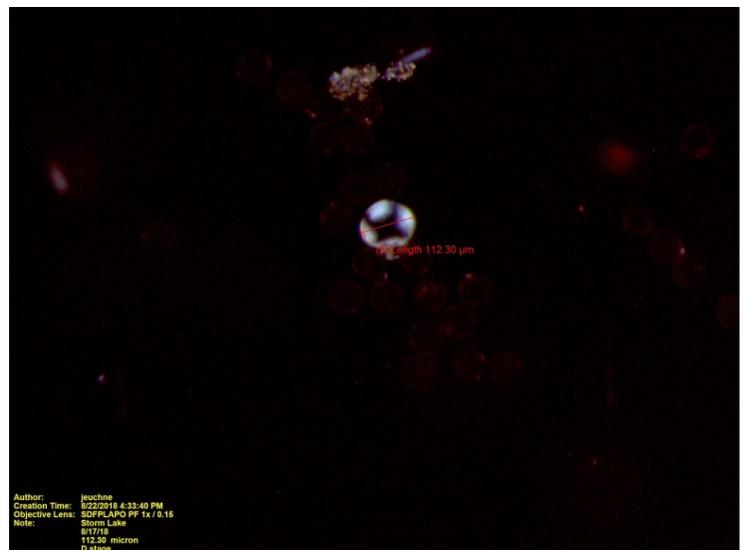


Signs are posted at all AIS-infested waterbodies alerting the public about the species present and how to prevent their spread. Eurasian watermilfoil has been identified in 54 waterbodies, including private ponds, in Iowa since 1993, and brittle naiad has been identified in 63 waterbodies since 2003.

DNR-AIS and DNR Fisheries staff placed zebra mussel settlement samplers in lakes and reservoirs throughout Iowa in 2018 to monitor for early detection of zebra mussels. A new zebra mussel infestation was discovered at Center Lake from settlement sampler monitoring in 2018.

DNR-AIS staff also collected water samples for zebra mussel veliger analysis from the following lakes and rivers in 2018 to monitor current populations of zebra mussel or detect new infestations of zebra mussels:

- Ada Hayden Lake (Story County)
- Big Creek Lake (Polk County)
- Black Hawk Lake (Sac County)
- Blue Lake (Monona County)
- Briggs Woods Lake (Hamilton County)
- Brinker Lake (Black Hawk County)
- Brushy Creek Lake (Webster County)
- Carter Lake (Pottawattamie County)
- Center Lake (Dickinson County)
- Crawford Creek Lake (Ida County)
- Don Williams Lake (Boone County)
- George Wyth Lake (Black Hawk County)
- Lake Cornelia (Wright County)
- Lake Darling (Washington County)
- Lake Hendricks (Howard County)
- Lake MacBride (Johnson County)
- Lake Manawa (Pottawattamie County)
- Lake Meyer (Winneshiek County)
- Lake Pahoja (Lyon County)
- Lake Red Rock (Marion County)
- Little Sioux River (Dickinson County)
- Little Wall Lake (Hamilton County)
- Mile Hill Lake (Mills County)

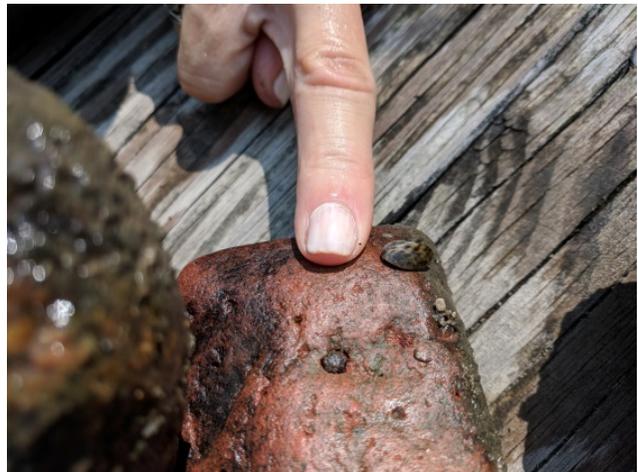


- Rathbun Lake (Appanoose County)
- Roberts Creek Lake (Marion County)
- Saylorville Lake (Polk County)
- Sunken Lake (Dickinson County)
- Three Mile Lake (Union Lake)
- Twelve Mile Lake (Union County)
- Trumble Lake (Clay County)
- Volga Lake (Fayette County)
- Welch Lake (Dickinson County)
- Willow Lake (Harrison County)
- Yellow Smoke Lake (Crawford County)

New zebra mussel infestations were discovered at Storm Lake and Lost Island Lake from zebra mussel veliger monitoring in 2018.

Following is a list of lakes in Iowa with known infestations of zebra mussels. The date indicates the year in which zebra mussels were first discovered in the lake.

- Bluebill Lake (Cerro Gordo County), 2012
- Blue Pit (Cerro Gordo County), 2016
- Center Lake (Dickinson County), 2018
- Clear Lake (Cerro Gordo County), 2005
- East Okoboji Lake (Dickinson County), 2012
- Lake Cornelia (Wright County), 2014
- Lost Island Lake (Palo Alto County), 2018
- Lower Gar Lake (Dickinson County), 2013
- Minnewashta Lake (Dickinson County), 2013
- Storm Lake (Buena Vista County), 2018
- Spirit Lake (Dickinson County), 2017
- Upper Gar Lake (Dickinson County), 2012
- West Okoboji Lake (Dickinson County), 2013



Bighead Carp and Silver Carp have been reported in increasing numbers throughout the Mississippi and Missouri Rivers and their tributaries in Iowa since the mid-2000s. DNR-AIS staff surveyed Bighead Carp, Silver Carp, and Grass Carp *Ctenopharyngodon idella* in the Des Moines, Cedar, and Iowa Rivers to monitor the upstream advance of their populations and to monitor for evidence of reproduction. DNR-AIS staff also continued to monitor the condition of Bigmouth Buffalo in areas of the Des Moines River with and without Bighead and Silver Carp to determine the impacts of Asian carp on this native plantivore. An Asian carp research project being conducted by the United States Geological Survey Upper Midwest Environmental Science Center is studying the use of microparticles laden with piscicides to selectively kill Bighead and Silver Carp. A successful field trial using the microparticles was conducted in the Rathbun Fish Hatchery pollution ponds in September 2018.



