

HORSEHEAD LAKE PROTECTION & REHABILITATION DISTRICT NO 1



March 1, 2024

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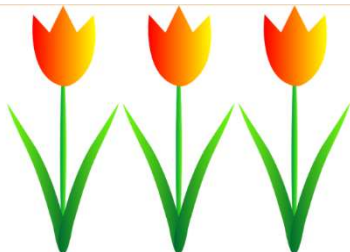
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www.horseheadlake-wi.org

Aerator Update

Aerator 2 was completed in Nov 2023. Aerators 1 & 2 ran from 11/17/2023 to 3/15/2024 and operated normally. We received the 2nd Grant distribution and used the funds to make an early payment of \$20,000 against the loan. The dissolved oxygen readings were much better (higher) this year.

How

much of the improvement in DO levels was due to the new aerator or the mild winter is unknown.

We have applied for a permit to install an automated DO measuring system which will provide better DO data for managing the systems.

Invasive Yellow Iris Flowers

Stephanie Boismenu from Oneida County gave a very informative presentation on invasive species at the last annual meeting. She had hosted the June paddle around the lake looking for invasive species. Per the information previously provided, the yellow iris you see around the lake are very invasive and choke out native plants and animal habitat. Enclosed is a map illustrating where Stephanie mapped out locations where the yellow iris was found, and this map appears on our website. If you have yellow iris on your shoreline, at a minimum, please cut the yellow flowers in the spring and early summer. This will help prevent further spread. Gloves should be worn when handling the plant as the sap can cause skin irritation in some people. Also, be aware that the yellow iris plant's roots and leaves are poisonous to animals.

Stephanie discussed many of the invasive species around the area and in other lakes. This was a good reminder to make sure your boat is free of plants and water from other lakes to prevent invasive species from spreading.

Catch and Release



Residents voted to recommend only **catch and release for blue gills and black crappies** through 2024.

Fish Stocking

Nathan Lederman with the Wisconsin DNR has suggested we skip fish stocking this year due to the mild winter conditions and new aerator system. Fish stocking will be evaluated next year.

Boat Landing



Just a reminder, power loading boats causes the lake bottom to be pushed into a berm at the end of the landing. Please avoid power loading your boat. There is no solution for this as we have a shallow landing with a sandy bottom.

Wake Boarding & Surfing

Wake Boarding & Surfing is becoming a concern for Wisconsin Lakes due to the damage that can be caused to the lake bottom. As shared at the Annual Meeting, both Oneida County and the Town of Lake Tomahawk are discussing limiting enhanced wakes on area lakes. Additionally, the Town of Lake Tomahawk has granted our district the authority to enact regulations, since we are a shallow lake. This activity has a place, but not on shallow lakes where irreparable harm can occur.

Wake Boarding & Surfing requires the use of ballast tanks & deliberate operation to create very large wakes. This causes several problems: scour the bottom of a lake (especially a lake like ours) destroying fish habitat and increasing water turbidity. The large wakes can swamp smaller boats and cause shoreline erosion and loss of habitat.

Research has shown where these boats have operated lake bottoms are now a wasteland, where previously aquatic vegetation and fish have thrived.

Commissioner Meetings

The Commissioners will be meeting the following dates for the 2023-2024 year:

- July 6th, 2024
- August 3rd, 2024

Per statute, the commissioner meetings are a time for the commissioners to do work and vote on how to manage the district. Citizens have a

right to attend and observe these board meetings, but citizens do not have a right to participate or vote at these meetings. However, we always allow time for citizen input on the agenda for anyone attending to bring up concerns. You are also welcomed to bring concerns to any of the commissioners at any time.



Weed Harvesting

Per our management plan, the lake was assessed this summer to determine if Weed Harvesting is needed - Please see the attached note about what we have learned about weed harvesting.

