

LIVING ON RICE LAKE

An Owner's Manual



Photo by Alyssa Karl, 2005

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This manual is available in its entirety at www.ricelakemn.org.

OUR THANKS

This owner's manual was originally developed in 2004 by Dale Lorenz, then Vice President of Koronis Lake Association (KLA). With KLA's permission, we have edited the text for use by Rice Lake property owners. We express our sincere appreciation to Dale for his effort in writing this manual and to KLA for allowing us to modify their excellent work for the use of people who live on, enjoy and care about Rice Lake.

Author, Dale Lorenz writes: The objective of this USERS MANUAL is to assist you to enhance the enjoyment and benefits of lake living. Hopefully it will answer your questions about our lake and how we can all protect and improve it.

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During the ice age, huge glaciers receded about 10,000 years ago, leaving a canyon of more than 3,000 acres. The glaciers surrounded this depression then covered the depression with clean, clear water. This among more than 10,000 others in



covered this area. When the last years ago, they left a highly structured in breadth and over 130 feet in depth, with banks and rolling hills. Nature hardwood forest, prairie and filled the natural gem we now call Rice Lake is Minnesota.

Human interaction with our lake started approximately 1,000 years ago when it is estimated that Native Americans arrived. They did only minor damage to the lakes for 3 reasons:

- They were few in numbers.
- Virtually everything they used was biodegradable.
- They did not disturb the vegetative ground cover which was primarily prairie grass, forests and wetlands.

It has only been in the last 150 years that major human interaction has changed this dynamic. Over the last 150 years, people unfortunately were casual and careless about our surface waters, partially because they seemed so limitless and appeared to clean themselves.

Today however, the Minnesota Pollution Control Agency (MPCA) classifies our lake as *EUTROPHIC*, which means it is polluted with persistent algae and aquatic plant problems. Eutrophic means the lake is in a state of decline and over time, results in the death of a lake.

The MPCA does not support swimming in our fresh water lake because of this level of pollution.

Mercury and other pollutants also contaminate Rice Lake. The Minnesota Department of Health issues advisories each summer on how many fish per week from Rice Lake are safe to eat. (See Section 4)

Just as our lake was neglected by human actions in the past, it is now dependent on us to help restore it to some semblance of its original pristine condition. Rice Lake is an exceptional natural resource and we want it to be as healthy as possible, with water quality that invites the enjoyment of viewing, boating, fishing, swimming, water sports and is a safe, healthy habitat for fish, loons, turtles and other wildlife.

We hope this manual will give you more understanding of the vulnerability of the lake and wildlife you have come to enjoy here. If you would like more information on any one of these topics, contact:

info@ricelakemn.org

Rice Lake Association
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COUNTY ROAD 34 BRIDGE OVER THE CHANNEL



Photo by Alyssa Karl, 2005

SECTION 1: TEN THINGS YOU CAN DO TO CARE FOR OUR LAKE

"Minnesota's lakes, rivers, streams and aquifers are the state's richest resource. Water runs through all aspects of our lives. It defines us as a state and each of us as Minnesotans. We all share the wealth. Now it's time to share the responsibility of returning Minnesota's impaired waters to their best and highest use."

Sheryl Corrigan, Former Commissioner, MPCA

A lake and its shoreline is a complex, environmentally sensitive, living system. What we do on our property and in the water affects the health of our lakes and the enjoyment of everyone who uses them.

Only when we know what a lake needs and have a shared commitment to doing the right things for Rice Lake, will we be able to have clean, clear water all summer long. We need to learn to live within the lake's ecological carrying capacity. Right now, we are exceeding what the lake can bear.

If we want a healthy lake we need to step up to the plate and do our part. Rice Lake is currently classified as polluted by the MPCA. We CAN do better. Pollution means anything that doesn't belong in the water, like fertilizer, animal and septic waste, soil runoff, chemicals and garbage. Our very presence means that we contribute to this pollution, but we can minimize our impact like the Native Americans. If we do the best we can, together we can make a huge contribution to having a cleaner and healthier lake.

Our lake has a tremendous ability to clean itself, but we need to help that process and not continue to overwhelm it.

1. DON'T FEED THE LAKE NUTRIENTS

The lake needs phosphorous and nitrogen to remain healthy but the natural environment provides all that it needs. Excess nutrients affect water clarity, deplete oxygen for fish and choke the lake with algae. These conditions favor rough fish like carp because of their greater tolerance poorly oxygenated water. Phosphorous and nitrogen come from soil, ashes, fertilizer, animal and human waste, and decaying plants & weeds.

Phosphorous run-off is a major contributor to green, slimy lake water. Soil in our area is naturally high in phosphorous so none needs to be artificially added to lawns. Only small additions may be needed in gardens and flower pots. State law now mandates zero phosphorus for lawn fertilizer. The amount of nitrogen in fertilizer should be no more your soil can absorb without leaching into the lake. You can find exactly what your soil needs by sending a sample for analysis to the University of Minnesota Extension Service.

Mow, rake and blow grass clippings and leaves AWAY from the lake, driveways and roads. Clippings reaching the lake decompose and add to the phosphorus load of the water. Mulch is a natural fertilizer so consider a mulching attachment on your mower. Or compost clippings and return their rich blend to the soil.

