



Stewardship Guide *for* LEECH LAKE LANDS

ONLY WHEN THE LAST TREE HAS BEEN CUT DOWN ONLY WHEN THE LAST RIVER HAS BEEN POISONED ONLY WHEN



THE LAST FISH HAS BEEN CAUGHT ONLY THEN WILL YOU FIND THAT MONEY CANNOT BE EATEN-CREE PROPHECY



UNIVERSITY OF MINNESOTA
EXTENSION

Leech Lake Nation





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The University of Minnesota Extension is an equal opportunity educator and employer. In accordance with the Americans with Disabilities Act, this publication is available in alternative formats upon request. Direct requests to Extension at 218-335-4258. Developed and funded by the National Institute for Food and Agriculture through the Federally Recognized Tribal Extension Program. Created September, 2011.

Manaajitoon Aki (Respect the Earth)

The Anishinaabe world view is that humans did not weave the web of life; rather we are merely a strand in the web of life. We are in kinship with all other creations. We have a profound responsibility to protect this kinship so that we may all live harmoniously. Because of our great dependence on and connectedness to all other beings, we are obligated to conduct ourselves accordingly to protect ourselves and future generations.

The purpose of the *Stewardship Guide for Leech Lake Lands* (Guide) is to provide information about the services offered by the Leech Lake Division of Resource Management and University of Minnesota Extension. These resources are available to Band members and others living and working on the Leech Lake Reservation, and provide information that can protect the quality and safety of our homes and natural resources. This Guide was developed with the assistance of students from the Cass Lake Bena High School as part of the 2010; junior/senior Personal Writing class taught by Sue Chase.

“ Only when the **last** tree
has been **cut** down;
Only when the last
river has been poisoned;
Only when the **last** fish
has been **caught;**
Only then will you find
that money cannot be eaten. ”

Cree Prophecy

One way to protect our natural resources is through the use of **Best Management Practices (BMPs)**. BMPs are actions that can mitigate or reduce the impacts of our activities on the environment, such as agriculture, forest management, and construction. This Guide includes BMPs we can use to **protect our homes, our land** and our **water** resources.

By using BMPs, the reservation population can enjoy infrastructure and economic growth without diminishing the value of our natural resources. Putting BMPs into use is a job for everyone. Whether you're a **natural resource manager, developer, student** or **homeowner**; whether you practice hunting, fishing and gathering, or just enjoy the view, **you can be part of the effort** to maintain the health and beauty of Leech Lake Reservation's incredible natural resources.



Gaa-Zagaskwajimekaag (Leech Lake)

The Leech Lake Reservation (Reservation) has 864,185 acres of lakes, wetlands and forests within north central Minnesota. The Reservation was established by treaty between the Mississippi, Pillager and Lake Winnibigoshish Bands and the U.S. Government in 1855.

The Reservation's water resources are significant. More than half of the Reservation is covered by surface water and wetlands, including 270 named, fishable lakes totaling 280,000 acres, most of which are located within the Upper Mississippi River Basin. Some of the waters of the Reservation flow north to the Rainy River Basin.

There are 162,591 acres of wetlands, forested ponds and ephemeral pools supporting diverse plant communities, fish, waterfowl and other wildlife. The Reservation has over 13,000 acres of natural Manoomin (wild rice) stands and a wide variety of habitat types, plants and wildlife, including a number of species that are recognized by federal or state agencies and the Leech Lake Band as being rare and threatened.

The major forest types on the Reservation are deciduous and northern coniferous forests. In areas that are seldom subjected to wildfire, maple-basswood forest is the climax type. Other deciduous forest types are aspen, aspen-birch, oak, lowland hardwood, and mixed hardwood-conifer. Conifer forest types include balsam spruce, black spruce and tamarack, often with a white-cedar component in lowland areas, with red pine, white pine and jack pine forests in upland areas.

The Leech Lake Band's Division of Resource Management (DRM) is charged with the protection of the air, water, land, forest, fish, wildlife, plants and other natural and cultural resources of the Reservation. The DRM has the authority to develop and implement tribal environmental regulations and standards within the boundaries of the Reservation. In addition, federal law gives or allows the DRM mechanisms to review and modify federally permitted or licensed projects.

Multiple jurisdictions within the Reservation create a challenge for protecting natural resources for tribal and non-tribal interests. Often the most effective approach to this challenge is simply working with other government entities to develop policies and enforce practices that protect the Reservation's natural resources.

