

Boat Fee Revenues & Expenditures  
Fiscal Year 2021 Report

.08

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GO OVERBOARD**

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Department of Natural Resources  
Conservation and Recreation Division  
December 31, 2021  
Kayla Lyon, 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 fifteenth such annual report and includes data for FY21 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	\$1,668,551	\$4,022,880	\$1,921,174

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**

	FY19	FY20	FY21	3-Years of Revenue
Boat fees	\$6,395,890	\$1,292,462	\$708,308	\$8,396,660
Federal match	\$378,445	\$348,258	1,565,226	\$2,291,929
Total Revenues	\$6,774,335	\$1,640,720	\$2,273,534	\$10,688,589

Looking at the past three years of collected annual revenue (FY19-FY21) the average increase of boat fees is \$2,798,886 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 FY21 at a cost of \$178,690, and \$76,966. Marine Fuel Tax (MFT) was spent to purchase navigational buoys so no additional funds were expended to purchase navigational safety patrol boats this year.

**Table 3 General Expenditure Categories**

	<b>Base FY06</b>	<b>FY21</b>
Navigation Enforcement and Boating Safety	\$1,995,996	\$2,842,157
Boat infrastructure maintenance/mgmt.	\$749,406	\$493,037
Aquatic Invasive Species	\$164,556	\$383,860
Water Trails and Dam Safety	\$10,410	\$198,073
Total Expenditures	\$2,920,368	\$3,917,127

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*). Additional species located in Iowa will also be addressed in this report.

This report reflects expenditures for FY21; however, seasonal staff and survey information is from the summer of 2021 (i.e., May through September). Actions utilized to detect, manage, and prevent the introduction and spread of AIS in Iowa in FY21 included developing and maintaining partnerships to coordinate AIS activities, increasing public awareness of AIS, managing AIS infestations, and monitoring AIS populations. Major accomplishments included the following:

- Employed 19 Seasonal Natural Resources Aides
- Conducted 6,015 watercraft inspections reaching 17,480 people on 95 waterbodies
- Conducted 110 angler interviews on 18 trout streams
- Supported 21 partnerships and cooperative projects
- Gave 22 live and virtual presentations at conferences, outdoor events and trainings
- Used geo-fencing to target 4000,000 ads to visitors at 45 high use boat ramps
- Ran 140,000 OTT commercials, videos and displays targeting registered boat owners
- Ran 169,600 video ads and banner impressions on livestreaming during Olympic coverage
- Targeted water recreationists with AIS prevention messages using boat ramp signs, radio interviews, websites, social media and displays
- Chemically treated invasive aquatic plants in 18 waterbodies
- Completed 143 full-lake vegetation surveys
- Surveyed vegetation at 584 access points on 40 lakes
- Surveyed adult zebra mussels in Black Hawk Lake, Storm Lake, Blue Pit and Black Pit
- Placed zebra mussel veliger settlement samplers in lakes and reservoirs across the state
- Collected 65 water samples from 45 waterbodies and analyzed them for zebra mussel veligers
- Surveyed Asian carp and/or bigmouth buffalo populations in the Des Moines, Iowa and Cedar Rivers
- Collaborated with Iowa State University and the U.S. Fish and Wildlife Service to acquire grants totaling \$859,000 for Asian carp projects in the Upper Mississippi and Missouri River Basins in Iowa
- 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 2021 consisted of 14 Natural Resources Aides who conducted watercraft inspections, 4 Seasonal Workers who surveyed waterbodies for AIS across the state, and 1 Seasonal Worker 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 also assisted with watercraft inspections in Dickinson County in 2021.

Watercraft inspectors discussed inspecting watercraft for AIS with operators from May through September 2021. Watercraft inspectors 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 offered to each operator after inspection.

The table below summarizes the watercraft inspection effort of the DNR-AIS in 2021 and prior to receiving boat registration funds in 2006 when 2-3 seasonal employees split their time between watercraft inspections and AIS surveys. The emphasis for watercraft inspections in 2021 was to target waterbodies that have not had inspections in the past, and the number of waterbodies with inspections in 2021 was higher than in any previous year.

**Table 4 Watercraft Inspection Summary**

	<b>2006</b>	<b>2021</b>
Seasonal Employees	3 PT	14 FT
Watercraft Inspected	791	6,015
Personal Contacts	2,350	17,480
Waterbodies	16	95

New Zealand mudsnails *Potamopyrgus antipodarum* and Didymo *Didymosphenia geminate* are two AIS found in trout streams in the U.S. DNR-AIS seasonal staff for the Decorah and Manchester districts interviewed Iowa trout stream anglers to gauge their knowledge of these species and Iowa’s AIS laws. The seasonal staff conducted 110 interviews on 18 trout streams in 2021.