Use liquid dishwasher and laundry detergents. Powdered detergents create sludge in your septic system. Phosphorus levels in laundry and dishwasher detergents are both regulated. Check labels for other

cleaning products you use. Minimize your use of laundry bleaches. Bleach will kill some of the good bacteria your septic system needs to work properly.

2. KEEP TOXIC CHEMICALS WHERE THEY BELONG

Chemicals that are toxic in water contaminate the lake and adversely affect the reproduction and development of aquatic creatures. Isn't it sad that we are advised to eat only small fish in limited amounts from our fresh water lake because of chemical contamination?

Take care not to spill gasoline, oil and other petroleum products in the lake. Fill your portable gas tanks on shore, not on your boat. One gallon of gasoline can contaminate as much as one million gallons of water.

Paynesville Township has a free oil recycling depot open 24/7 to recycle oil, oil filters and antifreeze. Eden Valley and Paynesville sponsor a Hazardous Waste Pickup each spring. Watch area newspapers or websites for postings of dates. Stearns County Household Hazardous Waste Facility has a new location in the vicinity of Fleet Farm in the St. Cloud area. They're open Mondays 9-5, Tuesday through Friday 9-4 and every third Saturday 8-12. Follow the HHW signs or google Household Hazardous Waste Stearns County, MN.

We all encounter pests that annoy us...mosquitoes, mice, weeds. We humans have varying tolerances for these and obviously, some need to be managed. Finding the balance between responsible use of herbicides and pesticides, and protection of the lake is a challenge. The basic rule is to use all chemicals sparingly and appropriately. Be extremely careful about spills. When you must use chemicals, follow directions on labels precisely and clean up even the smallest spill.

Some persistent chemicals accumulate in the tissue of fish and other wildlife, and are passed up the food chain. It is now mostly clear that the deformity in frogs first identified in Minnesota, is caused by an adverse reaction to polluted water because frogs' skin is so thin and sensitive. This should be a warning to us, like canaries in a mine shaft.

Household products, like cleaning supplies and paints contain toxic chemicals. Clean your boat and dock with soap and other cleaners when they are out of the water. Dispose of old or unused cleaning supplies, paints and other chemicals at hazardous waste events and facilities.

Prescription medications that are disposed of in sewer and septic systems are now common in our state's lakes and rivers. Research reported in 2013 found about a third of the Minnesota lakes in the study contained cocaine. Triclosan, a chemical used in antimicrobial soaps appeared in 14 percent of the lakes. DEET was the most widespread, turning up in 76 percent of the lakes sampled. Contraceptives found at very low levels caused populations of minnows and trout to plummet. The researchers said "even at very low doses, things that are hormones or hormone-like don't have to be toxic or poisonous to exert strong effects."¹

Prescription medications that are no longer used can be dropped off at the Paynesville Police Department drop box at the Paynesville City Offices, 221 Washburne Avenue, Monday through Friday from 8:30 - 4:30.

¹ NBC NEWS, Minnesota lakes are loaded with chemicals, even cocaine, May 17, 2013, Emily Sohn

3. GIVE YOUR SEPTIC SYSTEM TLC

If you have a properly designed, constructed and operated septic system, you have a highly efficient wastewater treatment facility on your property. If your system is failing, you may be contributing significantly to the pollution of Rice Lake and to the ground water you use for drinking. Failing or nonconforming systems leach nutrients and disease-causing organisms like fecal coliform into the water. These conditions impact safe swimming and recreational use. Fish and other wildlife absorb contaminants and fouled lake water can make people and pets sick.

What can you do?

- Conserve water. By conserving water you extend the life of your septic system and increase its effectiveness. Repair leaking faucets and toilets. Use low-flow toilets, water conserving shower heads and water efficient appliances.
- Wash only full loads in your dish and clothes washers. Change the load setting for smaller loads. Bleach in laundry and cleaning products can kill beneficial bacteria in your septic system. Use it sparingly.
- Minimize waste. Don't flush paper towels, facial tissues, cigarette butts, condoms or personal hygiene products. Use easily biodegradable facial tissues and toilet tissue.
- Drop-in-the-tank toilet bowl cleaners keep the bowl more sanitary but the detergents and bleaches they release are hard on plastic and rubber toilet parts. These chemicals are also detrimental to your septic system.
- Don't flush unwanted prescription or over-the-counter medications into your septic system. They eventually end up in the lake.
- Don't pour grease, sauces or gravies down the drain. Absorb them with paper towels and dispose in your garbage.
- Don't dispose of even small quantities of oils, paints latex or oil-based, paint thinners, brush cleaners or other harmful chemicals in your system.
- Don't install a garbage disposal if you have a septic system. If you already have one, don't use it to dispose of vegetables, meat, fat, oil, coffee grounds or other undigested food products. Create a compost area on your property. It's part of living lightly on the lake.

The more you put into your septic, the more frequently it will need to be pumped. Schedule a licensed septic hauler to inspect and pump your system at least every two to three years.