Table 5 Aquatic Invasive Species Expenditures

| | FY06 | FY18 |
|--------------------------------------|------------------|------------------|
| Personnel | \$85,234 | \$318,565 |
| Travel Expenses | \$4,915 | \$6,627 |
| State Vehicle Operation | \$3,281 | \$14,949 |
| Office Supplies | \$399 | \$0 |
| Facility Maintenance Supplies | \$26 | \$2,464 |
| Equipment Maintenance Supplies | \$2,936 | \$3,986 |
| Ag Supplies | \$42,751 | \$17,287 |
| Other Supplies | \$100 | \$4,964 |
| Printing | \$477 | \$54 |
| Uniforms | \$455 | \$1,155 |
| Postage | \$536 | \$500 |
| Communications | \$651 | \$1,244 |
| Utilities | \$0 | \$273 |
| Professional and Scientific Services | \$0 | \$32,654 |
| Outside Services | \$595 | \$510 |
| Advertising and Publicity | \$11,390 | \$27,157 |
| Reimbursement | \$0 | \$24 |
| Government Transfer Other Agencies | \$0 | \$0 |
| Equipment | \$1,042 | \$322 |
| IT Equipment and Software | \$0 | \$4,159 |
| Other Expenses and Obligations | \$0 | \$0 |
| Indirects | \$9,768 | \$36,283 |
| Total | \$164,556 | \$473,178 |



**STOP AQUATIC
HITCHHIKERS!**

Be A Good Steward. Clean. Drain. Dry.

BOATING NAVIGATION ENFORCEMENT AND WATER SAFETY EXPENDITURES

During the summer months, conservation officers and seasonal water patrol officers around the state use a variety of enforcement techniques to keep Iowa waterways safe for all ages.

Several group enforcement efforts on Iowa's 19,000 miles of interior rivers are conducted annually and are known as river sweeps. This technique allows officers to start at a specific point and continue downstream contacting boaters and educating them about boating regulations and safety.



Boating While Intoxicated (BWI) enforcement is a focus every year for officers. Iowa participated in "Operation Dry Water" on June 29-July 1, 2018, which is a national campaign that emphasizes the dangers of boating and drinking.

More than 79 law enforcement officers participated in this three day event, contacting 2,483 boaters, performing safety equipment checks on 837 vessels and issuing 133 citations or warnings. Throughout the summer, a total of 38 BWI arrests were made by various officers.

Conservation officers provide boating education programs to various groups throughout the year. One hundred fifty-eight programs were presented to students about boating safety in all situations, including boating safety while waterfowl hunting. Approximately 4,103 students participated in these programs.



Seasonal Water Patrol Officers Program

The department receives approximately 100 applications each year from potential candidates who want to be a part of the seasonal water patrol officer (WPO) program. The WPO program has been in effect since the 1980s, and allows individuals the opportunity to work for the Law Enforcement Bureau while performing on-the-water education and navigation enforcement.

The seasonal water patrol officers assist full time officers in the enforcement of all fishing and navigation activities across Iowa. This program helps train future full time officers. Currently, almost half of the DNR conservation officers started their careers as seasonal water patrol officers.



In 2006, the department employed 22 seasonal water patrol officers. In FY2018, the department had 31 WPOs on the books at a total cost of \$279,052. This fiscal year, \$142,036 was used from the Marine Fuel Tax fund to pay for a portion of the total cost of the WPOs. (See Addendum B, page 24).

Table 6 Law Enforcement Boating Activities (2018)

| Calendar Year* | Totals |
|------------------------------|--------|
| Navigation Contacts | 36,921 |
| Navigation Citations | 1,028 |
| Special Events Patrolled | 161 |
| Accident Investigations | 33 |
| Boat Iowa Classes Taught | 4 |
| Boater Education Hours | 2,160 |
| Navigation Enforcement Hours | 43,351 |



Boater Education

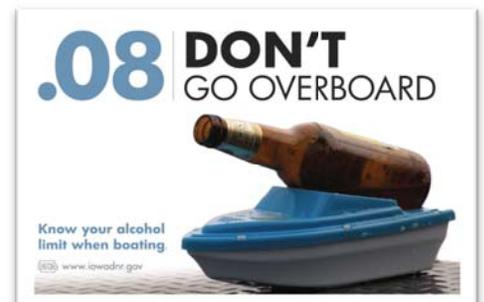
A boating education coordinator was hired in 2007, and the DNR now has a successful and proactive boater educational program. Nationally, boating law administrators and education coordinators focus on helping boaters understand and realize the importance of wearing life jackets. The Iowa legislature, after 5 years of effort, passed a child safety law in 2008 requiring children under 13 to wear a PFD in a moving vessel.



In FY18 the education program continued to focus on the importance of wearing life jackets and repainted the boat ramps in Iowa’s state parks. The “Life Jacket Zone” message reminds boaters about the importance of wearing a life jacket while on the water. The DNR partnered with United States Power Squadron (USPS) members and United States Coast Guard Auxiliary (USCGA) members to assist with painting the 4’x 4’ bright yellow and black stencil on over 20 boat ramps located in the parks.

The Boater Education program partnered with Honey Creek Resort and implemented a “life jacket” loaner program. The focus of the program was to make a variety of life jackets available to the public at no cost. The sizes of life jackets ranged from adult sizes all the way down to infant sizes. If a boater is without enough life jackets or the proper size of life jacket for each person on-board, jackets may be borrowed for the day. Over 180 lifejackets were loaned out to the public during this year at Lake Rathbun. The Boater Education program will continue to seek out additional pilot locations for the “life jacket loaner” program.

