

KANSAS CITY DISTRICT'S NEWS MAGAZINE

HEARTLAND ENGINEER



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MAY 2018



Edition

RECREATION



INSIDE THE HEARTLAND

Commander's Notebook	3
Recognizing the importance of water safety	4
Kayaks and canoes: best view of beauty on the Missouri River	6
Harlan County Lake gains improved tainter gates for safety of dam	8
New trending recreation opportunities at Corps lakes	10
Truman Lake provides many opportunities to Central Missouri	11
The fight against invasive species and how you can help	14
Natural resource management benefits spill over into recreation	16
Engaging with communities at water safety events	18



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The Public Affairs Office maintains a presence on **Facebook, Twitter and YouTube**. To learn more about the Kansas City District, its missions and its team, find and follow us online!

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ON THE COVER:

Recreation photographs are owned or taken by the U.S. Army Corps of Engineers. The U.S. Army Corps of Engineers, Kansas City District urges visitors to be prepared, understand the importance of water safety and be alert to expect the unexpected. It's imperative to wear a life jacket and to be familiar with your location and the body of water you are visiting.

Greetings and welcome to this recreation themed edition of the Heartland Engineer. The U.S. Army Corps of Engineers is one of the nation's leading federal providers of outdoor recreation with more than 400 lake and river projects in 43 states. Visitors of all ages enjoy traditional activities like hiking, boating, fishing, camping and hunting, and for those slightly more adventurous there is snorkeling, windsurfing, sailing, mountain biking and geocaching. Regardless of your favorite outdoor activity one thing is certain, recreation enriches people's lives. A visit to an Army Corps of Engineers' recreation area can strengthen family ties and friendships; create unforgettable memories and connect people to nature in ways that will last a lifetime.

The Kansas City District manages approximately 500 miles of the Missouri River and is responsible for 18 multipurpose lake projects in four states including two hydropower plant operations. Nine projects in Kansas, seven in Missouri, and one each in Iowa and Nebraska. These lake projects throughout the region serve many important purposes to include recreation and it is estimated that visitation to our projects averages approximately 12.5 million citizens annually.

In order to successfully achieve our recreation mission, the Kansas City District is committed to providing public access to Corps lands, lakes, and rivers while managing and protecting the public's lands and waters while providing places and opportunities for people to pursue active recreation and healthy lifestyles. We strive to support the wellness and readiness of our military and their families and actively engage current and potential partners and volunteers to ensure quality and safe outdoor recreation opportunities. We focus on maintaining, strengthening and developing highly qualified park rangers and other recreation program staff while investing wisely in our recreation facilities and opportunities so that we continue to serve the needs of present and future generations.

Articles in this edition include important water safety information, natural resource management recreation benefits, invasive species facts, innovative recreational opportunities, Harlan County Lake project construction completion, Truman Lake history and Missouri River recreation activities.

My hope is that through this medium, all truly interested players have a vehicle to share successes, concerns and ideas as to how the Kansas City District and our stakeholders move forward on shared interests in an open and transparent forum.

Let me conclude by saying thank you all those who shared information and contributed to this edition and please remember to be safe and smart when recreating this year.



Col. Douglas Guttormsen

A handwritten signature in dark ink, appearing to read "Doug Bell". The signature is stylized with a large, sweeping "D" and "B".



Recognizing the importance of water safety



By Trisha Dorsey

As we recognize May as National Water Safety Month, it's important to understand water safety is truly a year-round concern.

The Kansas City District urges recreation seekers to follow safety tips while enjoying water-based activities, especially during the summer months as larger crowds are anticipated at the district's 18 lakes throughout Missouri, Kansas, Iowa and Nebraska.

"Trends analyzed over the last 20 years show the typical victim in a water-related fatality was not wearing a life jacket, additionally almost half were swimming in a non-designated area," informs Kyle Ruona, Kansas City District public safety program manager. "Whether you are swimming, boating or fishing it is vital that you wear a life jacket in and around the water. It is impossible to know the exact moment when you will need one. So plan for the unknown, wear your life jacket and arrive alive."

Corporal Kimberly Davis with the Missouri State Highway Patrol, Water Patrol Division, Troop A explains, "Both the Missouri Highway Patrol and Corps of Engineers want the public to understand important aspects of safe boating. We work in concert to ensure everyone is safe while enjoying water activities."

Before heading out this summer, Davis stresses the importance to take the time to inspect watercraft before hitting the water and plan ahead.

"Inspect the boat before you go. Make sure your fire extinguishers are still in working order, do a mechanical check of the boat, check the battery and make sure all life jackets and safety devices are on board. Each waterway offers unique challenges so it's important to educate yourself before you go and pay attention to safety and location signs. Knowing the waterway is extremely important, know where you are so you can accurately communicate with first responders if you need to."

The Kansas City District urges visitors to be prepared, understand the importance of water safety and be alert to expect the unexpected. It's imperative to wear a life jacket and to be familiar with your location and the body of water you are visiting.

"We encourage safety for all seasons and recreation activities," said Ruona. "Our lakes offer numerous recreation activities and safety should not be limited to the water. It's important to wear the proper safety equipment out on the trails, know your location, and keep good communications. Take the time to understand the current lake conditions and plan for any potential risks."



Wear a life jacket

- Drowning is the nation's second leading cause of accidental death.
- Accidents happen, even to responsible boaters. A life jacket can provide time for rescue.
- Falls from vessels, boat ramps and shorelines happen. A life jacket in and around the water can make a difference.

Know your swimming ability

- Open water is much different than swimming in a pool. The water is not clear, lakes have rougher conditions and lake depth can change in a second.
- Swim in designated areas and wear a life jacket. A life jacket can help conserve energy and provide flotation.

Know your vessel

- Take a boating education course.
- Understand the capabilities of the vessel and how to properly operate it.
- Ensure all safety gear is in place and functional before setting out for a trip.
- Know how equipment works in changing lake conditions.

Be a "water watcher"

- When on or near the water watch your children.
- A child can drown in 20 seconds.
- Drowning happens quickly and quietly. Know the signs.