DNR-AIS staff supported many partnerships and working groups in FY21:

- Aquatic Nuisance Species (ANS) Task Force and ANS Task Force Control Committee (Chair)
- Association of Fish and Wildlife Agencies (AFWA) Invasive Species Committee (Vice Chair)
- AFWA Conservation and Science MultiState Conservation Grant Program Technical Review Team
- American Boat and Yacht Council AIS Project Technical Committee
- Upper Mississippi River Asian Carp Coordination Committee
- Asian Carp Lock and Dam 19 Acoustic Deterrent Project Team, Science Advisory Team, and Communications Team
- Asian Carp Carbon Dioxide Deterrent Coordination Team
- Missouri River Asian Carp Technical Committee
- Mississippi River Basin Panel (MRBP) on ANS and MRBP Prevention and Control Committee
- Missouri River Basin AIS Team
- Mississippi Interstate Cooperative Resource Association
- Midwest Invasive Plant Network (MIPN) (Executive Board Member) and MIPN Diversity and Communications Committees
- Midwest Aquatic Plant Management Society
- Midwest Fish and Wildlife Conference 2022 Planning Committee
- Iowa Chapter of the American Fisheries Society
- Rehoming Our Animals/Aquarium Responsibly (ROAR) Working Group
- Des Moines River Adaptive Management Team



## Aquatic Invasive Species Outreach

The DNR-AIS has different types of social marketing and media to target water recreationists in Iowa in 2021. Geofencing advertisements (400,000) were used at 45 high use boat ramps between June 25 and July 5 to provide messages to boaters about the AIS Law and the need to “Clean, Drain, Dry” when leaving a water access. Over-the-top (OTT) commercials (40,000), and virtual displays (60,000) about the AIS Law and how to “Clean, Drain, Dry” boats and equipment were delivered to registered boat owners from July 21 to August 8 on NBC Sports Livestreaming during Olympic coverage. Postings on the Iowa DNR website, Facebook, Instagram and Twitter accounts in 2021 included the “Clean, Drain, Dry” message and information on Asian carp in Iowa.

Macintosh Woods State Park purchased a CD3 cleaning station in FY21 to increase public awareness of the need to clean and drain equipment when leaving Clear Lake and to provide tools for boaters to easily comply with the AIS law. CD3 cleaning stations are also available in the Iowa Great Lakes and at the Ventura and Tourist Park boat ramps on Clear Lake.

Signs emphasizing the AIS Law continued to be posted at all boat access sites in FY21. The DNR-AIS is working with the DNR Community Fishing Program and ROAR Working Group to develop signs for community fishing ponds with information about AIS and not releasing aquarium animals and plants into the environment.

In addition to information available on the Iowa DNR website, the following informational materials were made available at Iowa DNR Fisheries regional and field offices, 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
- Invasive Aquatic Plants in the Midwest flyer
- 2021 Iowa Fishing Regulations booklet
- Handbook of Iowa Boating Laws and Responsibilities

The Iowa DNR joined state and federal agencies across the U.S. in March 2021 to disseminate information about and confiscate marimo moss balls contaminated with zebra mussels being sold in pet stores. News releases also targeted statewide audiences regarding new AIS infestations in Iowa and before high-use boating events such as the Memorial Day and July 4<sup>th</sup> weekends. DNR-AIS and Fisheries staff were interviewed throughout the year for radio programs, television stories, and newspaper articles regarding AIS distribution, identification, management, and prevention.



DNR-AIS staff participated in outdoor events in FY21 to spread the AIS message and gave presentations about AIS at conferences, trainings and other settings. Exhibits at the 2021 Iowa State Fair included live Silver Carp and Goldfish.

- Kansas Department of Wildlife, Parks, and Tourism - Aquatic Vegetation Surveys and Control
- Ellsworth Community College Conservation Class
- New Conservation Officer Training
- Fisheries Statewide Meeting
- Go Further: Career Conferences for Girls
- She Goes Outdoors Fishing Box Webinar
- Water Patrol Officer Training
- Seasonal Staff Training
- Lock and Dam 19 Underwater Acoustic Deterrent System Site Visit Welcome
- Rummage RAMPage/ROAR
- Outdoor Journey for Girls
- Union Grove Lake Homeowners Association
- South Dakota State University Natural Resources Management Career Fair
- Iowa State University Student Chapter of the American Fisheries Society

Data collected previously during watercraft inspections and trout stream angler interviews indicates that public awareness of AIS is high 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 has increased over the years and has consistently been above 90% since 2014. Knowledge of Asian carp (93%) and zebra mussels (91%) also remained very high in 2021. Awareness of invasive aquatic plants could improve as only about two-thirds (63%) of boaters interviewed stated they knew about Eurasian watermilfoil and only about half (45%) knew about brittle naiad. Knowledge of the AIS Law increased significantly from a low of 22% in 2004 to a high of 95% in 2018. It was 88% in 2021, which may be reflective of targeting waterbodies that have not had many inspections in the past. A large proportion (91%) of trout stream anglers were also familiar with AIS and knew about the AIS Law (90%); however, only 28% were familiar with New Zealand mudsnails and 12% were familiar with Didymo.