Protect your drain field from damage by not driving over it. Weight and pressure compact the soil. Soil needs adequate air in order to effectively do its job in treating wastewater. Keep plants and trees roots from growing over your drain field.

NEVER USE SEPTIC STARTERS, FEEDERS, CLEANERS OR OTHER ADDITIVES. They waste your money and can damage your septic system. They are not safe or effective. Proper operation and regular pumping is all your system needs.

Watch for signs of septic failure:

- Toilet doesn't flush properly
- Drains back up

- Standing water on or near your drain field
- Sewer smell
- Algae bloom at the lake edge suggesting septic leakage into the lake

When you notice signs of failure, stop all unnecessary water use immediately; call a septic hauler to pump the tank and get advice from a licensed septic installer to correct the problem.

4. FIRES BY THE LAKE

Roasting hot dogs and marshmallows at a campfire is an enjoyable part of lake living, but when it's not managed properly, campfires can pollute lake water. It is easy to avoid this problem. Simply remove the cooled ashes and dispose of them in the garbage, not in the lake.

All other burning is regulated, even for leaves; a permit is required from a local Fire Warden. Burn barrels are no longer allowed. In Paynesville and Eden Lake Townships you must get a burning permit and call the dispatcher (Paynesville, 243-4646 or Eden Lake, 453-5801) when you do any burning. If you do not call the dispatcher and the fire department is summoned, you may be charged \$1,000 for the fire call.

5. BE A TRASH ADDICT

We all create garbage and without proper disposal, it will leach harmful chemicals, into our ground and surface water. Don't dump, burn or bury garbage if you are concerned about water quality. West Central Sanitation (243-7577 or 453-2717, toll-free 800-246-7630) picks up garbage weekly around the lake. So if you come to the lake only for weekends or short stays, check with them for specifics on service. They provide a heavy-duty garbage container designed to keep smells in and animals out. Maybe you could share the cost of pick-up with neighbors who week-end.

Rice Lake may look serene on the surface but unfortunately a world of pollution exists underneath. Through the years the lake has been used as a dumping ground by some people for bottles, cans, tires, parts of ice fishing houses and other assorted stuff.

Because bottles, cans, and other garbage aren't natural, they take up space that doesn't allow proper fungus or other bacteria growth. This growth is the basis for the food chain. Plastic bags and other debris create smother zones that choke out needed plant growth. Carry a garbage container on your boat or in your ice fishing house and remove all garbage from the lake and shoreline. When you see something that was left by others, pick it up. Pack it in, pack it out.

6. KEEP THAT NATURAL LOOK

Look at your lakeshore. One of the reasons we're attracted to lake living is to enjoy the beauty of a natural setting. We love to hear loons, see an occasional eagle and listen to all the birds that live here. We like to look at the water and see it clear, not green with scum floating. We enjoy seeing the water sparkle when the sun shines and when the moon rises. It centers us to look across the lake and see natural shoreline with trees and native vegetation.

Development during the 1950's and 60's favored quickly converting a lake property to the traditional



urban environment with few trees, Kentucky bluegrass golf course lawns right to the water's edge with sand beaches the length of the property. We've learned over time though, how detrimental that kind of landscaping is for the lake. We know a natural look is better for the lake. Landscaping has evolved into lakescaping.

Lakeshore buffer zones help prevent one of the most common problems experienced by lakeshore owners, shoreline erosion. The main cause is wave

action. When there are native plants along the shore or aquatic plants like bulrushes or cattails, the impact of waves is buffered.

Good stewardship practices:

- Create a buffer of native plants between the lake and the groomed lawn area of your property. This slows the force of rain & snowmelt as it descends the bank to the beach. It gives the soil a chance to absorb water and other debris before it reaches the lake.
- Maintain a healthy lawn.
- Rake leaves in the fall to prevent them from blowing into the lake.
- Direct rain gutters onto lawns, not onto hard surfaces like driveways or sidewalks.
- Provide habitat for wildlife. Aquatic plantings and fallen trees in the lake slow the flow of water & encourage nesting and nursery areas for fish, turtles and other wildlife. Bird houses are an enjoyable way to watch songbirds. Dead trees attract flickers and woodpeckers.
- Welcome bats & dragonflies. They eat mosquitoes. Manage predictable standing water areas to prevent mosquito hatchings.
- Plant native plants. Native plants have root systems that are deep enough to withstand drought; no maintenance once they're established.
- Color your buildings and other structures so they blend in with the vegetation and the lake.



Part of the magic of being on a lake is the interaction of natural light, water and sky. It happens when it's dark and you look up into the stark beauty of a starlit sky. Capturing this experience can



be altered by lights on your house or dock or yard. Light is needed at night but don't over-light.

Choose lights that meet your needs without going beyond what's required for the task.

Consider motion detectors rather than dusk to dawn lights along the shoreline.

7. RAIN AND SNOW MELT: STORMWATER MANAGEMENT

It's wonderful to see the snow melt in the spring, and it is great to have enough rain to keep our vegetation lush. But, these two events create significant water quality challenges. Ron Struss, U of M Extension Educator, says, "When it rains and the snow melts, it pollutes. These are two main reasons we are not meeting fishable, swimmable and aesthetic goals for our rivers and lakes."