Have a plan

- Don't rely solely on technology – cell phones can fall into water or can be out of service range.
- Create a "float plan" that informs family or friends where you are headed (lake, river, boat ramp, etc.) and identify when you expect to be home.
- For emergencies dial 911 - from a cell phone dial *55 in Missouri and Nebraska and *HP for Salina, Kansas or *KTA for Wichita and Kansas Turnpike.





Kayaks and canoes: best view of beauty on the Missouri River

By James F. Lowe

Whether by kayak, canoe or raft, you can float the Missouri River from Rulo, Nebraska to St. Louis, Mo. fully in the Kansas City District.

These 498 miles of river have some of the richest viewing in our area. You will see a palette of colors. In the spring and summer, mostly shades of green. American Sycamore, Silver Maple, Box Elder and River Birch are some of the trees that line the banks. Sand bars offer an opportunity to picnic – with caution as not to disturb wildlife particularly on those marked for endangered species.

You will do well to observe safety guidelines by wearing a personal flotation device – life jacket – at all times when on and near the water. All ages should wear one to prevent drowning.

Authorities on the water include the Missouri Water Patrol and the U.S. Coast Guard with some of the lands on either side potentially being managed by the Corps of Engineers, Missouri Department of Conservation, Missouri Department of Natural Resources or the Kansas Department of Wildlife, Parks and Tourism. Most of the land is privately owned, and the land owner's restrict public use of their lands.

Our Missouri River Navigation Office provides a daily navigation report used by levee districts, towboat operators, general stakeholders as well as recreation enthusiasts. The report features water levels and any hazards noted.

“On business days we put the report on our Facebook page [<https://www.facebook.com/MORiverNavigation/>] and send it by email to our stakeholders,” said John Skelton, natural resource specialist, Missouri River Navigation Office, Kansas City District.

Exploring the river by canoe or kayak is a great way to see parts of what Lewis and Clark may have experienced during their 1804 and 1806 travels.

The Missouri is a big and demanding river. Tips from the National Park Service to keep in mind before you go:

- Windy days can look more like a large reservoir with white-capped waves that can easily swamp a canoe/kayak.
- Be cautious! There are sandbars, snags--uprooted trees stuck in the river bottom--and other obstacles you may encounter.
- An eddy is a sure sign of an obstacle just below the water's surface.
- The Missouri can be deep--20 feet or more in places.
- The thalweg or river channel can change depending on conditions. This ten-to twenty-foot deep channel moves, within the confines of river structures, dikes and revetments, as banks, islands, and sandbars change.
- Know your paddling ability and don't exceed it.

Skelton cautioned boaters to be mindful of towboats with barges

and other larger traffic. “You need to be prepared to move aside and let them pass. We recommend you get as far away as is safely practicable because the wake can push you into hazards or even capsize your kayak or canoe.”

Access to the river is available only at public launch sites. These are few and unevenly spaced along both sides of the river.

The river current is normally between 2 and 5 miles per hour but can be higher with storm water runoff increasing flows into the river from streams and smaller rivers. Users will find paddling upstream quickly tiring and should plan for very little of that.

The wind is an issue on many days. The wider the river is, the more affected by the wind. The summer wind usually comes from the south and southwest and that, combined with the river current can make steering challenging. Wind can make reading the water depth difficult as ripples may mislead you to think the water is shallower. Only very experienced canoers should consider boating when there is strong wind. Pay attention to weather reports and plan around expected storms.

Most of the land along the river is privately owned and there are few public camping opportunities. Primitive camping is normally allowed on islands and sandbars, however, please adhere to restriction signs for nesting least terns and piping plovers. Only the water belongs to the public. In areas

other than designated campsites, permission is required to walk, picnic or camp on private property. You should pack up anything you consume or bring in - leave no trash.

Sandbanks and bars provide habitat for the summer nesting of least terns and piping plovers. These are protected under the federal Endangered Species Act. Obey any signs of restricted areas so you won't damage small chicks or eggs. Please do not disturb any nests of birds.

Zebra mussels, an unwanted invasive species in North America, are rapidly spreading in the Missouri River. Wearing swim socks or shoes will help protect your feet from cuts from shells. Clean your equipment before bringing it into the river and afterward thoroughly to prevent transmitting the mussels to uninfected areas.

It is possible to transfer the juvenile form of zebra mussels to your boat or equipment. If you have paddled other locations, please take the time to clean your equipment and boat properly prior to launching on the Missouri or its tributaries.

Consult your state water authorities for all requirements but bring insect repellent, plenty of drinking water, and an extra paddle. Some states have ages for boaters who must wear a life jacket when on the water. In Missouri, children under seven must wear a U.S. Coast Guard approved life vest. Using a wide-brim hat offers better shielding from the sun – remember the sun can also reflect off the water to amplify your exposure. Consider starting earlier or later on sunny and hot days.

Cautions:

- Cold water can disable the mind and body quickly.
- Dress appropriately and bring spare clothes in case you get wet. Know the symptoms of hypothermia and heat exhaustion.
- Weather on the river is very unpredictable. Wear layers and have waterproof foul weather gear handy for unexpected storms and emergencies.
- Carry a basic first aid kit in every canoe or kayak.
- Know what poison ivy and poison oak look like, as well as black widow and brown recluse spiders.
- Flying Asian Carp can be scary – they congregate in slow water behind wing dikes to eat and often become agitated by outboard motors.
- Keep tether ropes on both ends of the canoe/kayak coiled and secured to the fore and aft decks.
- Kneel in the bottom of the canoe while in areas of rough water for stability.
- Keep your head upstream, feet downstream, kick back and paddle to control your movement if you can't stand up.
- Your canoe/kayak floats, so you can also hang onto it, remembering to stay on the upstream side.
- Water riffles mean that rocks lie close to the surface. Follow the smooth water shaped like a "V" point downstream.
- Tell someone not with you your planned put-in and take-out locations, times, expected length of trip and number in party. They can then contact authorities if you are overdue.
- Be aware cell phone coverage on the Missouri River is not always available. <https://www.nps.gov/mnrr/planyourvisit/canoeing-and-kayaking.htm>

Missouri American Water MR340

Endurance race of 340 miles between Kansas City across Missouri to St. Charles on the river by canoe or kayak. Participants have 88 hours to complete the trip with nine checkpoints along the route. Only two-thirds of entrants finished the race last year. Only experienced and trained boaters should attempt this challenge in early August each year! More at: www.rivermiles.com/mr34



HARLAN COUNTY LAKE

gains improved tainter gates for safety of dam

By James F. Lowe

When dam safety inspections in 2010 and 2011 revealed tainter gate defects similar to those associated with the gate failure at Folsom Dam, the Kansas City District team restricted seven tainter gates from operation and the dam was placed under an interim operating plan that reduced the flood control pool by one-half.