Safe and Courteous Boating

Please be sure to practice safe and courteous boating and jet skiing on the lake. The DNR regulates boat safety and prohibits operating your vessel within 100 feet of a shoreline, dock, raft, pier or restricted area greater than slow or no wake speed. It is unlawful to chase, harass or disturb wildlife.

Personal watercraft (such as jet skis) cannot be operated at faster than "slow, no wake speed" within 100 feet of any other vessel on any waterbody, 200 feet of shore on any lake and 100 feet of a dock, pier, raft, or restricted area on any lake.

Because it is less than 400 feet between the south end of the island and the shoreline, this is a no wake zone for jet skis.

EMAIL ADDRESSES

If we have your Email address, we can send you bulletins. If you are receiving this newsletter via US Mail, it is because we do not have your email address. Our secretary indicates we are mailing over 60 newsletters out. Please send your email address to **horseheadlakePRD.sec@gmail.com** as this saves the district postage and copy costs.



From the Chair By Dusten Tornow

Thank you for the opportunity to serve as a board member, I'm looking forward to getting more involved in keeping our lake healthy and great!

In June of this year, my family and I will be relocating to Cedar Park, TX (north of Austin, TX) for work. We plan to continue to visit our cabin on Horsehead Lake frequently and I intend to continue working as your chairperson for the duration of the 3 year term.

Shoreline Living Booklets

In the past we had been providing printed copies of the Shoreline Living Booklets – they recently made their 2nd volume available to download for free. Check it out here:

[Shoreline Living booklets – Midwest Glacial Lakes Partnership](#)

Our Volunteers

Webmaster:

Dusten Tornow

Aerator:

Dave Averbeck

Secchi testing/water sampling:

Kevin Collins

Dissolved Oxygen Testing:

Paul Bursik

Audit Committee:

Charles Konsitzke

Are you interested in volunteering? Please contact any of the board members!

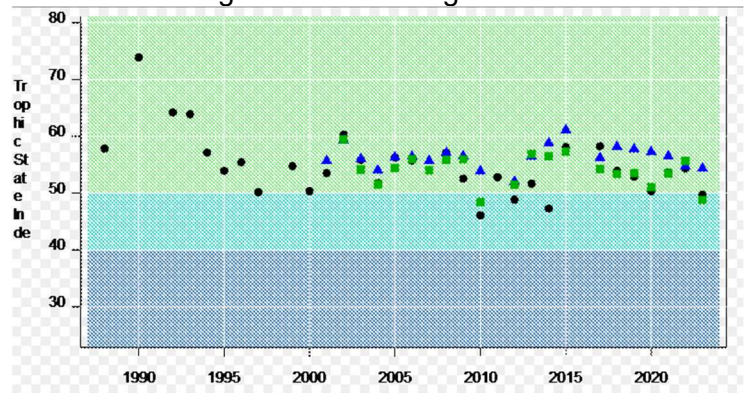
Loon Update

As of the end of April, we had two loons on our lake. I hope they stay. According to The Loon Project, there are a number of factors that threaten the success of loons breeding in northern Wisconsin. In the past, flooding, biting black flies and water clarity affected loon breeding success rates. Climate change now is adversely

impacting our loons. And while we can't change the weather or provide fly swatters to our loons, we can help by being considerate of the loons and their nests and not add human interference to the list of negative factors affecting the loons in the northwoods. It would be sad to tell your grandkids, "I remember the summers when we could hear the loons calling at night". Please avoid close contact with these birds.

Water Quality

Water quality samples are taken during the the summer months and measure temperature, water clarity, phosphorus and chlorophyll. The last two parameters are a measure of the type of lake. Horsehead Lake is an eutrophic lake. Eutrophic lakes are high in nutrients and contain large populations of aquatic plants, algae, and fish. The lake substrate is typically soft and mucky. The aquatic plants and algae can grow to nuisance levels, and the fish species are generally tolerant of warm temperatures and lower oxygen conditions. Luckily, our lake seems to be maintaining levels were the lake does not have detrimental algae blooms during the summer.



