



Deer Lake Watershed News

Deer ♦ Pickerel ♦ Battle ♦ Poplar ♦ Five Island
♦ Mirror ♦ and many other lakes!



The First Snow
Photo by Gail Blackmer

Our Mission:

*To protect, maintain and improve the natural
resources of the Deer Lake Watershed for
current and future generations*

Winter 2022

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President's Message

By Bruce Steege

Greetings, DLWA Members;

My name is Bruce Steege and I have been appointed as President of the DLWA for the next year (2022). My wife Cheryl and I live at 65435 County Road 533 on Deer Lake. Our home was formerly owned by Dale and Dorothy Jongquist. We purchased in 2017 and have been permanent residents since January 2021. I have a 50-year history of coming to this area for hunting, fishing, camping and just enjoying the relaxing and peaceful environment. If you want to contact me about the DLWA with questions, comments or suggestions, my email is bcsteeg@arvig.net; phone is 218-743-2649; or stop by and visit.

We have a great group of board members for the next year, and I would like to introduce them to you.

Continued page 2

First Snow

By Gail Blackmer

Reminders of the first winter storm of the 2021-22 season are bound to be visible even when the white stuff is all gone and our seasonal members and residents return to the watershed area. In mid-November an icy, sticky snowfall brought branches and treetops curving downwards, many with the tops touching the ground level where some remain frozen even into January. If your driveway is fairly remote or is private and has not had any activity during the winter, you may expect to find the need to clean up on the way into your cabin this spring.

Once everything warms up and the sap begins to flow, most trees will straighten, but damage is evident throughout the woods with some sizable trees snapped off high up the trunks. It looks like some giant walked casually through the forest, snapping treetops off like twigs. For those of us who like to

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President's Message Continued

Bill Cromell, previous President, will remain on the board and has graciously agreed to help with the transition for me. Bill has several contacts and a wealth of knowledge that I will need to be able to access to do the best job possible for the DLWA. Bill will also coordinate the lake water sampling again this year and I will assist him.

James Clark was appointed Vice President for 2022. Jim has been a long-time summer resident of Deer Lake. He has agreed to be chairman of social activities for the DLWA. With COVID-19 on our minds, we are uncertain of what we will be able to do (in person) in the next year, so let's hope for the best!

Gail Blackmer has been reappointed as DLWA Secretary for 2022. Gail has done an excellent job of composing and communicating the minutes from our board meetings and the annual meeting. We are pleased she will continue in that role. Gail will also coordinate the Hwy #1 clean-up again this year.

Vaughn Duitsman is a regular board member and our Website Coordinator. He and his wife Nadya are also summer residents of Deer Lake. They are a great help for several activities including the 4th of July Flotilla, Annual Meeting and dam busting.

Mark Smith remains a regular board member, and will continue as chair of the Continuous Flow Committee. Mark coordinates workers when we need to bust out a beaver dam to keep our watershed creeks flowing. He also helps with fundraising for the DLWA. Mark is around the lake summer and winter and is an avid fisherman.

Travis Mangan is also a regular board member, and owns a cabin within our watershed along with a group of others. He is passionate about the environment and is a great resource for the DLWA board. Travis volunteers for many jobs that come up throughout the year.

Todd Reynolds is a new board member. He has been coming to Deer Lake for many years to his parents' cabin. Todd and his wife Dawn now own and have recently converted the cabin into a permanent year-round residence. Todd will be chair of fundraising efforts for the DLWA. He also volunteered with dam busting and highway clean-up this past year.

Jeff Dunlap continues his role as an alternate board member. His family owns and operates the Camp Deer resort on Deer and Pickerel Lakes. Jeff can give the board a perspective from a resort owner's position. He also volunteers with dam busting and other projects throughout the year.

Valerie Cromell has been the DLWA Treasurer and Membership Committee chairperson this past year, and will remain on the board as an alternate member. Val was appointed to the board to fill the open Treasurer position and has done an excellent job. And, thanks in part to her recruitment efforts, our membership numbers have grown substantially.

We are now in need of a volunteer to step up and fill these two positions. Ideally it should be someone who lives here year-round, as it requires local banking and mailing responsibilities. Please contact me if you have an interest in these positions. We certainly need the help, and can appoint one more board member per our bylaws.

Rick Jensen, Alex Jensen, Dan Gallagher, Jay Dolonich and Bill Cromell are the men who trap beaver for the DLWA. The job they do is vital to maintaining watershed lake levels and water quality, and I feel it's important to thank them for the effort it takes to do this difficult and necessary job. If you see them, you might want to thank them, too.

"To protect, maintain and improve the natural resources of the Deer Lake Watershed for current and future generations." That's our mission!

The First Snow Continued

fantasize such images, driving around in those days following the storm was magical, especially at night when driveways were tunnels of winter wonderland. It was not without problems, of course, as power outages were widespread, and it was deer hunting season when there were occupied hunting shacks where crews had to clear back roads of fallen trees so people could get out. All in all, it's a typical winter in DLWA land!

Water Quality: What are We Looking For?

