TIMBERLINES

W. J. Breckenridge Chapter
Izaak Walton League
January 2023
www.breckenridgeikes.org

1922 2022
A Century of Conservation Leadership

Coming Events
January 2023

10 Board of Directors Meeting 7 pm
22 Annual Holiday Party 4 pm, Dinner 5 pm, Program: Don Luce: *A Natural Curiosity: The Story of The Bell Museum*

February 2023

14 Board of Directors Meeting 7 pm
28 Greg Hoch, author of *With Wings Extended* Wood Ducks 7:30 pm

March 2023

14 Board of Directors Meeting 7 pm
28 7:30 pm

Board of Directors Meeting Highlights: December 13, 2022

- The Pancake breakfast is scheduled for the May 7, 2023 with set up on May 6.
- Holiday Party January 22, 2023: Lori Johnson and Judy Arnold will seek out silent auction/raffle donations. Please call, text, or email your RSVP to Barb Franklin (763-242-0432, bbfrankli@gmail.com) by so we can notify our caterer, who requires at least 50 people.
- Motion lights at the door and in the parking lot will be installed in warmer weather.

Don Luce,
Holiday Program Speaker
A Natural Curiosity: the Story of the Bell Museum

Since its humble start in 1872 as a one-room cabinet of curiosities, the University of Minnesota's Bell Museum of natural history has become one of the state's most important cultural institutions. From its conception as part of a state-mandated geological and natural history survey, to its most recent ventures into technology, environmental science, and DNA sequencing, the Bell Museum has informed, explained, and expanded our relationship to the natural world. Drawing on a wealth of materials unearthed during the museum's recent move, the gorgeously illustrated book, *A Natural Curiosity*, chronicles the remarkable discoveries and personalities that have made the Bell Museum what it is today.

Don Luce, former Curator of Exhibits at the Bell Museum and co-author of *A Natural Curiosity: the Story of the Bell Museum* will share stories and history of the museum at our 2023 Holiday Party on January 22.

Update on Scholarship Recipients

The Breckenridge Chapter currently sponsors six excellent students who are pursuing an interesting variety of environmental careers. Five recipients recently provided information on their fall semester.

Willa with sister Emily

Willa Nagel recently finished her degree at the University of Minnesota a semester early in plant science with a minor in soil science. She writes that. "I am now enjoying some time off with my sister in Duluth where I plan to ski every day. This March I am moving out to Havre, Montana to work for the Natural Resource Conservation Service (NRCS) as a Soil Conservationist. NRCS is an agency under the United States Department of Agriculture, whose mission is to deliver conservation solutions so agricultural producers can protect natural resources and feed a growing world. I am happy to expand my learning this way and look forward to all the new experiences Montana holds. I am excited to be done with school for the time being; however, I do plan on furthering my education in soil health and conservation either through fieldwork or a master's program. In my final semester, I was able to finish classes with a 3.4 GPA and complete my 2nd year of captaining the Soil Judging team who will be attending the National Soil Judging competition in the spring. I am so grateful for all the support I have received from the Breckenridge Chapter over the past 3 years. Thank you!"

Gabriel Drayton is a junior at Northwestern University. Currently he is studying abroad in Barcelona, Spain. In addition to a Spanish history class, he is also taking a class on the tourism industry in the country that discusses ways that they are trying to make it more sustainable. Gabe is enjoying getting to learn about a new culture and seeing other parts of Europe but is also excited to get back to campus in the winter and continue some Industrial Engineering courses. When he returns, he plans on beginning a Data Science minor to give more depth to his major courses, but is also eager to take elective courses at Northwestern's Institute for Sustainability and Energy (ISEN) about climate change and sustainability.

Annika Hall writes that this past fall semester marks her third at the University of Wisconsin-Madison, and it's been extremely fulfilling! "I am currently double majoring in Environmental Studies with a focus in Limnology, and Political Science. I also have been working as an undergraduate researcher at the Center for Limnology since last year. This past fall I began a new position conducting field research by sampling tributaries of Lake Mendota weekly, measuring chloride and conductivity levels, to indicate salt concentrations within the Mendota watershed. This has proved to be very topical with the midwestern weather conditions and road salting practices in Wisconsin and an extremely interesting topic to study! Additionally, this semester I have gotten involved in student advocacy organizations on campus that participate in various environmental activism projects. I myself have been involved with Divest Madison, a group hoping to encourage fossil fuel divestment within our university. It has been an extremely rewarding semester so far, and I am looking forward to the rest of the school year!"