Dots - secchi readings, squares – chlorophyll, triangles – phosphorous levels

Sincerely,
Dusten Tornow
David Averbeck
Kevin Collins
Lenore Lopez
Jim Winkleman

5 Year Budget/Property Value and Tax Rate Comparison

Last 5 Years Budgets & Tax Rates	FY 2023/24	FY 2022/23	FY 2021/22	FY 2020/21	FY 2019/20	FY 2018/19
Total Operating Expenses	\$ 42,256	\$ 43,425	\$ 45,275	\$ 42,730	\$ 33,840	\$ 39,793
Funds for Capital Projects	\$ 17,000	\$ 17,000	\$ -	\$ 9,000	\$ 16,952	\$ 18,000
Grand Total Expenses + Capital	\$ 59,256	\$ 60,425	\$ 45,275	\$ 51,730	\$ 50,792	\$ 57,793
Carryover from Prior Fiscal Year	\$ 41,106	\$ 40,987	\$ 36,135	\$ 38,582	\$ 44,626	\$ 32,986
Total Tax Levy Required	\$ 18,150	\$ 19,438	\$ 9,140	\$ 13,148	\$ 6,166	\$ 24,807
Equalized Property Value	\$ 35,062,789	\$ 28,467,462	\$ 23,722,602	\$ 23,502,476	\$ 22,467,009	\$ 21,566,170
Mill Rate/\$1000 Value	\$ 0.5176	\$ 0.6828	\$ 0.3853	\$ 0.5594	\$ 0.2744	\$ 1.1503
Large Carryovers primarily due to:						
Unused Capital funds for aerator improvements in years prior to FY 2023/24						
Weed cutting budgeted and not performed						

Aquatic Invasive Species Fact Sheet

Yellow Iris (*Iris pseudacorus*)

DO NOT PLANT!

Caution: All parts of this plant are poisonous to humans and animals due to high levels of glycosides. Protect skin as resin in the leaves and rhizomes can cause skin irritation.

Unpalatable to wildlife and livestock.

Threat: Yellow iris is an aggressive non-native aquatic plant that escapes from cultivation into native habitats. It invades shorelines to wetlands to drier upland sites. It displaces native plants, alters habitats and reduces food for waterfowl and fish. Dense infestations traps sediment, clogs culverts, and alters hydrology.

Wisconsin Status: Yellow iris is a Restricted species under the Wisconsin Invasive Species Rule. It is illegal to introduce, give away, buy, sell, barter, transport, or transfer. Any person who owns land where yellow iris is present is encouraged to control the plant or contain it to the already infested sites, to reduce its population, and to foster an increase in desired species. Plant natives as an alternative.

Identification:

Spread: Seeds, rhizomes, rhizome fragments, and human activity.

Height: Up to 6 feet tall.

Flowers: Blooms April-July. Pale to bright yellow, up to 4 inches across. Three short petals in the center.

The three outer, petal-like lobes of the blossom are sepals patterned with light brown to purple veins or flecks.

Leaves: Sword-like, flat, erect, and linear with a sharply raised midrib.

Fruit & Seeds: Seed capsules up to 4 inches long, angular, glossy green to brown as it ripens. Contains dozens of pale brown seeds arranged in 3 rows. Seeds have a hard outer casing and can float.

Roots: Thick rhizomes spread extensively and form thick mats and networks that crowd out native species. Rhizomes can float, survive prolonged dry conditions, and fragments can form new plants.



Photo Credit: Stephanie Boismenue



Native to: Europe, western Asia, and North Africa.

Ecological Impacts: Yellow iris is a fast-growing and fast-spreading non-native aquatic plant that forms dense stands of robust plants. It invades shorelines and shallow water areas of lakes, rivers, streams, wetlands, bogs, swamps, ponds, and forest, ditches, and flood plains.