How's Your Landscaping?

Keep your topsoil where it belongs. When soil particles wash into the lake they carry phosphorus and pollutants from leaves, grass clippings and fertilizer that cloud the water, destroy habitat, plug fish gills and cause algae blooms. Soil in water carries bacteria from pet and wildlife waste, human waste when a septic is not functioning properly, petroleum and other chemical waste that may have inadvertently spilled. All of these undesirables attach themselves to soil particles.

Rain gardens are one newer concept for managing stormwater in residential settings. Rice Lake Association provides a stipend to each lakeshore owner who completes a rain garden with funding, design and project management from the Stearns County Soil and Water Conservation District. Check with RLA for details.

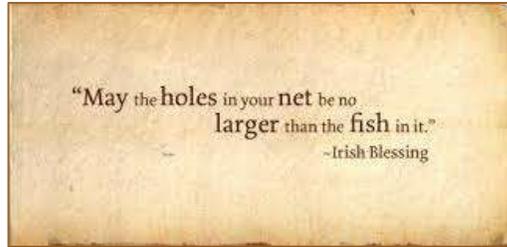
Create small water retention pockets in your lawn to retain moisture for your lawn, trees and shrubs. Your property is uphill from the lake. If it sheds water too fast, it will bring contaminants to the lake.

- Vegetative buffer zones create the last line of defense.
- Make corrections when you see them. Restore even the smallest wash area or gully immediately.
- Pick up pet waste and put it in your garbage. Animal fecal matter is as detrimental to the lake as human waste.

8. CLEAN YOUR BOAT, BUT PROTECT THE LAKE

The Clean Boating America organization has developed the following guidelines for keeping your boat clean without harming the environment:

- As much as possible clean your boat when it's out of the water. Think about where dirt and solvents go, and choose a method that reduces the chance of either, getting in the water. Always clean boat bottoms on shore, away from water.
- Choose cleaning products carefully. Remember, a little goes a long way. Read labels and buy non-toxic & phosphorous free cleaners. Avoid those that warn do not get in eyes or always wear gloves. These harm the environment. Don't use bleach, ammonia, lye or petroleum distillates near the lake.
- KNOW YOUR EXOTIC SPECIES and check for them every time your boat enters or leaves the lake. The DNR office in Spicer can identify aquatic plants and animals.
- Dispose of unwanted or dead minnows and worms in the trash, not in the lake.



9. WEED CONTROL: DON'T USE CHEMICALS OR MECHANICAL HARVESTERS

When the water in front of your property is choked with plants and pea green stuff, it can be very frustrating. But science strongly encourages you not to use mechanical harvesters or to add herbicides to the water.

Cindy Hagley, Sea Grant Educator, says, "They [chemicals and harvesters] treat the symptoms, which are quite temporary and we need to control the cause which is primarily excess nutrients entering the lake from the surrounding area." She goes on to say, "The very choices you make to control plants might drive the lake to a much less desirable state, algae soup."

Lakes and bays are delicately balanced ecosystems and research has shown that the balance between healthy vegetation and algae dominance can shift very quickly. Mechanical harvesters and chemicals disturb this balance. If you must remove vegetation to get your boat out or to create a swimming channel, hand rake only what is necessary, and dispose it away from the water. It's a great addition to a compost bin or garden.

10. KEEP YOUR DRINKING WATER SAFE

Your well should provide safe drinking water. But to be safe, you should have your well water tested on a regular basis for nitrates and coliform bacteria by a certified water-testing laboratory. To keep your water safe:

- Keep your septic system in good working order.
- Dispose of hazardous materials properly.
- Minimize the use of commercial fertilizers and pesticides.
- Disinfect your well by chlorination on a regular basis (every two years), and after replacing pumps, water heaters, plumbing fixtures or if you detect an unpleasant taste or odor in your water. Your well driller or plumber will provide instructions and the materials to do this yourself.

TO SUMMARIZE:

Water itself is clean and clear. It's what we mix with it that causes problems. When we add particles of soil, fertilizer, herbicides, pesticides, petroleum products, fecal matter and other assorted items to the mix, our lake will react by losing its clarity with excess weed growth and algae blooms and can become a carrier for disease. The solution to the problem rests with all of us to be extremely careful about what we feed our lake.

When everyone living on the lake does their part, and our neighbors in the surrounding watershed join us and do theirs, we will see Rice Lake to return to the pristine condition that it once was.



Photo by Chris Hanson-Ehlinger, 2005

SECTION 2: ENJOYING THE LAKE

Each of us uses and enjoys the lake in different ways. Some fish, some swim, some tube or water ski and some simply enjoy its natural beauty. All of us deserve to enjoy whichever activity we select. To live in harmony, we need to work together and abide by some fairly simple rules and courtesies.

RULES ON THE WATER

Just as there are rules of the road, there are basic rules that apply when you're driving a boat.

WHO CAN OPERATE A MOTORBOAT

These restrictions apply to motorboat operators less than 12 years old:

- For engines 25 horsepower or less, those under 12 years old may operate with no restrictions.
- For engines more than 25 horsepower through 75 horsepower, those under 12 years old must have someone at least 21 years of age on board who is within reach of the controls.
- For engines over 75 horsepower, no one younger than 12 may operate, even with an adult on board.