Sierra Hinkel writes that her fall semester was incredibly busy and has gone by quickly. "After my amazing summer studying abroad, I am in my Junior Year and taking almost entirely major-based classes, including Ecosystem Ecology and Environmental Politics and Policies. I also finished the final course to receive my Environmental Ethics Certificate! Outside of class, I am having a great time as an RA in one of our Residential Halls on UW-Stevens Point campus. I'm working hard to create programs to promote the wellness of college student through nature and encouraging sustainable living in my floor

community. I still participate regularly in the student chapter of the Society of American Foresters on campus and enjoy time in our on-campus reserve and looking for hiking spots nearby (check out the quarry side of Rib Mountain if you're ever in the area)! I am now enjoying winter break preparing for upcoming conferences, searching through internships, and enjoying Christmas with my family!"

Claire Koch, our newest scholarship recipient, feels like her classes at the University of Minnesota went well fall semester! She writes that "the beginning of the semester I joined the solar vehicle project team at the U, which is completely student-led and builds a solar powered vehicle to compete in a race in Australia. Some of the goals of the group are to raise awareness of alternative energy use, and to show that solar vehicles can compare well to traditional gasoline vehicles. I have also accepted an internship for next Summer with SICK, an international company that specializes in sensor technologies. I'm looking forward to next semester and finishing out the year strong!"

We have not heard recently from **Nick Mertens,** who is at St. John's University. Hopefully we can include information about him in our next *Timberlines.*

We would like to acknowledge two recent, large, generous gifts to the Chapter's Scholarship endowment fund from members Tom and Marilyn Breckenridge and from Sharyl Smith (wife of Larry Swanson). The Swanson and Breckenridge families were instrumental in establishing the scholarship endowment fund for our chapter and their continuing contributions help the endowment grow. Many thanks!

If you have questions about the Breckenridge Chapter Scholarship Program please contact one of the committee members: Jim Arnold, Judy Arnold, Melissa Sonnenberg or Mary Ellen Vetter.

Tissue Report

Karen Ostenso submitted this information from the 2023 issue of Nature's Voice*, the newsletter of NRDC.*

The boreal forests of Canada are the homeland of many indigenous communities, and it provides habitat for lots of wildlife. It is also the world's most carbon dense forest. Sadly, about a million acres are clear-cut each year.

Natural Resources Defense Council (NDRC) ranks the forest friendliness of tissue products such as toilet paper, paper towels and facial tissue. They report that many companies use recycled paper to make such products. However, the most common brands use virgin pulp from centuries old trees. Charmin toilet paper and Bounty towels, made by Proctor and Gamble; Cottonelle, made by Kimberly Clark; and Quilted Northern and AngelSoft, made by Georgia Pacific, a Koch Industries company, are all guilty.

NRDC publishes "Issue with Tissue" scorecard and gives them an F. They give an A to Trader Joe's bath tissue, made by Marcal, and Seventh Generation. Their top score goes to Who Gives a Crap. The full scorecard can readily be found by a search.

Freshwater Mussel Conservation

Program by Brett Ostby November 22, 2022
Reported by Tim Johnson

An animal that lives on the riverbed along our Chapter's property was the subject of a fascinating talk by malacologist Brett Ostby. Brett sees these freshwater bivalves, commonly known as mussels, as his clients as much as the organizations who contract with his company, Daguna Consulting. He surveys for mussels and conducts mitigation projects for losses due to human activity.

He told us that Minnesota includes the headwaters of three continental drainages almost all of which were glaciated until 12,000 years ago. So, all the native mussels in our State are the result of recolonization since then. As the first returned during the time of glacial Lake Agassiz they were able to access waters which are now separated by continental divides. Later, as St. Anthony falls eroded further upstream, access to lower Mississippi fish and mussels gradually opened up.

Sixty-one percent of the species that recolonized our State are extirpated, endangered, threatened, or listed as of special concern. The loss of freshwater mussels is on an order of magnitude greater than the loss of birds and mammals which recent meta-analysis have shown to be occurring at a staggering rate due to human activity.