The dense, almost impenetrable, monotypic stands crowd out native plants, reduce habitat for wildlife and fish, reduce bird nesting and rearing sites, compact soil, and alter hydrology by trapping sediment.

Yellow iris does not provide food for native animals and contains large amounts of glycosides that are toxic to wildlife and grazing animals.

Spread: Spreads quickly by seeds that float and by underground rhizomes that send out new shoots above the ground and roots below. Stands of yellow

iris develop thick mats of rhizomes that can connect several hundred plants. Fragments of rhizomes that break off can also form new plants. Seeds, stems and rhizomes escape into natural areas by wind, water movement, earthmoving equipment, transplanting and other human activities.

Similar Species: When not in flower, yellow iris may be confused with native species such as blue flag iris, cattails, or sweet flag.



Photo Credit: Stephanie Boismenu

Oneida County AIS Program
Oneida County Land &
Water
Conservation Department
PO Box 400 | Rhinelander,
WI 54501 www.oclw.org | 715-369-7835



Control: Caution should be used if pulling out this plant as it causes skin irritations. Control efforts are most likely to succeed when plants are small and manageable. Use an integrated approach of monitoring for seedlings and re-growth and control efforts.

Mechanical: Removing flowers and seed capsules can prevent the spread.

Mowed plants will regenerate from the rhizomes, so plants must be cut multiple times to exhaust their energy reserves.

Digging is effective for removing small plants and plant populations. Remove as much plant debris as possible, particularly rhizomes. Dispose of in landfill or by burning. Plant natives in its place.

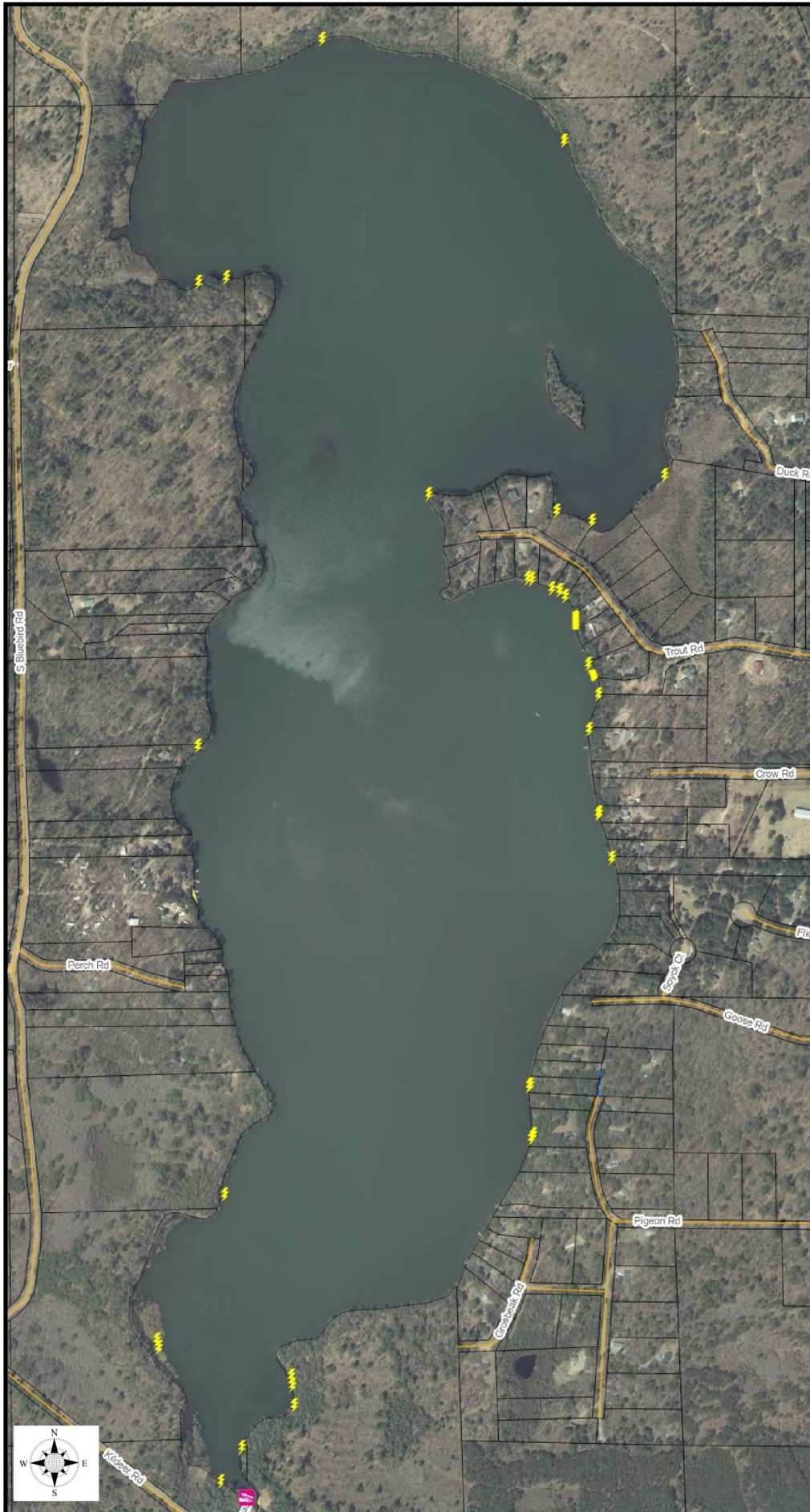
Caution: The disturbance associated with digging can result in shoreline and sediment erosion.