Other restrictions apply to motorboat operators 12 to 17 years old. Motorboat operators from 12 to 17 years of age may operate engines of 25 horsepower or less with no restrictions. For engines over 25 horsepower, operators 12 to 17 years of age must have either:

- A watercraft operator's permit **or...**
- Someone at least 21 years old on board that is within reach of the controls.

PWC REGULATIONS

Operators of personal watercraft must abide by the following state laws and regulations.

- No one under 13 years of age may operate a PWC. Those ages 13 to 17 must have someone at least 21 years old on board or have a Watercraft Operators Permit.
- They must not travel faster than a slow, no-wake speed within 150 feet of non-motorized boats, shoreline, docks, swim rafts, swimmers, or any moored or anchored watercraft.
- PWC's may only be operated between 9:30 a.m. and one hour before sunset.
- If a person is being towed by a PWC, there must be another person aboard to act as an observer or have a factory installed rearview mirror.
- Anyone on board must wear an approved personal floatation device.
- A lanyard-type engine cut-off switch must be attached to the operator, their clothing or their floatation device.
- PWC's must travel at a slow-no-wake speed through emergent or floating vegetation.
- They must not weave through congested watercraft traffic or jump a wake within 150 feet of another vessel.
- They must not chase or harass wildlife.

A *Watercraft Operator's Permit* can be obtained from the DNR, sheriff's offices, and some schools and marine dealers or by taking this Boat Minnesota online course and passing the test at the end.



<http://www.dnr.state.mn.us/safety/boatwater/education.html>

LIFE JACKET REQUIREMENTS

On all boats, except a sailboard, regardless of length, including canoes, kayaks, duck boats, there must be a readily accessible Coast Guard approved Type I, II, III, or V wearable Personal Flotation Device (PFD) for each person on board.

Type IV throwable devices such as BUOYANT CUSHIONS ARE NO LONGER ACCEPTABLE. On boats 16 feet or longer with the exception of canoes and kayaks, there must be at least one Coast Guard approved Type IV throwable, rope attached device, such as a buoyant cushion or ring buoy immediately available.

Minnesota law now states that children, age 9 and younger must wear PFDs when they are on a boat. For all other passengers, they must be readily accessible. The law doesn't apply to children who stay under the deck of a boat or in an enclosed cabin, those riding on licensed commercial boats or in boats anchored for swimming or diving.

Boat drivers who break this law face a warning. After the first violation, boating with an unprotected child becomes a petty misdemeanor, punishable with a fine of up to \$300. Minnesota joins 40 other states with laws requiring children to wear life jackets on boats.

SWIM RAFTS

A permanently anchored raft can be located a maximum of 100' from shore. It needs to be painted a light color and have reflectors at the corners so they are easy to spot at night. You must receive a permit from Environmental Services from Stearns County.

BOATING COURTESY

- Watch your wake
Not only are large wakes upsetting to swimmers and people in kayaks and canoes, they erode the shoreline. Leave your dock at idle speed, and if you cruise the shoreline, cruise at idle speed. High prop speeds near the shore chum up the bottom which releases sediment and adds phosphorus to the water.
- Tubing & water skiing
These are fun activities but both require courtesy and common sense. A good guideline is to stay 100 feet out and away from docks, rafts, swimmers and fishing boats. For safety, give boats pulling tubers or skiers a wide berth. When a skier or tuber is in the water, the pulling boat should raise a bright orange flag which is a universal warning signal.
- Keep an eye out for boats in trouble
It can happen to any of us, running out of gas, motor breaks down. If you see someone in trouble, give them a tow.
- Stay out of the channel
The channel between Rice & Koronis is a beautiful wetland. It supports lots of wildlife. It's also a fragile area because it's so shallow. Boats motors & personal water craft, especially when traveling at high speeds, easily disturb the sediment and over time with continued intrusion, will change that ecosystem.

- Personal Water Craft (PWC)

These machines are fun, but can cause high anxiety with your lakeshore neighbors. The constantly changing noise pitch seems to be the primary offender. Use idle speed when you leave the dock. Try to stay in the middle of the lake and don't stay in one place. Don't buzz fishing boats or cut behind power boats to jump their wake. Stay away from swimmers, people in kayaks & canoes and wildlife. Abide by all state regulations.

As a boat owner, you are liable if you allow others to operate your boat in a reckless manner or in violation of age restrictions.

- Operating a boat in a careless or reckless manner
- Operating a boat without the safety equipment required by law
- Exceeding the carrying capacity or horsepower rating of the boat
- Allowing occupants to ride or sit on gunwales, bow, transom, sides, stern, or decking over the bow sides when a boat is underway, unless adequate guards or railings are provided
- Operating a boat or allowing others to operate your boat while under the influence of alcohol and/or a controlled substance
- Operating a boat so that its wash or wake endangers, bothers or interferes with any person or property
- Operating a boat within an area set aside as a swimming area
- Operating a boat above a slow, no wake speed in areas marked as no wake zones

Remember...practice good seamanship, keep a watchful lookout and maintain a safe speed.