On July 17, 1995, the Folsom Dam, a hydropower generation plant, about 25 miles northeast of Sacramento, Calif., while at full capacity, an operator began to open a gate to maintain the flow of the river during a scheduled power plant shutdown. While minimally open, the operator felt an “unusual vibration” and harsh grinding noises. Within five seconds the radial gate swung completely open releasing approximately 40,000 cubic feet per second. Nearly 40 percent of the storage in Folsom Lake was released to the American River causing confused fish down river near San Francisco to misread the season and migrate early but thankfully no injuries or deaths to people.

Harlan County Lake is located on the Republican River in Nebraska, just north of Kansas. The discharge travels through Milford Lake, and enters the Kansas River near Junction City. If the dam had breached at lower levels of being filled the impacts would be projected limited to the river reach above Milford Dam. Because of the very large outflow volumes for the higher fill scenarios, the impacts would extend to and include the Kansas City area. For the high fill breach scenario, the numerous levees along the Kansas River, including levee systems in Junction City, Topeka, Lawrence, and Kansas City would likely be compromised.

The many changes needed to the tainter gates, sluiceways, and irrigation lines required a multi-disciplined project delivery team to focus on execution, quality, and schedule. This allowed for efficient accomplishment of the work on this complex dam project. The Harlan County Dam was the District’s top dam safety concern and received immediate and sustained attention to reduce the risk early and find the right repairs to greatly enhance the long-term safety of the dam.

Investigators determined that long-term corrosion of bearings and load-bearing parts, could cause the tainter gates to fail while being opened to release water, similar to what had happened at the Folsom Dam. By reducing the flood pool to one-half, this risk was mitigated while engineers, hydrologists, contracting specialists and others developed a plan to address the repairs needed to reduce the risk.

The initiating team project manager, Ken Stark, Kansas City District, Corps of Engineers said, “The gates were designed for no friction but there was a lot of friction in the gate bearings, so the project was very necessary to prevent failure of the gates.”

The team’s efforts and successful management of three separate contracts have led to the completion of eighteen fully operational tainter gates, nine sluiceways, and irrigation line repairs. The team collaborated closely between engineering, operations and construction to ensure smooth resolution of challenges. The team faced many challenges including a lack of an existing dewatering system, limited funding, the need for multiple dive operations, and the need to ensure safety during construction.

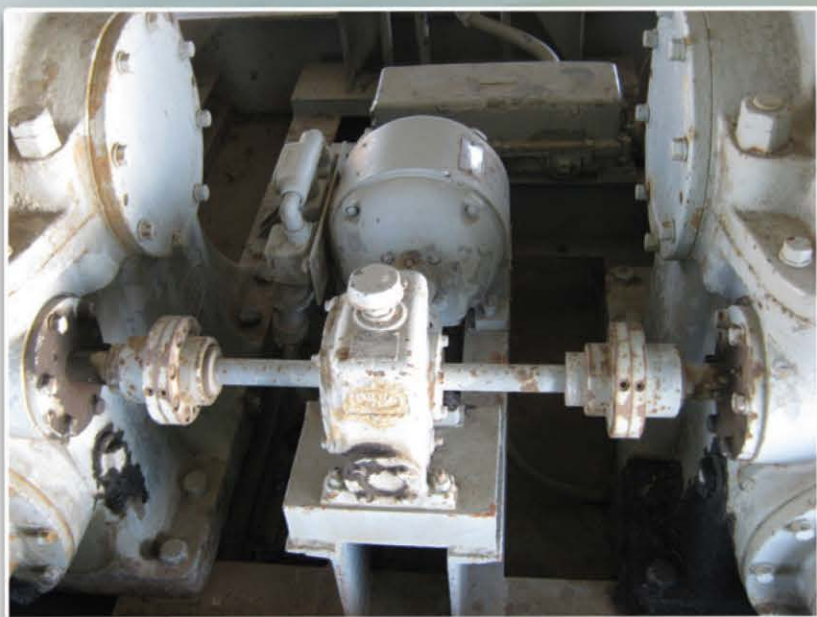
“Repairing a 60-year old dam while it’s still in operation has many challenges. The team did a great job of handling situations such as a severe wind and wave storm caused by a nearby tornado. The team responded with emergency dive operations to remove a damaged temporary construction platform in front of the dam in order to restore the operations of the sluice gates,” said Stark.

The project delivery team and on-site construction representatives coordinated closely with the contractor to resolve technical issues, maintain schedule and produce a high quality product. The team prioritized and promoted dam safety through design and construction, regularly briefing the Dam Safety Officer and Dam Safety Committee.

The project repaired all 18 tainter gates, including all seven gates that were restricted from operation. The teamwork, technical expertise, and mission focus in planning, design and construction execution has reduced dam safety risks of the project and greatly improved flood risk management. The project was totally complete two months ahead of schedule in February 2018, on budget for a total project cost of \$31 million.

“With the magnitude of the project I would have never guessed it would have been completed in the time period allocated and within budget,” said Larry Janicek, park manager, Harlan County Lake and Dam.

The team of the Harlan County Dam Project significantly reduced the dam safety risk of the project to the downstream population and restored the project to full performance of its authorized purposes, whereas it had been at one half its flood pool – limiting its utility when high waters presented. The purposes of flood risk reduction, water supply, irrigation and recreation are now fully restored. The team has modeled execution of the Corps of Engineers vision by implementing a successful solution to this extremely tough challenge.





New trending recreation opportunities at Corps lakes

By Trisha Dorsey

Do you boat at a U.S. Army Corps of Engineers lake? Do you bike on a nearby trail? What else can you do?

Recreation opportunities at Corps lakes are plentiful. The obvious is water recreation, swimming, boating, sailing, fishing and more, but there are also several gems at Corps lakes that might be overlooked.