The “.08 Don’t Go Overboard” campaign used posters, public service announcements and public outreach to educate boaters on the dangers of drinking and boating. Information was again publicized to make sure the public understands that the blood alcohol content level for drinking and boating is now the same as the level for operating a vehicle. The “Boating While Intoxicated” campaign will continue to grow in the future to make the waters of Iowa safer for everyone.



The department also offers Boater Education Certificate classes to accommodate children between the ages of 12 and 18 who need the course to be able to operate motor boats. A total of 2,566 students received a certificate through classes, home study and internet courses offered in 2018.

The table below lists the FY 2018 operations costs for the boating navigation enforcement and safety education programs, with the baseline year of 2006 displayed. Note that part of the seasonal Water Patrol Officer costs came from the Marine Fuel Tax fund in FY18 at a cost of \$142,036 and \$137,016 was expended from the same fund for navigational safety patrol boats, for an additional \$228,745 for navigation enforcement and boating safety this year.

Table 7 Navigation Enforcement and Safety Education

| | FY06 | FY18 |
|---------------------------|--------------------|--------------------|
| Personnel and Operations | \$1,366,842 | \$2,213,822 |
| Officer Retirements | \$73,986 | \$246,356 |
| Vehicles and Depreciation | \$204,916 | \$293,422 |
| In State Travel | \$54,495 | \$4,253 |
| Printing | \$60,274 | \$0 |
| Communications | \$30,509 | \$26,828 |
| Indirects | \$204,974 | \$214,556 |
| Totals | \$1,995,996 | \$2,999,237 |

DNR Patrol Boats

The Law Enforcement Bureau divides the state into 5 districts and employs district supervisors to manage each area. The supervisors determine specific needs when purchasing large patrol boats in order to provide quality navigation enforcement and boating education in each area. Officers use several different types of vessels for navigation enforcement and boating education.

The Department currently has approximately 36 large patrol boats for navigation enforcement and boating education on Iowa’s waterways. The goal is to replace vessels at least every 5 years, and earlier if needed.



In FY 2018 the Department used \$228,745 from the Marine Fuel Tax fund and boat fund to supplement the purchase of large patrol boats for navigation enforcement.

Water Trails and Low-head Dam Public Hazard Program Expenditures

The Iowa DNR water trails and low-head dam public hazard program works statewide to ensure improved navigational safety on waterways throughout Iowa. Water safety education, establishment of a river mileage-based signage system and a hazard warning signage system, development of navigational maps, and advising placements and designs for water accesses and portage trails around dangerous dams are all components of the program mission.

Dozens of water trail construction projects, and planning and design meetings unfolded in fiscal year 2018. These project incorporated new techniques developed under statewide plans and are results of locally developed initiatives. Iowa DNR water trails and low-head dam public hazard programs are administered by the DNR rivers team under the Land and Waters Bureau. Navigation and water safety activities include:

- Plans, administers funds for, and places navigational signage, including mileage-based access numbers at landings, roadway signage leading people to boat accesses, dam warning signage, etc. via the water trails program.
- Plans, designs, and maintains warning signage and portage trails at DNR-owned low-head dams.
- Works with communities to install dam warning signage where dams have led to fatalities for recreational users. All users are considered, including walk-in anglers, power boaters, tubers, and paddlers.
- Requires water trail developers to place, maintain, and update dam warning signage.
- Purchases and distributes educational flyers on canoe and kayak safety, low-head dam safety, participate in “Wear It” campaign targeting canoes and kayaks with promotional items purchased under operations budget.
- Advises fisheries, wildlife, county conservation, and municipal staff on boating access improvements, including boat ramps and canoe launches.
- Trains county conservation, DNR, and children’s camp staff in safely leading and teaching during canoe outings using American Canoe Association curriculum and the Rivers’ team certified ACA instructors.
- Works to reduce hazards of low-head dams with high death rates through management of mitigation projects.

The Iowa DNR encourages local ownership of water trails throughout Iowa that support education, navigation, and recreation. Technical assistance is provided to communities working to find solutions at aging dams, and provides funds for mitigating dam problems, solving safety hazards, fish passage, upstream flooding, and failure-related issues.

The river programs team serves a growing segment of Iowans – canoeists, kayakers, an innertubers, as well as more traditional recreational segments, including anglers and power boaters. National statistics show that canoeists and kayakers have a higher rate of death per capita compared to other boaters. Two brochures, “SmartStart for Safe Paddling” and “The Drowning Machine” continue to be disseminated to county recorders, boat rental facilities, paddling clubs, local governments, and field staff. A new round of 10 water trail brochures is being produced, each with a similar look.



Staffing

The river programs coordinator is responsible for overall program direction, which in the current fiscal year involved statewide plan development, collaborating on river survey, assessment, and design work with DNR Engineering, and technical assistance provided to external dam owners. Previous duties of a technician included warning signage, launch, and portage trail development and maintenance, which have been folded into the other staff’s duties. Half of one FTE’s time focuses on leading river survey and assessment work at low-head dams. The other half of this position focuses on the Protected Water Areas program, a land conservation program along rivers, and is not within the purview of this report. A water trails coordinator contracts with local planners to lead planning efforts in coordination with state-level strategies and standards. An outreach coordinator plans events, maintains Web information, organizes training opportunities for trip leaders and rental personnel, conducts surveys and disseminates safety and mapping materials and publications.



Table 8 Expenditures for Water Trails & Dam Safety

| | FY06 | FY18 |
|---|-----------------|------------------|
| Personnel | \$7,572 | \$132,439 |
| Travel Expenses | \$1,038 | \$7,527 |
| Office Supplies & IT Hardware | | \$1,050 |
| Facility Maintenance Supplies | | \$649 |
| Equipment Maintenance | | \$723 |
| Other Supply (training programs equipment, safety education & outreach materials) | | \$1,009 |
| Print, binding, and publications | \$1,800 | \$0 |
| Uniforms | | \$66 |
| Communications | | \$1,342 |
| Rentals | | \$1,883 |
| Outside services | | \$1,204 |
| Reimbursement & ITS Reimbursement | | \$181 |
| Postage | | \$273 |
| Equipment Non Inventorial | | \$791 |
| Indirects | | \$16,661 |
| TOTAL | \$10,410 | \$165,798 |

Iowa DNR owns or manages six major low-head dams on navigable streams. River programs staff updated signage plans according to the new hazard signage manual, installed signs, and maintain portages at these dams in fiscal year 2018.