Activities which have led to this catastrophic loss are varied but the lock and dam system in our rivers is the greatest. Mussels are dependent upon their fish hosts for reproduction and movement. For example, the skipjack herring which used to have an annual migration up almost the entire Mississippi River is the host for ebonyshell and elephant-ear mussels, both of which we have lost. Historically, the ebonyshell was the most abundant mussel in the upper Mississippi River but was extirpated due to loss of its primary host fish. Overharvesting during the pearl button era was also a less important factor

and tons of mussels were wantonly wasted along the banks of the Cannon River in search of actual rare freshwater pearls in the early 1900s.

Other human activity that has "done a number" on mussels is agriculture, channelization of rivers and streams and urbanization. Huge amounts of resulting sediments have buried rich mussel beds in the Minnesota River. Digging under the sediments in the river, surveyors have found the shells of the extirpated species. Now, different species more adapted to sediments are colonizing the Minnesota River.

The clear St. Croix River is one of the best places to find rare mussels. The last ebonyshell and elephant-ear mussels were found there. But even on this river system, dams are restricting host fish and therefore the mussels they host.

Brett showed us videos he has taken of the extraordinary mimicry mussels have developed using their mantles to attract the host fish on which their reproduction depends.

Mussels have no brain and no eyes, yet through the process of natural selection, mantles have evolved and resulted in the development of lures which look and move for all the world like the favorite prey minnows of the host fish, snails, blackfly larvae or worms. Some mussels actually will snap their shells shut to catch the fish while they discharge their larvae and then let them go again.

The larvae (glochidia) latch on to the fish's gills like little "Pac-Man's" where they parasitize the fish for nutrients for a couple weeks before they drop off to start their independent lives on the bottom of the river. There is also some evidence that at least one species of mussel actually sacrifices females to the predatory fish in order to inoculate them with their glochidia.

Saving our surviving mussels not only helps clean up our rivers through their service of filtering large volumes of water every day, but it provides food for fish like Freshwater Drum, ducks and geese, and mammals such as raccoons, otters, muskrats.

Native Americans consumed mussels and some still do. However, their shoe-leather consistency would discourage most people from eating them. Another reason not to eat them is that the long-lived species (many can live for decades) act as bio-accumulators of hazardous man-made pollutants. Recently non-native invasive zebra mussels and Asian clams have spread across our State. The Asian clams are not long-lived and therefore are not a hazard to eat. They have been spread intentionally by those who eat them and unintentionally in bait buckets as zebra mussels have.

Some years zebra mussel populations explode and they cover native mussels to the degree they can kill them. Other years their numbers subside. Their competition for nutrients is a threat to the natives. Zebra mussels were stopped advancing upstream at the St. Anthony locks after their closure several years ago but they are now making their way downstream from the Mississippi River headwaters where careless fisherman have introduced them on their boats and in their bait buckets.

Our recent drought and consequent low river levels exposed many mussels and elicited questions from the audience. Brett explained that following low water level years, there is a rebound in reproduction

noticed 5 or 6 years later as the young mussels grow in size. The explanation is twofold, first the mussels and their hosts are forced into closer proximity during the drought and second, the juvenile mussels are less likely to be swept downstream by swift currents to less suitable habitat.

Another question asked was whether mussels that were lifted out of the mussel beds by people as the water dried up and were then thrown into deeper water would survive. He answered that they would likely survive as they are able to right themselves using their feet and then can burrow back into the river bottom. He also said in an experiment he had done it was found that mussels are resilient and can survive in water with zero oxygen content for 3 to 4 days. However, the heat from the baking sun during low will also kill them. He said periodic low water is a natural phenomenon so there really was no need to be concerned about long term population survival from just that alone, but with the added pressure of detrimental human activities there is great concern of further loss of diversity.

In his work to survey and then mitigate harm to mussels, Brett has found the US Fisheries & Wildlife Service's strict rules concerning endangered species are not always in the best interest of the animals. He would like to see some of the bureaucracy surrounding the law be loosened so the DNR could more easily intervene to save them with mitigation projects. However, the costs of these projects can be high. In one he was involved in, the cost of moving 400 mussels was $66,000. In others, where the mussels are brought together with their host species indoors to reproduce and then grown for two years, the cost can be $500,000 per project. Needless to say, avoidance of disturbance of mussel habitat is the best option when possible. In a recent case in Stillwater, after a mussel survey found rich beds, the proposed boardwalk was moved to different area upstream and downstream at no additional cost and the mussels saved.