"Corps lakes offer more than just a body of water," says Devin Holt, Pomme de Terre Lake park ranger. "At many lakes you will find public hunting grounds, trails, pollinator locations, trapshooting or ranges, campgrounds, playgrounds, ball fields and more."

In the most recent years, Corps lakes have added new recreation trends to provide more opportunities for visitors. Some of those include playing a round of disc golf, geocaching, designated off-road driving trails and facilities to help enhance hunting skills.

Geocaching provides outdoor adventures using global positioning systems. Through online sites and applications, users can identify locations where treasures are hidden. Once found, players can swap out the prizes found in the container, sign the log book and check in online. While these treasures can be found at some Corps lakes, geocachers should check in at the visitor center before adding new treasures on government property.

Disc golf is an up and coming game. The courses are often nine or 18 holes and players toss a flying disc into a basket known as the target.

The Kansas City District currently has 16 disc golf courses at eight lake locations.

The Bloomington Disc Golf Course located at Clinton Lake in Lawrence, Kansas is one of the newest recreation opportunities for

the Kansas City District.

"We established the Bloomington Course in 2015," informs Kyle Broockerd, natural resource specialist at Clinton Lake. "This is the second Corps of Engineers disc golf course I've created initial plans for. After the initial phase, we worked with local partners to fine-tune pin placements."

For this fine-tuning to make the game more challenging, Broockerd sought input from the Topeka Dawn to Dusk Disc Golf Club, specifically the president, Kent Bryan.

"Bloomington Disc Golf Course is viewed as one of the top courses in Kansas," says Bryan. "The Dawn to Dusk Disc Club helped the Corps design the course and works to provide maintenance support. Proper upkeep, specifically mowing and limb cleanup, is vital for returning players."

The course consists of 18 basket holes each with four pin placements varying in difficulty. Maintenance is primarily covered by volunteers to trim branches and remove rocks or debris from the course year-round. During the prime recreation season, volunteers help with the upkeep by mowing and emptying trash cans.

"Disc golfers will travel long distances to play a particular course, just like some do for standard golf courses," says Broockerd. "I believe it does increase the number of visitors to Clinton Lake, in addition to providing more diverse entertainment options for our campers who aren't into hunting, boating or fishing."

"The Corps has been great to work with on the Blooming Disc Golf Course and we look forward to many more years assisting the Corps with future efforts," says Bryan.

While it is well known that off-road driving is prohibited on Corps property, some lakes provide unique opportunities for off-road enthusiasts



in designated areas. Currently, off-road opportunities are available at Perry, Harlan County, Harry S. Truman, Kanopolis, Milford, Pomona, Rathbun and Tuttle Creek lakes.

Tuttle Creek Lake has one of the largest areas in the Kansas City District encompassing a 310 acre park open to both motorized and non-motorized vehicle. To continue improvements in this area, Tuttle Creek Lake recently received funds to help improve the shelter and picnic amenities.

Off-road enthusiasts should contact the Visitor Center for hours of operations, vehicle and size limitations, as well as applicable state and federal regulations.

Another unique recreation opportunity is a recently completed six-lane archery range at Pomme de Terre Lake near Hermitage, Missouri. The range is the only archery range in the area and is free to use. It is handicapped accessible and has two designated lanes for school competitions. With a covered platform, users aim at targets ranging from 20 to 50 yards or 10 and 15 meters.

"In an effort to improve the diversity of recreational activities at Pomme de Terre, the range opened in the spring of 2016," says Devin Holt, Pomme de Terre Lake park ranger. "Since then, we have seen lots of use. Several local partners, along with a Corps Handshake Partnering Grant, made this range possible by providing supplies and materials or by volunteering work hours. We truly believe introducing this range allows the community to enjoy the outdoors and the sport of archery."

For a full array of recreation opportunities at a Corps lake, visit the Visitor Center for detailed information and a map of the area. During the summer all Visitor Centers are open seven days a week.

Truman Lake

provides many opportunities
to central Missouri

By the Truman Lake Staff

The staff at Harry S. Truman Dam and Lake work together to manage the project in accordance with the authorized purposes: primarily flood control; and secondarily hydroelectric power generation, fish and wildlife management, and recreation.

Truman Lake is the largest flood control reservoir in Missouri, with a storage capacity of more than 5 million acre-feet - an acre-foot equals 325,000 gallons. At normal pool, the Lake has a surface area of about 55,600 acres - this surface area can grow to over 200,000 acres at the top of the flood control pool. During periods of flooding, Truman Lake, operating in conjunction with other reservoirs, helps protect the lower Osage, Missouri and Mississippi River floodplains.

The Truman Power Plant has six turbine generators and a rated capacity of 160,000 kilowatts. This electrical energy is used to meet peak electrical demands when conventional power plants cannot fulfill the public's demand for electricity. Power plant operators are on duty around the clock to control the flow of water through Truman Dam. Additionally the power plants located at Stockton and Mark Twain lakes are remotely controlled from Truman Dam.

The lake and more than 100,000 acres of land surrounding the lake is managed for fish and wildlife. Agricultural leases, prescribed burning, wetland development, food plot establishment, and native grass re-introduction are a few of the land management techniques used at Truman Reservoir. Over 55,000 acres are licensed to the Missouri Department of Conservation for fish and wildlife management, and approximately 8,800 acres of timber was left standing in the lake to improve fisheries habitat.



Recreational development is extensive. 20 parks and access areas, managed by or leased from the U.S. Army Corps of Engineers, are conveniently located around the reservoir. Parks at Truman Reservoir offer a wide variety of recreation facilities including boat launching ramps, campgrounds, full service marinas, picnic areas, sand swimming beaches, and a regional visitor center. Many routine maintenance items are contracted to the private sector. Mowing, refuse collection, and facility cleanup are just a few of the activities that are performed by private contractors for the Corps.

Partnerships/Trails

The Truman Lake Project Office always looks forward for partnership efforts to ensure valuable outdoor recreational opportunities are available for public use. The Corps has a long history of cooperation and partnerships on various types of recreational improvements. Our working relationships with others have provided a significant increase in specific use associated with various types of outdoor activities.

