

Koochiching Conservation

Spring 2023

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2023 TREE AND NATIVE PLANT SALE

ORDER FORMS INSIDE!



Order Deadlines:

Annual Tree Sale: April 21
Native Plant Sale: May 1

Pickup Dates:

Annual Tree Sale: May 3/4
Native Plant Sale: May 25



The 2023 Tree and Native Plant Sale order forms are enclosed and we are ready to start taking orders! You'll see many of your favorite species and kits along with some new ones as well.

As usual, we've sought out the best stock for the best prices and we're very happy to offer reduced the best prices possible! You'll find a similar selection in our native plant sale, but do note that other kits and custom orders are available upon request.

For more detailed species descriptions, printable order forms, or email links to submit an order online, check out our sale webpages at:

Tree sale: <https://koochichingswcd.org/tree-sales/>

Native Plant Sale: <https://koochichingswcd.org/nativeplantsale/>

And as always, if you'd like some help choosing species or developing a planting plan give us a call at 218-283-6742 or email to: james.aasen@co.koochiching.mn.us

BUCKTHORN REMOVED IN RANIER



The Conservation Corps of Minnesota sent a crew of 5 to assist with the removal of buckthorn in Ranier. Without them, this project would not have been possible.

As part of the Cooperative Weed Management Area grant administered by the Board of Water and Soil Resources (BWSR), the Koochiching SWCD developed and led a project aimed at removing as much mature European buckthorn in the targeted area of Ranier, MN as possible during the fall of 2022. Landowners in this hotspot area were contacted and offered removal services.

The project took place over one week and treated approximately 15 acres, spanning 35 properties and 21 landowners.

The Minnesota Conservation Corps was hired using BWSR grant funding with match funding provided by the City of Ranier, allowing no cost to the landowners! Landowners also received training on how to identify and control invasive plants for long-term management.

In order for this project to be as successful as it was,

interagency cooperation was a must. The Koochiching County Highway Department provided assistance for debris removal, DNR provided coordination assistance and rotated staff on various days to assist with removal; the Koochiching County Land & Forestry Department volunteered time during the event and engaged citizen volunteer help as well; the City of International Falls and Voyageurs National Park provided camping space for the CCM crew during the week of the event.

This week-long event was preceded by a public workshop held at the Ranier Hall meant to both

promote the event and educate the public on plant identification.

A workshop for resource professionals was also held in order to share how the event and partnerships came together so that it could be repeated in other areas more easily.

If you think you might have buckthorn on your property, contact us at the

Koochiching SWCD. We can provide you with knowledge and guidance to help you minimize this invasive plant.

James Aasen

Forest Resource Specialist

218-283-6742

james.aasen@co.koochiching.mn.us



Buckthorn can be identified by their glossy leaves with deep veins and a thorn on the end of the branch. Leaves are most often found directly across from each other. Mature plants will have dark, almost black berries in the fall.



Koochiching County workers load cut buckthorn from the property of a participating landowner to be brought to the Ranier brush pile in this collaborative effort.

District Supervisors

Ralph Lewis	Chair
George Aitchison	Vice-Chair
Eldon Voigt	Secretary
Jody Reller	Treasurer
Richard Dreher	Member

REGULAR MEETING TIMES:

May to October: 7:00 p.m.

November to April: 6:00 p.m.

District Staff

Pam Tomevi—District Administrator
pam.tomevi@co.koochiching.mn.us
218-283-1174

TBD—Resource Conservationist
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James Aasen—Forest Resource Specialist
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218-283-6742

Jolén Simon—Program Coordinator
jolen.simon@co.koochiching.mn.us
218-283-1180

COMMITTEES:

Budget Committee— Ralph Lewis & Eldon Voigt

Personnel Committee— George Aitchison & Ralph Lewis

Education/Public Relations Committee— Jody Reller & Richard Dreher

SPECIAL ACTIVITIES:

North Central MN Joint Powers Board— Jody Reller

Laurentian RC&D Council— Jody Reller

Big Fork River Board— George Aitchison & Richard Dreher

Littlefork/Rat Root River Board— George Aitchison & Jody Reller

MN SWCD Forestry Association— Eldon Voigt

The mission of the Koochiching SWCD is to conserve and protect the soil and water resources by educating and assisting land users in Koochiching County in being good stewards of the land and its natural resources.