Paddlesports safety

The Rivers team offered a total of three “train the trainers” canoe and kayak courses for trip leaders, city parks and recreation staff, naturalists and other agency staff. This skills course responds to a need identified by agencies with canoe fleets that take groups on lakes and river. It provides consistent training for leading safe tours, developing risk management plans, and demonstrating appropriate canoeing skills. DNR rivers team staff also received



American Canoe Association training from instructor trainers to update training credentials. The national “Wear It” campaign was supported at events throughout the year.

Dam mitigation

Iowa DNR River program staff works with dam owners to retire or mitigate a variety of problems when a dam has safety hazard issues and fish passage problems. Oftentimes, federal funding is available for projects that involve fish passage, so a natural development is to solve multiple problems combined into a single project. Iowa DNR staff work with communities statewide to explore, analyze, or develop dam mitigation projects. Dam mitigation priority areas are shown on the map (Figure 1) below.

The Quaker Mill Dam Mitigation project completed phase 1 in 2017. Phase 1 has removed the dam and constructed a new channel through a former lakebed. A second phase at Quaker Mill will divert flow into the channel after vegetative growth establishes in 2018. Drone photo to the right is by James T. Dietrich, Ph. D., Assistant Professor Director, Iowa Low-Altitude Remote Sensing Lab.



Program outlook

Training programs will continue to focus on individuals who lead programs, safe livery operations, and increasing availability of American Canoe Association courses offered throughout the state will also be important responses to increasing interest in river recreation. Dam mitigation and water trail projects are ongoing, with plans for infrastructure development in place. State granting in 2018 supplied \$130,000 for water trail projects and \$200,000 for low-head dam projects.

See Figure 1 for locations of completed and future hazard mitigation projects via removal or modification at several dams.

Figure 1 Dam Mitigation Projects, Completed and Active

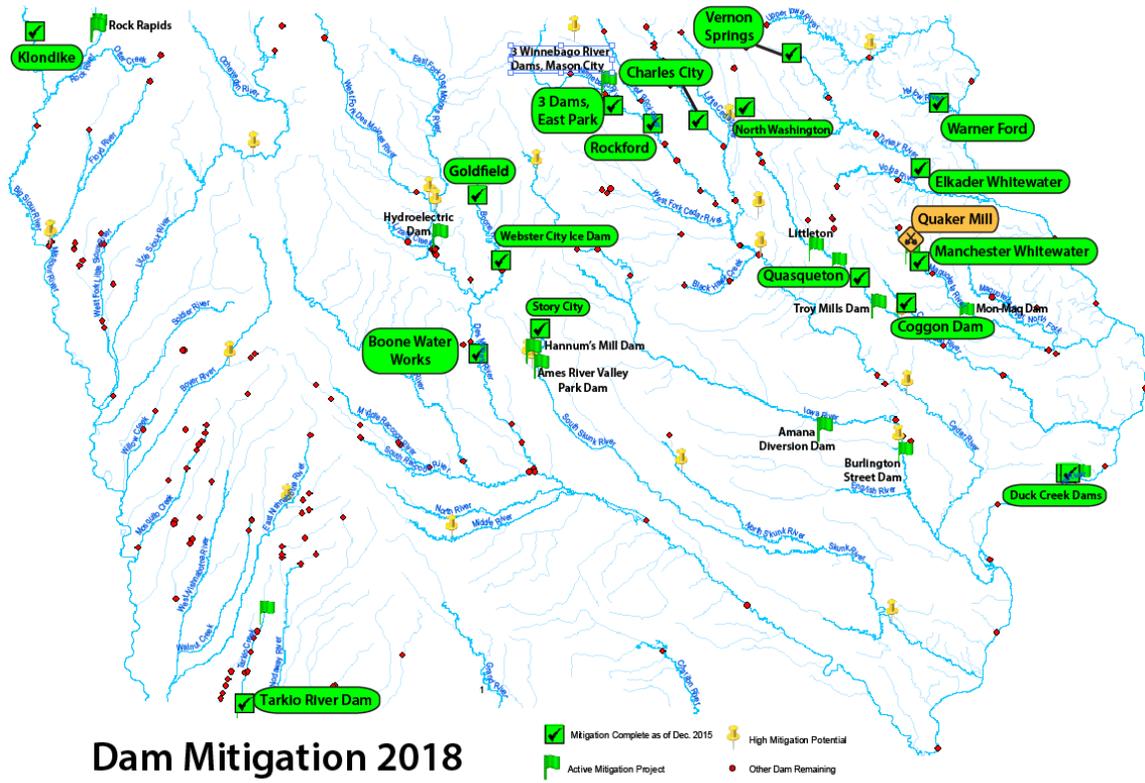


Figure 2 (below) shows partnered dam mitigation projects that are ongoing, moving toward construction as of 2017, using past appropriations of Rebuild Iowa’s Infrastructure Fund (RIIF) funding.