By Matt Gutzmann, SWCD Water Resources Specialist

The lake water sampling is completed through a grant with the Minnesota Pollution Control Agency and the goal is to determine the health of our lakes and streams. Water quality is measured by using a number of different figures including oxygen levels, pH levels, amount of chemicals, and even more subjective assessments like visual appearance and recreation suitability. For 2020 and 2021, there were three lakes that were part of this water sampling program; Busties, Battle, and Mirror. There were also two additional lakes sampled (Deer and Five Island) due to your own DLWA efforts to take water quality samples and have them sampled in the lab.

The interesting thing about lakes is that they're an ecosystem that is in an ever-changing relationship with the different forces. When one thing changes, the whole system changes--though usually in such a small amount that we don't even notice. So, a single sample gets us a baseline and multiple samples can show us trends and comparisons, especially when collected over multiple years or decades. This is why it is so important and helpful that DLWA is part of the lake monitoring program to take lake water samples and send them to the lab. The more years of water quality data there is, the better we can understand the big picture and not wonder if we have a solid trend or are just catching "blips" in the lakes. The DLWA is a *watershed* association which is much more powerful than any *single lake* association as water flows through all of the lakes, even if we can't see it because it flows underground. The lakes working with a common goal will have a much greater impact on all of the water in the watershed.

Two of the things we look for in water is chlorophyll-a and phosphorus. Chlorophyll-a is basically the amount of algae in the water, whether on top or under the surface giving the water a green color. Phosphorus is a chemical that is great at attaching to soil and sediment; and plants thrive on it to grow, which is why there is phosphorus in plant fertilizer. Unfortunately, phosphorus can make its way into the water with short lawns, erosion, and a lack of natural vegetation on the shore, which can cause algae to grow, sometimes out of control. When algae start to die, the bacteria that break down the algae use a lot of oxygen which makes less oxygen available for fish, plants, and other organisms in the lake. Phosphorus is also a chemical that fuels blue-green algae blooms that can be very harmful for humans and pets. An interesting fact is that one pound of

phosphorus can support up to 400 pounds of algae!

There are a couple of straight-forward things lake property owners can do to reduce the amount of phosphorus in the water. First, if you must use fertilizer, look at the ingredient list and try to choose fertilizers that don't have phosphorus or nitrogen. Second, plant some trees, shrubs, and tall grasses near the shore - preferably from the shore to 25-50 feet back. The benefit of using vegetation that is native to the area is they have evolved perfectly for our environment; they tend to be drought resistant but still do well with excess water; they are okay with the wild temperature swings we experience; and most important is that they have *deep* roots which secure the ground and soil which helps prevent erosion. These vegetation buffers act as a filter to catch a lot of the phosphorus that runs off from lawns, driveways, and roads to decrease phosphorus in the lake which reduces algae in the lake.

The Itasca County Soil and Water Conservation District (SWCD) is here to help you! Please feel free to give us a call with any questions about water quality and for help with simple (and not so simple) ways to improve water pollution, shoreline erosion, runoff in a yard, or anything else that might have an impact on the water. Our office is in Grand Rapids and we travel throughout the county, so call us at (218) 326-5573.



*Fall of 2021 – Pulled Boat Lift – Heaviest Summer Buildup of
Algae Observed to Date
Photo by Bill Cromell*

DLWA Lake Graphs

By Matt Gutzmann, SWCD Water Resources Specialist



DLWA Data Breakdown

One big thing to keep in mind while looking at these numbers is that they fluctuate and can vary depending on many factors like temperature, amount of rain, wind, etc. That's why multiple samples are taken over the summer to find an average, and to find a trend. For the DLWA area, there were no samples taken in 2008/2009, so there's a little less data available, but is still pretty good. In general, the water samples show a **decrease in water quality** in recent years compared to about 10 years ago.

With that said, the lakes that have been sampled do not reach the level that the Minnesota Pollution Control Agency (MPCA) has set for water quality standards, but the trend is concerning. While the statement may be cliché, it is very true that prevention is much easier (and *much* less expensive) than cure.

Phosphorus is a chemical that plants use to grow and is often washed into the lake by erosion and rainstorms,

Continued page 5

DLWA Data Breakdown Continued

bringing sediment from lawns and roads. Before lake shores were developed, very little phosphorus entered the water because lush vegetation of shrubs and grasses around a lake acted as a catch filter while the deep roots prevent erosion--all preventing sediment/phosphorus combo to enter the water. As that natural vegetation turned into lawns, that vegetation buffer has slowly disappeared and the native grasses have been replaced with shorter grasses with shallow roots which can erode quicker and have less ability to "catch" the pollutants that now run directly into the water. As more phosphorus enters the water, more algae feed and grow from this and can create algae blooms (including blue-green algae which can be dangerous), and as the algae dies the amount of oxygen in the lake drops making less oxygen available for fish and other lake animals. It's a cycle that lake property owners can have a direct effect to either improve or degrade the water quality.

Planting vegetation along the lake shore (or even easier, stop mowing there), stopping the use of phosphorus and nitrogen fertilizers on lawns, and creating a rain garden in areas where rain water "funnels" in yards are simple and effective first-steps in reducing this pollution into the water. Please give us a call at Itasca SWCD for more information and ideas to change yards to improve water quality. (218) 326-5573.

Aquatic Plants and Shoreline Protection

By Todd Reynolds

As I write this article it is 32^o below zero. What better time to write about aquatic plants and protecting our shoreline than during our bitter cold winters!