Photo Credit: MPR News



ZEBRA MUSSEL UPDATE-NOTHING NEW IN '22

Despite efforts by multiple agencies and over many years, the Minnesota Department of Natural Resources (DNR) confirmed zebra mussel larvae are in Rainy Lake near International Falls in July 2021. The DNR took 5 samples, zebra mussel larvae (veligers) were identified in four of these samples taken. This study was done in response to a single adult zebra mussel having been found. At that time, no veligers were identified. This new discovery suggests that there is a reproducing zebra mussel population within Rainy Lake. **Sampling was done for veligers in**

2022, no veligers were identified. Koochiching SWCD will continue to work with Koochiching County and the DNR in order to monitor the situation.

WHERE DO ZEBRA MUSSELS COME FROM AND WHY ARE THEY A PROBLEM?

Zebra mussels are native to Eastern Europe and Western Russia. They tend to outcompete native species for food and habitat, cut the feet of people swimming in affected areas, and clog boat motors.

WHAT CAN I DO?

Boats should be cleaned, drained, and dried before moving to other waterbodies. Keep in mind that other surfaces should be cleaned to avoid adults and larvae from attaching to objects such as docks, bilges, bait buckets, and live wells. There will be assistance on Rainy Lake to check boats and to decontaminate if needed.

More information will be shared as available.

For further questions, contact Sam Soderman at (218) 283-1176 or sam.soderman@co.koochiching.mn.us.

JACKFISH BAY CATTAIL REMOVAL PROJECT MAKES PROGRESS

Koochiching SWCD began working with the Rainy Lake Property Owners Association (RLPOA) in late 2020 to draft a project proposal for cattail removal in the Jackfish Bay area. In the fall of 2021, a grant application was submitted through the Conservation Legacy Partners Grant (CPL) program. In December 2021, Koochiching SWCD was notified that the application had been approved for funding.

WHAT IS THE PROJECT?

The two groups sought funding to restore 9 acres of wetlands on Rainy Lake, MN at the juncture of Koochiching County Road 134 (CR 134) and Elks Bay. The site has been significantly impaired by the infestation and dominance of non-native hybrid cattails. The infestation has been accelerated by loss of natural water flow from past road construction and a legacy of privately owned septic systems that were poorly suited to the soil conditions. The consequences have been the displacement of native aquatic plant species, degradation of habitat for waterfowl and fish, and the creation of floating navigational hazards. Restoration of this 9-acre wetland will remove floating mats of invasive hybrid cattail, enhance natural aquatic habitat, and re-establish a more natural water flow. Left unchecked, non-native hybrid cattails will continue to dominate and spread through the area. The project comprises three main activities: To enhance water flow, an existing 48-inch circular culvert will be replaced by one 15 foot x 10 foot culvert, and the road grade will be raised, this is due to the historic flood elevations experienced in spring/summer 2022. This will also allow the passage of small boats. Next, utilizing methods tested at Voyageurs National Park, nine acres of hybrid cattails will be removed utilizing a combination of prescribed burning above ice during frozen lake conditions followed by mechanical removal of the remaining biomass during open water. Finally, approximately 2 acres of the restored area will be seeded with native aquatic vegetation and, if viable, wild rice.

An integrated approach of removing hybrid cattails and restoring native plant species, coupled with re-establishing natural water flow and nutrient reduction following the completion of the Jackfish Bay Sewer Project offers the best chance to restore the native plant community and create a more sustainable habitat supporting fish and wildlife native to the location. In late 2022 and early 2023, permits and contracts will be obtained to plan for work to occur in Summer 2023. A public meeting will also be held on May 3, 2023 at 6pm in the Rainer Community Building.