Figure 2 Ongoing Partnered Dam Mitigation Projects, 2018

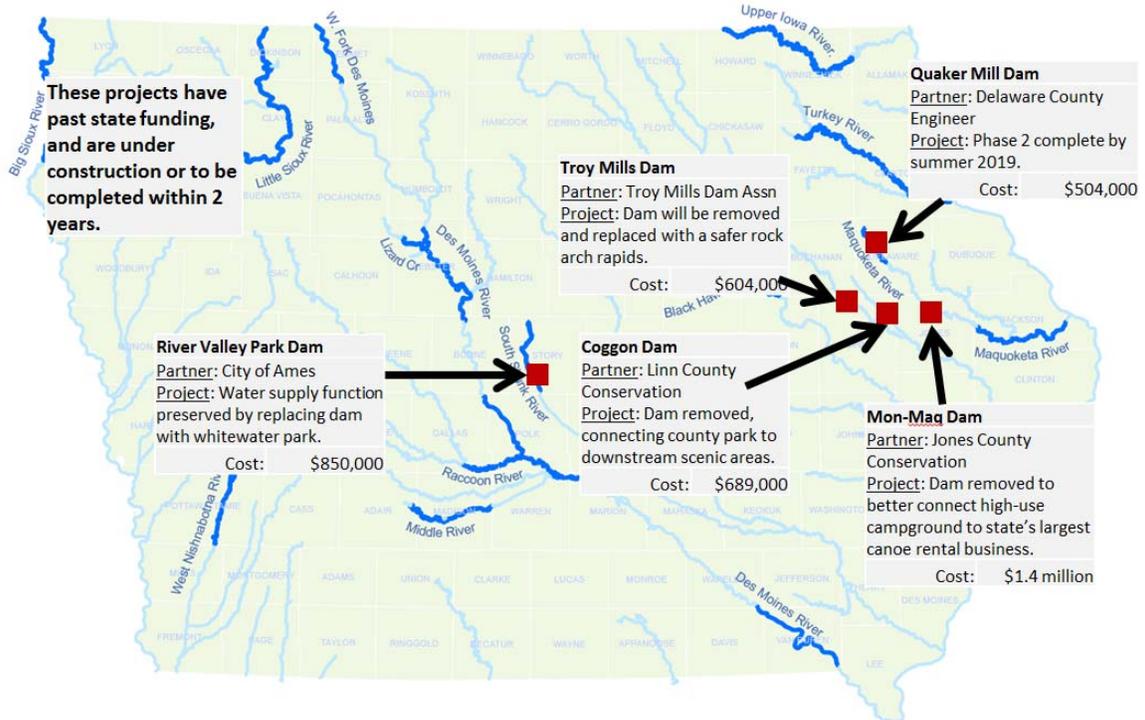
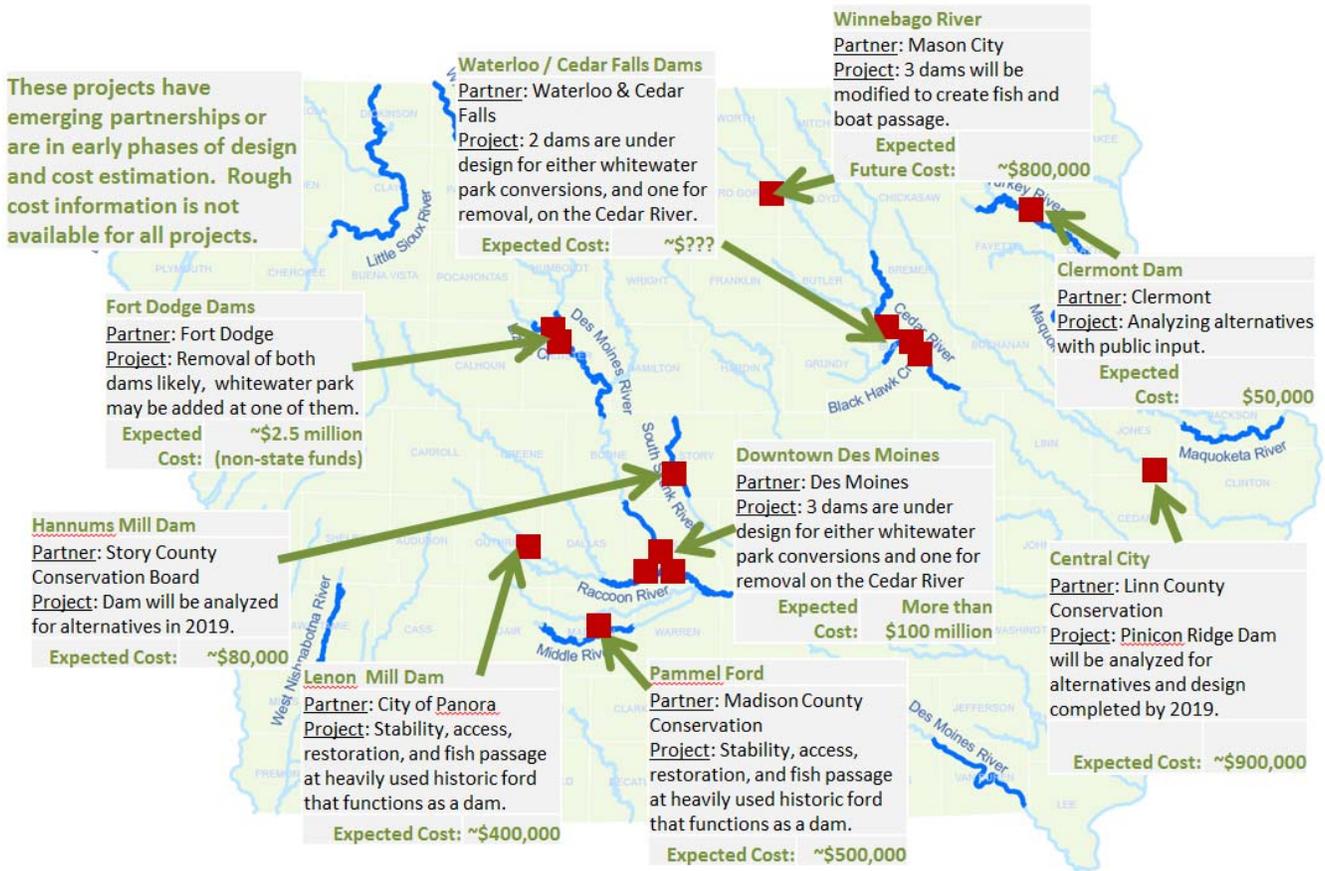


Figure 3 Program Outlook for Dam Mitigation Projects, 2018



As of 2018, seven county-level and regional master plans are complete. Statewide plans completed since 2010 have led to a consistent and vetted local planning framework for water trail projects and low-head dam mitigation, which is highly important in a state dominated by private landownership like Iowa. As Figure 4 shows, one new master plan will be initiated in Jackson County during fiscal year 2019, which will add 77 miles on the Maquoketa and North Fork of the Maquoketa to be eligible for future designation. Should RIIIF funds be available, projects will be eligible for grant funding upon plan completion (see Figure 5). For local entities, this will result in lower-maintenance projects with increased local ownership in water trails. Statewide, this will result in a more robust and easy-to-understand navigational system. As numbers of recreational users increase, increasing focus on managing the experiences for all Iowans- from young to old- will become more important than ever. It has also led to increased law enforcement and education needs related to interacting with private landowners and other users along navigable rivers. To handle increased use, all Iowans must learn to treat our waterways respectfully to avoid litter and obnoxious behavior.