To discover more about Leech Lake, go to/visit www.lldrm.org

Managing Indian Lands

Managing Indian Lands

The Leech Lake Division of Resource Management (DRM) is responsible for the administration and management of all tribal, band and allotted lands. This includes surface and subsurface leasing, permitting and right-of-ways, land acquisition, trust estate planning and the administration of Leech Lake land use ordinances. Additionally, the DRM is responsible for increasing the reservation trust land base through land acquisition, purchase, or exchange. Within the Leech Lake Reservation boundaries, both the Leech Lake Band and the Minnesota Chippewa Tribe (MCT) members are eligible to place land in trust.

On October 21, 2005, the Leech Lake Tribal Council passed a resolution adopting a land use ordinance regulating land use within the boundaries of the Leech Lake Reservation. This action is an effort to regulate the lands under the Band's jurisdiction in a manner that is in keeping with traditional notions of protection and stewardship of natural and cultural resources. This ordinance applies to all land within the Reservation that is owned by the Minnesota Chippewa Tribe, Leech Lake Band or any member of a federally recognized tribe.

Anyone considering development, construction or any ground disturbing activity is required to obtain permits through the DRM. In most cases, a permit cannot be issued without an environmental review being completed by all the departments within the DRM and final approval and sign off by the DRM director. This process takes time, so it's important to begin consultation on any proposed projects well in advance.

Examples of Leech Lake Reservation Permit Requirements:

Building Permits for New Construction and Remodeling

Any new building or structure added to an existing building will need a building permit. Remodeling a home's interior does not require a permit; however, a change in use, such as the construction of a new bedroom in the basement, would require a permit.

Ground-Disturbing Activities

All ground-disturbing activities, with the exception of planting gardens and trees, require a permit.

Wetland Alterations and Delineation

Generally, all wetland disturbances should be avoided, but some exceptions may apply. Depending on the size and type of wetland being impacted, a permit from the U.S. Army Corps of Engineers may also be required.

Septic Systems

Prior to any new construction or replacement, a septic system design must be submitted and approved before a permit will be issued.

Leases

Free residential leases are available to tribal members. However, only those enrolled in the Leech Lake Band are eligible for a lease on Band land. MCT enrolled members are eligible for leases on tribal lands.

Recreational lakeshore leases for non-band and MCT members are available on established lakeshore tracts on Cass Lake, Boy Lake, and Leech Lake. Rental rates for these lots are based on a percentage of the lakeshore appraisals provided by the Bureau of Indian Affairs. Although all lots are currently leased, occasionally leases will have improvements for sale.

Easements/Rights of Way

Commercial, agricultural, sand and gravel permits, road/utility or other rights of way easements are available on Band and MCT land for an established permit/leasing fee. Leasing and right of ways on allotted land requires following the Code of Federal Regulation (CFR 25 169), an application and consent.

For more information about leasing and permit requirements please visit the Leech Lake Division of Resource Management (DRM) office:

15756 State Highway #371, Cass Lake, MN 56633
or ☎ 218-335-7400 or ☎ 1-800-442-3942
Office hours are 8:00 a.m. to 4:30 p.m., Monday - Friday

To Discover more about land, visit www.lldrm.org
Source: Leech Lake Division of Resource Management staff

A Will Protects Inheritance

Why Should Leech Lake Band Members Write a will?

Certain sections of the American Indian Probate Reform Act of 2004 (AIPRA) make writing a will very important. AIPRA replaces state law with a federal probate code. The federal code is intended to limit the increase in co-ownership (fractionation) of allotments. AIPRA applies to trust property owners who die in or after 2006. If trust property owners pass away without preparing a will, AIPRA controls who will receive trust assets. Trust assets include both land(s) and Individual Indian Money (IIM) accounts.

A Written Will Lets YOU Decide:

- Who will receive your trust assets;
- How much each person will receive; and
- When the assets will be transferred or disbursed.

Wills must be handwritten, signed, dated, and witnessed by two people that are not named in the document. The Leech Lake Department of Resource Management (DRM) can help you prepare your will if you have trust assets. You can write your own will, but it is advisable to seek legal counsel. Anishinaabe Legal Services can also help you prepare a will.

What Can Happen if You Don't Write a Will?

- Your spouse will get a “life estate” and will hold property until death, and then it will pass to your children.
- Your trust land will continue to be inherited by your immediate family—first to your children, grandchildren or possibly great-grandchildren, then to your parents or siblings. Eligible heirs must be Indian or within two generations.
- The federal government, tribe, and co-owners may purchase the land during probate. Consent of the heirs is required, but if your interest is less than five percent and you die without a Will, no consent is required unless the heirs live on the land.