WHY ARE NON-NATIVE HYBRID CATTAILS A PROBLEM?

Non-native hybrid cattails grow taller, faster and more densely than the native species that they outcompete and displace. Dense stands of hybrid cattails block sunlight and reduce dissolved oxygen which makes poor habitat for fish spawning. The dense hybrid monoculture also provides poor habitat for predator fish like northern pike, poor cover for marsh waterbirds, poor nesting sites for waterfowl, and is a poor source of nutrition for wildlife.

Do you have questions? Contact the Koochiching Soil and Water Conservation District at 218-283-1174.



This spring, a prescribed burn will be completed on cattails shown here on County Road 134 in cooperation with the International Falls Fire Department.

LITTLE FORK RIVER EROSION ASSESSMENT CONTINUES



These bins are used to collect spring melt sediment samples from the Little Fork River at the bridge in Littlefork.

This project is being led by the United States Geological Survey (USGS) and the Minnesota Pollution and Control Agency (MPCA) with support from the Koochiching SWCD and North St. Louis SWCD to address a 105-mile stretch that is impaired for turbidity (suspended soil particles in water). While it has been established that there is an excess of sediment present in the Little Fork River, it's been unknown how to proceed in reducing it to acceptable levels. Identifying sediment sources is the first step in targeting sediment-laden stream reaches for projects.

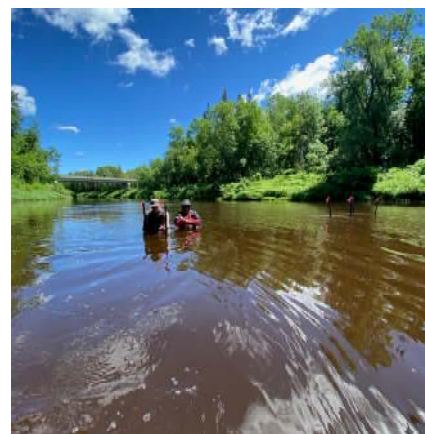
What is Sediment Fingerprinting?

The sediment fingerprinting process is an analysis of sediment that can attribute the particles' source to different locations in the watershed. The procedure establishes a set of physical and/or chemical properties (tracers) based on samples collected in upland or channel locations identified as potential sources of sediment. These properties are unique for each location within the watershed. Fluvial sediment samples (sediment

transferred by a river system) exhibit a composite, or "fingerprint" of source properties. Through statistical procedures, the target sediment properties can be matched to their respective upland or channel source "fingerprints". Determining the sources (erosion sites) and sinks (deposit locations) of sediment is important in developing strategies to reduce sediment loads to water bodies impaired by turbidity.

Progress in 2022

Sediment sampling occurred throughout the watershed in 2021 and 2022 to distinguish the origin of sediment in the Little Fork River. Staff from all four organizations collected samples starting at ice out and continuing throughout the summer. A final report is in draft form and will hopefully be released sometime in 2023.



SWCD staff collecting a sample in the Little Fork River at the bridge on Highway 65 from a passive sampler.

RAINY RIVER SEDIMENT-BOUND PHOSPHOROUS AS A POTENTIAL DRIVER OF LAKE OF THE WOODS ALGAL BLOOMS

A similar project is beginning in 2023 that will look at sediment and phosphorus in the Rainy River and its main Tributaries (Little Fork River, Big Fork River, and Rapid River). This study is a collaboration with USGS, MPCA, and Lake of the Woods SWCD to map sediment and the transfer of Phosphorus throughout the Rainy River system into Lake of the Woods. This is a grant funded project through the LCCMR.