Chemical: Permits may be needed. Always check DNR regulations for the most up-to-date information regarding permits for control methods.

To report a yellow iris location and to learn more, visit www.dnr.wi.gov/topic/Invasives/

This Fact Sheet was developed by Stephanie Boismenu,
Aquatic Invasive Species Coordinator, Oneida County
Land &
Water Conservation Department in partnership with the
Three
Lakes Waterfront Association. (S.B., R2023)
Photo credits: Stephanie Boismenu

Reference: Wisconsin Department of Natural
Resources: *Yellow iris (Iris pseudacorus)*:
<https://dnr.wi.gov/topic/Invasives/fact/>



06-19-23 AIS Monitoring

On 6/19/23, The AIS Team from Oneida County Land & Water Conservation Department and 3 Volunteers from Horsehead Lake District monitored the entire littoral area of the lake for AIS through visual observations from their canoes and kayaks. The invasive yellow iris was observed throughout the lake with a total of 20 individual points and 2 highly dominate beds recorded.


Actions: The AIS Team clipped yellow iris flowers and hand removed several individual


Legend:

Area-Based Mapping:

 Highly Dominant
(2 beds Recorded))

Point-Based EWM Mapping:

 Single or Few Plants
(20 Points recorded)

 Boat landing

Prepared by
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715-369-7835

Weed Harvesting

Horsehead Lake has a high population of aquatic plants. At times, the plant population can become so dense that it interferes with boat travel. Horsehead Lake District is able to hire a mechanical harvester to remove some of the weeds, if necessary.

The need for harvesting is defined by submergent plants in the area being within 1 – 2 feet of the surface. In the past, if the weeds are matted on the lake and boats were unable to navigate around the weeds, they needed to be harvested. The majority of the northern portion of the lake is a conservation area and therefore not eligible for weed harvesting. Onterra has identified 144 acres that we are allowed to cut (see map 9 of the Management Plan), however our permit only allows no more than 75 acres to be harvested in a single year.

Our lake totals 380 acres and so harvesting is allowed in less than 20 % of the lake. Weed harvesting cuts paths in the weeds to make navigation possible. (See Management Plan p. 94.) Harvesting does not mean all the weeds are cut, but generally a circular path in the main part of the lake is cut.