The City of Warsaw and the Corps at Harry S. Truman Lake collaborate well and have a long partnership history. The City of Warsaw plays a vital role to the successful management of various outdoor recreational opportunities at the lake. Currently, they manage a long term recreation lease that provides unique opportunities to area visitors and local residents. According to City of Warsaw City Administrator and Planner, Randy Pogue, "I've been here 20 years and the Corps has been our greatest partner in expanding our recreation opportunities." Some of the opportunities include a mountain bike park, Frisbee-golf course, multi-purpose sports complex, outdoor amphitheater, nine-hole golf course and numerous walking, hiking, and biking trails. The trails are one of the most unique systems in the state and are starting to get statewide recognition, becoming one of the most utilized areas in the region.

Other unique trail opportunities include Cooper Creek ATV riding area. Cooper Creek is a 400 acre off-road area for ATVs and dirt bikes. Truman Lake also has equestrian trails located in Berry Bend Equestrian campground. The park has three different trails adding up to 28 miles of riding. The Truman Visitor Center has approximately 2 miles of scenic hiking trails and several more miles wind through the recently added Shawnee Bend Bluff trail with some awesome bluff walkout points.

Truman Lake has various other established partners including the Masonic Lodge #653, which host's a Managed Deer Hunt. This hunt is limited to individuals with physical disabilities and this relationship is now going on 27 years. The hunt will host between 20-25 hunters for a two day hunt providing meals and guides for a safe and enjoyable outdoor opportunity. Truman has just established a working relationship with the Driving Force Disc Golf Club. The club has a volunteer agreement to manage a ten hole disc golf course in Shawnee Bend day use area.



Visitor's Center

The Harry S. Truman Visitor Center sits high atop Kaysinger Bluff, overlooking Truman Dam and the Osage River. One of 10 Corps Class A visitor centers in the United States and showcases Truman Reservoir, as well as all other lakes in the Kansas City District. More than 50,000 people visit annually to learn about Truman Lake and the surrounding area. Exhibits demonstrate social and natural history of our area to how hydroelectric power is created to artwork depicting scenes of yesteryear to the lake's multiple purposes: hydroelectric power generation, fish and wildlife management, recreational opportunities, and most primarily—flood control. Park rangers provide scheduled tours to student and tour groups while educating the public regarding water safety at every possible opportunity. The center offers an impressive array of brochures, maps, and water safety promotional items. Whether folks need information on camping, boat ramp locations, hunting areas or simply where to grab lunch, Visitor Center staff are ready to assist.

In addition to providing information of local and regional interest, the Harry S. Truman Visitor Center educates visitors about the Corps national missions: support to the military, public facilities, water resources, environmental initiatives, and disaster relief. The Visitor Center is open daily Mar. 15 through Oct. 31. For additional information, please call 660-438-7317.

Camping/Day Use facilities

Stretching into four different counties and located just upstream of Lake of the Ozarks, Truman Lake offers a wide variety of activities and amenities for its visitors. The Corps manages eight campgrounds around the lake offering 655 campsites with everything from primitive to full hook up sites including water, sewer, and 50 amp electricity. There are two Group Camp areas available, some offering electricity. Truman Lake has recently adopted an extended stay camping policy allowing users to stay on the same site for up to 45 days at a time unlike the normal 14 days. This option is offered in seven of our campgrounds on designated sites and does not require overnight occupancy. This allows our frequent campers to leave their camping equipment on their site and return as they please without having to haul everything. One of our parks, Berry Bend Equestrian, is set up specifically for horseback riders. It includes 29 campsites, 24 having 30 amp electricity. There are 12 corrals located throughout the park for users, and there are over 25 miles of trails for horse riders and hikers.

Truman Lake offers picnic shelters in various locations and sizes, some including electricity. Numerous playgrounds are spread throughout the public use areas around the lake. There are courtesy docks at ten Corps managed boat ramps, along with many additional boat launch options around the lake. Below the Truman Dam in Bledsoe Ferry Park, USACE maintains handicap accessible fishing docks and a fishing pier along with many day use amenities for our visitors. There are five Corps managed public beaches spread around the lake, two disc golf courses, and three sand volleyball courts.



Hunting/Fishing Opportunities

The Truman Reservoir offers a wide variety of hunting, fishing and wildlife viewing opportunities. Half of the 110,000 acre project lies within the hills and hollows of the Ozarks region. Beautiful rock bluffs and mature oak timber make up the majority of the eastern side of the reservoir, while the western half transitions into Midwest prairie.

The lake provides ample opportunity to catch all species of fish and the small town of Warsaw, at times, has been referred to as the “spoonbill capital of the world”. In addition to recreational fishing, Truman Reservoir also plays host to numerous tournaments each year with the most famous being the 1989 B.A.S.S Missouri Invitational, and most recently, the 2015 Bowfishing World Championship.

If hunting or wildlife viewing is more your hobby then Truman Reservoir’s 110,000 acres of land provides plenty of habitat and excellent populations of all species of Missouri wildlife. Abundant turkey, deer, and furbearers can be found in all reaches of the project lands. All in all, Truman Reservoir has endless opportunities for the serious or avid outdoorsman.



The fight against invasive species and how you can help

By Trisha Dorsey

Invasive species can be an animal, plant or fungus. Typically, it's a species that has been brought into a new environment and believed to cause damage to the environment, human economy or human health. With 18 lakes in four states and Mitigation Project lands along the Missouri River, the Kansas City District has identified several species in which teams are working to control or eradicate.

"Invasive species pose a threat to our project lands and waters and can adversely impact the recreational experience of our project visitors. Certain species can impact the operation of our dams and have serious adverse impacts on our native vegetation and fish and wildlife populations," informs David Hoover, Kansas City District's conservation biologist. "Some species are a priority and high on our radar so we are actively working to monitor or eradicate them." Do you know what plants and animals can cause harm to you, your boat or the environment? We've explained a few primary invasive species the Kansas City District is currently focused on.



Zebra mussels

What: A small mussel species that lives in lakes and rivers and feeds off plankton and other tiny food particles in water. Zebra mussels attach themselves to objects such as boats, docks, dam gates, water intake pipes and other structures clogging or blocking them. Since they attach to boats and more, they continue to be introduced to new bodies of water every year.