#### **Aquatic Invasive Species Management and Monitoring**

DNR Fisheries staff cooperated with DNR-AIS staff to chemically treat 18 brittle naiad (BN) and Eurasian watermilfoil (EWM), and yellow floating heart *Nymphaoides peltatum* (YFH) infestations in 2021.

- Casey Lake (Tama County) BN
- Central Park Pond (Jones County), BN
- Cocklin Fish Farm Ponds (Cass County), BN
- Crawford Creek Lake (Ida County), BN
- Dakins Lake (Story County) BN
- Grundy County Lake (Grundy County), BN
- Lake Iowa (Iowa County), BN
- McHose Park Pond (Boone County), YFH
- Moorehead Park Pond (Ida County), BN
- Nelson Park Lake (Crawford County), BN
- Nine Eagles Lake (Decatur County), BN
- Pammel Park Pond (Winnebago County), EWM
- Pleasant Creek (Linn County), BN
- Rodgers Lake (Benton County), BN
- Sawgrass Pond (Polk County), EWM
- Slip Bluff Lake (Decatur County), BN
- Willow Lake (Harrison County), BN
- Yellow Smoke Lake (Crawford County), BN

DNR-AIS and Fisheries staff also continued the multi-year project of testing the use Sonar as an under-the-ice treatment for curlyleaf pondweed *Potamogeton crispus* at Union Grove Lake (Tama County), Hannen Lake (Benton County), and three ponds in the City of Ankeny during the winter of 2021. A DNR-AIS staff was also trained and certified to buy and apply ProcellaCOR EC herbicide for control of Eurasian watermilfoil, parrot feather, yellow floating heart, and lotus *Nelumbo nucifera* in Iowa.

Seasonal Workers completed 143 full-lake vegetation surveys in June, July, and August 2021 to detect new AIS infestations and monitor managed AIS infestations. Seasonal Workers also conducted 584 access point surveys at 40

lakes around the state during the summer of 2021. The emphasis for access point surveys in 2021 was to target waterbodies that have not had surveys in the past. Fisheries and wildlife biologists and county conservation board staff also monitored aquatic vegetation in their areas during management activities.

Six new infestations of Eurasian watermilfoil (EWM), brittle naiad (BN) were discovered in Iowa in 2021. Seasonal staff discovered two of the new brittle naiad infestations during access point surveys.

- Black Pit (Cerro Gordo County) EWM
- Dakins Lake (Story County) BN
- Lake Keomah (Mahaska County) BN
- Oldham Lake (Monona County) BN
- Schaben Park Pond (Harrison County) BN
- Torkelson Pits (Hancock County) BN

DNR staff post signs at all infested waterbodies alerting the public that AIS are present and what Iowa's AIS Law is in order to prevent their spread. Eurasian watermilfoil has been identified in 59 waterbodies, including private ponds, in Iowa since 1993, and brittle naiad has been identified in 71 waterbodies since 2003.

DNR-AIS staff conducted zebra mussel surveys at Black Hawk Lake, Storm Lake, Blue Pit and Black Pit in 2021 to determine population status of zebra mussels in these lakes. Fisheries staff discovered zebra mussels in Black Pit during fish surveys in September 2021. DNR-AIS and DNR Fisheries staff also placed zebra mussel settlement samplers in lakes and reservoirs throughout Iowa in 2021 to monitor for early detection of zebra mussels.

DNR-AIS staff also 65 collected water samples for zebra mussel veliger analysis from 45 lakes, ponds, and rivers in 2021 to monitor current populations of zebra mussel or detect new infestations of zebra mussels. Zebra mussel veligers were detected in the following waterbodies.

- Black Hawk Lake (Sac County)
- Bluebill Lake (Cerro Gordo County)
- Center Lake (Dickinson County)
- Clear Lake (Cerro Gordo County)
- Crystal Lake (Hancock County)
- East Okoboji Lake (Dickinson County)
- Lake Cornelia (Wright County)
- Lost Island Lake (Palo Alto County)
- Spirit Lake (Dickinson County)
- Storm Lake (Buena Vista County)
- Upper Pine Lake (Hardin County)
- Volga Lake (Fayette County)
- West Okoboji Lake (Dickinson County)

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.

