Beautiful Deer Lake

The Lake of Changing Colors

The Deer Lake Property Owner's Handbook





ASSOCIATION

An electronic version of this handbook including hyperlinks is available on the DLA web-site.

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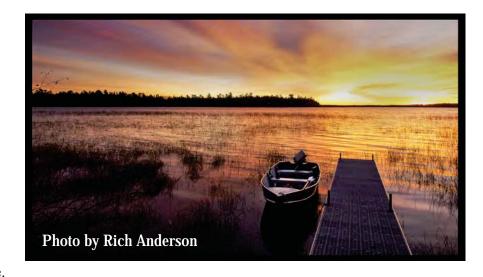
Welcome to Deer Lake! Information contained in this Deer Lake property owner's handbook was derived from sources provided by Itasca County Environmental Services, Itasca County Soil and Water Conservation District, University of Minnesota Extension, Minnesota Department of Natural Resources, the Minnesota Boating Guide, Itasca Waters, and Deer Lake Association member volunteers.

DLA is deeply grateful to the photographers whose artistry appears in this Handbook. DLA is particularly grateful to Rich Anderson/RE Imaging, a professional photographer who lives on Deer Lake, for multiple photographs appearing in this edition. Contact Rich directly for prints or photography services <u>reimagingphotos@gmail.com</u>.



Beautiful Deer Lake

Deer Lake is known as the Lake of Changing Colors. Many of us feel a deep connection to Deer Lake – maybe it's the mournful call of loons on a still night, the striking beauty of the boreal forest remnants that surround us, the magnificence of the clear, blue, violet waters of the lake itself, the reflection of stars glimmering on the calm lake surface; maybe the it's simply the comforting presence of time past, or the joy borne by family and friends new to the lake.



Deer Lake water quality serves as a foundation for family life and lakeshore property values. All property owners can unite around a goal to maintain and improve water quality. Is Deer Lake water quality important to you and your family? Would you like to see Deer Lake water quality stay the same or even improve?

Deer Lake is special, and will remain so as long as property owners and others who use the lake are vigilant. This Handbook is meant to provide information to help property owners become stewards of the lake.

Trophic State Index (TSI) is a measure of water quality and, in particular, of the nutrients that cause algae growth, undesirable plant growth, and reduce water clarity. TSI is measured on a 0-100 scale, lower being better. Oligotrophic lakes -- those with a TSI of less than 40 -- are low in nutrients and high in oxygen. Deer Lake's TSI of 35 indicates that our water quality is generally high. **Deer Lake**, however, hovers near the edge of the oligotrophic category, is highly sensitive to additional nutrients, suffers from bouts of increased algae, and could easily and quickly slip to lower quality without property owner vigilance and action.

Phosphorus and other nutrients cause rapid growth of undesirable aquatic weeds and suspended algae, turning lake water cloudy and green. Over time this can lead to deteriorating clarity, green surface algae, toxic blue-green algae, muck replacing sand on our shorelines, and sport-fish such as bass and walleye being replaced by rough fish like carp.

Water clarity is generally a good proxy for water quality. Deer Lake water clarity and quality are still excellent, but, during the last several years, Deer Lake has experienced spikes of algae growth causing our lake water to have reduced clarity and a green hue, especially later in the summer. In 2007, Deer Lake experienced a blue-green algae bloom, and 2015-2018 brought noticeable algae growth throughout the lake. This greening of Deer Lake can be slowed and reversed.



Lakeshore property owners can implement simple actions to preserve and improve Deer Lake water quality. They include preventing aquatic invasives from infesting Deer Lake, maintaining and testing our septic systems, filtering rainwater runoff, solving for shoreline erosion, maintaining forested shorelines or adding buffers, and minimizing lawns and fertilizer.

It's important to remember that once a lake becomes degraded, even the most costly interventions may not be able to bring it back.

http://www.startribune.com/from-runoff-to-ruin-the-undoing-of-minnesota-s-lakes/321099071/

Helpful information about Deer Lake:

Deer Lake contains many reefs, rock piles, and other structure, some rising suddenly and unexpectedly mid-lake. Many such spots are marked by buoys, but not all. Deer Lake has 920 acres of littoral area, where lake depth is less than 15'. That represents 23% of the total lake surface area.