PARTY NOISE

Why live on a lake if you can't have a party? The sound of people having fun is one of the joys of lake living. If you plan an outside party with music or one that extends beyond daylight hours, it's a good idea to give your neighbors advance warning. You may even want to invite them to the party or provide them with tickets to the movies.

LOONS

The call of the loon is the stuff of legend and the embodiment of lake living in Minnesota. They are wonderful ancient creatures and prefer not to fly in order to avoid people and their boats. They are easily stressed so stay away from them in the water.

EXOTIC SPECIES

Eurasian water milfoil, purple loosestrife, curlyleaf pondweed, zebra mussels, rusty crawfish are a few of the species to watch for. To date we have no known infestation of any of these. Exotics is a term used for plants and animals that have been introduced into areas where they are not native. Exotics tend to displace native

species because they have no natural enemies. Carp are exotics that were intentionally introduced many years ago and have caused major disruption to our desired fish population.

Rice Lake has been infested for many years with curlyleaf pondweed. It's more of a problem when winters have little snow grow under the ice, long Little snow cover allows it to

Curlyleaf is an invasive plant that making entry from shore onto difficult if not impossible until it usually occurs in mid-July. The and lakeshore owners are left to in the water, the weeds another source of phosphorus to with algae.



because it begins to flourish before the ice melts.

chokes the water surface the lake for some, dies off. The die-off weeds float in to shore harvest the crop. If left deteriorate and become add to our problems

One of our greatest threats to Rice Lake is infestation of zebra mussels. This small snail has been called the 'perfect invader':

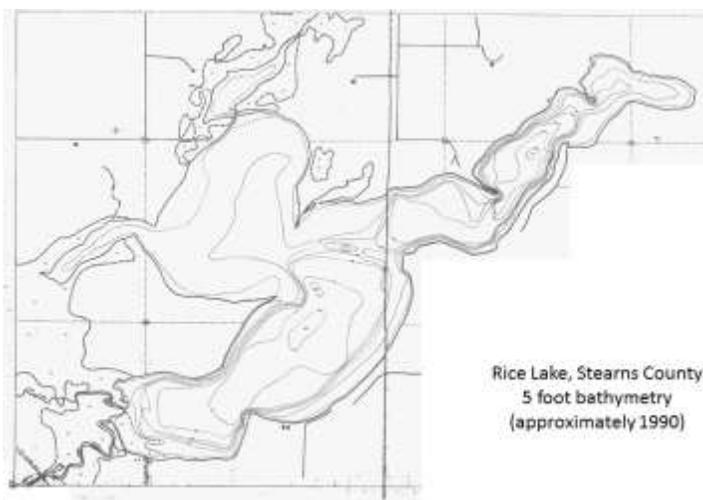
- Extremely difficult to keep out
- Extremely difficult to detect until well-established
- Reproduce and spread at an explosive rate
- Cause major ecological and economic damage
- Have few natural predators
- Once they're in, you can't get rid of them



Lakes in the North Fork Crow River watershed, including Rice, Grove, Pirz and Koronis have adopted an approach to **PREVENTING** invasives from entering our lakes, rather than accepting invasions as inevitable. As one part of this new tactic, the watershed district has employed boat inspectors to man boat accesses on Rice and Koronis. Inspectors are trained by the DNR to detect evidence of invasives on boats before they enter our lakes.

If you move your boat to other lakes or have guests coming with a boat:

- Be sure all water is drained from bilges & live wells before entering the lake.
- Flush structural and other elements on the boat and trailer before entering the water.
- If you think you've seen an exotic in the water, collect a sample and call the DNR about analysis.



SECTION 3: WHEN YOU'RE IMPROVING YOUR PROPERTY

We all benefit when you improve your property. Before you start improvements, you need to be aware of existing regulations and may need to receive a permit before you proceed. It is our intent in this section to help you work through this process with reasonable clarity. It would be nice if you could work with only one office or make only one telephone call, but that is often not the case. It is not always simple, but if you do not follow the appropriate steps, there can be a myriad of complications. Our advice is to make the right contacts, understand the requirements and get the necessary permits before beginning any improvement project.

Regulations are generally created because of individual property owner abuse. If all people would instinctively do what is right, most regulations would not be necessary. Unfortunately, like so many other things in life, the few create complications for the many; and this can increase the time and cost of your project. Most regulations are necessary and if we want to create a healthy lake environment, we should support the consistent administration of reasonable regulations that help achieve this goal.

WHEN YOU HAVE AN IMPROVEMENT PROJECT

Step 1: Start by contacting your neighbors.

It is always courteous to discuss proposed changes on your property that will in any way affect your neighbors. They may even have some good ideas that you can use.

Step 2: If necessary, contact your township government.

If you live in Paynesville Township, some regulations may apply & permits may be required. Call them at 276-7500 or stop by the township office at 28780 Koronis Drive in Paynesville. If you live in Eden Lake Township, call 453-7331.

Step 3: Contact either Stearns County or the DNR.