- Black Hawk Lake (Sac County), 2020
- Black Pit (Cerro Gordo County), 2021
- Bluebill Lake (Cerro Gordo County), 2012
- Blue Pit (Cerro Gordo County), 2016
- Center Lake (Dickinson County), 2018
- Clear Lake (Cerro Gordo County), 2005
- Crystal Lake (Hancock County), 2020
- East Okoboji Lake (Dickinson County), 2012





- Iowa Lake (Osceola County), 2020
- Lake Cornelia (Wright County), 2014
- Lake Manawa (Pottawattamie County), 2020
- 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. Low water levels due to drought conditions made sampling in rivers difficult in 2021; however, DNR-AIS staff continue to survey Bighead Carp, Silver Carp, and Grass Carp *Ctenopharyngodon idella* in the Des Moines, Cedar, and Iowa Rivers to monitor reproduction and the upstream advance of their populations.

DNR-AIS staff serve as appointed members to the upper Mississippi River Asian Carp Coordination Team and the Missouri River Basin Asian Carp Technical Committee. Federal funding was allocated for FY21 for these river basins for Asian carp management and control. DNR-AIS staff serve as appointed members to the Upper Mississippi River Asian Carp Coordination Team and the Missouri River Basin Asian Carp Technical Committee. Federal funding was allocated for FY21 for these river basins for Asian carp management and control. The DNR-AIS collaborated with Iowa State University (ISU) and the U.S. Fish and Wildlife Service to acquire grants totaling \$859,000 for Asian carp projects in Iowa. These projects include monitoring movement of Asian carp in the Des Moines, Iowa and Cedar Rivers, sampling for Asian carp larvae in Iowa tributaries and monitoring Asian carp movement in the Little Sioux River and the effectiveness of the electric barrier below Lower Gar Lake. DNR-AIS staff assisted ISU students install telemetry receivers in the Little Sioux River watershed during summer 2021 and tag Silver Carp in the Des Moines, Iowa and Cedar Rivers in fall 2021.

The United States Geological Survey and the United States Army Corps of Engineers, and United States Fish and Wildlife Service developed a project plan to test an acoustic deterrent system for Asian carp at Lock and Dam 19 on the Mississippi River. DNR-AIS staff are members of the project's Planning Team, Science Advisory Team, and Communications Team. Testing of the barrier began in May 2021, and DNR-AIS staff participated in the site visit and media day in June.



**Table 5 Aquatic Invasive Expenditures**

	<b>FY06</b>	<b>FY21</b>
Personnel	\$85,234	\$254,706
Travel Expenses	\$4,915	\$1,238
State Vehicle Operation	\$3,281	\$23,929
Office Supplies	\$399	\$0
Facility Maintenance Supplies	\$26	\$2,874
Equipment Maintenance Supplies	\$2,936	\$3,046
Ag Supplies	\$42,751	\$30,040
Other Supplies	\$100	\$4,140
Printing	\$477	\$4,164
Uniforms	\$455	\$826
Postage	\$536	\$1,235
Communications	\$651	\$1,119
Utilities	\$0	\$325
Professional and Scientific Services	\$0	\$0
Outside Services	\$595	\$4,664
Advertising and Publicity	\$11,390	\$14,919
Reimbursement	\$0	\$24
Government Transfer Other Agencies	\$0	\$0
Equipment	\$1,042	\$124
IT Equipment and Software	\$0	\$950
Indirects	\$9,768	\$30,718
<b>Total</b>	<b>\$164,556</b>	<b>\$383,860</b>



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## 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 July 2- 4, 2021, which is a national campaign that emphasizes the dangers of boating and drinking.

More than 165 law enforcement officers participated in this three-day event, contacting 6,254 boaters, performing safety equipment checks on 1,820 vessels and issuing 542 citations or warnings. Throughout the summer, a total of 27 BWI arrests were made by various officers.

Conservation officers provide boating education programs to various groups throughout the year. Ninety four programs were presented to students about boating safety in all situations, including boating safety while waterfowl hunting. Approximately 3,913 students participated in these programs.



### Seasonal Water Patrol Officers Program

The department receives approximately 60 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 FY2021, the department had 31 WPOs on the books at a total cost of \$255,656. This fiscal year, \$76,966 was used from the Marine Fuel Tax fund to pay for a portion of the total cost of the WPOs. (See Addendum B, page 23).

**Table 6 Law Enforcement Boating Activities (2021)**

Calendar Year*	Totals
Navigation Contacts	39,698
Navigation Citations	893
Special Events Patrolled	180
Incident/Accident Investigations	33
In-person Boat Iowa Classes	0
Boater Education Hours	2,168
Navigation Enforcement Hours	41,141



**Boater Education**

The Iowa DNR has a successful and proactive boater education program that aligns nationally with other, boating law administrators and education coordinators to focus on helping boaters understand and realize the importance of wearing life jackets. Iowa requires children under 13 to wear a PFD in a moving vessel.