This rocky littoral area is great for fishing, but presents concerns for safe boating. Some boaters have access to GPS systems that include detailed depth information. Otherwise, **large detailed hard copy lake maps** that approximate the location of this structure are available from the DLA Boutique. It's available as a 24x36" or 16x24" full-color lake map suitable for framing and including water-depths and names of bays, islands, and marking current and historical areas of interest. The smaller size is also available on poly -- it won't get ruined when wet – so you can take it in your boat.

Please send a note to <u>beautifuldeerlake@gmail.com</u> if you would like to purchase a copy.



The Minnesota DNR and the Minnesota Pollution Control agency keep detailed **statistical information** about each lake in MN, including **Deer Lake.** This information includes detailed lake depth maps, fishery information, and lake water quality and clarity data. This information is published on the DNR Lakefinder web-site. http://www.dnr.state.mn.us/lakefind/index.html

Here's the direct link to Deer Lake https://www.dnr.state.mn.us/lakefind/lake.html?id=31071900

How can I help preserve Deer Lake water quality?

What can I do?

People often associate lake water quality problems with large-scale agricultural, forestry, urban development, or industrial practices. But the truth is that **property owner actions have a significant impact on lake water quality.** The impact of land use decisions on one lake lot may be relatively small, yet the cumulative impact of small decisions on many lake lots can result in a significant decline in water quality.

Property owners can help by taking action to:

- Prevent aquatic invasive animals and plants from infesting Deer Lake
- Reduce the amount of phosphorus dumped into the lake from lakeshore properties
 - Septics
 - Rainwater runoff
 - Shoreline erosion
 - Streams

The following pages include a description for how these impact the lake and how you can help. Your individual action may make the difference!



How can I help prevent aquatic invasives in Deer Lake?

Several local lakes are now infested with zebra mussels, starry stonewort, or other aquatic invasives (AIS) including Pokegama, Little Jay Gould, Big Winnie, Sand, North Star, and Dora Lakes, portions of the Mississippi, Bowstring and Bigfork Rivers, and Hale and McKinney Lakes in Grand Rapids. The Mississippi River is now infested all the way from Big Winnie to south of Grand Rapids.

AIS are moved via transportation routes, from infested to uninfested waters via boats, trailers, bilge, live well, bait water, fishing and other water gear, docks, lifts, swim rafts, float planes, and recreational gear. Almost always, AIS is moved unwittingly. AIS is not moved by waterfowl or other wildlife. It's moved by us. Infestation would be devastating to family enjoyment of Deer Lake and decrease property values. **You and your guests can help!**

Our public-access inspection program has been effective, but inspectors can't be there 24/7. We all have a prevention role... property owners, recreational boaters, anglers, guests, visitors, and the businesses that serve us, including resorts, camps, campgrounds, lake service providers, bait shops, and marine dealers.

What you and your guests can do:

1. Do you know which MN lakes and rivers are infested and which are not?

https://www.eddmaps.org/midwest/tools/infestedwaters/map.cfm?showheader=1

Search "MN DNR Infested Waters List" or use your phone's QR reader:



2. Do you hire a lake service provider to install/remove your dock/lift? Hire a FiveStar service provider. FiveStar businesses voluntarily take AIS precautions when moving from lake to lake in order to earn your business. *Patronize a lake service provider that takes AIS seriously*.



FiveStar Lake Service Providers:
Grand Rapids Marine 218-326-0351
Thousand Lakes Dock & Lift 218-398-7553
JJ's Barge Service 218-244-5194
Chad Schumacher 218-256-9691
Matt Almquist/Outpost 38 218-327-0214

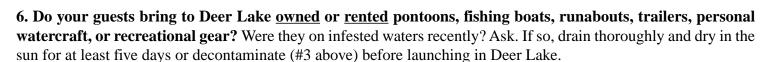
If your provider is not on the **FiveStar** list, ask them to join.