Where in the Kansas City District:

Missouri: Harry S. Truman and Smithville lakes
Kansas: Clinton, Kanopolis, Melvern, Milford, Pomona, Perry and Wilson lakes
Iowa: Rathbun Lake
Other: Missouri River

What we are doing: Efforts are focused on continuing education of visitors to inspect boats, docks and lifts being transported from bodies of water. Signs are posted at boat ramps to identify zebra mussel infested waters. We also educate and encourage local municipalities to inspect and treat water intakes with

copper ion machines or water treatment chemicals such as copper sulfate and cutrine plus algaecide/herbicide, and recommend replacing intake screens with copper screens.

How you can help: "Clean, Drain, Dry." Wash the boat, trailer and accessories with 140 degree temperature water. Drain livewells and ballast. Allow the boat and equipment to fully dry before launching into new water. Remember, zebra mussels may be present without knowing, so it is best to follow proper guidelines at all times.



Emerald ash borer

What: The emerald ash borer is a small metallic green beetle. Adult beetles nibble on ash foliage, causing little damage, but the larvae feed on the inner bark of ash trees disrupting the tree's ability to receive water and nutrients, eventually killing the tree. Green ash trees are one of the most common trees found in forests at our lakes. These trees provide important habitat for wildlife and shade on our recreation areas. The emerald ash borer will have a significant impact on those resources and recreational opportunities and we need the help of our visitors to slow the spread of this destructive pest.

Where:

Missouri: Blue Springs, Harry S. Truman, Longview, Pomme de Terre, Smithville and Stockton Lakes, Missouri River Mitigation Project lands
Iowa: Rathbun Lake
Kansas: Clinton, Hillsdale and Perry Lakes, Missouri River Mitigation Project lands
*All lands listed above are within a federal quarantine area.

What we are doing:

Signs are posted at the entrance to campgrounds. Park rangers and attendants monitor firewood brought into campgrounds to ensure it is not infested with the pest. If discovered, infested wood is properly disposed of. Transporting wood outside established quarantine areas is a violation of state and federal law.

How you can help: Emerald ash borers are often found in firewood. When headed to a campground, remember to buy the wood where you burn it. Do not transport firewood into or out of recreation areas as you may unknowingly spread this destructive pest to other locations. Remember to "Buy It Where You Burn It."



Feral hogs

What: Feral hogs are domestic hogs, originally from Europe which have been released or escaped into the wild. These hogs do extensive damage to native vegetation which provides critical wildlife habitat on project lands. With recreation season underway, it is essential to eradicate this extremely damaging pest so visitors can enjoy public lands.

Where:

Missouri: Harry S. Truman and Stockton lakes

What we are doing: We are a member of the Missouri Feral Hog Partnership, comprised of multiple resource agencies and private land owners, led by the Missouri Department of Conservation and U.S. Department of Agriculture Animal and Plant Health Inspection Service. The goal is to eradicate feral hogs from Missouri.

How you can help: To be successful, we need the cooperation of the public in reporting and refraining from shooting feral hogs on Corps' lands, which is prohibited. Hunting the hogs interferes with agency trapping activities and further distributes them across the landscape. Remember, "Report – Don't Shoot."

Hydrilla

What: Hydrilla is an aquatic plant which can cause damage to the aquatic ecosystem. It can clog waterways so thick a boat may not be able to drive through the water and hydrilla may jam the motor. It may also clog water intakes and can adversely impact hydropower facilities. Hydrilla competes with native aquatic plants, meaning over time it will wipe them out. A cyanobacteria associated with hydrilla can adversely impact waterfowl and raptors.

Where:

Missouri: Harry S. Truman, Pomme de Terre and Stockton lake watersheds

What we are doing: While we have not identified hydrilla at our lake projects we coordinate efforts to monitor our waters for this plant with the help of the Missouri Department of Conservation. Together we work to educate the public how to prevent this plant from spreading and teams work to inspect lakes, streams and ponds on project lands.

How you can help: Clean trailers, boats and all gear. Remove all plant material and dispose properly so invasive plants and species are not introduced to new waters.

Sericea lespedeza

What: Sericea lespedeza is an extremely aggressive invasive plant that spreads rapidly in fields and takes over native species such as warm season grasses and pasture hay.

Where: All 18 lake projects and the Missouri River Mitigation Project lands

What we are doing: To help control sericea lespedeza, fields can be sprayed with herbicide or seasonal controlled burns are conducted to clear out the invasion.

How you can help: Clean your gear before entering and before leaving. As with many invasive plants, seeds can be transported to new locations on outdoor recreation gear. Clean boots, packs, clothing, ATVs, vehicles, trailers and pets of all seeds and mud. Seeds can fall off these items and introduce an invasive species to a new location. Remember to "Clean Your Gear."

Salt cedar, Canada thistle and phragmites

What: Salt cedar, Canada thistle and phragmites are all shoreline plants and are considered very "thirsty." The amount of water these plants consume could potentially lower water elevations. They crowd out native vegetation and degrade lake shoreline, riparian and wetland habitats.

Where:

Nebraska: Harlan County Lake

Kansas: Kanopolis and Wilson lakes

What we are doing: At Harlan County Lake in Nebraska, we have partnered with the Twin Valley Weed Management Group to help control these species in the river channel, lake bed and adjacent wetland areas. Specialized treatment of aerial spraying is applied when applicable.

How you can help: Do not transport any plant material from infested areas.

With this information, please help us protect the lands and waters for all to enjoy well into the future," says Hoover. "Pay attention to your surroundings and understand how everyday plants or animals can impact recreation.

Natural resource management

benefits spill over into recreation

By Trisha Dorsey



The Kansas City District has a large Natural Resource Management Program which provides many recreational opportunities. While lake staff specializes in managing natural resources, several practices provide ancillary benefits to recreation and multiple authorized purposes.

“Through natural resource management, we work to improve the land which benefits recreation activities as part of our environmental stewardship program and the Corps overall mission,” says Lora Vacca, Smithville Lake operation project manager. “We wear many hats and support many initiatives, but a main practice that coincides with recreation is natural resource management. We work to maintain thousands of acres of public lands and water for the benefit of both the public and fish and wildlife.”

The Kansas City District owns, operates and maintains 18 lakes and dams in four states. You may hear friends say they are going to the lake, but there is so much more to offer than just a lake. Through several natural resource management efforts, some additional benefits spill over into recreation opportunities such as wildlife viewing, hunting, trapping, fishing and hiking to name a few.