To begin, I will talk about the benefits of aquatic plants to our lakes and creeks. Aquatic plants provide food and shelter for fish and waterfowl. Plants such as bulrushes, cattails, water lilies, etc. are important because they reduce wave action, thereby reducing the threat of shoreline reduction. Wild rice, another aquatic plant, benefits the lakes as a food source for waterfowl and is a substantial industry and source of revenue for Minnesota.

Without aquatic plants, lakes would have fewer aquatic insects, minnows and other wildlife. If too many plants are removed from lakeshores, fish, wildlife populations and water clarity may suffer. Aquatic plants are an essential part of the natural community of our lakes.

Another part for our lakes is shoreline stabilization through the establishment and maintenance of natural vegetation. Aquatic plants and woody debris are some of the best resources for protecting the shoreline from wave and ice erosion. They also provide important habitat for fish and wildlife. Try to keep your shoreline natural with minimal disturbance to natural areas, and watch for invasive species.

Other ways to restore your shoreline and prevent erosion are by building a riprap wall. A riprap wall is a wall of coarse stones randomly and loosely placed along the shoreline. You may want to consider a

combination of riprap and vegetation. In most cases, vegetation planted in the rocks will stabilize the riprap and improve the appearance of the shoreline.

Naturalizing your shoreline is the most important contribution you can make to enhance the water quality, maintain fishery resources and provide wildlife habitat. There are many other ways of restoring your shoreline. For more ideas you can visit the DNR website at www.dnr.state.mn.us or contact your local DNR hydrologist.

Aquatic plants are the property of the State of Minnesota. Because of their value to our lakes, they may not be destroyed or transplanted without a permit. You are not allowed for any reason to remove emergent vegetation such as bulrushes and cattails without a permit. You are allowed to remove up to 2,500 square feet of *submerged* vegetation without a permit. If you have any questions or doubts, you can visit the DNR website:

dnr.state.mn.us/rys/index.html or call them directly. Please, let's all help preserve our lakes and shoreline for future generations to come.



Bruce Steege doing water quality testing on Five Island Lake, August 2021

Lake Thermoclines

By Travis Mangan

I worked on an EPA research vessel in the Great Lakes for a number of years and did scientific measurements including parameters of thermoclines. We only have one page here so a quick summary is what we are after. For starters, what is a thermocline?

Everyone has jumped into the lake and felt that cold water down a ways with the warmer water near the surface. The water closest to the surface changes temperature faster due to the interaction with the atmosphere and in the summer heats up more. The warmer water is less dense and will stay on top of the deeper cooler water. Meanwhile the cooler water stays deeper and the temperature difference between the upper warmer layer and lower cooler layer is fairly rapid which is why it is easily felt when you dive in. When we sampled some areas of the larger Great Lakes, the temperature profile changed drastically down 20 or so feet, then the next thousand feet was like a dead zone, just above freezing all the way to the bottom. With the lakes in our region, the depth is obviously much less but can still happen. Real shallow lakes often stay a bit mixed due to the sun, wind and atmosphere influences.

The cooler water loses oxygen throughout the summer and is less suitable for fish and other small organisms. As small plants and animals die off they fall downward to the bottom. They decompose consuming available oxygen. As fall and winter approach, the water near the surface cools and becomes less dense, and moves downward, creating what many call "fall turnover" where the water on top and bottom mix. At some point lakes become completely mixed. Nutrients and oxygen mix throughout the water column. Water is most dense at 39 degrees Fahrenheit so the surface water continues to cool and eventually freezes, a happy sight for us who like to ice fish.

At some point in the spring (ice-out contests!) the water surface begins to warm, equalizing with the water below. Nutrients and oxygen again mix through the water column. Then the water on the surface warms and the process starts over pushing the thermocline down over the summer.

The small plant matter, known as phytoplankton, are everything from microscopic plant cells to complex structures and algae blooms. The small animal matter, known as zooplankton can be seen by the naked eye (the larger ones) and appear opaque. I have seen some big masses come up to the surface when ice fishing. Now that my eyes are not as young as they used to be, they are harder to see. These plants and animals are the backbone of the lake ecosystem and are more at or above the thermocline, generally speaking. So, that is what our smaller bait eat, and the smaller fish eat those and the larger fish eat those, and so forth.

This was by no means an in-depth scientific article on water chemistry, but a simple summary to spark some curiosity and interest.

Lake Turnover

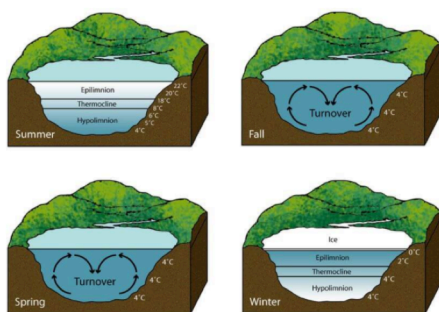
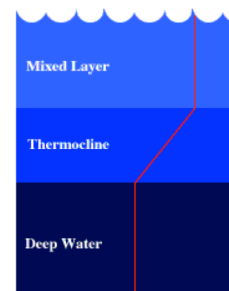


Image showing seasonal lake mixing, turnover, and stratification.
Source: National Geographic Society



Temperature ----->

Image courtesy of
WV2010™
University of Illinois

DLWA Requests Two DNR Aquatic Permits

By Bill Cromell

Multiple residents and property owners on our local watershed lakes have requested for the DLWA board to contact and submit a proposal to the DNR requesting removal of a channel of sand to open access to the Deer/Pickerel creek outlet. We all understand the basics of sand migration being driven by high winds and wind direction which Mother Nature controls. This project would be a test that would hopefully minimize the sand buildup at the mouth of the creek to a degree. When considering whether or not to proceed, there is a possibility this project may not eliminate the plugging issue due to the volume of sand in the outlet area; the continuation of drought conditions which lower the lake level; and the lack of bulrushes in the vicinity to help slow wave action and push sand towards the shoreline. We are aware this project may not have a positive long-term effect and will accept the final outcome.