Figure 4: Outlook for Water Trails

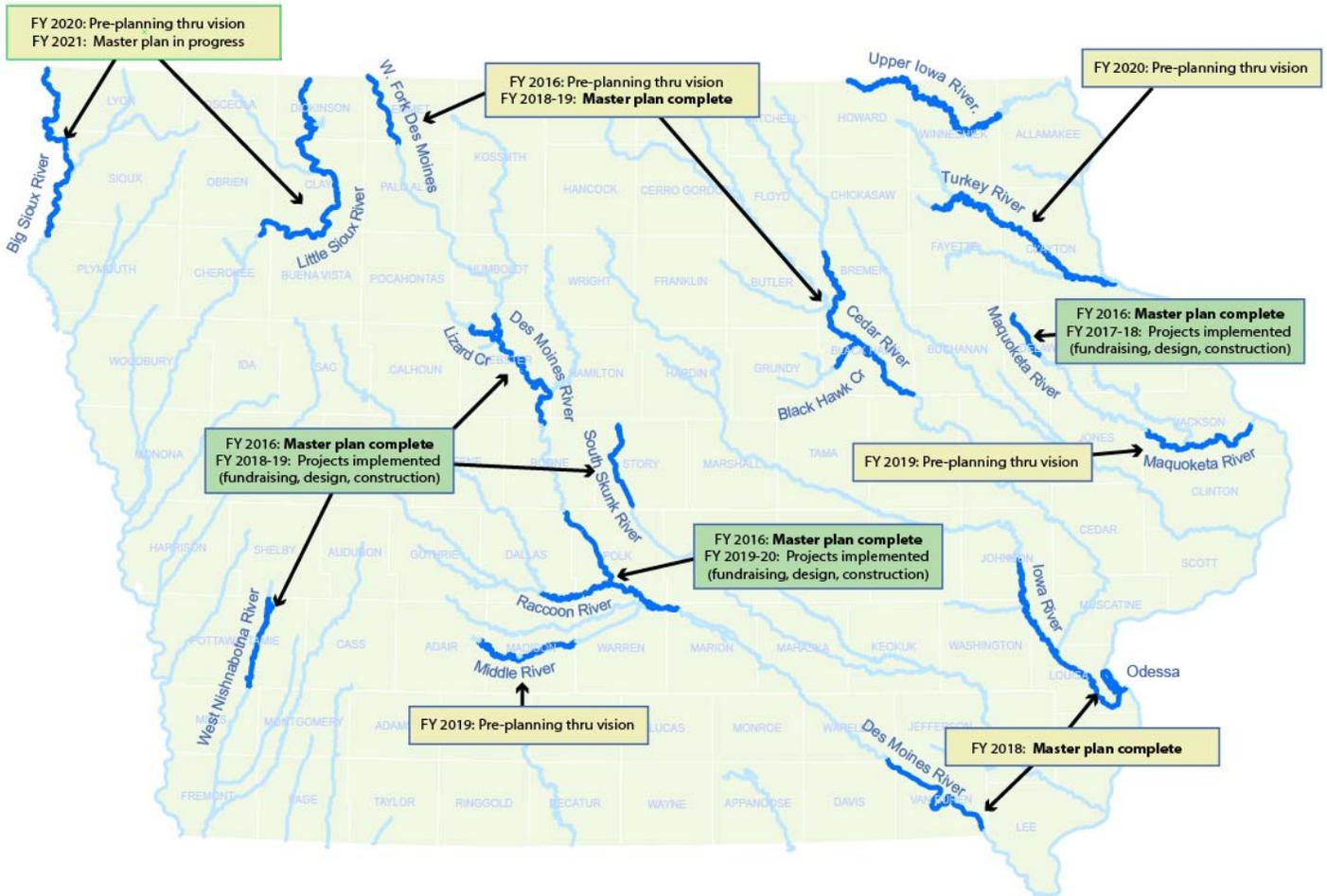


Figure 5 Water Trail Projects Identified in Local Master Plans.



Table 9 Water Trails & Dam Safety Status At A Glance

| | 2006 | 2018 |
|--|------|------|
| Total number of individual water trails with state designation, to date | 0 | 29 |
| Miles of water trails designated | 0 | 970 |
| Miles of water trail study areas | 0 | 0 |
| Number of low-head dams with warning signs | 2 | 44 |
| Number of portage trails around low-head dams completed, to date | 2 | 32 |
| Number of low-head dams modified or removed for safety purposes, to date | 0 | 20 |

In addition to the 970 miles of state-designated water trails (see Table 1), the river programs staff and local planning contractors are working with local communities on 807 miles of study areas being master planned – some of those miles are currently designated, and others are not. Some study areas from prior years will not continue forward after better understanding public expectations of state-designated water trails. The program has focused on implementing statewide plans focusing on river management and law enforcement needs, infrastructure needs, maintenance expectations, and comprehensive navigational / warning signage systems based on river mileage. These plans address problems, including safety, overcrowding or underuse, jurisdictional issues, and user expectations.



