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QUEST // Packet Pickup

LOCATION // 1115. W Avon Rd. Rochester Hills, MI 48309

While you can access all materials for the scavenger hunt virtually, CRWC will print your packet and guidebook for pickup upon request. Just send us an email to kaleigh@ crwc.org. While visiting our office you can cross a few items off your Scavenger Hunt list.

QUEST // Avon Creek Restoration

LOCATION // 1115. W Avon Rd. Rochester Hills, MI 48309 Located behind the office, stretching from the pond near Rochester Hills Dr. to the main branch of the Clinton River.

Avon Creek suffered from vertical banks and erosion and as result, fish and wildlife populations suffered. Restoration occurred in four phases from the retention pond near Rochester Hills Dr. to the point where Avon Creek meets the main branch of the Clinton River. This project re-established habitat by accomplishing streambank stabilization, native plantings and restored meanders to Avon Creek.



Photo credit: HRC & CRWC

CRWC OFFICE VISIT

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QUEST // CRWC Rain Garden

LOCATION // 1115. W Avon Rd. Rochester Hills, MI 48309 Look for the curb cut on the west side of the building that directs stormwater to a bed of native plants.

Installed in 2016 this was a Rochester Hills Watertowns[®] project. The city took care of construction and the native plants were installed with the help of volunteers and CRWC staff.



QUEST // Main Branch of the Clinton River

LOCATION // 1115. W Avon Rd. Rochester Hills, MI 48309 Follow the stairs down to Avon Creek and follow the creek east to the river.

Take a walk down nature trails behind the CRWC offices to find Avon Creek and the Main Branch of the Clinton River.



Right: Main Branch of the Clinton River



Garden

EDUCATIONAL ACTIVITIES

For nearly 50 years, the Clinton River Watershed Council has been connecting communities to their freshwater resources through education, workshops and presentations.



QUEST // Independence Oaks County Park LOCATION // 9501 Sashabaw Rd, Village of Clarkston, MI 48348

Headwaters of the Clinton River are found here. The headwaters rise from the wetlands and cold water tributaries from within Independence, Brandon and Springfield Townships. Be sure to check out the trails and Wint Nature Center. oakgov.com/parks



QUEST // Visit a lake in Oakland County **LOCATION** // Various locations throughout Oakland County

Oakland County has hundreds of lakes. The Michigan DNR provides bathymetric maps for more than 100 of these lakes. Visit michigan.gov/dnr and click on fishing and then where to fish.



Independence Oaks

For nearly 50 years, the Clinton River Watershed Council has been connecting communities to their freshwater resources through education, workshops and presentations.



QUEST // Identify an animal along the river, or somewhere else in the Clinton River Watershed.

LOCATION // Anywhere within the watershed

The Michigan DNR website is a great resource to learn more about the plants and animals that can be found here in Michigan: <u>michigan.gov/dnr</u> click on education & safety and then learn about Michigan Species.

QUEST // IDENTIFY A NATIVE PLANT WITHIN THE CLINTON RIVER WATERSHED LOCATION // Anywhere within the watershed

Native plants have long root systems that filter stormwater, are adapted to the climate here in southeast Michigan, and provide food and habitat for pollinators and other animals. Michigan State University has an extensive native plant list. <u>https://www.canr.msu.edu/nativeplants/plant_facts/local_info/south_lower_peninsula</u>

Monarch Caterpillar outside the CRWC offices



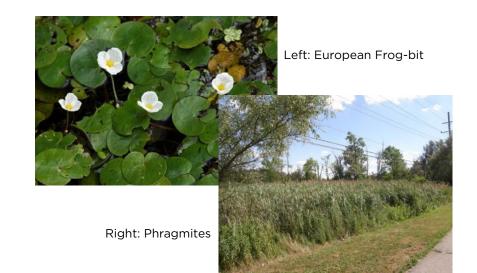
EDUCATIONAL ACTIVITIES

For nearly 50 years, the Clinton River Watershed Council has been connecting communities to their freshwater resources through education, workshops and presentations.

QUEST // Identify an invasive species along the river **LOCATION //** Anywhere within the watershed

We hope you don't find an invasive species; however, we know they are abundant not just in our watershed but everywhere. Invasive species outcompete native species for essential needs like food and habitat, negatively effecting native species populations. Luckily if you do find an invasive species there is a way to report it. Go online to MISIN (The Midwest Invasive Species Network), or download the free MISIN app. On either resource you can make a report of your sighting.

There are many more educational resources on the MISIN website such as identification training modules, maps and projects. <u>misin.msu.edu/report/misin/?project=misin</u>



For nearly 50 years, the Clinton River Watershed Council has been connecting communities to their freshwater resources through education, workshops and presentations.