The recommended time frame to remove sand is during mid-winter when the lake is frozen. If we don't get below-zero stretches in the winter, the ice won't freeze thick enough to drive on with equipment. Based on observations, another option to remove sand at this site would be when the water level is approximately 4.0 during the summer. See attached photo. The removal strip of sand would be shorter, but much of the consolidation of sand is already pushed in by the wind. With low water conditions, high winds and waves pushed all the excess sand into the shoreline so now there is a dry and wide sand shoreline to drive on which appears to be very environmentally friendly. Just a thought.

These two project requests for information and/or permits are as follows:

1. Proposal for sand removal in the winter within the scope of an 8' wide x 100' long x 2' deep area starting 10' inside the creek outlet and extending out into Deer Lake. The side slope is proposed at two-to-one and the approximate volume of sand to be removed is calculated at 60 yards or less. The compass reading and direction for the 100' project area is approximately NW from the creek outlet. The lake level on the gauge is currently at 4.6 due to recent wet snows and some rain. See attached photo. My understanding to date is that the property owners on both sides of the creek have given verbal approval to proceed. One photo taken when the gauge read 4.0 last summer is pictured. The scope of sand removal would be reduced in summer.
2. Proposal for replanting of reeds on approximately 100' or more shoreline heading north along the Dunlap's property per directions and advice of DNR personnel knowledgeable in shoreland underwater replanting of reeds. Dunlap's have given approval to proceed with reed replanting. Reeds or bulrushes can be purchased or removed from Deer Lake and replanted. Deer Lake has ample public shoreline on the south end which has no activity, or people utilizing the shoreline. This may be an ideal site for acquiring the reeds to replant.

The DNR asked that we fill out and submit a request for a permit for each project. Permits must be DNR-approved prior to the start of any work. The DNR website is <https://www.dnr.state.mn.us/mpars>. Please feel free to send your thoughts and comments regarding these proposed DLWA/DNR projects.

The sand removal project request has been submitted and a preliminary approval given by the DNR. Verbal approval by the two adjacent property owners has been received, and we are waiting for final written approval. Bill Cromell has volunteered his machinery and time to operate the equipment if feasible, which will reduce costs substantially. If anyone has any ideas or suggestions, we still need a mini-hoe (possible rental) and operator. The time frame for the project would take one long day, or two short days.



*Sand removal proposal area at Deer/Pickerel creek outlet
Photo by Bill Cromell*

2022 Itasca County AIS Prevention Summary

Help Prevent Aquatic Invasives

- Know which waters are infested <https://www.dnr.state.mn.us/invasives/ais/infested.html> or search “MN infested waters”
- Practice **Clean, Drain, Dispose and Dry** – remove drain plugs, then remove mud, weeds, and standing water when exiting any landing.
- Know whether your boat or your guest’s boat and gear have been in infested waters prior to launch within any lake in the Deer Lake Watershed. If you don’t know for sure, *assume waters were infested*.
- **Drain and dry boats and trailers in the sun for at least 5 days.** If you don’t have 5 days, decontaminate. *See below for more information about decontamination.*
- **Dry lifts/docks for at least 21 days** before moving from one lake or river to another.
- **Don’t let others use your private launch** unless you know where their boats have been. Owners can many times prevent unauthorized private ramp use when absent by strategically placing docks, lifts, and trailers so that others can’t use the launch.
- Patronize **FiveStar** service providers when you:
 - Install/remove dock/lift
 - Service boat and engine
 - Rent trailers, boats, and gear
 - Purchase used gear/equipment

<http://bit.ly/FiveStarLSPs>

Free Decontamination Service

If your boat or your guest’s boat may have been in infested waters, **dry boats, trailers, and gear in the sun for at least 5 days before launching into your lake.** If you don’t know or can’t find out, *assume the waters were infested*. If you or your guest do not have 5 days, then **decontaminate**. Decontamination includes applying verified 140° hot water for 10 seconds or 120° hot water for two minutes, verified by a non-contact infrared thermometer.

If you or your guest need or want a hot-water decontamination, call the Itasca AIS Program at 218-256-4243. They will direct you to the nearest staffed decontamination location or a location convenient for your guest on their trip up. **218-256-4243**

COOKBOOK FUNDRAISER *by Todd Reynolds*

We are putting together a DLWA Cookbook as a fundraiser. We are in need of 200-250 recipes. Recipe categories may include: Appetizers, Soups and Salads, Side Dishes, Main Dishes, Breads and Rolls, Desserts, Cookies and Candies, Wild Game and Fish. Natural edibles such as wild mushrooms, wild rice, berries and things naturally harvested may be included. Please submit your recipes to sunrise2160@aol.com or mail them to Todd Reynolds, 24585 Tall Pine Trail, Effie, MN 56639.