Fortunately, in recent years (2018 to present), the weeds have not needed to be harvested. The sole reason to cut the weeds is to make navigation possible – if the weeds cannot be boated around. In general, there is nothing healthy for the lake in cutting the weeds, which is why the DNR limits their weed harvesting permits.

As was explained in the DNR Zoom conference, the DNR is tasked with maintaining the natural resource versus allowing people to adequately use the resource. Anytime a management action is taken, the lake can be adversely impacted. (DNR Zoom 33:40.)

There are two major negative consequences that mechanical harvesting can cause.

1. Much research has shown that shallow lakes (like Horsehead Lake) typically exist in either a turbid state or a clear water state. Turbid state lakes are dominated by algae while clear water state lakes are dominated by aquatic plants. Fortunately, Horsehead is in a clear water state. Weed harvesting can cause a lake to flip from a clear water state to a turbid state, which means the algae takes over. During the DNR presentation our district did via Zoom, we were told about a lake that did flip. (See Management Plan pp. 20, 54, and 84 and DNR Zoom 37:15).
2. Eurasian Water Milfoil (EWM) and other invasive species can be spread or introduced into the lake. As Onterra has stated, EWM could still be lurking in our lake, but it hasn't taken off. In 2007, EWM was found by the boat landing and in 2013 there were 4 additional locations found during a whole lake survey that included areas near the original aerator and close to the private outlot (south of Trout Road). Onterra was concerned that the weed harvester could be spreading it around the lake. (Onterra memo of 6/24/2013.) Fortunately, EWM has not been located in the last several surveys, but as Onterra has pointed out, that doesn't mean it is completely eradicated. During the surveys, not every plant in the lake is looked at. The Point-to-Point Surveys look at plant life every 52 meters and plot out 500 points in the lake, in a grid fashion. It is possible the EWM is between the various points. Furthermore, anyone we hire to come in and perform weed harvesting has undoubtedly been removing weeds from other lakes filled with EWM. We rely upon the vendors cleaning and sterilization practices to make sure their equipment is free from EWM, but we have no way of knowing that a plant is not hiding in their machine that can spread EWM in our lake.

Additionally, there are a multitude of other adverse effects from weed harvesting. The harvester, much like a huge combine going through the lake, churns up the water and lake sediment, also removing fish, fish habitat, invertebrates and amphibians. (See Management Plan p. 54). Not all weeds cut are captured by the mechanical harvester, leaving them floating on the lake and washing ashore. Studies have found that smaller fish tend to get caught up in the aquatic vegetation that the conveyor brings up. (DNR Zoom 34:20). Aquatic insects are also impacted by weed harvesting (DNR Zoom 35:05) which has trickle down effects on the fish population. Because weeds on Horsehead Lake have not needed to be harvested for a period of years, insect communities and fish communities are likely rebounding to natural levels. (DNR Zoom 35:45). Harvesting does cause the sediments to be resuspended causing increased turbidity and water column nutrient levels.

Previously it was thought that removing weeds from the lake can reduce the sediment on the bottom of the lake, thus reducing overall phosphorus, but research has shown this not to be true. We are not able to remove enough weeds to affect the sediment or phosphorous levels. Both Onterra and the DNR have agreed on this point. (Onterra presentation to the board in May 2023 and DNR Zoom meeting at 1:14:40).

*The Management Plan refers to the Comprehensive Management Plan 2020 completed by Onterra. It can be found on our website at www.horseheadlake-wi.org.

** The DNR Zoom conference referenced was a meeting on March 8, 2022, with Ty Krajewski, Water Resource Management Specialist, with the DNR. He handles the weed harvesting permit for our lake. The presentation was recorded and is available by emailing the commissioners and asking for the link. Also see the May 2022 newsletter for a summary of this presentation. :
https://us02web.zoom.us/rec/share/NTg86FjfgbyUrVrDwZKn9Xm9Jm4OZBsfoNZgHVg2dSyLzvXNblEJgbgjbgvYZox.3p6_JVCWiaNTZzCX