If you plan to alter your immediate shoreline or affect vegetation or anything in the water, jurisdiction is with the Department of Natural Resources (DNR). If property improvements are above the immediate shoreline area, county government has jurisdiction. The official line is the ordinary high water line - how high the water extends up your shoreline during an ordinary year. You often see a mark on the shoreline. When you have a project that affects both, you should contact both agencies. If you are uncertain, contact the county first, and they will refer you to the DNR, if necessary.

In Stearns County contact Stearns Environmental Services Department at 320-656-3613. Contact the DNR on their website at www.dnr.state.mn.us. Look under ecological services. Or call the DNR Information Center toll free at 1-888-MINN DNR. They will be happy to assist you.

COUNTY REGULATIONS AND PERMITS

- Minimum requirements for lot width and lot area as well as setback requirements for structures (includes decks and recreational vehicles), sewage treatment systems, well location, distance to a bluff, side lot line, distance to roads and the shore impact zone.
- Elevation of structures above the floodplain.
- The subdivision of your property by plat.
- The construction, alteration, addition or moving of part of or the entire structure. Boathouses are nonconforming use structures and no additions or alterations are allowed.
- Location, number and size of accessory buildings.
- Stairways, decks, patios, fences, and landings.
- Certification of compliance is required when building new septic and water supply systems, and for any existing septic system when changes are made, or prior to the sale of property.
- Structures and intensive vegetation clearing on the shore and bluff impact zones and on steep slopes.
- Grading or retaining walls any place on your property.
- No individual, firm or corporation shall engage in the business of installing, altering or repairing wells or sewage treatment systems or in the excavation, landscaping, grading or hauling of fill without having a license from the appropriate county.
- Occupancy of any recreational type vehicle parked on your property. A permit is not required for an owner's RV storage.

As you can tell from the list above, the best thing to do is to contact the county, explain your project and ask for advice. They will be happy to help.

The Department of Natural Resources (DNR) staff can help avoid harming the lake when you want to make changes in or near the water.

"Aquatic plants and natural shorelines provide habitat for fish and wildlife, help maintain water clarity and protect shorelines from erosion. Changing the shoreline or improperly removing aquatic plants can seriously damage the lake. This is an extremely vulnerable area."

Steve Enger, Supervisor for the DNR's Aquatic Plant Management Program

DNR PERMIT EXCLUSIONS

Seasonal docks and floating structures are allowed if:

1. Water flows freely below them.
2. They are not a hazard to navigation or endanger public health or safety.
3. They are removed before the lake freezes.

You may cut or pull submerged vegetation like coontail or sago from an area that does not extend more than 50 feet along the shore or more than one half your frontage width, whichever is smaller, not to exceed 2,500 square feet. Destroyed vegetation must be removed from the water and the same cleared area must remain from year to year.

- A beach sand blanket along your shoreline is allowed when you do the following:
 1. You use clean inorganic sand, free of pollutants and nutrients.
 2. It is not more than six inches thick, 50 feet wide or one-half the lot width, whichever is less.
 3. You give county officials (320-693-5290 in Meeker and 320-656-3613 in Steams) seven days prior notice.
 4. You replace this sand only one time - much of it may wash into the lake.
- You may remove trees, logs, stumps and trash from the water as long as the shoreline is not altered.
- You may use shore protection (riprap) with the following provisions:
 1. Natural rock only, at least 13 inches in diameter and no more than five feet water ward from the ordinary high water mark.
 2. It conforms to the natural alignment of the shore and does not obstruct the flow of water.
 3. The minimum finished slope is no steeper than 3:1 (horizontal to vertical).
- Private boat ramps are allowed if:
 1. Your site can accommodate this ramp without pilings, dredging, or other site preparation.
 2. It is constructed of gravel, natural rock, concrete, steel matting, or other durable inorganic materials.

3. It is no more than six inches thick, 12 feet wide along shore, and 10 feet water ward from the ordinary high water mark.
4. It requires no more than five cubic yards of excavation and five cubic yards of fill for the base.

DNR PERMIT REQUIREMENTS

- Removing emergent vegetation like bulrush, cattails, or wild rice; removing floating vegetation, like water lilies, in an area larger than a 15 foot channel. The DNR will help determine the best location for the channel.
- Pulling or using other means to remove vegetation from an area larger than 2,500 square feet or wider than 50 feet.
- Removing or relocating a bog of any size that is free floating or lodged in any area other than its original location.
- Installing or operating an automatic plant control devise (such as a Crary Weed Roller, Beachgroomer, or Lake Sweeper). Because of the damage to fish habitat the KLA and Sportsmen's Club do not recommend these devises in our lake.
- Using herbicides, algaecides or other chemicals to control aquatic plants. Again, because of damage to water quality the KLA and Sportsmen's Club does not recommend their use in our lake.
- Excavating, dredging, filling, draining or placement of any structures below the ordinary high water mark.

When you have questions about how to proceed, contact the DNR and they will he help you.

The DNR and RLA encourage owners to restore their shoreline to a more natural condition. Help to do this appropriately, is available from Steams County Soil and Water Conservation District (320-251-7800) The DNR does require a no-cost permit if you plan to plant aquatic vegetation below the ordinary high water mark. They will give you helpful guidance that will reduce the potential for adverse impact on the lake.