The deadline for submission is March 15th. You may submit more than one recipe. We may not be able to use all the recipes we receive depending on how many are submitted and if there are any duplicates. This fundraiser will not be possible without your help so PLEASE, take a few moments to send in your recipes. If all goes well, we hope to have the cookbooks available to sell by Fishing Opener. The cookbooks will be for sale at various locations and events. The exact retail price is yet to be determined, but we hope to focus on \$10.00 as a price goal and starting point. If you request one shipped direct the shipping could be up to \$5.00 per book. You will receive a future notification of events and places to purchase the cookbooks. Thanks for your support of the DLWA!

The Great Chase

By Kelly Frederick

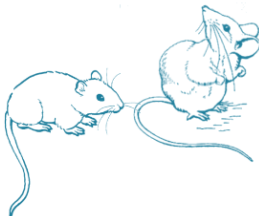
It was nearly midnight. The summer moon over Pickerel Lake revealed calm, serene waters. The distant coo of a loon assured all was well. Except in our cabin. Little did we know, all heck was about to break loose! We were on our annual two week vacation and staying in the three bedroom “orange” cabin that we rented from Myron and Tracie Carlson. Being a family of five meant that my two sisters and I had to alternate sharing rooms. Cindy and I were 10 and 9, respectively. Melissa, who was 5, had her own room back home, so she wasn’t allowed that luxury on our trips north!

Anyway, that was a night none of us would forget! Cindy had the back bedroom to herself, while I begrudgingly shared the middle bedroom with Melissa. I had only been asleep maybe twenty minutes, when Melissa woke me saying she heard a noise. Annoyed, I grumbled at Melissa that it’s nothing and told her to go to sleep. Just as my mind was drifting back to dreams of bobbers and boat rides, I heard something that sounded almost like someone was gently rattling a plastic bag. My eyes flew open and I hissed at Melissa to be quiet and go to sleep. She whined that it wasn’t her making that noise. The panic of a child who thinks the boogeyman was under their bed flooded my body and I yelled out for Dad! He stormed down the hall, flipped on the lights and asked us what was wrong. We explained, but with the same annoyance I had earlier, he told us to go to sleep.

The lights went out. Melissa and I were now on high alert. I don’t know if it was 5 seconds or 5 minutes later, but we heard MORE noise and much louder! We both yelled for Dad again. Dad came, undoubtedly tired of our games, and flipped on our light. In the middle of the bedroom floor, two gray field mice were up on their hind legs having a boxing match with their front legs!

Dad laughed! Melissa and I screamed! Mom and Cindy quickly found out what was happening and started screaming as well. Everyone but Dad ran out to the living room and jumped up on the couches. Mom, wanting to help, immediately found a broom. Dad quickly realized that there would not be peace on Pickerel Lake until he got rid of the mice. So, he removed one of his flip flops and took chase while we gals tried to stay as far away from the mice as possible. Mom decided that standing on the kitchen table was the best idea; though it seemed funny to me because the broom didn’t come anywhere near the floor. Dad continued running all over the cabin with his flip flop smacking at the floor – SMACK! SMACK! The final showdown happened when the last mouse jumped from the floor to the top of the four foot water heater. Did you know mice could jump that high? Why haven’t they made a Disney movie about mice playing basketball yet?

Anyway, once Dad assured us the mice were no longer in the house, peace started to settle back in upon the “orange” cabin. We found out later that the mice had found a stash of nuts Cindy was keeping in the back bedroom. Melissa and I refused to sleep in the middle bedroom that night. Thankfully, Myron and Tracie furnished the living room with 3 couches! I took the couch that looked out onto the lake. The lights went back out and everyone seemed to fall back to sleep. Except me. I was wide awake. I kept thinking of how funny it had all been and couldn’t seem to settle down. So I decided to peek out the window at the lake, hoping to find some serenity. The silver moon was really bright and its reflection on the lake seemed to make the night even brighter. As I was taking in the beautiful view and wondering if the fish would bite the next day, something caught my eye. I still do not know why I didn’t yell out; part of me still wonders if it was a dream. But after telling my story years later, I was assured I was not dreaming.



My Favorite Mushroom of the Deer Lake Watershed Forest

By Nadya Duitsman

In my article I'd like to tell you how rich we are here in the north woods area, not only because of our lakes, but because of the forest too. I'm a mushroom hunter with more than 60 years experience and I'd like to introduce the best mushroom. It's not only my point of view, but mushroom hunters all over the world will tell you the same. So, here it is!



*The King Bolete Mushroom
Photo by Nadya Duitsman*

The king bolete (*Boletus edulis*) goes by several other names, including king, cep, porcini, steinpilz, penny bun, and others. It is the crown of success for every fan of mushroom hunting. Among the many edible mushrooms, king bolete mushrooms are valued above all, thanks to their truly mushroom aroma and notable taste. In addition, king bolete mushrooms may be dried or frozen without losing their taste and quality.