QUEST // Van Hoosen Farm- Stony Creek

LOCATION // 1005 Van Hoosen Rd, Rochester Hills, MI 48306

Stony Creek flows behind this historical center. This location has consistently produced the most diverse macroinvertebrate community that CRWC samples within the watershed. A diverse and abundant macro community indicates good or excellent water quality. Want to learn more about macroinvertebrates in relation to water quality? Sign up for an Adopt-A-Stream training. Trainings are free! https://www.crwc.org/events or, check out our educational Stream Leaders video to learn more about how we collect these "bugs". https://youtu.be/whhBrdOBxBA



EDUCATIONAL ACTIVITIES

For nearly 50 years, the Clinton River Watershed Council has been connecting communities to their freshwater resources through education, workshops and presentations.

QUEST // Visit Lake St. Clair LOCATION // Not sure where to visit the lake? Try Lake St. Clair Metropark located at 31300 Metro Pkwy, Harrison Charter Township, MI 48045

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The Clinton River Watershed drains into Lake St. Clair via the Clinton River. Lake St. Clair is connected to Lake Huron through the St. Clair River, and to Lake Erie through the Detroit River. Lake St. Clair provides drinking water to more than 4.5 million people in the U.S. and Canada. Did you also know that one of the world's largest freshwater deltas is found where the St. Clair River meets Lake St. Clair, and is home to the Walpole Island First Nation? For these facts and more check out this article from MSU extension: <u>canr.msu.edu/news/</u> <u>heart_of_the_great_lakes</u>



For nearly 50 years, the Clinton River Watershed Council has been connecting communities to their freshwater resources through education, workshops and presentations.



QUEST // Water Trail- Paddle a Water Trail or visit a launch site

LOCATION // Check out our paddling map for places to launch your canoe or kayak and to find out level of difficulty for each stretch of the river. <u>CRWC.org/recreation/paddling</u>

A water trail is a designated route along a lake, river, canal or bay for people using small boats such as kayaks, canoes, stand-up paddleboards, single sailboats or rowboats. Sometimes called "blueways," water trails are the aquatic equivalent of a hiking trail or "greenway" and feature well-developed access and launch points. Often, water trails are near significant historical, environmental, or cultural points of interest and include nearby amenities such as restaurants, hotels, and campgrounds.



For a downloadable version of our paddling maps visit: CRWC.ORG/recreation/paddling



EDUCATIONAL ACTIVITIES

For nearly 50 years, the Clinton River Watershed Council has been connecting communities to their freshwater resources through education, workshops and presentations.

QUEST // Check out the Clinton River Watershed's trail systems **LOCATION** // Anywhere within the watershed

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Bike, run, walk or roll one of the many trails in the Clinton River Watershed. Did you know Michigan has a trail from South Haven to Port Huron? Called the Great Lake-to-Lake Trails Route #1 it runs 275 miles from shore to shore. The route uses a "rails to trails" format, where abandoned railways are converted to non-motorized trails. The Clinton River Watershed is home to three of these connected trails, the Clinton River Trail, Paint Creek Trail and the Macomb Orchard Trail. Connected to the Paint Creek trail through the Orion Township pathway system is also the Polly Ann Trail, another "rails to trails" trail. https://www.crwc.org/recreation/hiking-and-biking

QUEST // Clinton River restoration at Yates Park LOCATION // The area to be restored can be viewed from the Yates Cider Mill parking lot. 1950 E Avon Rd, Rochester Hills, MI 48307

> In 2018, CRWC received an Aquatic Habitat Grant from MDNR to restore approximately 500 feet of riverbank and add in-stream habitat improvements, downstream of Yates Cider Mill. This project will restructure the riverbank, allowing for stabilization and reduced erosion and will provide habitat important to riparian species, through native vegetation plantings. This location is the most highly trafficked fishing destination in the watershed and boasts a large spring steelhead run in urban southeast Michigan. As part of the project, designated lateral angler access locations were installed in 2021. This is an important first step in addressing this popular recreation destination.

For nearly 50 years, the Clinton River Watershed Council has been connecting communities to their freshwater resources through education, workshops and presentations.

QUEST // Yates Dam

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LOCATION // The dam is visible at Yates Park, 1990 E Avon Rd, Rochester Hills, MI 48307

The Yates Dam serves a historical and ecological importance to the Clinton River watershed. Not only does the dam serve Yates Cider Mill, but it is also the terminal barrier for invasive sea lamprey migration upstream from Lake St. Clair. Sea lamprey require riverine habitats to reproduce in the late spring and early summer. The upper portions of the Clinton River would provide ample habitat for sea lamprey reproduction and keeping this invasive species restricted within the ecosystem is a high priority for CRWC, MDNR and other agencies such as the Fish and Wildlife Service.