Lake of the Woods (LoW) is a vital ecosystem impacted by recurring harmful algal blooms. The Rainy River basin comprises 80% of the total drainage area to LoW and contributes 45-75% of the total phosphorus (TP). Despite major reductions in total phosphorus concentrations in the Rainy River, blooms persist in downstream Lake of the Woods. Previous investigations have explored the inputs of phosphorus from the

Continued on next page

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Rainy to LoW, but none to date have explored the detailed phosphorus chemistry of sediments in storage and in transport in this large river network, and as a result, we lack understanding of how legacy phosphorus in this system may serve to fuel blooms downstream now and into the future

This year, a research team will begin work on addressing this gap by delineating areas of legacy phosphorus deposition within the Rainy River and Fourmile Bay, and by exploring the detailed phosphorus chemistry of sediment in storage and in transport. The study will use geophysical tools to examine fine sediment deposit extent and thickness and will analyze at how phosphorus is bound to sediment in the stream bed and in suspension throughout the Rainy River and in three key tributaries on the U.S. side of the river. Long-sediment cores will be collected in Fourmile Bay to link the results of this investigation of legacy phosphorus storage to the longer-term history of sediment deposition in this dynamic river mouth, and in the lake itself. The results of this study will provide critical information for resource managers, pinpointing hotspots of legacy phosphorus introduction and storage. This study will identify the in-stream source areas with greatest potential to contribute to the bioavailable pool of phosphorus downstream and to fuel algal blooms into the future.

OUTSTANDING CONSERVATIONIST OF THE YEAR: MARY-JEAN BECKER



***Mary-Jean Becker poses with her award
and native plants.***

Mary-Jean Becker was recently honored as the Koochiching SWCD's Outstanding Conservationist at the annual meeting of the Minnesota Association of Soil and Water Conservation Districts, December 12-14, 2022 in Bloomington, Minn.

Each year, the state's SWCDs recognize individuals and organizations for outstanding accomplishments in implementing conservation practices and improving Minnesota's natural resources. The award program is conducted with support from *The Farmer* magazine.

According to the Koochiching SWCD, Mary-Jean and her family exemplify what it means to be a conservationist. They are thoughtful stewards of their land and are always looking for ways to improve the property for wildlife and ecological benefits.

"They continue to be great partners, voluntarily participating in conservation programs with us and other area natural resource agencies," said James Aasen, Koochiching SWCD Forest Resource Specialist.

"Mary-Jean has gone out of her way to not only work on large scale conservation projects like invasive species control, tree planting, and pollinator plantings herself, but also encouraging and teaching friends and acquaintances through what she's learned. That takes a great deal of effort and passion for natural resources and her community."

2022 AREA VIII ENVIROTHON



Since 2019, there has not been an Area VIII Envirothon event due to Covid-19, much like many other things in the world during that time. But in 2022, we were able to join and assist Area III's event in Cloquet, MN.

Of the three Koochiching teams that participated for Area VIII, two were Junior Division (6th –8th grade) and one was Senior Division (9th –12th grade). The Senior team (pictured left) took second place against Grand Rapids, securing a

spot at the state event. We were so grateful to offer this to students in our north central area who were willing and able! **Thank you to our 2022 sponsors: Border Bank of Int'l Falls, the Rainy Lake Sportfishing Club, Coca-Cola Bottling, Northome Grocery, 1st National Bank of Deerwood, Bremer Bank of International Falls, Ridge Runners Snowmobile Club, and the Koochiching County Farm Bureau.**