Where king bolete mushrooms grow

The pine forest is a favorite place where king bolete mushrooms grow. The second most popular "place of residence" among boletes is a birch grove, or mixed deciduous forest, where birches predominate. In July-August, on hot days, the king bolete hides under bushes and in the grass. In the fall, they get out to the edge of the forest and grow in open spaces, absorbing the warmth of the autumn sun. King bolete mushrooms grow in small groups, 3-10 pieces each, so don't rush off after cutting only one. It's likely that others grow nearby.

Boletus mushrooms generally don't grow in young forests. They prefer older forests, 30 years and older, for permanent residence. There they work closely with the plant world to form mutually beneficial relationships. Don't look for king bolete mushrooms in the early spring. King boletes begin to grow out of the ground only at the end of June, and

only if the weather permits. The peak growth of king bolete mushrooms occurs in July-September. You may find some in October if it is unseasonably warm. During last year's very dry summer, we didn't find mushrooms of any kind until after the rains in September. Under favorable conditions, king bolete mushrooms grow very quickly - the daily growth of *boletus* is 100-150 grams (3 ½ to 5 ounces). The average weight of the king bolete recommended for cutting is 150-300 grams (5 to 10 oz.). At that size they contain an optimal ratio of vitamins and minerals. Let small mushrooms grow. Oversized specimens are good for a photo shoot, but they are not as good for eating. King bolete mushrooms are good fresh - the fruiting bodies of *boletus* grow quickly, but they also deteriorate soon. Already 2 or 3 days after reaching the maximum size, the underside turns green and mushy, and is no longer good for food and medicinal purposes.

The uses of king bolete mushrooms: composition, properties

King bolete mushrooms are highly rated not for fleshy fruiting bodies and not for beautiful caps, but for their high nutritional value, excellent taste, and an abundance of vitamins and minerals. Plus, king bolete mushrooms do not lose value when dried, and dried mushrooms are better absorbed by the body after cooking.

Nutritional value of king bolete mushrooms per 100 grams (3 ½ oz.)		
	Quantity	% RDA
Calories	81.8 kcal	
Fat	1.70 g	
Protein	7.39 g	
Vitamins		
Thiamine (B1)	0.105 mg	9%
Riboflavin (B2)	0.092 mg	8%
Niacin (B3)	6.07 mg	40%
Pantothenic acid (B5)	2.64 mg	53%
Vitamin B6	0.051 mg	4%
Folate (B9)	0.290 mg	73%
Vitamin C	4.21 mg	5%
Minerals		
Calcium	1.195 mg	0%
Copper	0.786 mg	39%
Iron	0.739 mg	6%
Phosphorus	22.26 mg	3%
Potassium	203.3 mg	4%
Zinc	4.172 mg	44%
Source: USDA		

Continued page 11

My Favorite Mushroom Continued

King bolete mushrooms have had medicinal qualities from time immemorial, but today the health benefits of mushrooms have been studied scientifically. Scientific evidence shows six main areas of medicinal benefit: treatment and prevention of colon cancer (adenocarcinomas); prevention of malignant tumors (thanks to antioxidants); prevention of digestive diseases; treatment of inflammatory processes (from asthma to rheumatoid arthritis); as well as being a good source of protein and fiber (which also reduces the risk of developing cancer).



Local Bull Moose – One of three bulls, two cows and two calves frequenting the same area

Cooking:

- Freshly picked boletus is cooked until tender in 20-40 minutes, depending on thickness of the slices.
- Dried mushrooms should be soaked in cold water for 2-3 hours before boiling, and then boiled until the mushrooms settle to the bottom.
- Frozen king bolete mushrooms should be boiled for 30-40 minutes in a saucepan.

Please, don't be shy if you have any questions, I'm here to answer. Let me know about what kind of mushrooms you're interested in.

Nadya Duitsman email: iskovskih2006@gmail.com.

For a longer version of this article please visit www.deerlakewatershed.org/mushrooms

FUTURE ENDEAVORS!

By Jim and Joyce Clarke

While the purpose of the Watershed Association is to keep a watchful eye on our lakes, streams, and environment, there has to be more to an organization than just work. We think we have found a way to bring our membership together for a day of fun. Even though there is snow on the ground and ice on the lakes, it's not too early to plan for a summer activity. In addition to the 4th of July Flotilla, our "first annual" DLWA Pot Luck Picnic is tentatively scheduled for Saturday, July 16, 2022. Location, time and place yet to be determined.

The board is also recommending that we revisit the sale of DLWA apparel, i.e., T-shirts, hats, jackets and sweatshirts. When the final decision has been reached, you will receive a flyer describing the items that can be purchased along with a price list.



*The Stimacs Having a Blast in the 2021 Flotilla
Photo by Audrey Johnson*



*Hideaway Resort Crew Enjoying the Cruise in the 2021 Flotilla
Photo by Audrey Johnson*

DLWA Donor and Volunteer Recognition

By Val Cromell

The DLWA Board of Directors is pleased to acknowledge the following members for their monetary or in-kind donations in 2021; and the volunteers who worked to further the mission of the DLWA.

Thank you, 2021 DLWA Donors!