3. Do you move your boat from Deer Lake to other waters for fishing or recreation? Know whether those waters are infested and take precautions. Practice Clean, Drain, Dispose, and Dry. When you land your boat, thoroughly inspect it. Remove weeds and mud. Drain standing water. Empty live wells and bait buckets. If waters are infested, dry your boat/trailer in the sun for at least five days or **decontaminate your boat/trailer** before launching again in Deer Lake.



If you don't have five days to dry, the Itasca AIS program will decontaminate your boat for free. **Call the Itasca County AIS program at 218-256-4243 for the current location of the closest mobile thermal decontamination unit.** They will direct you to the nearest location. If possible, they will bring the mobile decon unit to you, or arrange to meet you. Second best is self-decontaminating with your home pressure washer or rinsing with very hot water. Either way, please understand that your water may not be hot enough. Decontamination includes a non-contact infrared thermometer to verify water temperature. Killing AIS requires applying 140° water for at least 10 seconds or 120° for at least two minutes. Best to call the Itasca AIS program.

- **4. Are you considering purchasing a used boat?** In what lakes or rivers was that boat used? Ask. Are those waters infested? If you don't know or can't find out, assume the boat was in infested waters. Have the boat, motor, and trailer inspected and decontaminated by the Itasca County AIS program before moving it **218-256-4243. It's free.** Better yet, buy used or new from a **FiveStar** dealer who will decontaminate the boat for you.
- **5.** Are you considering purchasing from a marine dealer or cabin owner on another lake a used dock, lift, swim-raft or other recreational items that sit in the water? Dry for at least 21 days before moving it. Is that lake infested? Have the item inspected by the Itasca County AIS program before moving it **218-256-4243**. It's free. Decontaminate. That's free too. Better yet, buy used or new from a FiveStar dealer like Grand Rapids Marine or Ray's Marine.



Recreational gear includes paddle boards, sail boats, buoys, scuba and snorkel gear, water carpets, inner tubes, canoes, kayaks, fishing gear, waters, waterfowl hunting gear and other similar items that may sit in infested water or hold standing water.

If you or your guests are renting watercraft or recreational gear, please consider renting from a **FiveStar** dealer who applies AIS safeguards Like Ray's Marine or Grand Rapids Marine.

- **7. Do you rent a trailer** to launch or land your pontoon or other watercraft? Learn where the trailer was before you. Some rental firms will decontaminate the trailer for you. If not, decontaminate the trailer before backing it into Deer Lake. (#3 above). See our listing of **FiveStar** firms. Several **FiveStar** firms rent trailers, including Grand Rapids Marine.
- **8.** Is your boat/engine serviced by a Marine Dealer? Does that firm test-drive boats in infested waters? Ask. Five-Star dealers like Grand Rapids Marine won't test in infested waters or will decontaminate the boat for you for free.
- **9. Do you maintain a private launch on your property?** Don't let others use it unless you know where their boats and trailers have been.

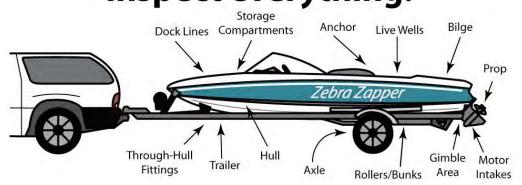
Please watch this 10 min video showing AIS infestation in MN lakes. Scenes from Deer Lake included https://www.youtube.com/watch?v=XkOjL4Q-qgU



Your individual action may make the difference.

Thank you for your help keeping Deer Lake free from AIS.

Before leaving and before launching... inspect everything!



Here is a description of the most concerning invasives:

Zebra Mussels (ZM)

ZM larvae are called veligers. A veliger is about 40 microns in length, nearly microscopic. (A period on a printed page is about 600 microns in size) A juvenile can be the size of a grain of sand, and an adult can be less than 1 inch long. A single ZM female will lay over 500,000 eggs in a spawning season, and can be transported considerable distances by water currents. ZM can live in bilge water, live wells, and bait water or will attach to shafts/propellers, boat bottoms, boat lifts and docks. That's how they are spread from lake to lake. ZMs have a life span of 4-6 years. After dying, their razor sharp shells will wash up on shore and ruin beach and swimming areas. Marl in Deer Lake's bed contains calcium, a favorable habitat for zebra mussels, making it more likely that ZM could flourish in Deer Lake.