In recent years however, a bypass channel around Yates dam opened a migration pathway for sea lamprey and other unwanted organisms to get to the upper Clinton River reaches. This was a problem for not only the Clinton River, but also Paint Creek which drains into the Clinton River in Rochester. Paint Creek is one of the last remaining cold-water trout streams in southeast Michigan and sea lamprey would have had vast detrimental effects on this precious resource. CRWC and a long list of partners including the City of Rochester Hills, US Fish and Wildlife Service, Great Lakes Fisheries Commission, MDNR, EGLE, Yates Cider Mill, and HRC Engineering, are working together to reconstruct the path of the river, restoring flows back over the Yates dam to prevent the likelihood of a future invasion.

STEWARDSHIP ACTIVITIES

These include Keeping-it-Clean and citizen science programs.

KEEPING-IT-CLEAN

The Keeping-It-Clean Program encourages watershed residents to get involved in improving the health and natural beauty of their watershed by participating in regularly scheduled trash cleanups throughout the watershed. This includes the Weekly Clean program, Trash Runs, Clinton Clean Up and more.



QUEST // Attend a Weekly Clean LOCATION // Anywhere in the watershed

CRWC's Weekly Clean program is celebrating its 10th anniversary this year. Weekly Clean occurs every Wednesday from April-No-vember. Locations will be posted online in advance (prior registration is not required, unless a large group plans on attending). For dates and locations each week check out: <u>https://</u> <u>www.crwc.org/events/volunteer/keeping-it-clean</u>

QUEST // Complete your own cleanup within the watershed

LOCATION // Anywhere in the watershed

Clean up an area of your choosing, on your own or with friends. CRWC can donate trash bags and gloves to your event with advance notice. Email pronoye@crwc.org for more information and to set up your clean up!



11 11

STEWARDSHIP ACTIVITIES

These include Keeping-it-Clean and citizen science programs.

KEEPING-IT-CLEAN

The Keeping-It-Clean Program encourages watershed residents to get involved in improving the health and natural beauty of their watershed by participating in regularly scheduled trash cleanups throughout the watershed. This includes the Weekly Clean program, Trash Runs, Clinton Clean Up and more.

QUEST // Clinton Cleanup LOCATION // Various locations throughout the watershed

The Clinton Cleanup is an annual event in September where volunteers and community organizations participate in cleanups throughout the Clinton River Watershed on the third Sat-urday in September. You can organize your own group clean up and register it with CRWC for supplies and t-shirts. https://www.crwc.org/events

QUEST // Volunteer for Adopt-A-Stream LOCATION // Adopt -A - Stream monitoring occurs outside of the Clinton River Quest timeline. Free trainings occur during the Quest, attend one and CRWC will add you to an AAS team.

> Adopt-A-Stream is a volunteer-based initiative that empowers community members to protect local streams and rivers by monitoring water quality. Volunteers are trained, teamed-up, assigned sites, given equipment and data sheets then sent out into the field to gather information on streamside habitats, physical characteristics and aquatic insect populations. Adopt-A-Stream monitoring occurs outside of the Clinton River Quest timeline, however, trainings occur during the timeline. Sign up and attend a free training and CRWC will add you to an AAS team. https://www.crwc.org/programs/volunteer/adopt-a-stream

WATERTOWNS®

WaterTowns® (WT) is a community-based placemaking initiative designed to help cities, towns and villages in the watershed leverage assets of the Clinton River and Lake St. Clair to help improve water quality and alleviate climate change impacts by promoting and implementing green infrastructure and advancing water-oriented community and recreation opportunities. CRWC.org/programs/volunteer/watertowns

20 QUEST // Huntington Woods (HW) Rain Garden LOCATION // Statue Park, Huntington Rd, Huntington Woods, MI 48070

Huntington Woods joined the WT initiative in 2018. City officials and residents teamed together with CRWC to construct this rain garden in Statue Park using funds from the \$5,000 WT mini-grant. This rain garden collects stormwater runoff from the roadway and gives water a chance to soak into the ground while nourishing the six different native plants that live in the garden.



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QUEST // Green Infrastructure Installation at Clinton Township Public Works Office

LOCATION // Clinton Twp. Public Works Offices, 40700 Romeo Plank Rd, Clinton Twp., MI 48038

Clinton Township joined the WT initiative in 2016 and successfully installed a variety of green infrastructure systems to help manage stormwater on site. You will be able to find a naturalized shoreline with native plants along the fishing pond on the west side of the building. Several rain gardens and parking lot island basins can be found on the East side of the building. The islands and rain gardens host native plant species and help retain a large portion of rain water that runs off of the parking lot pavement.