Make the necessary contacts, follow their lead, and enjoy the results of your project. If you do not, you may be slapped with a fine for lack of compliance or you may be required to totally dismantle something that is not within the guidelines.



OUR WATERSHED

Our watershed is the area of land that drains into Rice Lake, then into Lake Koronis. The North Fork of the Crow River originates at the top of our watershed at Grove Lake, picks up a series of tributaries and agricultural drainage ditches along the way and then runs through Rice Lake and Lake Koronis.

Lakes and tributaries collect runoff from their watershed. The land use within a watershed ultimately impacts, either positively or negatively, the quality of runoff and in turn, impacts a lake's water quality. An example of the positive impact, is lakes in northern Minnesota. These lakes tend to have good water quality because they have forested watersheds and low rates of development. An example of negative impact, is lakes surrounded by heavy agricultural, residential and/or commercial development. These lakes tend to have poorer water quality because of large land use contributions to the watershed.

Because of the Crow River running into and through Rice Lake, runoff drainage from our entire watershed contributes to the pollution problems we experience. The North Fork Crow River Watershed District, headquartered in Brooten was established in 1985 to help prevent and solve water resource problems in our watershed.

WATER QUALITY

The Minnesota Pollution Control Agency (MPCA) rates the major portion of Rice Lake as eutrophic which means we have persistent algae and aquatic plant growth problems. The top cause of this pollution rating is the amount of phosphorous entering our lake.

One pound of phosphorous can produce up to 500 pounds of algae

Algae blooms are one of the most visible water quality problems. In order to improve our water, we have to control the amount of phosphorous entering our lake. Because we live on the most environmentally sensitive area, first 1,200 feet from the waterline, the responsibility belongs to us.

PROPERTY VALUES

We have an economic incentive to improving water quality. A 2003 study by Bemidji State University and the Mississippi Headwaters Board shows that shoreline property values are directly proportional to water clarity. Increased property values provide additional funding for schools and prosperity for communities. And water clarity brings vacationers.

SECTION 5: RICE LAKE ASSOCIATION AND HOW YOU BENEFIT

Rice Lake Association (RLA) is a nonprofit, 501(c)(3), membership supported organization formed in 1971 with a mission to promote the protection and improvement of our lake. For over 40 years the association has retained the same mission and hundreds of individuals have contributed their time and financial resources to support it.

At each RLA annual meeting the membership elects officers and other members to a Board of Directors who conduct the primary work of the organization.

The job of the Board of Directors is to work collaboratively with the agencies that work with lakes and the activities that impact them. It is also the job of the board to monitor these agencies to assure they are responding to their charters to protect and restore water quality in Minnesota lakes.

Through the years RLA has:

- Developed grants and collaborative partnerships with many individuals, agencies and organizations. Thousands of dollars have been raised and spent on lake improvement projects.
- Initiated studies which provided factual data and identified water quality problems that need attention. Most recently and most significantly, the MPCA completed a Total Maximum Daily Load (TMDL) study of Rice Lake. It quantified that 96 percent of the phosphorus load in Rice Lake comes down the North Fork Crow River. This information enables RLA to target more specific strategies for reducing phosphorus from sources along the river.
- Formed the North Fork Crow River Watershed District (NFCRWD) in 1985 in collaboration with Koronis Lake Association. The primary mission of a watershed district is to manage and improve water quality and quantity in a watershed.
- Publishes and distributes Rice Lake Association Newsletter to lakeshore owners, businesses and lake related agencies

Our primary goal is to restore surface water quality using sound scientific research.

Because, both Rice and Koronis lakes are currently classified by the Minnesota Pollution Control Agency, as eutrophic (persistent algae and aquatic plant problems), this is an aggressive goal for a volunteer organization. However, because our watershed is the headwaters of the North Fork Crow River, we don't have contaminated water from other sources entering this watershed. This gives people in our watershed the opportunity to make a difference by reducing the volume of pollutants entering Rice Lake.

Other important goals and priorities include:

- Significantly reduce the amount of phosphorous entering the lakes, streams and river
- Restore desirable aquatic vegetation; prevent the introduction and spread of undesirable and exotic species
- Protect, enhance ground water quality and quantity
- Promote and encourage the safe, economical treatment of sewage
- Balance the need to protect water and land resources with raising livestock

- Promote and encourage land use activities that prevent or minimize soil erosion
- Promote wise, sustainable development and land use in our watershed
- Encourage better storm water management practices
- Restore critical wetlands
- Protect, enhance fish and wildlife resources.
- Promote safe and wise recreational surface water use

These goals are attainable but will only be accomplished if we muster the individual, political and collective will to do what is necessary to achieve them. This will be challenging because it will require that some people will need to change habitual patterns of behavior. And others, in responsible positions will need to stand up and be counted to assume responsibility for water quality results in ways that have not been required or expected in the past.

RLA is a Minnesota nonprofit corporation and is registered with the IRS as a nonprofit 501(c)(3) entity, which means that all donations are tax deductible. We encourage you to be an active member, and we look forward to working with you to meet our shared goal of constantly improving the environmental quality of Rice Lake.

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