TREE CONE COLLECTING: MAKING MONEY WHILE HELPING THE FOREST

Everyone loves an opportunity to make a little extra money, right, what the kids call a “side hustle”? Well, there's no better time to do just that while getting outside and helping conservation all with the same activity. Tree cone collecting has been a seasonal occupation for hardy folks for as long as seedlings have been grown for reforestation purposes, and like many traditional niche jobs these days, the expertise and institutional knowledge of tree cone collection is fading out. Minnesota's conservation-sized (seedling) supply chain is struggling at a time when it's needed more than

ever. Interest in planting trees for conservation purposes like windbreaks and visual screens, diversifying tree species in forests and cities for health and disease impacts like emerald ash borer, and investment in carbon sequestration credit generation all require seedlings. Local picking is also important to grow genetically adapted trees for the region they will be planted in. The Minnesota Department of Natural Resources buys seed cones every year to grow trees at the Minnesota State Nursery in Badoura and have recently raised cone purchase prices to encourage pickers. To help do our part, the Koochiching Soil and Water Conservation District in partnership with Koochiching County Lands & Forests and the Minnesota DNR have organized a tree cone collection training to be held at Minnesota North College-Rainy River in International Falls on Saturday April 1st, 2023. Dr. Andrew David, University of Minnesota forest geneticist and tree improvement researcher will be leading the training for the public, everyone's welcome to attend. This event will be a great opportunity to learn from a professional the details of collection timing, identifying fresh usable cones, and how to choose a good site to pick. Area MN DNR staff will be present to discuss purchase requirements, pricing, and how to coordinate picking with loggers and foresters on public land. The presentation will begin indoors with a slide presentation and then move outdoors where freshly cut treetops are available for folks to try their hand at cone picking. RSVP's are encouraged in order to gage attendance needs, please let us know about your interest in attending at: 218-283-1180 or email Jolen at jolen.simon@co.koochiching.mn.us. We hope to see you on April 1st!



Black spruce cones, ready to pick.

If you are interested in cone collecting but can't make the event, give us a call at 218-283-6742 and we can help guide you in the right direction. Additionally, the Minnesota DNR has resources on their website at: <https://www.dnr.state.mn.us/forestry/nursery/cone-seed-collection.html>

Species Spotlight: Conservation Reserve Program

By: William Lee, Soil Conservationist – NRCS Baudette Field Office



Fig. 1 Sharp-tailed Grouse Range

Photo Credit: USDA, NRCS - Sharp-Tailed Grouse (*Tympanuchus phasianellus*) Fish and Wildlife Habitat Management Guide Sheet

The Sharp-tailed Grouse is one of Minnesota's native grouse species that currently resides in the Northwest corner of Minnesota with some populations in the Northeast/Lower arrowhead area of the state. It hasn't always been this way however, Sharp-tail historically had range over a greater portion of Minnesota and extended further south in the United States. Since the early 1900's their range and habitat have both shrunk significantly. The Minnesota Department of Natural Resources estimates the average hunter harvest numbers for these game birds to have been over 100,000 birds in the 1940s to recent years where harvest levels are at 10,000 birds or less annually. Anecdotally many stories are told of massive flocks of these birds in the western reaches of Minnesota seen frequently in days past, have now disappeared or as far fewer in number. These population changes are due in large part to habitat loss through conversion of grassland to row crop and natural succession of grasslands closing into larger woody species or being planted to pine or spruce plantations.

Hope for the Sharp-tailed Grouse has grown stronger in recent years. Conservation organizations, one being the NRCS, have given higher

funding prioritization to projects that include core habitat management practices within sharp-tailed grouse range and many other organizations have begun a push in recent years to get more information about sharp-tail grouse to the public and prioritize projects to benefits these native prairie birds.

The fascinating cycle of a Sharp-Tailed Grouse begins in the spring of each year in late March and can go through Mid-May in some parts of their range. Males (cock) and females (hen) gather on breeding grounds known as "leks" to court with unique dancing rituals to attach a mate. Leks are most often formed in areas of sparse/low vegetation and sometimes on a hill or rise above the surrounding landscape. The dancing usually begins in the twilight hours of the morning or even when it is still just dark out and can last into the mid-morning. While similar to other prairie grouse species, the sharp-tail has its own unique artistic flare to the breeding dance. Males will extend their necks forward and hold their fan (tail feathers) high moving them back and forth quickly in a vibrating motion, at the same time quickly stomping their feet and moving back and forth in circles. Small purple air sacs located on the neck are inflated and deflated to make a cooing sound, this can be seen when the cock expands his neck feathers and raises a brilliant yellow eyebrow patch. To finish off this dance move he will spread his wings out, and slightly downward for the duration on the dance (see picture!). Hens observe these mating dances from the outside edge of the lek and will move into the center and mate with the male that put on the right dance moves for them.