WATERTOWNS®

WaterTowns® (WT) is a community-based placemaking initiative designed to help cities, towns and villages in the watershed leverage assets of the Clinton River and Lake St. Clair to help improve water quality and alleviate climate change impacts by promoting and implementing green infrastructure and advancing water-oriented community and recreation opportunities. CRWC.org/programs/volunteer/watertowns



QUEST // MacArthur Park Universally Accessible canoe and kayak launch

LOCATION // MacArthur Park, North River Rd., Mt Clemens, MI 48043

The Neil E. Dempsey launch site was constructed in 2018 and is the first universally accessible canoe and kayak launch on the Clinton River. This launch site resides in MacArthur Park in downtown Mount Clemens and is a perfect spot for taking your paddle boats on a self-return adventure on the Clinton River.



CLINTON RIVER AOC PROJECTS

The Clinton River Watershed was designated an Area of Concern (AOC) by the Great Lakes Water Quality Agreement in 1987 https://www.epa.gov/glwqa/what-glwqa. This was due to vast habitat alteration, pollution, sedimentation, and high total dissolved solids. Eight BUIs or "beneficial use impairments" were identified and subsequent restoration projects have targeted these. A great resource to discover more about the Clinton River AOC and others is from the EPA: https://www.epa.gov/great-lakes-aocs/clinton-river-aoc

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QUEST // Clinton River Spillway Habitat Enhancement **LOCATION** // The Clinton River Spillway fishing pier in Clinton Township is a great spot to see the restorations and to get some fishing in. Located on the west side of Harper, just

north of Wellington Crescent. The Clinton River Spillway was built by the Army Corps of Engineers in 1950 as an off channel from the Clinton River to Lake St. Clair, to mitigate flooding issues in Mt. Clemens, Harrison Township, and Clinton Township. Habitat was created in this manmade channel by adding

native plants, small inlets, and large woody debris, mimicking habitats found in a naturally formed waterway.



Clinton River Spillway Habitat Enhancement using large woody debris and a fishing pier.

Photo: HRC



CLINTON RIVER AOC PROJECTS

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QUEST // Partridge Creek Commons

LOCATION // Park in any of the lots bordering Gloede Drain. This is on the south side of the Mall at Partridge Creek. The address to the mall is, 17420 Hall Road Clinton Township, MI 48038

The vacant land once was a golf course and contains one mile of the Gloede Drain. Prior to the restoration, issues within the area were fragmented wetland habitat, erosion along the drain and persisting golf cart pathways. Completed in 2016 the restoration includes 52 acres of habitat restored, 5,500 lineal feet of multi-staged open channel restoration and 5 acres of wetland restored.



QUEST // Shelby Township streambank stabilization

LOCATION // A portion of this restoration can be seen by walking down to the river at River Bends Park, 22 Mile Road, Shelby Charter Township, MI

Extensive erosion along four critical bends of the Clinton River in Shelby Township were negatively impacting habitat by contributing to excess sedimentation and threatening the viability of local river recreation. Approximately one mile of streambank was restored, adding riparian habitat, bank stabilization and protecting river recreation.

CLINTON RIVER AOC PROJECTS

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QUEST // Clinton River Cooridor Restoration

40620 Utica road and see the added canoe landing and bridge over the Clinton River along with native plants that stabilize the riverbank.

The Clinton River Corridor was experiencing sedimentation, erosion, and flow increase. Ultimately 25 log jams containing approximately 385,000 cubic feet of debris were removed, 24 log vanes installed as streambank protection and 7,600 feet of eroding riverbanks were stabilized. The 9 mile stretch of the Clinton River through Sterling Heights and Utica is now navigable for the first time since the 1970s.



www.epa. by the Great Lakes Water Quality Agreement in 1987 https://www.epa. bn, pollu- gov/glwqa/what-glwqa. This was due to vast habitat alteration, pollu-

tion, sedimentation, and high total dissolved solids. Eight BUIs or "beneficial use impairments" were identified and subsequent restoration projects have targeted these. A great resource to discover more about the Clinton River AOC and others is from the EPA:

CLINTON RIVER AOC PROJECTS

The Clinton River Watershed was designated an Area of Concern (AOC)

https://www.epa.gov/great-lakes-aocs/clinton-river-aoc



QUEST // Galloway Creek Fish Passage

LOCATION // Visit the biological preserves on Oakland University's campus to see Galloway Creek. 318 Meadow Brook Rd, Rochester, MI 48309

Barriers to fish passage from perched and undersized culverts to dams were posing threats to fish migration. The Galloway Creek Fish Passage project opened two miles of tributary stream, reduced sediment load and restored floodplains.



STREAM BANK RESTORATION

The CRWC works cooperatively with many partners across the watershed to protect, enhance and celebrate the Clinton River, its watershed and Lake St. Clair. Quality habitat and water are crucial to a healthy river ecosystem. Habitat friendly access to our water resources is also important to preserve and protect river and stream banks.