Addington, Gary & Carol
Blackmer, Larry
Carlson, Denny
Christenson, Dave
Cromell, Bill & Valerie
Doyle, Pat & Tammy
Dyrdahl, Billy
Dunlap, Emmy
Dunlap, Jeff
Dunn, Martha
Ebnet, Tony & Missy
Fischenich, David & Joni
Fishell, Randy & Diana
Friese, Tim
Gibbons, Bob & Marilyn

Gustafson, John & Wendy
Hart, Jim & Linda
Haselman, Jonathan & Amber
Hebaus, Ron & Linda
Hellzen, Gus & Janice
Jaryszak, Richard & Sherill
Johnson/Takahashi, Jill/Ken
Kehren, Ray
Kleffman, Gary
Kodluboy, Sue
Larson, Brandon & Marion
Lovdahl, Dan & Theresa
Mangan, Travis & Lisa
Martin, Andy & Susan
Martinson, Bruce & Shelley

Olson, Ross
Pearson, Keith & Sue
Peterson, Tim & Lisa
Running, Cynthia & Charles
Salmela, Larry & Vicky
Schwartz, Tom & Teresa
Smith/Childers, Mark/Donna
Steege, Bruce & Cheryl
Stensrud, Homer & Helen
Steichen, Bob
Tahija, Tom & Rochelle
Tolrud, Mike & Linda
Williams, Steve & Margaret
Up North Storage & Services

DLWA Continuous Flow Fund (CFF) Donations . . . \$ 1,550.00
1st Annual Deer Lake Ice-Out Contest (Mark Smith) \$ 485.00
"Chicago Night" at Deer Lake Charlie's (Tim Friese) \$ 75.00
DLWA Water Protection Fund Donations. \$ 225.00
DLWA General Fund Donations. \$ 125.00
DLWA In-kind Donations Value. \$ 125.00
TOTAL = \$ 2,585.00



Thank you, 2021 DLWA Volunteers!

Board of Directors: Bill Cromell, Bruce Steege, Gail Blackmer, Val Cromell, Jim Clarke, Vaughn Duitsman, Travis Mangan, Todd Reynolds, Mark Smith **Alternates:** Jeff Dunlap

Continuous Outflow Volunteers: Mark Smith, Bill Cromell, Bruce Steege, Vaughn & Nadya Duitsman, Todd Reynolds, Rick Jensen, Alex Jensen, Dan Gallagher

Water Protection Volunteers: Bill Cromell, Bruce Steege, Larry Blackmer - (Water Quality Sampling)
Denny Carlson, Jim Kush, Jim Brewer, Larry Blackmer - (Secchi Disk Reading)

2022 DLWA Winter Newsletter Volunteers: Bill Cromell, Travis Mangan, Gail Blackmer, Val Cromell, Mark Smith, Nadya Duitsman, Kelly Fredericks, Bruce Steege, Matt Gutzman, Todd Reynolds, Jim and Joyce Clarke, Sheila Vorland-Publisher

Annual Meeting Volunteers: Bill & Val Cromell, Bruce & Cheryl Steege, Jim & Joyce Clarke, Vaughn Duitsman, Loey Master, Todd & Dawn Reynolds

Annual July 4th Flotilla & Ice Cream Social: Bruce & Cheryl Steege, Vaughn & Nadya Duitsman, Denny Carlson and the Hideaway Resort Crew!



Roadside Cleanup Volunteers: (Left to Right) Travis Mangan, Bruce and Cheryl Steege, Tony and Missy Ebnet, Dave and Patti Sachs, Todd Reynolds, and Gail Blackmer (photographer)

Our apologies if we have overlooked any DLWA volunteers who served in 2021.

How Can I Get Help?

- **DNR Regional Office**
218-328-8780
- **DNR Information Center**
651-296-6157 or 888-646-6367
- **DNR Local Enforcement Bigfork Enforcement Area**
Jayson Hansen, Conservation Officer
Email address:
jayson.hansen@state.mn.us
Radio Call: K252
- **DNR Turn In Poachers (TIP) Hotline**
To report a violation, call 800-652-9093 24 hours a day.
You may also fill out an online form at the DNR general website
<https://www.dnr.state.mn.us/>
- **DNR General Email Address**
info.dnr@state.mn.us
- **Itasca Soil and Water Conservation District Office**
Help with Water Quality Testing, Shoreline Alterations and Design, Erosion, or Aquatic Invasive Species topics
218-326-5573
- **DNR Regional Fisheries Supervisor Dave Weitzel**
218-328-8836
- **Itasca County Sheriff's Office non-emergency**
218-326-3477
- **Itasca County Highway Engineer**
218-327-2853
- **Itasca County Environmental Services**
218-327-2857
- **County Commissioner Ben DeNucci District 5**
218-348-0592

Our Mission: To protect, maintain and improve the natural resources of the Deer Lake Watershed for current and future generations.