In FY21 the education program continued to focus on the importance of wearing life jackets but due to continued COVID-19 the boat ramps were not painted in Iowa’s state parks.

The “Life Jacket Zone” message reminds boaters about the importance of wearing a life jacket while on the water and the DNR will look at this program again for FY22.

The Boater Education program continued to partner 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 115 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 2,872 students received a certificate through home study and internet courses offered in 2021.

The table below lists the FY 2021 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 FY21 at a cost of \$178,690(state), and \$76,966 (federal).

**Table 7 Navigation Enforcement and Safety Education**

	<b>FY06</b>	<b>FY21</b>
Personnel and Operations	\$1,366,842	\$2,103,642
Officer Retirements	\$73,986	\$23,984
Vehicles and Depreciation	\$204,916	\$262,173
In State Travel	\$54,495	\$11,582
Printing	\$60,274	\$0
Communications	\$30,509	\$34,939
Indirects	\$204,974	\$239,464
<b>Totals</b>	<b>\$1,995,996</b>	<b>\$2,675,784</b>

**DNR Patrol Boats**

The Law Enforcement Bureau divides the state into 6 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.

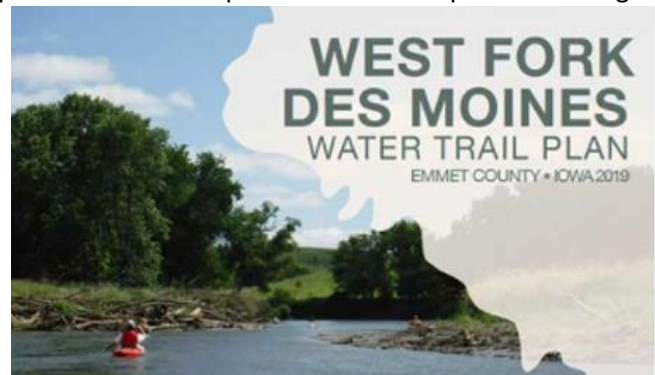
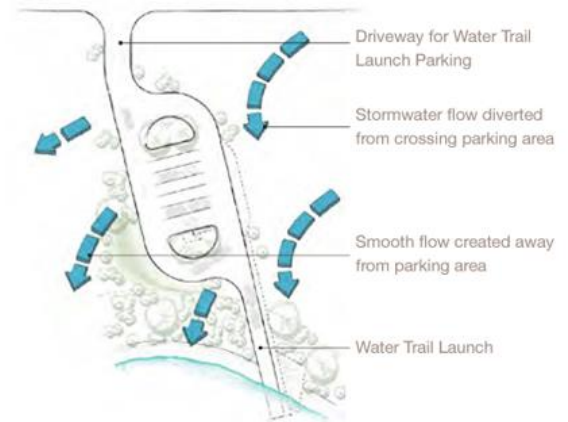
In FY 2021 the Department used no additional money from the Marine Fuel Tax fund and boat fund to supplement the purchase of large patrol boats for navigation enforcement.

## 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 2021. These project incorporated techniques developed under statewide plans and are results of locally developed plans. 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:

- Planning and funding for navigational signage placement, 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 maintenance of warning signage and portage trails at DNR-owned low-head dams.
- Working with communities to install dam warning signage where dams have led to fatalities for recreational users. All users are considered, including walk-in anglers, powerboaters, tubers, and paddlers.
- Requiring water trail developers to place, maintain, and update dam warning signage.
- Purchasing and distributing 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.
- Advising fisheries, wildlife, county conservation, and municipal staff on boating access improvements, including boat ramps and canoe/kayak launches.
- Training 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.
- Working 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, and 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. Dissemination of safety information via social media is also conducted. New rounds of water trail brochures are produced and update each year as new water trails are designated and existing water trails are improved. A recently developed interactive paddling map offers opportunities for rivers staff to alert river users of dangerous hazards, such as, bridge construction projects and river-wide log jams.

## Staffing

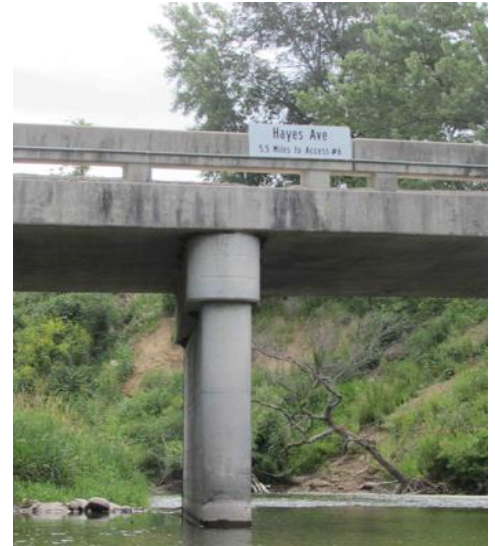
The river programs coordinator is responsible for overall program direction, which in the current fiscal year involved statewide plan development, collaborating on river survey, assessment, and design work with DNR Engineering, and technical assistance provided to external dam owners. Half of one FTE's 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**