What is Probate?

Probate is a legal process used by a judge to determine who will receive your property after you pass away.

Limiting Fractionation

Many allotments are co-owned by hundreds of people. This happened because, with the passing of each generation, more and more heirs inherited undivided interests in the same allotments.

There are several ways you can avoid further fractionation of your interests in allotted land:

- Give all interests to one person.
- Leave all your interest to one heir in a will.
- Divide your land into solely-owned parcels.
- Gift deed your interest to heirs.
- Sell your interest to heirs.

Carefully consider all your options for consolidation of fractionated lands. Then make your decision about the best alternative or combination of alternatives for your situation.

Who is Eligible to Inherit Your Estate?

Your trust land will continue to be inherited by your immediate family—first to your children, then to your grandchildren and so on. If you do not have children, it will then be passed to your parents, brothers or sisters. All of these people are eligible to inherit your trust property as long as they meet the definition of an Indian or are your descendants within two generations of an Indian. Land not passing on to one of these people will be passed to the tribe where the land is located.

If you have a spouse, he/she will inherit one-third of any money in your Individual Indian Money (IIM) account at the time of your death and all the money produced from your interest in trust or restricted land during your spouse's lifetime. Your other heirs will receive the remaining two thirds of any money in your IIM account at the time of your death and the interest remaining in your trust land.

A will Protects Inheritance: To Learn more about will preparation contact

Leech Lake DRM: ☎ 218-335-7400

Anishinaabe Legal Services: ☎ 218-335-2223

To Discover more about probate and wills, visit www.lldrm.org or www.doi.gov/indiantrust/indianprobaterereform.html

Source: Leech Lake Division of Resource Management staff

*Note- The information presented in this section is for informational purposes only. The objective is to help you develop an understanding of the American Indian Probate Reform Act (AIPRA) and consider the importance of will preparation and estate planning. This information should not be considered legal advice or used as such.



Protecting Cultural Properties

People have lived in the Leech Lake area for over 10,000 years. Remarkably, artifacts have survived that tell us the stories of their lives. People have always been drawn to the water. Lakes and rivers provided sustenance to ancient peoples, making these sites rich with cultural artifacts.

Broken pottery and stone flakes might not seem like much, but even tiny fragments help us understand how people interacted with their environment. Because prehistoric people had an intimate relationship with the environment in all aspects of their lives, there is much we can learn from them in our stewardship of the land. That is why the Leech Lake Tribal Historic Preservation Office (THPO) and Heritage Sites Program work to preserve and protect the cultural resources of the region, so we can respect and learn from the wisdom of those who have lived before us.

While most people know what pottery and stone tools look like, many don't know much more about them than their antiquity. Archaeologists on staff at the Heritage Sites Program are available to answer questions about the history of the area or cultural sites on public and private property. THPO maintains a large data-base of sites in the area, and this information is used to interpret past lifeways.

Burial Sites

People were often buried near where they lived. The disturbance of these burial sites is one of the major concerns regarding archaeological sites. A simple excavation for a basement may turn up more than expected. In addition to being upsetting, it can also be the cause of considerable delay while the situation is resolved through various federal and state agencies, including tribal government offices. Presented below is a brief description of the burial preservation law and procedures. This information is provided to help prevent accidental discoveries of ancient human remains.

Minnesota's "Private Cemeteries Act" (MN Statute 307.08) affords all human remains and burials older than fifty years located outside of platted, recorded, or identified cemeteries protection from unauthorized disturbance; this statute applies to burials on public or private lands or waters.

It is a common misconception that if the government finds out there is an archaeological site on your property, they will seize your property or prevent you from developing it. Your property will never be taken because of an archaeological find on your site, and it is only under certain circumstances that you may be required to mitigate damages before developing your property.

In the event that a burial site is either known or suspected to be associated with American Indian people, contact the THPO office immediately for assistance (see below). THPO works in conjunction with the Minnesota Office of the State Archaeologist and the Minnesota Indian Affairs Council representatives to ensure the integrity of such burial sites is protected.

Do you think you might have an archaeological site on your property? THPO would love to know about it, both to advance knowledge of the area and to provide advice on what you can do to help preserve these cultural resources.

To learn more about cultural resource

protection: please contact the Leech Lake THPO at ☎218-335-2940 or Heritage Sites Program at ☎218-335-8095.