Maintaining populations of a variety of native plants provides important habitat for butterflies and bees and help sustain the ecosystem by maintaining diversity of plant and animal life. In addition to providing abundant food sources for insects such as monarch caterpillars, pollinator-driven actions can benefit visitors in many ways. Large insect populations provide additional food sources for birds and increase nesting success which increases wildlife viewing opportunities. Due to the amount of spectators at several locations, some lakes have constructed trails around pollinator planting locations for designated viewing areas.

Wetlands provide suitable habitat for nesting and places for lots of amphibians, reptiles, waterfowl and shorebirds to live. This increase in species diversity provides more opportunities for hunters and bird watchers. By providing shallow water marsh areas, or wetlands, migrating birds use those locations to stop and refuel along migration routes.

“Kanopolis Lake has a very unique 20-acre wetland

in Venango Park,” says Ryan Williams, Kanopolis Lake park manager. “We control the pool level of this area by pumping water into it late in the summer before migrating birds start their fall migration. This also allows for water to be present throughout the fall, winter and portions of the spring. In the spring we draw the water level down to encourage beneficial plant species to germinate and grow, then invertebrate species thrive, providing substantial food sources for the next migration and current inhabitants.”

The ability to pump the wetland provides more stability than one that uses rain water to maintain levels. This stability encourages migrating birds to revisit the location every year on their annual migration.

“The wetland shares similar recreation benefits for our visitors, as it provides an aesthetic view of a very accessible area that is rich with wildlife. A trail has also been constructed around this wetland providing visitors a designated path to enjoy an abundance of wildlife and scenic views,” says Williams.

Invasive species can be an animal, plant or fungus. Typically, it’s a species that has been brought into a new environment and believed to cause damage to the environment, human economy or human health. With 18 lakes in four states and Mitigation Project lands along the Missouri River, the Kansas City District has identified several species in which teams are working to control or eradicate.

“Invasive species pose a threat to our project lands and waters and can adversely impact the recreational experience of our project visitors. Certain species can impact the operation of our dams and have serious adverse impacts on our native vegetation and fish and wildlife populations,” informs David Hoover, Kansas City District’s conservation biologist. “Some species are a priority and high on our radar so we are actively working to monitor or eradicate them.”

When you drive to the lake in the spring and see a plume of smoke, it might be planned for a reason. The Corps conducts controlled burns at several locations to help clear out invasive species and strengthen new growth for the spring. Staff is trained in fire management and fire behavior. They understand and monitor conditions prior to burning and coordinate these

activities with local emergency responders.

This burning practice improves wildlife populations, removes woody vegetation encroachment and provides food sources for young animals and insects. With a clean slate, diversity in new plants and wildlife, such as quail, pheasant and song birds appear making bird watching plentiful.

Through the Corps' Agricultural Lease Program several thousand acres of public lands are leased to farmers for the purpose of crop or hay production. Lease agreements require the operators to incorporate specific wildlife management practices into their operation such as specific crop rotations, food plots, native grass and shrub establishment.

This program helps maintain the lands and provides a lot of food source for wildlife. The management of the lands keeps areas from becoming overgrown and increases public use to cross these areas for recreational opportunities, such as hiking, bird watching and mushroom hunting.

However, managing wildlife isn't always about helping species thrive, sometimes it's also to control the population numbers, such as deer, so they don't damage the habitat.

Wildlife refuge areas are restricted and very controlled to outside access. Although typically closed to public access, the Corps manages these lands similar to public areas. They work to control invasive species, manage agriculture leases in some refuges and conduct control burns on a scheduled rotation.

At some locations and within certain hunting seasons, the Corps opens up these wildlife gems to assist in controlling populations where hunting typically is not allowed.

"Smithville Lake's managed deer hunt is vital for us to manage our large deer herd and it provides an excellent opportunity for disabled hunters to return to the outdoors," informs Derek Dorsey, Smithville Lake park manager. "Since this event started in 1990, nearly 1,500 deer have been harvested providing an incredible opportunity for disabled hunters. Hunters apply nationwide hoping to secure a spot. Smithville Lake provides 65 blinds, making our event the world's largest managed deer hunt."

The Kansas City District also works to protect multiple resources through a robust Cultural Resource Program providing stewardship to all 18 lakes. Park rangers are first line support for protecting cultural resources such as burial grounds and Native American artifacts. Working with Corps archeologists, they ensure construction activities do not take place near identified cultural resource locations and work to comply and protect these resources under federal laws and Corps regulations.

The bald eagle is another gem found at Corps lakes. It was placed on the endangered species list in 1967, but with the right habitat the first successful bald eagle nest in the Kansas City District was documented at Clinton Lake in 1989. Since then, eagle populations have rebounded significantly. For more than 50 years, Kansas City District lakes have provided prime habitat for several thousand wintering birds. Standing timber in lakes and large trees along shorelines serve as nesting and hunting perches allowing bald eagles to continue to thrive at Corps lakes. In April 2018, a record-breaking

125 active bald eagle nests were recorded in Kansas.

Additional eagle viewing opportunities are provided every winter at several lakes. The Corps hosts several Eagle Day events with live eagle programs, exhibits, viewing stations and activities.

Kansas City District lakes are known for a vast variety of quality fishing opportunities. While state agencies manage the lake fisheries, the Corps does work to assist with fish habitat in certain locations. This work benefits fish, wildlife (eagles, great blue heron, otters, snapping turtles, snakes, pelicans) and anglers. Structures can be made with PVC plastic pipe, brush piles, rock piles and boulders. Fish attractors provide cover and food for fish as algae grows on the structures. For anglers, this effort concentrates fish allowing them to have an increased success rate.

Anglers access these prime fishing spots from boat ramps, shoreline or docks.

Shoreline stabilization practices help protect the shoreline and provide additional recreation opportunities. Lake staff works to maintain acceptable fish and wildlife habitat, aesthetic quality and natural environment conditions while promoting safe use for recreational purposes and providing general public use. Some practices include armoring the shoreline with rip-rap and jetty construction. These provide shallow water habitat for fish and increased public access for fishing, provide increased water quality by reducing sedimentation and protect infrastructure such as campgrounds, roads, water lines, utilities and more.