	<b>FY06</b>	<b>FY21</b>
Personnel	\$7,572	\$163,054
Personal Travel In-State	\$1,038	\$1,258
State Vehicle		\$2,408
Depreciation		\$1,550
Office Supplies		\$652
Facility Maintenance Supplies		\$242
Equipment Maintenance		\$1,753
Other Supply (training programs equipment, safety education & outreach materials)		\$246
Print, binding, and publications		\$201
Uniforms	\$1,800	\$77
Postage		\$1,063
Communications		\$1,340
Outside services		\$1,264
Reimbursement		\$22
ITS Reimbursement		\$501
Equipment Non Inventorial		\$1,255
IT Hardware		\$1,322
Other Expenses		\$201
Indirects		\$19,664
<b>TOTAL</b>	<b>\$10,410</b>	<b>\$198,073</b>

Iowa DNR owns or manages six major low-head dams on navigable streams. In the current fiscal year River programs staff initiated updated signage plans according to the new hazard signage manual, installed signs, and maintained portages at these dams. Staff also initiated an engineering design project to divest itself of one of those dams, the Steamboat Rock Dam on the Iowa River in Hardin County.



### **Paddlesports Safety**

The Rivers team offered a total of three “train the trainers” canoe and kayak courses in FY21 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. Presently, a new outreach campaign to large retailers selling kayaks is being conducted to provide basic safety information and to encourage the purchase and use of life jackets.





## 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.



In the past year, the following projects moved forward to mitigate dams for safety and fish passage purposes:

- The Steamboat Rock Dam on the Iowa River moved into final design to be replaced by a fishing park
- Two dams in Mason City were permitted to be converted to rapids on the Winnebago River
- Final plans and permits were issued for the Otranto Dam on the Cedar River to remove the dam in the winter of 2022
- Plans to convert the Pinicon Ridge Park Dam on the Wapsipinicon River to a rapids were developed to 60 percent and permitting was started
- Preliminary designs were developed for a dam on the Des Moines River in Estherville

## 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.



**Canoeists enjoy the Middle Raccoon River Water Trail**

See Figure 1 (below) for locations of completed and future hazard mitigation projects via removal or modification at several dams. Figure 2 shows the current status of water trail developments