making it more likely that ZM could flourish in Deer Lake. http://www.dnr.state.mn.us/invasives/aquaticanimals/ze-

Starry Stonewort (SS)

bramussel/index.html

SS are grass-like algae that produce dense mats on lake water surfaces. These mats limit boating, swimming, and fishing. SS fragments in live wells and bait water or clinging to boats and trailers can spread the plant from lake to lake. The plant was first confirmed in Minnesota in Lake Koronis, near Paynesville in Stearns County, in late August of 2015, and have since spread to nearby Itasca County lakes. Plant fragments were likely brought into the state on a trailered watercraft from infested waters in another state, and are now spreading within the state the same way. http://www.dnr.state.mn.us/invasives/aquaticplants/starrystonewort/index.html

Eurasian Watermilfoil (EM)

EM fragments in live wells and bait water or clinging to boats and trailers can spread the plant from lake to lake. When established, EM is fast growing, forming thick underwater stands of tangled stems and vast mats of vegetation on the water's surface, especially in shallow water. These mats limit boating, swimming, and fishing. EM can disrupt the ecology of a lake by crowding out important native aquatic plants needed for a healthy fishery. A key factor in the plant's success is its ability to reproduce through stem fragmentation and runners. A single segment of stem and leaves can take root and form a new colony. For pictures and more information about EM see http://www.dnr.state.mn.us/invasives/aquaticplants/milfoil/index.html





Septic System Best Practices

A significant portion of the greening of Deer Lake is caused by failing septic systems. Septic systems are designed to last for 20-30 years. In practice, sometimes septic systems last less than 20 or more than 30 depending on how much they are used and cared for. *Proper care and maintenance can save you thousands and improve water quality.*

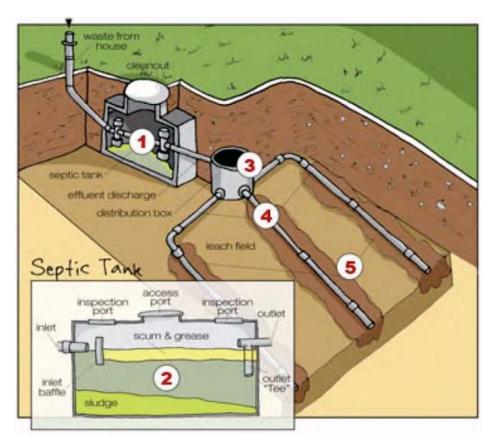
Ineffective septic systems load pathogens, phosphorus and other nutrients directly into the water table and the lake, driving algae and undesirable plant growth. The only way to determine whether your septic system has reached its expire-by-date is for you to order a septic compliance inspection. Inspection includes only hand-drawn soil-borings near your tank and drainfield. An inspection is different than a septic-tank-pumping. (An inspection is the exact same test you must undergo when you sell your property or apply for a building permit).

When property owners hear the phrase "compliance inspection", they sometimes think someone will come out to measure whether a septic system meets set-back requirements or whether it is properly sized for their cabin. That's not it at all. The soil underneath a septic system drain field acts like a filter-filtering the pathogens and nutrients from the effluent. That soil-filter will work well for 20-30 years, sometimes more. At some point, that filter becomes saturated and no longer functions. Then pathogens and nutrients like phosphorus run directly into the water table and the lake, contributing to the greening of Deer Lake.

<u>DLA is offering \$\$ incentives to eligible property owners to encourage septic inspections.</u> A septic compliance inspection is a hand-drawn soil test designed to measure whether the soil underneath your drainfield is adequately filtering your effluent and whether your tank is leaking. DLA is also arranging discounts and low interest loan options for those who need to replace their septic system. Please contact beautifuldeerlake@gmail.com to find out more.

How a Septic System Works

Most septic systems include a **septic tank** and **drain field**. Sometimes, when effluent needs to be pumped uphill from the house to the tank, or from the tank to the drain field, one or more electric pumps are part of the system.





Septic Systems Best Practices continued ...