Increasingly, river restoration components are being incorporated into all river programs projects. Examples include stream bank restorations along water trails for safety, aesthetic, angling improvements, site restoration at dam mitigation projects, and incorporating aquatic habitat into navigational access projects for anglers and river species. Restoration skills among program staff are helping with project stability needs in the always changing river setting.

Boating Recreation Infrastructure Maintenance and Management

The Iowa DNR owns or manages infrastructure for boating recreation across the state. *This infrastructure is integral to safe boating and access to the waters.*

The Law Enforcement Bureau and the Fisheries Bureau do not typically manage land and do not have the staff for this type of maintenance and management. The Wildlife Bureau staff manages and maintains state fishing access areas, boat ramps and docks in cooperation with other bureaus. See the attached Addendum A for the listing of the safe boating access areas managed by the Wildlife Bureau staff. Boating populations, including paddlers, have increased over the years and there is an ever-growing demand for safe, convenient and appropriate boating access areas.

These areas are heavily used for access 9 months of the year, or even more depending on the weather. They require frequent maintenance, especially since most are along river corridors in flood plains. Maintenance and management includes re-rocking areas, cleaning silt from the boat ramps, custodial functions such as removing trash and debris and maintaining signage. In addition to the staff time of the actual work, drive time and driving expenses are included, as Wildlife Headquarters cover 4-6 counties and the areas are remote.

The attached listing of areas represents 105 accesses that qualify for federal boat access funds. There is a detailed federal process to obtain the funds through a formula, and rigorous federal audits on those funds to make sure the boat fees and federal funds are used for the purpose of maintaining safe boat access areas. There are between one and four access ramps for each of the sites that require maintenance. The total cost per access averages out to less than \$5,000 a year in maintenance. The cost of this program is leveraged **75% federal** with 25% boat registration fees.



Table 10 Boat Fee Expenditures for Boating Infrastructure Maintenance & Management (Salaries for labor, contracted services, equipment, signage, publications, etc.)

| | Federal | Boat Fees | Total |
|------------------|-----------|-----------|-----------|
| FY06 (base year) | \$562,055 | \$187,351 | \$749,406 |
| FY18 | \$376,488 | \$125,496 | \$501,984 |

NOTE: These federal funds can only be used for this purpose, and would be forfeit if not matched by boat fees.

Iowa's Marine Fuel Tax (MFT) Program

The Iowa DNR Marine Fuel Tax program is not directly tied to the boat fee revenues and expenditures, but it is a complimentary program. MFT has played a vital role in providing recreational boaters new opportunities as well as maintaining public lakes used by boaters.

- Revenue from the excise tax on the sale of motor fuel used in watercraft

The amount of revenue generated by the marine fuel tax legislation equals nine-tenths of one percent of the state excise tax on gas, minus 3% of the marine fuel tax total for administrative costs and minus the amount refunded to commercial fishers based on the gallons of fuel they used.



- MFT funds are leveraged with a variety of sources including Federal Coast Guard, Corps of Engineers Section 1135, State of Iowa Parks and Institutional Roads Fund, and local city and county conservation funds.
- **Annual MFT funding \$4.0 to \$4.4 million.** Funds are often “carried forward”, as they are connected with construction projects that might take multiple years to complete.
- MFT funds are appropriated to the DNR to support and enhance recreational boating. Funded projects may include but are not limited to:
 1. Dredging and renovation of lakes of this state.
 2. Acquisition, development, and maintenance of access to public boating waters.
 3. Development and maintenance of boating facilities and navigation aids.
 4. Administration, operation, and maintenance of recreational boating activities.
 5. Acquisition, development, and maintenance of recreational facilities associated with recreational boating.
- Examples of MFT projects:
 - ◆ Docks and buoys
 - ◆ New lake construction projects
 - ◆ Boat ramp restroom installations (various counties)
- DNR Water Recreation Access Cost-Share Program
 - ◆ Around \$200,000 of MFT funds are available in the form of grants to local cities and counties for boat access facilities to lakes and streams.
 - ◆ Projects are funded 75% state to 25% local match
 - ◆ DNR receives grant requests for 15 to 30 projects and awards amounts usually between \$2,000 and \$50,000

Addendum B is the FY 2018 MFT expense report.

Addendum A--Wildlife Bureau Management and Maintenance of Boating Accesses Areas

| | | |
|---------------------------------|-----------------------------------|----------------------------------|
| Badger Creek Recreation Area | Hardfish Access | Randolph Access |
| Badger Lake Wildlife Area | Hawthorn Wildlife Area | Rice Lake Wildlife Area |
| Barringer Slough Wildlife Area | Highway 21 Access | Riverton Wildlife Area |
| Bartlett Access | Hooper Wildlife Area | Rock Creek Island Preserve |
| Bay's Branch Wildlife Area | Highway 44 Access | Rock Creek Wildlife Area |
| Beaver Lake Wildlife Area | Ingham-High Wetland Complex | Round Lake Wildlife Area |
| Bel Aire Access & Outlet | Iowa Lake-Emmet | Rubio Access |
| Big Sioux River Complex | Iowa Lake --Osceola | Rush Lake-Palo Alto |
| Black Hawk Wildlife Area | Iowa Lake Access 3 | Selma Access |
| Blackhawk Bottoms Wildlife Area | Kettleston Hogsback Complex | Silver Lake-Palo Alto |
| Blue Lake Wildlife Area | Klum Lake Wildlife Area | Silver Lake Complex |
| Bluebird Access | Kosztka Access | Skunk River Wildlife Area |
| Boone Forks Wildlife Area | Lake Cornelia Access | Snyder Access |
| Brown's Lake Wildlife Area | Lake Icaria | South Skunk River Access |
| Center Lake Complex | Lake Icaria Wildlife Area | South Twin Lake |
| Chenoweth Access | Lake Sugema Wildlife Area | Sweet Marsh |
| Christopherson Slough Complex | Lennon Mills Wildlife Area | Three Mile Wildlife Area |
| Cliffland Access | Little Clear Lake | Troy Mills Wildlife Area |
| Cone Marsh Wildlife Area | Little Sioux Wildlife Area | Tunnel Mill Access |
| Cutshaw Wildlife Area | Little Storm Lake | Tuttle Lake Wetland Complex |
| Dan Green Slough | Lizard Lake | Tyson Bend Wildlife Area |
| Deception Hollow | Meadow Lake | Upper Decatur Bend Wildlife Area |
| Deer Island Wildlife Area | Middle Decatur Bend Wildlife Area | Upper Iowa River-Iverson Bottoms |
| Dewey's Pasture Complex | Morse Lake Wildlife Area | Upper Iowa River-Plymouth Rock |
| Diamond Lake | Mount Ayr Wildlife Area | Upper Iowa River-Seegmiller |
| Dudgeon Lake Wildlife Area | Odessa Wildlife Area | Upper Iowa River-Upper Dam |
| Elk Creek Marsh | Olin Access | Virgin Lake |
| Elk Lake Wetland Complex | Otter Creek Marsh | Weedland Access |
| English River Access | Otterville Wildlife Area | West Swan Lake |
| Five Island Lake | Perry Access | White Horse Access |
| Fogle Lake | Pickerel Lake | Wiese Slough Wildlife Area |
| Gambril Access | Pictured Rocks Wildlife Area | Williamson Pond |
| Gitchie Manitou | Pool Slouch Wildlife Area | Willow Slough |
| Goose Lake-Kossuth | Princeton Wildlife Area | Willows Access |
| Hales Slough | Rand Access | Winnebago Bend Wildlife Area |