To Discover more about cultural resources, visit www.lldrm.org

Source: Leech Lake Tribal Historic Preservation Office and Leech Lake Heritage Sites staff



Everyone Lives in a Watershed

Everyone Lives in a Watershed

You don't have to live on a lake or a river to have an impact on water quality. We all live in a watershed and our collective actions on the land will determine the future quality of our waters. How we use the land within a watershed affects the type of sediments, nutrients and other pollutants that can be washed into a river or lake. Runoff from parking lots, highways, lawns and forests all impact water quality.

What is a Watershed?

A watershed is the area of land that drains to a river, lake or wetland. Watersheds are also called drainage basins. A watershed can be small (draining only a few acres), or very large (draining thousands of square miles).

Watersheds collect rain, snow melt, spring water, and ground water in the form of streams, and rivers which eventually join up in a single large river or lake. Because everything in a watershed is interconnected, small acts in one area of a watershed can have a profound impact on the entire area the watershed covers. **Here again is our connectedness** – everyone lives in a watershed. **We are all interconnected by water, and our actions on the land impact nearby lakes, rivers, streams and wetlands.**

To ensure that the waters of the Leech Lake Reservation meet the needs of future generations, everyone must manage land responsibly to reduce the impact on our water resources. We must practice wise land use so together we can meet the needs of future generations.



Leech Lake Reservation Watersheds

Source: University of Minnesota Extension faculty

To discover more about watersheds, visit www.lldrm.org



Risks of a Failing Septic System

Health Risks of a Failing Septic System

It is unhealthy for humans, pets and wildlife to drink or come in contact with surface or ground-water contaminated with sewage.

A septic system that is not providing adequate treatment of sewage allows bacteria, viruses and other disease-causing pathogens to enter surface and groundwater. Hepatitis, dysentery, and other diseases can result from drinking or coming in contact with contaminated water. Flies and mosquitoes are attracted to and breed in areas where sewage reaches the surface and can spread disease.

Nitrate levels can be higher in groundwater when a septic system is not providing adequate treatment. Nitrates affect the ability of blood to carry oxygen. High concentrations of nitrates can be of special concern for infants, pregnant women, and adults with compromised immune systems.

Indoor air quality can also be affected by an inadequately vented plumbing system and can release odorous or toxic gasses into a home.

Environmental Risks of a Failing Septic System

A septic system that is not providing adequate treatment allows nutrients (phosphorus and nitrogen) to reach nearby lakes and streams, prompting algae and plant growth. Algal blooms and abundant weeds can change water quality for fish and wildlife habitats. As these plants die, they settle on the bottom, are broken down by bacteria, and use up oxygen that fish and other aquatic species need to survive.

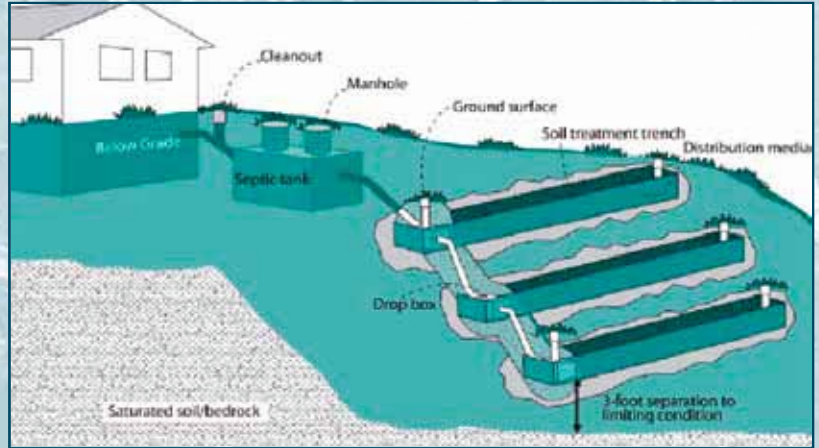
Many household cleaning products, pharmaceuticals, and other chemicals used around the house can be toxic to humans, pets, and wildlife. If disposed of in the septic system, these products can reach groundwater, surface water or the ground surface.

A properly designed, installed and maintained septic system will provide economical and effective sewage treatment.

How a Septic System Works

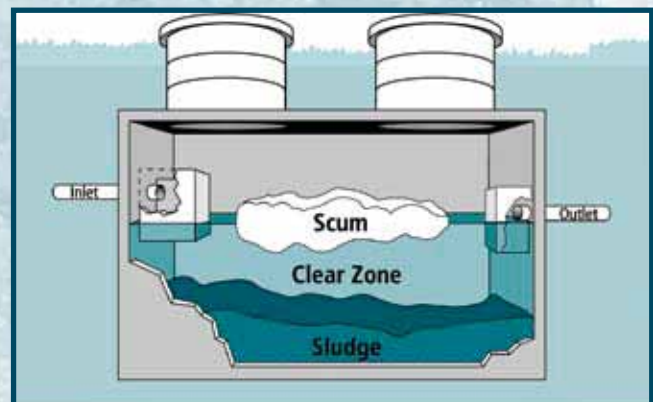
There are three main components to a septic system:

1. A pipe that carries waste from the house;
2. A water tight septic tank; and
3. The soil treatment area, which may be a mound or an in-ground drain field.