QUEST // Depot Park in Clarkston LOCATION // 375 Depot Rd, Village of Clarkston, MI 48346

In 2018 CRWC, with funding from Pure Oakland Water (POW) and in partnership with the City of the Village of Clarkston and Friends of Depot Park, implemented a stream bank restoration using native plants to reduce erosion and enhance habitat. More than 60 volunteers over 2 workdays were involved in cleaning up the park and planting the streambank.

Depot Park before the stream bank restoration (above) and one year later (right).



FISHING ACCESS LOCATIONS

The CRWC works cooperatively with many partners across the watershed to protect, enhance and celebrate the Clinton River, its watershed and Lake St. Clair. Quality habitat and water are crucial to a healthy river ecosystem. Habitat friendly access to our water resources is also important to preserve and protect river and stream banks.

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QUEST // CRCCP Fishing Access at Rochester Municipal Park

LOCATION // Rochester Municipal Park 400 6th street Rochester, MI 48307

The goals of the Clinton River Coldwater Conservation Project (CRCCP) are to generate public support for the Clinton River Watershed as a valued recreational resource through data collection and efforts to improve water quality, aesthetics and access to the Clinton River and primarily its cold-water tributaries. Check out one or both fishing access locations on the Paint Creek, the last designated cold-water trout stream in southeast Michigan. The projects were implemented through CRCCP in partnership with local Trout Unlimited chapters.



QUEST // CRCCP Fishing access at Kern & Clarkston Road

LOCATION // Kern and Clarkston Road in Orion Twp., upstream of the Paint Creek Trailhead.

The goals of the Clinton River Coldwater Conservation Project (CRCCP) are to generate public support for the Clinton River Watershed as a valued recreational resource through data collection and efforts to improve water quality, aesthetics and access to the Clinton River and primarily its cold-water tributaries. Check out one or both fishing access locations on the Paint Creek, the last designated cold-water trout stream in southeast Michigan. The projects were implemented through CRCCP in partnership with local Trout Unlimited chapters.

UPCOMING EVENTS

UPCOMING EVENTS



TRASH RUN #1 // JUNE 10 // 8:30AM - 1:00PM

Join CRWC and Clinton River Canoe & Kayak for a paddle down the Clinton while we pick up trash! Trash runs are intended for individuals 14 years of age and older, and registration is required. Canoes provided by Clinton River Canoe and Kayak. *Exact route TBD depending on weather and water levels, registration is required to receive start location and route.

REGISTER // <u>https://forms.office.com/r/wdvRC1F3X4</u>

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RIVER DAY // JUNE 11 // ALL DAY

MULTIPLE EVENT OPPORTUNITIES: River Day is designed to encourage appreciation and recreational use of the waterways of the Clinton River and Lake St. Clair, and to celebrate the leadership of local citizens, organizations, and communities whose efforts are critical to protecting and enhancing the overall quality of the Clinton River watershed.

This June individuals, businesses, community groups, and local governments across the watershed will join forces on River Day to enhance and celebrate the Clinton River and Lake St. Clair. Activities range from nature hikes, canoe trips, fishing derbies, and fly fishing lessons to storm drain stenciling, river clean-ups, habitat restoration, and native landscaping. To find out about specific activites, check the event guide.

FOR MORE INFO // <u>https://www.crwc.org/events/</u> <u>community/river-day</u>



RAIN GARDENS AND RAIN BARRELS PRESENTATION // JUNE 28 // 6:00 - 7:15PM

Join CRWC and the Warren Civic Center Public library for a presentation on rain gardens, the importance of green infrastructure, and what you can do at home to improve water quality! Register for free through the Warren Public library to save your spot.

REGISTER // https://bit.ly/3NMDabk



TRASH RUN #2 // JULY 15 // 8:30AM - 1:00PM

Join CRWC and Clinton River Canoe & Kayak for a paddle down the Clinton while we pick up trash! Trash runs are intended for individuals 14 years of age and older, and registration is required. Canoes provided by Clinton River Canoe and Kayak. *Exact route TBD depending on weather and water levels, registration is required to receive start location and route.

REGISTER // <u>https://forms.office.com/r/wdvRC1F3X4</u>



WALK ON THE WILD SIDE // JULY 23 // 7:00AM -12:00PM

Join the Clinton River Watershed Council as we host our annual Walk on the Wild Side Fundraiser at the Detroit Zoo! This event is family friendly, so please encourage your friends and family of all ages to attend. Your donation will get you early entry to the zoo, free parking, a light breakfast, a CRWC swag bag, and access to the zoo for the entire day!