Along that line, a question about whether the river bottom along the section of our riverbank should be surveyed for mussels before any bank stabilization project is initiated, he said it should be. However, it was noted that a survey by the DNR was not mandatory to look for threatened species, only for endangered species (of which none are known to exist in this stretch of river). The planned stabilization project included rip-rap along the banks which Brett says can also serve as good mussel host fish habitat. Funding for the Riverbank Stabilization grant was not approved by BWSR last year.

I'm sure our Chapter members will continue to serve as good stewards of our native mussels by maintaining the shoreline of our wildlife refuge in its natural state, advocating for clean water and protecting the host fish. Advocacy for dam removal should also be on our agenda where it is possible.

Rich mussel beds in low water last year off the downstream tip of Banfill Island

Opinion:
Hey – Extinctions Are Happening – And We Could Be Next!

We are fortunate to have reporters such as Greg Stanley of the Star Tribune to remind us of some of the Earth's problems such as the extinction of species, which could lead to our own. United Nations countries have met to save the natural diversity of species worldwide. He reports there are 150 species of flora and fauna in danger of extinction in Minnesota alone. It seems even though National, State, Local and World Governments "chew the rag" over the issue, little is done about it, and here in Minnesota it's about the same.

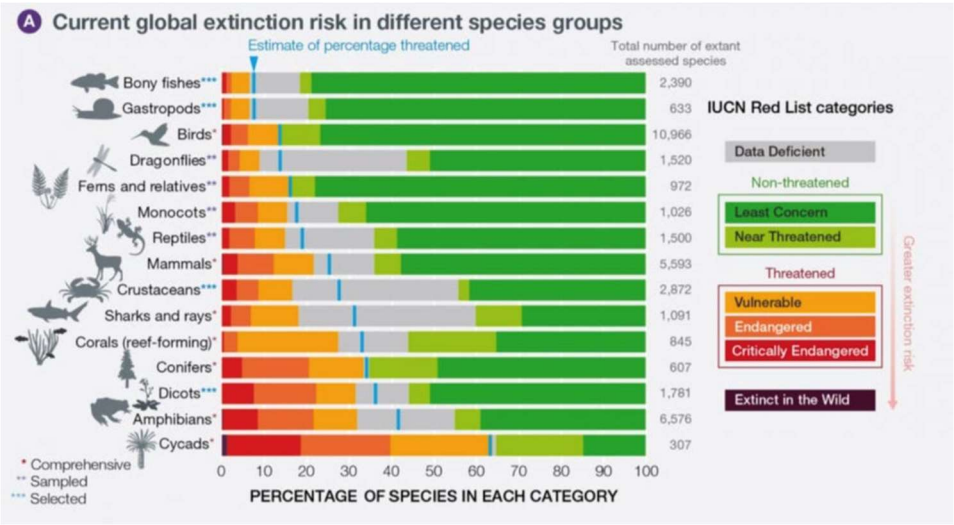
Most scientists, many demographers and a few politicians know what to do about it but are stymied by some religious groups, some politicians, many large businesses and much of the uninformed and lethargic members of the public that are interested more about expanding our population and economy. Stanley reports that Jeanine Cavender-Bare, a U of M Ecologist and Professor of Evolution Behavior believes scientists are worried that targets to meet the problem are being watered down globally and locally. She says we need to determine the difference between "restoration" and "rehabilitation" to determine which is more appropriate in which areas.

Another U Of M Scientist, Becky Chaplin Kramer claims that conservation should not be considered at odds with "livelihoods and opportunity". But the expansion of "livelihoods" and unregulated "opportunity" is exactly what has put us into the unfriendly environment we are in. Kramer claims we must maintain "working lands" such as "timber forests and grazing lands" that are "the most benefit to people". However, it seems the expansion and the overuse of these very lands are some of the basic problems, especially to terrestrial creatures both flora and fauna.

"Awareness of the problem is growing" says a spokesperson from The Nature Conservancy. However, it seems there are no environmental conservation organizations including TNC. that seem to know what the basic problem is: over population of human beings! If they do know they certainly do not advocate actual solutions.

The most immediate problem of course is climate change. But climate change would not be so much of a problem if our world's population were what they were 150 years ago, especially in this country. Imagine using some of the scientific methods we have today with the populations of yesterday. How serious would our problems be? The most sure-fire solution we can start on today for the long-time future is to begin reducing the human population to what it was approximately 150 years ago. It may take another 150 years to do it, but we should start now! Of course, we must continue all other forms of environmental conservation that we have in use today and that we visualize necessary for the future.