Shoreline management practices protect the shoreline by promoting safe and healthful public use while maintaining environmental safeguards. The objectives of all management actions are to achieve a balance between permitted private uses and resource protection for general public use. Private shoreline uses, such as private boat docks and vegetation management, which were granted prior to 1974 have been grandfathered thus the Corps continues to honor those requests. Shoreline Management Plans outline the balance of these uses and are scheduled to be reviewed every five years to include a public comment period. The Kansas City District's largest program is at Pomme de Terre Lake, housing over 600 five-year permits.

And finally, the water is inspected. "Water quality is important to monitor at all 18 lakes and the Missouri River," says Marvin Boyer, Kansas City District's limnologist. "Monitoring water quality not only insures it is safe for humans and animals, but is critical to support the wide range of uses that depend on Corps lakes for water."

During the months of April through September, park rangers help collect water samples. Using special instruments from boats, they sample the main arms of the lake, inflow streams at bridge crossings and the outflow below the dam looking at physical, chemical and biological profiles. Once collected, the data is managed and shared online.

Keep in mind recreation spans thousands of miles at each of the lakes and the Corps works hard to maintain these lands for the public to enjoy. When recreating, remember to be courteous, respect the land and play it safe.

Engaging with communities at water safety events

By Trisha Dorsey

To help share the importance of water safety, we rely on the public, our water safety rangers and our partners to assist in getting the word out. This year we will attend several events conducting water safety outreach across four states.

"The Kansas City District is constantly seeking opportunities to connect with and educate the general public on water safety and recreation opportunities," said Kyle Ruona, public safety program manager. "We provide information and resources needed to develop knowledgeable, safe recreation habitats."

A primary example of partnering for water safety is the Country Stampede, hosted at Tuttle Creek State Park in Manhattan, Kansas. As a local business with year-round ties to the Tuttle Creek Lake community, the coordinators understand the need for water safety and are supportive of providing the Corps of Engineers an opportunity to engage our shared audience.

"Averaging over 150,000 in attendance each year, the Country Stampede is one of the largest water safety outreach opportunities for us," says Melissa Bean, park manager at Tuttle Creek Lake. "A large portion of that audience are males 18-35, our key demographic when it comes to promoting water safety. Statistics show this demographic accounts for the highest percentage of water fatalities annually in the nation. Getting these guys to understand risks in and around the water, and recruiting them to promote water safety to their peers is far more effective than any poster or public service announcement we could come up with. It's an invaluable education opportunity. When you engage them one-on-one they are more receptive and very supportive of water safety."

Kansas Department of Wildlife, Parks and Tourism partners with the Corps lakes in Kansas throughout the year, but specifically during the week of the Country





Stampede, this partnership is more visible to Tuttle Creek Lake visitors.

"We don't just talk water safety, we also enforce it in concert with partnering agencies. Year-round initiatives include a variety of water safety related events including saturation boat enforcement patrols, vessel safety check stations at launch ramps, a variety of water safety presentations, and many other initiatives," explains Bean.

"Each organization brings certain skills, tools, resources to public events," states Todd Lovin, Tuttle Creek State Park manager with KDWPT. "Due to the Stampede, the main lake of Tuttle Creek sees significant boating traffic and that becomes more of a multi-jurisdictional effort. State park rangers patrol land-based state park areas, KDWPT game wardens from the Law Enforcement Division patrol water-based activities as does the Corps."

Another key event coming up is

Jun. 15 at the Springfield Cardinals baseball game. Bobber the Water Safety Dog will throw out the first pitch of the game while Corps park rangers staff a water safety booth and partake in a live radio interview with the JOCK 98.7 to discuss water safety topics.

"Why would we talk about water safety at a baseball game someone might ask," says Jordan Griffin, Stockton Lake park ranger. "This event is an excellent opportunity to be proactive and speak to individuals about things they may encounter while out on area lakes and streams."

Throughout the season, the Springfield Cardinals distribute game day materials with water safety information and broadcasts a public service announcement highlighting the importance of water safety during all 140 games.

"It is important for the Cardinals and the U.S. Army Corps of Engineers to partner for several

reasons," informs Zack Pemberton, Springfield Cardinals Manager of Premium Sales and Marketing. "First and foremost, the Cardinals are always looking to be good stewards in the community and support important causes. With the number of lakes in this area, we feel it's important to get behind the efforts of the Corps of Engineers to promote water safety throughout the area. With over five million fans entering our gates over the last 13 years, we are proud to support the Corps of Engineers and provide them with a voice in the Springfield Community."

The Corps wants to remind people that life jackets save lives. So please wear it during your next outing.

Check the Kansas City District's public safety and recreation events calendar to see where and when lake staff will be within a short drive of your community! <http://www.nwk.usace.army.mil/Locations/>

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| May 18 - | "Wear Your Life Jacket to Work Day" |
| May 18 - | Public Safety Event at Bass Pro Shops, Independence, Missouri |
| May 19 - | Public Safety Event at Bass Pro Shops, Olathe, Kansas |
| May 19 - | National Safe Boating Week |
| June 15 - | Springfield Cardinals Water Safety Day at Hammons Field, Springfield, Missouri |
| June 21-23 - | Country Stampede, Tuttle Creek Lake State Park, Manhattan, Kansas |
| June 29 - July 1 - | Operation Dry Water |
| September 7-16 - | Kansas State Fair, Hutchinson, Kansas |

**This list is not all inclusive and engagements are subjects to change.*

RECREATION



Kansas City District Recreational Facts

- An estimated 12.5 million visitors recreate at Kansas City District lakes each year
- The Kansas City District owns, operates and maintains 18 lakes and two hydropower facilities
- 190 boat ramps
- 34 fishing docks
- 6,699 marina boat slips
- 11,288 campsites
- 208 trails spanning 1,055 miles
- 1,117 picnic sites
- 165 playgrounds
- 59 designated swimming areas
- Kanopolis Dam in Marquette, Kansas is the first dam constructed in the Kansas City District, and turns 70 years old this year
- Blue Springs Dam in Blue Springs, Missouri is the youngest dam constructed in the Kansas City District, and turns 30 years old this year