REGISTER // https://secure.qgiv.com/event/crwczoowalk/



TRASH RUN #3 // AUGUST 12 // 8:30AM - 1:00PM

Join CRWC and Clinton River Canoe & Kayak for a paddle down the Clinton while we pick up trash! Trash runs are intended for individuals 14 years of age and older, and registration is required. Canoes provided by Clinton River Canoe and Kayak. *Exact route TBD depending on weather and water levels, registration is required to recieve start location and route.

REGISTER // https://forms.office.com/r/wdvRC1F3X4

UPCOMING EVENTS

UPCOMING EVENTS



SPRINT AND SPLASH // AUGUST 13 // 9:00AM

The 11th Annual Sprint & Splash will be held at Lake St. Clair Metropark in Harrison Township, Michigan. Sprint and Splash Events include: 5K Run / Walk, the Duathlon which combines a 5K run and a 2-mile paddle using a kayak or stand-up paddle board, and a 2-mile Paddle Race (kayak or stand-up paddleboard).

REGISTER // <u>https://www.sprintandsplash.com/register</u>



TRASH RUN #4 // SEPTEMBER 16 // 8:30AM - 1:00PM

Join CRWC and Clinton River Canoe & Kayak for a paddle down the Clinton while we pick up trash! Trash runs are intended for individuals 14 years of age and older, and registration is required. Canoes provided by Clinton River Canoe and Kayak. *Exact route TBD depending on weather and water levels, registration is required to recieve start location and route.

REGISTER // <u>https://forms.office.com/r/wdvRC1F3X4</u>



CRAFTS ON THE CLINTON // TBD - SEPTEMBER //

CRWC's most popular fundraiser is back for 2022! The Crafts on the Clinton is a fun-filled evening that features beer and wine tasting while enjoying live music, delicious food and art vendors on the banks of a river! Crafts on the Clinton offers the special opportunity to sample the very best local beer and wine from across the state as well as opportunities to win many great prizes. Proceeds from Crafts on the Clinton go directly to CRWC's programs.

For more information to come // https://

www.crwc.org/events/community/crafts-on-the-clinton

VIRTUAL EXPLORATION



CRWC'S YOUTUBE PAGE //

Find past presentations along with educational videos and trainings on CRWC's youtube page. <u>https://www.youtube.com/channel/UCk30K4DrjJgxXsVtukY_w0w</u>

MOVE UNITED'S WEBSITE FOR ADAPTIVE SPORTS //

Move United supports sports sampling and encourages athletes to participate in multiple sports until at least 12 years of age. Trying multiple sports gives more options to find the sports you enjoy and be an athlete for life. Learn about adaptive water sports including fishing, canoeing, kayaking, rafting, swimming and water skiing. Move United also has learning opportunities, links to local organizations where adaptive sports are taught and information about clubs that support these sports. Check out their website here: https://www.moveunitedsport.org/sports/adaptive-sports/ The University of Michigan Adaptive & Inclusive Sports Experience (UMAISE) is a local member organization. https://medicine.umich.edu/dept/pmr/patient-care/ therapeutic-other-services/university-michigan-adaptive-inclusive-sportsex-perience-umaise

https://www.moveunitedsport.org/sports/adaptive-sports/

VIRTUAL EXPLORATION



CREATE A WATERSHED //

Explore how watersheds work by making a model! Grades 4-7 https://uaf.edu/museum/education/kids-families/family-days/ pdfs/Create-A-Watershed-Activity-FD.pdf



LEARN ABOUT THE RIVERSAFE LAKESAFE PROGRAM //

Check out the educaitonal links and resources on CRWC's RiverSafe LakeSafe webpage to learn about watershed friendly landscaping. Next take the River-Safe LakeSafe survey https://www.surveymonkey.com/r/RiverSafeLakeSafe to see how water friendly the land surrounding your home is. While it may take awhile to execute all of the watershed friendly practices, education is the first step.

https://www.crwc.org/programs/volunteer/riversafe-lakesafe

MACROINVERTEBRATE I.D. ONLINE TOOL //

At CRWC we rely on citizen science water quality monitoring to gather long term data across the watershed. Collecting bugs that live in the water or aquatic macroinvertabrates, tells us a story about the water where they were found. Depending on the variety and abundance of these bugs we can gain an understanding of overall water quality. Identifing these bugs helps with water quality monitoring. Check out these free learning materials with magnifyed bug pictures: <u>https://www.macroinvertebrates.org/</u>

Watch this youtube video for more information: <u>https://youtu.be/b3IK-G5IXLxA</u>

READ "CHILD OF THE ICE AGE: THE CLIN-TON RIVER" FROM MSU EXTENSION//

Learn the history of how the Clinton River was formed with a short article from Michigan State University Extension.

https://www.canr.msu.edu/news/child_of_the_ice_age_the_ clinton_river

VIRTUAL EXPLORATION



WATER CALCULATOR //

How much water do I use? How do I compare? How can I conserve? Home water conservation is easy once you understand how and where you can use less. The quick and easy Water Calculator shows you which water uses in your home are efficient and which are not and offers simple conservation tips that save water and energy.