Effluent flows from your home or cabin into your septic tank via pump or gravity. The purpose of the tank is to allow solids to settle to the bottom of the tank. Naturally occurring beneficial bacteria and other micro-organisms in your septic tank work to break down some of the solids. Liquid remains on top. The liquid-only then moves by pump or gravity to your drain field. The drain field disperses the liquid into the ground where micro-organisms and oxygen in the soil remove bacteria and nutrients.

The solids that settle to the bottom of your tank must be pumped out periodically. If not, the solids will eventually build up, move into your drain field, clog it, and cause it to fail. Septic additives are not recommended by experts, and sometimes contribute toward system failure.

Summary for Septic System Best Practices

- Have your tank pumped every three years or so, depending on how often your system is used. Some systems include filters that must be cleaned annually. Examples of local firms that pump septic systems and clean filters include Scooter's and Bunes.
- Order a **septic compliance inspection** every 10 years. This is a hand-drawn soil test that determines whether your tank is leaking and whether the soil underneath your drainfield is adequately filtering your effluent. DLA is offering to pay the fee for eligible property owner septic inspections. Loans and discounts area also available. Contact beautifuldeerlake@gmail.com to find out more.
- Use non-phosphate detergents and soap, minimize use of bleach and other solvents and chemicals. Bleach and other harsh cleaning products sent down your drain into your septic system kill the naturally occurring beneficial micro-organisms that break down solids and filter liquids.
- Don't flush garbage such as cigarette butts, paper towels, cleaning wipes, plastics, dental floss, cotton swabs, prescription medicine, personal care items, or other similar objects. These can plug your system and eventually cause it to fail.
- The same is true for kitchen wastes such as cooking fats, coffee grounds, eggshells, lettuce leaves or other food related items that could wash down the drain or that a garbage disposal could grind up.

Septic system experts generally agree that it's best for a home with a septic system to operate without a garbage disposal in the kitchen sink. Studies show the quality of the septic tank effluent is poorer when a garbage disposal is used. The quality of septic tank effluent helps determine the life of your septic system. Instead, consider composting or establishing a system for kitchen waste to go into the garbage.



Shoreland Best Practices

Rainwater and shoreline erosion carries phosphorus, other nutrients, and contaminants into Deer Lake, contributing to algae and undesirable weed growth and reduced water clarity. Property owners can take action to reduce or eliminate phosphorus loading and reduce algae and undesirable plant growth by minimizing shoreline erosion and by filtering rain and other water before it runs into the lake.

Rain and other Water Runoff

There are numerous ways to filter water runoff before it carries phosphorus, other nutrients, and contaminants into Deer Lake. Examples include a buffer, low-berm, and a rain garden.

- A buffer is an area of vegetation adjacent to lakeshore. If you are lucky enough to have forested shoreline, it's best to leave it in place. If your shoreline includes a lawn to the lake, consider restoring it near the lake with native plants or trees to serve as a buffer. A buffer can also be made into a beautiful pollinator garden.
- A berm is a small rounded row of earth maybe 12-24" high. When lands slope to the lake is gradual, berms can be used to capture and filter phosphorus and nutrients from water before it runs into Deer Lake. Many properties already have a natural berm at their shoreline. These are called ice ridges. They form naturally over many years, caused by the ice expanding and cracking from daily temperature fluctuations in winter and ice-out events in the spring. Ice ridges are excellent water filtration systems. As a result, it's best to leave them in place.
- A rain garden is a shallow depression on the landscape that captures rainwater and allows it to gradually soak into the ground where it becomes available to plants or is filtered by the soil to remove phosphorus, other nutrients, and contaminants, preventing them from entering the groundwater or Deer Lake. A rain garden can be planted with showy flowers and/or shrubs and be an attractive feature in the yard.

Shoreline Erosion

Soil from an eroding shoreline can contain phosphorus and other nutrients that promote algae, bacteria, and plant growth in Deer Lake. Shoreline erosion can be caused by removal of shoreland plants, foot and boat traffic, rain and other water runoff, high lake-water levels, wind/wave action, or ice-movement. It's best to stabilize and correct erosion problems as soon possible after they occur on your property. When possible, native plant installations work well. These plants form a deep root network that helps keep shoreline intact. Wave barriers, such as a coconut fiber-log, brush bundle, or rock may be needed to prevent immediate erosion while the plants establish themselves and grow to hold soil in place. There are numerous other natural solutions as well.