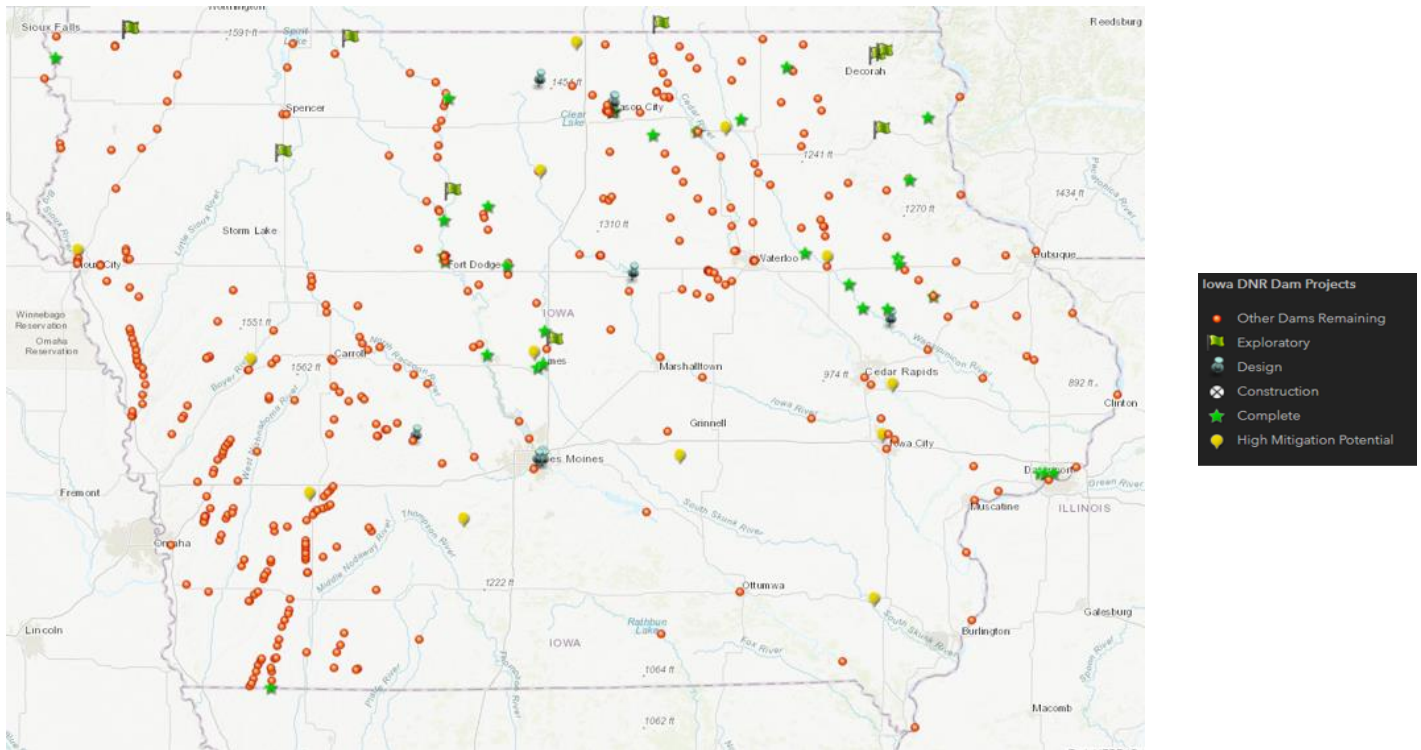


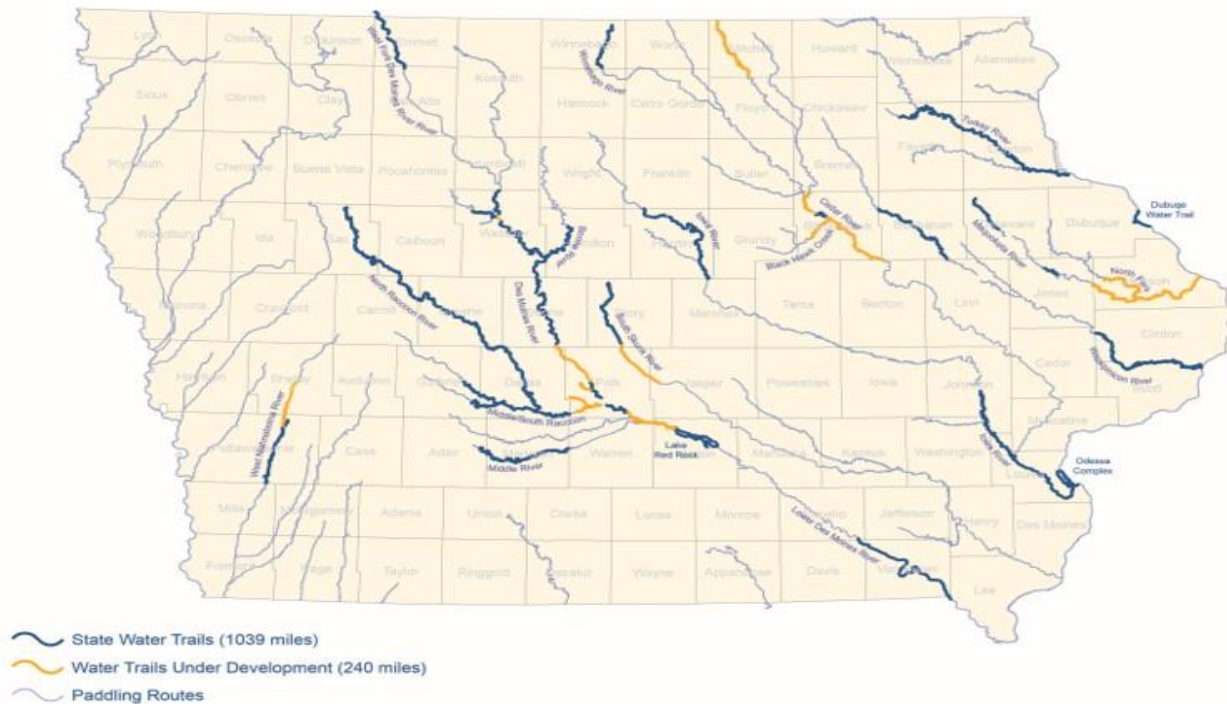
Figure 1 Dam Mitigation Projects, Completed and Active

### Dams Mitigated

- Boone Waterworks Rapids
- Littleton Rapids
- Quasqueton Rapids
- Illinois Street Rapids (Mason City)
- Fourth Street Dam Removal (Mason City)
- Lagoon Diversion Dam (Mason City)
- East Park Slide Dam (Mason City)
- North Washington Mill Dam Removal
- Elkader Rapids
- Quaker Mill River Restoration
- Manchester Whitewater Park
- Charles City Whitewater Park
- Rockford Dam Removal
- Vernon Springs Rapids
- Corn Belt Power Dam Removal
- Troy Mills Rapids
- Buffalo Creek Park Dam Removal
- Lincolnway Gaging Dam to Rapids Conversion
- River Valley Park Whitewater
- Hydroelectric Dam Removal (Fort Dodge)
- Little Dam Removal (Fort Dodge)
- Goldfield Rapids
- Hopkinton Dam to Rapids
- Story City Dam to Rapids
- Ice Plant Dam Removal (Webster City)
- Buffalo Creek Dam Removal (Kossuth)
- Hickory Grove Rd Rapids
- Washington St. Rapids
- Marquette Rd Rapids
- Jersey Ridge Rd Rapids
- Warner's Ford
- Klondike Rapids

Figure 2 shows the current status of water trail development.