Addendum B—MFT 2018 Expenditure Report

| Project | Federal | MFT | Other | Total |
|---|-------------------|---------------------|------------------|---------------------|
| Black Hawk, Heidenreich-Boat Ramp & Parking Lot | \$ - | \$ 12,093 | \$ - | \$ 12,093 |
| Black Hawk, Shimon Marsh-Boat Ramp & Parking Lot | \$ - | \$ 24,383 | \$ - | \$ 24,383 |
| Clear Lake, Rice Lake-Boat Ramp Modification | \$ - | \$14,990 | \$ - | \$14,990 |
| Des Moines River Boat Access(Boating Access Match) | \$ - | \$50,945 | \$ - | \$50,945 |
| 4-Mile Lake Access Improvements | \$ - | \$8,899 | \$ - | \$8,899 |
| Fisheries Minor Projects | \$ - | \$ 234,072 | \$ - | \$ 234,072 |
| Honey Creek Boat Ramp Restroom (Boating Access Match) | \$ - | \$59,134 | \$ - | \$59,134 |
| Honey Creek Resort-Stormwater Project | \$ - | \$122,462 | \$ - | \$122,462 |
| Honey Creek Resort-Wave Attenuator | \$ - | \$85,026 | \$ - | \$85,026 |
| Iowa River, Hawkeye -Speckville-Boat Ramp | \$ - | \$33,005 | \$ - | \$33,005 |
| Lake Ahquabi Law Enforcement Boat Storage Facility | \$ - | \$35,771 | \$ - | \$35,771 |
| Lake Darling-Mid Lake Ramp Repaving | \$ - | \$ 9,967 | \$ - | \$ 9,967 |
| Lake Sugema Boat Access Improvements (Boating Access Match) | \$ - | \$12,653 | \$ - | \$12,653 |
| Lansing Village Creek Boat Ramp | \$549 | \$549 | \$ - | \$1,098 |
| Law Enforcement Minor Projects | \$ - | \$81,891 | \$ - | \$81,891 |
| Lost Grove Pit Vaults & Cleaning Service Contract | \$ - | \$8,430 | \$ - | \$8,430 |
| Missouri River, Upper Decatur-Boat Ramp | \$ 52,857 | \$ 52,857 | \$ - | \$ 105,713 |
| Odessa WMA Boat Ramp Replacement | \$ - | \$ 16,244 | \$ - | \$ 16,244 |
| Pleasant Creek Ramps (Boat Access Match) | \$ - | \$ 27,968 | \$ - | \$ 27,968 |
| Saylorville, Dunbar Slough-New Boat Ramp | \$ - | \$ 19,701 | \$ - | \$ 19,701 |
| Spirit Lake - Orleans Ramp Restroom Renovation | \$ 12,025 | \$ 12,025 | \$ - | \$ 24,050 |
| State Parks Minor Projects | \$ - | \$ 442,514 | \$ - | \$ 442,514 |
| Statewide Docks & Fish Cleaning Stations/Buoys | \$ - | \$ 225,691 | \$ - | \$ 225,691 |
| Statewide Emergency/Miscellaneous | \$ - | \$ 56,448 | \$ - | \$ 56,448 |
| Statewide Engineering & Design | \$ - | \$ 387,392 | \$ - | \$ 387,392 |
| Statewide Shoreline Access Acq & Dev | \$ - | \$ 615,949 | \$ - | \$ 615,949 |
| Statewide Large Patrol Boats on Reservoirs | \$ 114,373 | \$ 114,373 | \$ - | \$ 228,745 |
| Statewide Outside Design | \$ - | \$ 1,639 | \$ - | \$ 1,639 |
| Statewide Shoreline Rip Rap | \$ - | \$144,381 | \$ - | \$144,381 |
| Statewide Water Recreation Access Grants | \$ - | \$ 426,960 | \$ - | \$ 426,960 |
| Vegetation Management | \$ - | \$ 68,548 | \$ - | \$ 68,548 |
| Viking Lake Law Enforcement Storage Facility | \$ - | \$ 215 | \$ - | \$ 215 |
| Water Recreation Resources- Transfer to Ops | \$ - | \$ 408,014 | \$ - | \$ 408,014 |
| Water Trails Minor Projects | \$ - | \$ 72,174 | \$ 10,000 | \$ 72,174 |
| Wildlife Minor Projects | \$ - | \$ 243,877 | \$ - | \$ 243,877 |
| Total Marine Fuel Tax | \$ 179,803 | \$ 4,230,426 | \$ 10,000 | \$ 4,420,229 |