DLA Shoreland \$ Incentive Offers

Fortunately there are numerous effective methods property owners can implement to prevent runoff and shoreline erosion, including low-berm, buffer, and rain garden. Need help from an expert to think through effective solutions to an erosion or runoff problem on your property? Want a general assessment from an expert about erosion or runoff for your property?

DLA will provide a disinterested expert who will come to your property, consult with you, and offer potential solutions for your consideration. This service is FREE to you. You have no obligation to move forward with any implementation. It's up to you.



In addition, DLA is offering \$ incentives to encourage you to implement a rainwater runoff or shoreline erosion solution. Please contact beautifuldeerlake@gmail.com to learn more.

Additional thoughts ...

Evaluate need for a lawn area. Locate lawns and gardens more than 50' from lakeshore. Minimize or eliminate lawn and garden fertilizer. It's against the law to use fertilizers containing phosphorus anywhere within 1000' of the lakeshore. Lawns are poor at filtering contaminants and if fertilized actually contribute greening nutrients to the lake. Lawn fertilizers, pesticides, and herbicides tend to run into the lake even when filtered by a buffer and degrade water quality.

Please don't introduce soap into Deer Lake. Even in small quantities soap and shampoo can cause long-lasting damage. Biodegradable soaps without phosphates still pollute the lake when introduced directly because they degrade quickly



Garbage and Recycling

- Burning household trash and construction debris is illegal throughout Minnesota. Trash, construction debris, and recycling can be taken to the Itasca County Transfer Station, located five miles south of Deer Lake on Hwy 62, or collected by a commercial waste hauler. Prepaid refuse-tickets are required to drop household garbage at the transfer station. These tickets cannot be purchased at the transfer station. They are, however, widely available for purchase at various convenience and other retail stores around the area. http://www.co.itasca.mn.us/577/Transfer-Station
- Burning brush and other vegetative debris requires a permit and is restricted in hours and banned outright when conditions are dry. It's always unlawful to burn vegetative debris or yard waste within 50' of Deer Lake. It's best to substitute alternatives for burning. A great alternative for disposing downed trees and limbs is the Firewise program.
- **Free household recycling** for cans, bottles, plastic and paper is available at the Transfer station. Plastics 1-7 are accepted. Please note that electronic equipment must now be recycled and can no longer be thrown in the trash. http://www.co.itasca.mn.us/601/Recycling
- Many toxic and hazardous household wastes are also accepted at the Transfer station. For up to date information about which hazardous wastes are accepted, call Itasca County Environmental Services at 218-327-2857 or see http://www.co.itasca.mn.us/569/Household-Hazardous-Waste
- A note about burning firewood. Bringing in firewood from anywhere outside Itasca County is illegal because of the danger of importing terrestrial invasives, including emerald ash borer. Obtain firewood locally from an approved vendor. For more information about firewood see https://www.dnr.state.mn.us/firewood/index.html



Permits and Land Obligations

Shoreland Alteration

Permits are required for almost all shoreland alteration. To help preserve water quality, Minnesota law, DNR shoreland rules, and Itasca County zoning ordinances describe what lakeshore owners can and can't do near their shoreline.

Itasca County has prepared a document called "What can I do with my Lakeshore? http://www.co.itasca.mn.us/DocumentCenter/Home/View/2915 Call Itasca County Environmental Services at 218-327-2857 for more information and permit applications.

Natural native vegetation in the lake water near your shore is generally good for water quality, so it's best left in place. It provides habitat for fish and other wildlife. A healthy stand of bulrush helps prevent erosion by quieting wave action. You may be able to remove a small portion of submerged or emergent vegetation in a limited area in the lake near your shore by applying for a permit. Contact Itasca County Environmental Services at 218-327-2857.

Ice ridges are the "hump" that many Deer Lake property owners see at their shorelines. They form naturally over many years, caused by the freeze-thaw cycle and ice-pushing in winter and spring. Ice ridges are excellent water filtration systems, trapping and filtering run-off. As a result, ice ridges are best left in place. You can obtain a permit for limited removal of an ice-ridge for access to the water. Catastrophic ice ridges formed during the past year are an exception. For more information call Contact Itasca County Environmental Services at 218-327-2857.