## 2021 Water Trails & Water Trails Under Development



**Figure 2 Water Trails and Water Trails under Development, 2021**

As of 2021, nine county-level and regional master plans are complete. The localized 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. Statewide, this results in a more robust and easy-to-understand navigational system. Four planned water trails will be state designated in 2022. As numbers of recreational users increase, increasing focus on managing the experiences for all lowans - 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 lowans must learn to treat our waterways respectfully to avoid litter and obnoxious behavior. The “Keep It Clean, Keep It Fun” campaign addresses these issues with a variety of posters, signs, decals, and trash clean-up bags that DNR disseminates to retailers, county conservation staff, and law enforcement staff.



**Table 9 Water Trails & Dam Safety Status At A Glance**

	2006	2021
Total number of individual water trails with state designation, to date	0	31
Miles of water trails designated	0	1,039
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	33

In addition to the 1,039 miles of state-designated water trails (Figure 2) the river programs staff and local planning contractors are working with local communities on 240 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 solve and 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
FY21	\$369,778	\$123,259	\$493,037

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 \$400,000 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 2021 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	Kattleson Hogsback Complex	Silver Lake-Palo Alto
Blue Lake Wildlife Area	Klum Lake Wildlife Area	Silver Lake Complex
Bluebird Access	Koszta 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
Gambriel 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 2021 Expenditure Report

Project	Federal	MFT	Other	Total
Arnold's Park Sidewalk & Seawall Improvements	\$ -	\$ 22,339	\$ -	\$ 22,339
Des Moines River Boat Access (Boating Access Match)	\$ -	\$ 17,743	\$ -	\$ 17,743
Fisheries Minor Projects	\$ -	\$ 80,009	\$ -	\$ 80,009
Grant Park Boat Ramp	\$ -	\$ 32,288	\$ -	\$ 32,288
Gull Point Pikes Point Restroom	\$ -	\$ 232,732	\$ -	\$ 232,732
Lake Manawa Dredge	\$ -	\$ 957,963	\$ -	\$ 957,963
Lake Sugema Jetty Repair	\$ -	\$ 61,197	\$ -	\$ 61,197
Littleton Dam/Navigation-Development	\$ 13,107	\$ -	\$ -	\$ 13,107
Lost Grove Pit Vaults & Cleaning Service Contract	\$ -	\$ 10,660	\$ -	\$ 10,660
McIntosh Woods Boat Ramp Replacement	\$ 42,630	\$ 42,630	\$ -	\$ 85,260
Spirit Lake Law Enforcement Boat Storage	\$ -	\$ 52,150	\$ -	\$ 52,150
State Parks Minor Projects	\$ -	\$ 176,558	\$ -	\$ 176,558
Statewide Boat Dock; Fish Cleaning Stations; Buoys	\$ -	\$ 292,473	\$ -	\$ 292,473
Statewide Emergency/Miscellaneous	\$ -	\$ 57,085	\$ -	\$ 57,085
Statewide Engineering & Design	\$ -	\$ 326,335	\$ -	\$ 326,335
Statewide Shoreline Access Acq & Dev	\$ -	\$ 5,161	\$ -	\$ 5,161
Statewide Shoreline Rip Rap	\$ -	\$ 23,915	\$ -	\$ 23,915
Statewide Water Recreation Access Grants	\$ -	\$ 667,811	\$ -	\$ 667,811
Steamboat Rock Dam Navigation Design	\$ -	\$ 13,237	\$ -	\$ 13,237
Vegetation Management	\$ -	\$ 53,796	\$ -	\$ 53,796
Water Trails Grant Program	\$ -	\$ 73,885	\$ -	\$ 73,885
Water Recreation Resources- Operations	\$ -	\$ 409,713	\$ -	\$ 409,713
Water Trails Minor Projects	\$ -	\$ 21,666	\$ -	\$ 21,666
Wildlife Minor Projects	\$ -	\$ 224,361	\$ -	\$ 224,361
<b>Total Marine Fuel Tax</b>	<b>\$ 55,737</b>	<b>\$ 3,855,707</b>	<b>\$ -</b>	<b>\$ 3,911,444</b>