The Water Calculator compares your water use to a similar average and efficient house in your region. The Water Calculator estimates the energy savings and carbon footprint of your hot water usage, and helps identify specific areas for improving overall household water efficiency. Water conservation is easy and the Water Calculator gets you started right away. All ages, family activity. https://www.home-water-works.org/calculator

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HOW'S MY WATERWAY? //

How's My Waterway was designed to provide the general public with information about the condition of their local waters based on data that states, federal, tribal, local agencies and others have provided to EPA. Water quality information is displayed on 3 scales in How's My Waterway; community, state and national. More recent or more detailed water information may exist that is not yet available through EPA databases or other sources. Check out the How's My Waterway Fact Sheet. <u>https://mywaterway.epa.gov/</u>

48 WATERCYCLE & WATERSHEDS: WAYS OF WATERSHEDS //

A lot of precipitation (rain, snow or sleet) falls directly into the ocean, lakes, river, and other bodies of water. But what happens to the precipitation that hits the land instead of the water? Watch this animation to find out. Grades 5-12. <u>https://dptv.pbslearningmedia.org/resource/water-cycle-unc-tv-science/water-cycle-ways-of-watersheds-unc-tv-science/</u>

VIRTUAL EXPLORATION

WATERSHED ACADEMY //

Looking for a deeper understanding of how watershed management works? The EPA's Watershed Academy offers free webcasts, resources and even online training modules where you can earn your watershed management training certificate."The Watershed Academy's distance learning program Watershed Academy Web is a set of self-paced training modules that represents a basic, but broad introduction to watershed management. This program's goal is to provide useful information to local, state and tribal efforts aimed at improving the health of our Nation's waters by protecting and managing their watersheds.These training modules cover the most important watershed management topics. Watershed managers, local officials, involved citizens, decision makers and others should have at least an introductory level of knowledge about these topics"

https://www.epa.gov/watershedacademy

NOT MI SPECIES WEBINARS //

Invasive species pose a threat to Michigan's environment, economy, and sometimes even human health. What is at stake? What is being done? This webinar series will explore how agencies, universities and locally led organizations are working together to protect Michigan's natural resources through the Michigan Invasive Species Program. If you are concerned about the impacts of invasive species or interested in the techniques used to control them, join us as we examine species-specific actions, innovations in research and technology, and programs designed to help communities prevent and manage harmful invasive species. A question and answer period will follow each presentation. https://www.michigan.gov/egle/0,9429,7-135-3308_3333-539592--,00.html Did you know the Clinton River Watershed Council is celebrating 50 years? Check out these interesting facts to learn about the watershed and how CRWC has been involved in the protection, enhancement and celebration of the Clinton River, the Clinton River watershed and lake St.Clair over the last 50 years.

1970's and Before

In the 60's the Michigan Department of Natural Resources conducted a fish survey that found no living fish from Lake St. Clair to the City of Pontiac. Today the Clinton River supports an urban steelhead fishery, Paint Creek supports an urban trout fishery and Lake St. Clair is a world renown sport fishery.

Updating the federal water pollution control act of 1948, the 1972 Clean Water Act began regulating pollutants discharged into navigable waters of the United States by requring a NPDES (National Pollution Discharge Elimination System) permit to discharge pollutants from a point source. NPDES permits allow the public to be involved in the permitting process and requires permitees to monitor and report on discharges. The Clean Water Act also spurred municipal and industrial water quality projects.

Since 1978 the Clinton River holds the state record for largerst Kokanee Salmon caught, at 18 inches.

With assistance from the Clinton River Watershed Council, Oakland Township became the first Michigan community to adopt a local wetland ordinance and a stormwater management plan.



50 YEARS OF CRWC

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1980's

In 1981 CRWC, Independence Township and Oakland County fought against gravel mining interests in wetland areas along the Clinton River. This led to the addition of 40 acres of priority wetlands to the Independecne Oaks County Park property.

First annual Clinton River Clean Up Committee, Clinton River clean up in 1986.

1987 - The Clinton River watershed was designated as an Area of Concern (AOC) under the Great Lakes Water Quality Agreement. This includes the entire watershed , the Clinton River and its tributaries, the Spillway, a two-mile long canal that connects the Clinton River to Lake St. Clair and the nearshore area of Lake St. Clair between the Clinton River mouth and the Spillway outlet. Since then, more than \$43 million dollars from the Great Lakes Restoration Initiative (GLRI) have been used for restoration projects throughout the Clinton River watershed in pursuit of the watershed being de-listed as an AOC.