MN boating laws and licensing requirements

Where can I find MN boating laws and licensing requirements? Are there specific MN laws regarding personal water-craft? What are the age requirements for operating a boat or personal watercraft in MN?

Answers to these and other questions may be found in the Minnesota Boating Guide. http://files.dnr.state.mn.us/rlp/-regulations/boatwater/boatingguide.pdf

Minnesota personal watercraft may only operate between 9:30am and one hour BEFORE sunset. Personal watercraft may not harass wildlife and must proceed at slow no-wake speeds of 5mph or less within 150' of non-motorized boats, shore, wildlife nesting areas, docks, swim rafts, swimmers, or any operating, moored, or anchored boat. Thank you for making sure your guests understand and follow the law.

Wakes from large wakeboarding and wakesurfing boats can cause shoreline erosion. Eroded soil is a direct cause of green algae and undesirable weed growth in Deer Lake. Please board or surf at least 200' from other boats, shorelines, docks, and other structures. Please minimize repetitive passes on any one portion of shoreline. Once you've run in the same area for a while, move on to another area. Remember, you are responsible for your own wake.

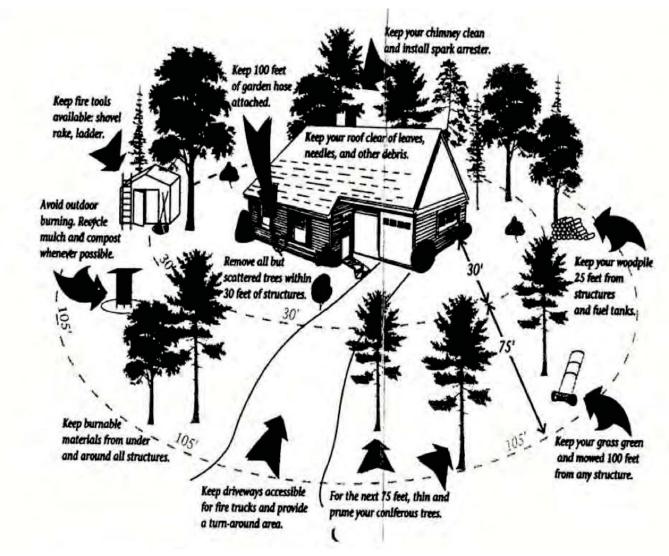


Reducing Fire Risk

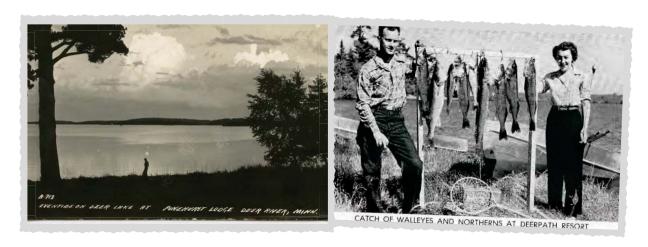
How can I reduce my fire risk? I have downed trees, branches, and other woody materials near my home or cabin.

You are invited to participate in the Itasca County Firewise program.

Firewise encourages property owners to clear brush and downed trees and limbs around their homes, cabins, and driveways to prevent the spread of fire and enable firetruck access. You or a hired hand clear and stack the brush near at the end of your driveway or near a road. It's picked up and taken away by the Firewise program. For free if you're a DLA member. The brush collected is put to good use as garden chips, bio-fuel or for other uses.



For more Firewise information, please see http://deerlakeassociation.org/index.cfm?pageid=11054



About the Deer Lake Association

DLA is a 501(c)(3) all-volunteer Minnesota non-profit, organized to preserve and improve Deer Lake water quality for fishing, for recreational boating, for the surrounding community, for visitors, resorts, camps, wildlife, and Deer Lake property owners. We also build community by providing service, educational, and social activities for our members and surrounding area residents. The DLA was founded in 1991.