DLWA

DLWA BOARD

Bruce Steege
President

Jim Clarke
Vice President

Gail Blackmer
Secretary

Valerie Cromell
Treasurer

Mark Smith
Board Member

Todd Reynolds
Board Member

Travis Mangan
Board Member

Vaughn Duitsman
Board Member

Bill Cromell
Board Member

Jeff Dunlap
Alternate Board Member

DLWA Membership Data/Information

By Val Cromell, DLWA Membership Committee

Current as of December 31, 2021:

- Total household memberships: **129**
Total Lifetime Memberships: **12**
Todd & Suzanne Doyle, Jim Brewer, Alex Jensen, Rick Jensen, Dan & Sheila Kehren, Jim & Gloria Kush, Art & Kathy Lind, Joe Mayer, John & Margaret McCoy, Todd & Dawn Reynolds, Galen Vorland, Sheila Vorland
- Total website advertisers: **5**
Deer Lake Charlie's; Deer Lake Historical CCC Camp; Hideaway Resort; Lind Industrial Supply; Up North Storage and Services
- Your membership renewal date is the date on your check when you pay your dues; or the date you pay your dues in cash to the treasurer or a board member

DLWA 2021 Treasury Report by Val Cromell, Treasurer

Balances are current as of December 31, 2021:

DLWA General Fund	\$ 7,249.73
DLWA Continuous Flow Fund	\$ 3,599.69
DLWA Water Protection Fund	\$ 682.81
Total Balance (all accounts)	\$11,532.23

CCC Camp Historical Preservation Savings Account ... \$566.12

2022 Deer Lake Ice-Out Contest

by Mark Smith

The Ice-Out Contest is a fundraiser for the DLWA Continuous Flow Motor Rig Fund. Our goal is to purchase a surface drive motor and rig to enable us to get up and down Deer Creek to monitor water flow, and to manage the beaver dams when the vegetation is so thick a normal outboard motor is not a good option. We don't have enough funds to purchase this equipment yet, but Bill Cromell owns one and donated his boat, motor, and time to make several creek runs last year. The low water and early vegetation growth last summer provided the perfect conditions to put the motor to a real test.

The surface drive motor rig proved to be the ideal option for getting through extremely thick vegetation and shallow waters. The DLWA board agreed that having several different people run the boat and motor probably isn't the ideal situation because of how different it is from running a standard outboard motor. We are discussing the possibility of having one or two more guys learn how to use the motor and rig so Bill wouldn't have to go every time we make a creek run. We will see how things go this year, and how many trips are required. We are currently discussing an implementation plan with Bill.

The Ice-Out Contest will be coordinated by me, and Bill Cromell will be the final deciding judge. There may be a couple of others at the lake who will assist Bill, although he will make the official call. The fee is \$20 per entry, and more than one entry is allowed. 50% of the entry fees will be deposited into the Continuous Flow Motor and Rig Fund, and 50% will be paid to the contest winner. Any additional donations to the CF Motor and Rig Fund will be greatly appreciated!

The DLWA, as a 317A non-profit, is legal to sponsor one raffle fundraiser annually up to \$1,500. Thanks for your support of this DLWA fundraiser, and Happy New Year to all!

Rules

One date per entry, multiple entries are accepted. \$20 per date/entry, all entries must be either dropped off or mailed and received on or before **March 16th** (No Exceptions), payout will be 50% of the total entries and will all go the first place winner; if there are more than one, the winnings will be equally shared. Ice out has to be dusk for that day. No pick on the date it goes out, next date moving forward wins. Official final ice out will be determined by Bill Cromell, who is prohibited from entering the contest. Please be sure to complete all the information below, including your email address. This is also a fund raiser for the continuous outflow fund so any additional donations above and beyond the entry fees are welcome.

Drop off Entries/payments: Bill Cromell 65849 County Rd 533 Effie MN 56639

Mail Entries/payments: Mark Smith 3642 Kolstad Rd Eagan MN 55123

All checks are to be made out to Mark Smith

Cut Here

Name _____ Date/s of ice out _____

Name _____ Date/s of ice out _____

Address _____

State _____ Zip Code _____ Phone _____ - _____ - _____

Email Address _____

2022 Deer Lake Ice Out Contest						
3/27	3/28	3/29	3/30	3/31	4/1	4/2
				2012 Earliest		
4/3	4/4	4/5	4/6	4/7	4/8	4/9
						2021
4/10	4/11	4/12	4/13	4/14	4/15	4/16
				1998, 2005	Good Friday	Full Moon
4/17	4/18	4/19	4/20	4/21	4/22	4/23
Easter				2004	Earth Day	
4/24	4/25	4/26	4/27	4/28	4/29	4/30
		Full Moon 1990, 2005, 2009			Arbor Day 2001	
5/1	5/2	5/3	5/4	5/5	5/6	5/7
				2010	2008	
5/8	5/9	5/10	5/11	5/12	5/13	5/14
Mother's Day					1996	MN Fishing Opener
5/15	5/16	5/17	5/18	5/19	5/20	5/21
2013 Latest						

Previous Year's Winning Dates

MINNESOTA CONSERVATION MAGAZINE

By Val Cromell

The Minnesota Conservation Volunteer (MCV) magazine is a bimonthly publication of the MN DNR. Its mission is to encourage conservation and sustainable use of Minnesota's natural resources. Now celebrating its 81st year, MCV is solely supported by reader contributions. DLWA members who aren't familiar with this publication or subscribe to it may find its coverage of outdoor news, conservation issues, amazing photography and award-winning stories both informational and educational, as well as thought provoking. Call 844-245-7115 or go to <mailto:mcvmagazine@campwest.com> online to subscribe. Subscriptions are for one year based on the date the contribution is received. To learn more about MCV visit their website at <http://www.dnr.state.mn.us/mcvmagazine>