1990's

With a four-year grant from the W.K. Kellogg Foundation's Groundwater Education (GEM) program, the Clinton River Watershed Council focused on local government roles in groundwater protection. Groundwater protection provisions for local ordinances were written, outreach tools for local governments to use with community homeowners and businesses were developed, and Michigan's first Municipal Wellhead Protection Plan was written with the Village of Oxford in 1992.

Stream Leaders is established in 1992. Stream Leaders is a place-based, outdoor education program that provides middle and high school students with hands-on experience in water quality monitoring, data interpretation and citizen action.

The Clinton River Watershed Council was established as a 501(c)3 non-profit organization in 1994.

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1990's continued

Adopt-A-Stream citizen science water quality monitoring program began in 1998. Adopt-A-Stream is a volunteer-based initiative that empowers community members to protect local streams and rivers by monitoring water quality

River Day was established by CRWC in 1998. Designed to encourage appreciation and recreational use of the waterways of the Clinton River and Lake St. Clair, events coincide with Michigan's free fishing weekend.

2000's

The council reinvigorated river clean-up activities with the establishment of Clinton Clean-Up in 2001, an annual watershed-wide clean-up event.

In 2001 CRWC established the Clinton River Coldwater Conservation Project (CRCCP) a volunteer based program that works on projects to enhance and resotre Paint Creek and parts of the Clinton River Main Branch. In 2008 the project's efforts were recognized nationaly by Trout Unlimited.

The first annual winter Stonefly Search began in 2003 invloving volunteers and staff members each January in citizen science data collection.

The vast majority of communities in the Clinton River watershed are subject to Phase II of the National Pollutant Discharge Elimination System, new federal stormwater regulations that went into effect in March 2003. These regulations require communities to obtain permits for their stormwater discharges and to undertake actions to reduce stormwater discharge quantity and improve the quality of discharges entering public waterways. In 2003, the CRWC developed a program to provide its member communities with public education services to help meet the Phase II requirements.

Teaming up with the Friends of the Clinton River Trail, Oakland Land Conservancy and the Rochester/Avon historical society, CRWC helped to create an accessible greenway system for the Clinton River Cooridor in Rochester and Rochester Hills.

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2010's

Great Lakes Restoration initiative funding of \$4.6 million dollars came to the watershed with projects from Lake St.Clair to Paint Creek.

The Clinton River Watershed Council receives federal grant funding for the removal of three dams. The Cascade, Wolcott and Paint Creek dams were removed with success, allowing for habitat and fish passage.

August 2012, Weekly Clean is established. Engaging volunteers in clean up efforts, weekly clean takes place seasonally at different locations throughout the watershed.

A CZM grant was awarded to the WaterTowns program for planning and design of 8 ADA accessible kayak launches.

NOW

With the help of 300 volunteers, each year CRWC monitors 50 sites along the Clinton River and its tributaries for water quality. This occurs through our Adopt-A-Stream citizen science volunteer program.

Since the inception of the Weekly Clean program, there have been a total of 371 total clean ups, with 3603 volunteers collecting nearly 100,000 lbs of trash. That's 50 tons! 371 total clean ups, 3603 total volunteers and 96459 lbs of trash (avg of 10717 a year).

Our RiverSafe LakeSafe program has 109 total certifications!

Since 2014 the Clinton Cleanup and Trash runs have removed 19,250 lbs of trash from the river and our watershed.

More than 64,500 students across the watershed have been involved in CRWC's Stream Leaders program since the year 2000.

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NOW Continued

CRWC's Stormwater Education Program was established in 2004 to assist communities in providing watershed and stormwater education to their residents as part of their stormwater permit requirements. Since then, CRWC has held an estimated 440 free public presentations and workshops, reaching approximately 25,000 members of the community.

Stormwater Management Forums began in March 2017 to bring decision makers and watershed stakeholders together to learn about and discuss relevant topics in stormwater management. To date, CRWC has hosted a total of 15 forums, 27 speakers, and 453 attendees.

There are two water festivals held each year, The Clinton River Water Festival at Oakland University, and the Lake St. Clair Water Festival at Macomb Community college. These events provide a free, hands-on opportunity for 4th and 5th grade students to learn about the importance of water and how it is used in their daily lives. These festivals have been in place since 2007, and have engaged upwards of 26,00 students in the Clinton River Watershed.

The Clinton River Watershed Council (CRWC) launched the WaterTowns[®] initiative in 2013. Encouraging recreation, placemaking and green infrastructure, there are now 25 communities confirmed as WaterTowns[®].

The main branch of the Clinton River was designated by the Department of Natural Resources as a State-designated Water Trail. The Clinton River Water Trail offers experiences for all levels of paddling expertise (beginner, intermediate, and expert). Accessibility is getting easier: There are currently 3 universally accessible canoe and kayak launch operating on the Clinton River, with 3 more planned for 2021-2022.





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