DLA values Deer Lake, the surrounding land, and the local community. We treasure Deer Lake's fragile ecosystem, rugged shorelines, uninhabited islands, and the clarity of its water. We are moved to maintain and improve our water quality, forested shorelines, population of game fish, and to counteract the threat of invasive species.

The **Beautiful Deer Lake Water Quality Initiative** is a multi-year effort to prevent AIS infestation and to reduce the amount of phosphorus entering Deer Lake via streams, septic systems, storm-water run-off, and shore line erosion. To learn more about our Initiative and how you can help please visit our web-site http://deerlakeassociation.org/index.cfm?pageid=221974

DLA is a 501(c)(3) non-profit organization. This means donations of any amount are welcome and tax-deductible to the full extent of the law. Our Operating Fund provides annual expenses for ongoing water quality efforts and our social and community service activities. Our Conservation Fund provides resources restricted to the specific action plan described in our multi-year Beautiful Deer Lake Water Quality Initiative. Our Deer Lake Legacy Investment Fund allows us to spend up to 5% of assets annually to support AIS prevention, water quality, and other important work now and into the future. If you are interested in making an immediate donation to any of these funds, would consider a pledge for a future donation, or would consider providing a Legacy Gift through your will or estate plan, contact beautifuldeerlake@gmail.com

DLA Accomplishments

- Protection of Deer Lake property values and our heritage of family-enjoyment
- Preservation of Deer Lake's water-quality through the creation, funding, and implementation of the Beautiful Deer Lake Water Quality Initiative
 - ^o Leadership in aquatic invasives inspection, information, and communication
 - ^o FiveStar Initiative including Lake Service Providers, Marine Dealers, and Resorts
 - ^o "Canaries" early detection initiative including AIS divers, Detectors, and Sentries.
 - ^o AIS Rapid Response plan
 - ^o Reduction in phosphorus loading from Septic and Shoreland practices through property owner communication and financial incentives
 - ^o Reduction in phosphorus dumped to Deer Lake by streams
 - ^o Community information events, including Business Water Summit, Lake Service Provider AIS Summit, and Septic Secrets Seminar
 - ^o Volunteers who consistently monitor and test water quality, water clarity, and lake levels.
- Purchase of Bear Island with matching Reinvest-in-Minnesota funds and subsequent donation to the State of Minnesota. Now designated as Wildlife Management Area.
- Purchase of two fragile Muskie and walleye spawning areas in the NE area of Deer Lake, and subsequent donation to the state of Minnesota. Now designated as Wildlife Management Area.
- Preservation of uninhabited islands on Deer Lake
- Won effective water quality safeguards for commercial development on Deer Lake, protecting vital and vulnerable fish-spawning areas and the Deer Lake eco-system.
- Established Deer Lake Legacy Investment Fund functions similar to an endowment, providing assets to preserve water quality now and for future generations.

DLA Service, Educational, and Social Activities

- Examples include Deer Readers Book Club, DLA Golf Outings, DLA Creative Endeavors, DLA Spaghetti Dinner, DLA Frolic, DLA Regatta, DLA Ice Cream Social, Bear Island Trail Maintenance, Hwy 62 Clean-up, plus other special events.
- DLA Meetings with guest speakers subjects including loons, wolves, fish, eagles, bears, native wild flowers, shoreland landscaping, septic systems, estate planning, conservation easements.
- College scholarships to high school students in Grand Rapids and Deer River.
- DLA Neighborhood Communicators our neighbors keeping us informed.
- DLA Member Directory

DLA Website and Social Media

DLA web-site http://deerlakeassociation.org

DLA Facebook https://www.facebook.com/groups/1426038024368278/ Sign-in to Facebook and request to be added to our Facebook group.

Follow us on Twitter @beautifuldeerlk Questions? beautifuldeerlake@gmail.com

Invitation to Join the Deer Lake Association

We invite you to join the Deer Lake Association. Annual membership dues are \$25 per family for lakeshore owners, \$12.50 for non-lakeshore owners. 1st year free for new property owners.

To join, please see http://deerlakeassociation.org/index.cfm?pageid=3369, or send an e-mail to beautifuldeerlake@gmail.com





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The Deer Lake Property Owner's Handbook