Females will nest on the ground often near clumps of grass or near the base of shrubs in a thicket and lay about a dozen eggs on average. Eggs are light brown or green and some can have many speckles on them. The clutch of eggs will be incubated for just less than 4 weeks. Young Sharp-Tailed Grouse are precocial (able to feed and move on their own very young) and will forage on mostly insects and can even make short flights at just a couple weeks old, under the watchful eye of their mother. Within about 3 months the young birds look much like the adults but smaller and by the autumn months look and act just like the adults and are roughly the same size.

Sharptailed grouse can eat a large variety of different types of food including insects like grasshoppers, beetles, and caterpillars. Fruits produced by species such as rose hip, dogwoods, buffalo-berry, chokecherry, and others. They will eat the harder tree/shrub products such as buds from aspen, and catkins from birch and alder. They are also often seen in agricultural fields feeding on grains and agricultural products like alfalfa, wheat, oats, flax etc. Like other species of grouse insects become a smaller portion of their diet with vegetation making up most of their diets as adults.

They favor a habitat of open native grassland and shrub mosaic with scattered pockets of native shrubs and a much smaller component of aspen stands on the edge of their preferred open ground. In harsh winter conditions in Minnesota, they can be found in frozen cattail marsh's or utilizing bogs. Sharp-tail populations can be found in many states with high populations in prairie states like Eastern Montana, North & South Dakota and Nebraska. As well as populations in Alaska, Colorado, Idaho, Michigan, Minnesota, Utah & Wyoming as well the strong population in the central provinces of Canada.

To learn more about Sharp-Tailed Grouse and how you can help to manage your landscape to benefit these birds there are multiple fantastic resources for information. Some organizations can even assist with a habitat project providing financial assistance through a conservation program to improve better habitat and food resources. Some places to get you started:

Audubon, Guide to North American Birds

<https://www.audubon.org/field-guide/bird/sharp-tailed-grouse>

Minnesota Sharp-Tailed Grouse Society

<https://www.sharptails.org>

Minnesota Department of Natural Resources

<https://www.dnr.state.mn.us/birds/sharptailedgrouse.html>

Top 10 Sharp-tailed Grouse Habitat Management Tips:

<https://files.dnr.state.mn.us/publications/wildlife/grouse-habitat.pdf>

Natural Resources Conservation Service:

[Sharp-Tailed Grouse \(*Tympanuchus phasianellus*\) Fish and Wildlife Habitat Management Guide Sheet](#)

<https://efotg.sc.egov.usda.gov/references/public/MN/sharptail.pdf>

<https://www.nrcs.usda.gov/conservation-basics/conservation-by-state/minnesota/wildlife-minnesota#modal-25109>

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Davis, G. 1987. Sharp-tailed Grouse Habitat Management for Private Landowners. Minnesota Sharp-tailed Grouse Society. Duluth, MN. 6pp.

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MDNR. 1989. Managing Your Land for Sharp-tailed Grouse. Minnesota Department of Natural Resources. St. Paul, MN. 8pp.

US Fish and Wildlife Service. 1985. Habitat Suitability Index Models: Sharp-tailed Grouse, 13pp.

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Dancing Sharp-tailed Grouse: Picture taken by Lake of the Woods SWCD staff member Corryn Trask from a blind set up by MN DNR wildlife staff in Lake of the Woods County.



CONSERVATION DISTRICT

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Contacts:

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