Dick Brown
P.S. If God was to ever have said "go forth and multiply", he made a big mistake by also not adding "but put a cap on it."



In Memory of Hans Nielsen

Hans Nielsen, age 96, of Mounds View, died peacefully on December 10, 2022. Born in Gadbjerg, Denmark in 1926, he grew up with one brother & two sisters. His father, the only one of his family not in farming, was a mason. Hans liked working with tools, but preferred wood to stone. His father, very musical, played trumpet, clarinet and concert flute as well as the fiddle, and Hans tried making his first fiddle at about the age of 11 out of scrap wood. His father wouldn't give him strings, so he got some thread from his mother, but the results were less than spectacular.

Hans attended architectural college and was apprenticed to a cabinetmaker in 1943. In 1951, after becoming a journeyman, he came to the United States, sponsored by his uncle, who lived in the Twin Cities. Six months later he was drafted and spent the next half year in the Army. He worked as a construction carpenter for the next 48 years, but began making and selling fiddles in 1984 before retiring in 1991.

He made about 100 instruments, about half regular violins and half hardanger fiddles as well as two violas. He enjoyed the intricacy of the hardanger, which requires at least 300 hours to make. Most are not the Norwegian style, which uses metal, ivory and mother-of-pearl as inlays, but his are inlayed with about 300 pieces of contrasting wood and decorated with India ink. His first two violins were made of Douglas fir with white oak backs, but he preferred ponderosa or white pine or maple for the front and birch for the back with a rosewood fingerboard and maple neck.

Hans was very supportive of the Breckenridge Chapter of Ikes for about 20 years. He helped build the shed west of the Chapter House bringing many of his own (old) tools that he had made or purchased in Denmark. He was very proud of them and many of the tools had a story. He made our indispensable chair racks and the hand carved figures used in our Christmas decorations as well as tables, chairs and other wooden items for the silent auction. They were usually the most popular and valued and received the highest bids. He never went anywhere without bringing a gift he had made. There will be one more item made by Hans at this year's silent auction.

When Hans noticed a youngster who seemed interested in a program he would occasionally show up with a book from his collection for them at a following meeting. Proud of his Danish heritage, he loved folk dancing, cats, telling stories and sharing a wealth of his experiences, including some of his antics sabotaging the Nazis in Denmark during WWII as a teenager.

A Memorial Gathering was held on December 16, 2022. He was preceded in death by his brother, Henning (married to Ruth Lemire) and sisters, Ellen and Elna. He is survived by nieces, Nancy Fuller, Susan Nielsen; nephew, Tom Nielsen; great-nephews, Matthew Nielsen, Aaron Chelberg, Anthony Fuller; relatives in Denmark, and many loving friends.

IWLA Breckenridge Chapter

Holiday Party

Sunday, January 22, 2023

$25 suggested donation

Proceeds go to the Breckenridge Chapter's Scholarship Fund

4 p.m. – Social Hour
Silent Auction
Hors d'oeuvres

5 p.m. – Dinner
Carol Knutson - Spectacular Catering
Bring desserts to share!

6 p.m. – Program
Don Luce
A Natural Curiosity
The story of the Bell Museum

Please RSVP to
Barbara Franklin (bbfrankli@gmail.com)
Call or text
763-242-0432

Everyone Welcome

W. J. Breckenridge Chapter
Izaak Walton League of America
8816 West River Road
Brooklyn Park MN 55444

If you would like to submit an article for the Timberlines, please send it to
Barbara Franklin at: bbfrankli@gmail.com
Deadline is the First Day of each month.
All articles in this newsletter do not necessarily reflect the position of the Breckenridge Board of Directors. The Editor reserves the right to edit material as necessary.

Chapter House Rental Rates

Non-Members:
(damage deposit: $300.00; $200 for previous renters)
Monday through Thursday $275.00
Friday, Saturday, Sunday & Holidays.....$350.00

Members:(damage deposit $100.00)
Monday through Thursday $125.00
Friday, Saturday, Sunday & Holidays.....$175.00

Boy Scouts:(damage deposit $50.00)
Overnights.....$50.00*

Rates and terms subject to change without notice; please contact the Chapter for special circumstances.
Rental Chairperson: Tim Johnson
(Leave messages at 763-561-5364)