When wastewater from the laundry, shower and toilet is disposed of, it exits the house through the sewer pipe. The sewage then exits the pipe into the septic tank where it separates into three layers. The solids (or “sludge”) will then sink to the bottom of the tank; a liquid layer will develop just above the sludge, and a scum layer made up of soaps, greases, and toilet paper will form on the top.

The tank’s primary job is to send the liquid layer to the soil treatment area.



Treating sewage is everyone’s responsibility!

The final treatment of septic tank effluent occurs in the soil. Uncompacted, unsaturated, undisturbed soil must exist above and below the soil treatment area. Soil treatment destroys disease-causing organisms in the effluent and removes nutrients. If too many solids enter the soil treatment area from the tank the soil treatment area can malfunction.

Preventing System Failure

The effectiveness of a septic system in treating sewage depends on how the homeowner uses the system. Short-term or long-term overuse affects the system. Each septic system is designed based on the number of bedrooms in a home. For example, each person typically uses about 75 gallons of water a day. A system designed for a four-bedroom home is designed to handle up to 600 gallons of water a day. However, the average use of the system should not exceed 420 gallons per day or 70% of the design flow. If more people are staying in the home, each individual increases the daily flow to the septic system. Increasing the number of people living in a home could quickly impact the efficiency and effectiveness of a septic system. When the number of people living in a home is more than the system was designed for, the septic tank will need to be pumped more often.

What Can You Do?

In the Bathroom:

- Fix leaks.
- Do not flush any product other than toilet paper.
- Do not use automatic toilet bowl cleaners.
- Install low-flow shower heads.
- Limit the use of antibacterial soap. Bacteria help your system work properly!
- Shaving and bath oils are hard on your system. Do not use excessively.

In the Kitchen:

- Run full loads in your dishwasher.
- If you wash dishes by hand, don't let the water run.
- Fix leaks.
- Limit the use of antibacterial soap.
- Limit the use of dishwashing detergents.

In the Laundry Room:

- Don't wash all your laundry in one day; spread the loads throughout the week.
- Install a lint filter on the washing machine.
- Limit the amount of bleach used. Bleach kills bacteria, and bacteria are good for your system.
- Do not use liquid fabric softeners as they inhibit the settling of scum and solids within your tank.
- Water softener recharge water does not require treatment. Discharge this water to a different place. The salt can affect concrete septic tanks and the recharge water may inhibit the settling of scum and solids within your septic tank.

Tank Maintenance

All septic tanks must be pumped every two to three years to remove the floating scum and sludge that accumulates through normal use. A household's water usage will determine how often tank maintenance should occur. Low-water usage homes might need the tank pumped every two to three years whereas high-water usage homes should have tanks pumped annually.



Maintaining Your System

Septic Starters, Feeders, Cleaners and Other Additives

There is no substitute for regular maintenance (pumping) of your septic system.

Starters and Feeders are not needed to get bacterial action going in the septic tank. There are enough naturally occurring bacteria present in sewage.

Cleaners – Additives that are effective in removing solids from the tank will probably damage the soil treatment area. Some of these additives can keep small particles suspended in the liquid layer of your septic tank instead of settling at the bottom. These small particles clog pipes which can lead to partial or complete malfunction.

Soil Treatment System Maintenance

Avoid compaction

- Don't drive or park on the soil treatment area.
- Don't plow snow cover from the soil treatment area.
- Don't pile snow on the soil treatment area.
- Avoid the soil treatment area when landscaping your yard. This is not the place for play equipment or other activities that could compact the soil.

Maintain Vegetative Cover

- Your soil treatment area must have well-established grass cover. This helps prevent erosion of the soil and provides insulation to help prevent freezing.
- Regularly mow the lawn to help keep the grass growing and to maintain adequate density to completely cover the soil surface.

Protect Your System from Freezing

- Don't mow the grass over the soil treatment area in the late fall.
- Add a layer of mulch eight to twelve inches thick over the pipes, tank and soil treatment area. This must be removed in the spring to allow vegetative growth!
- Do not add automotive antifreeze to the system. Antifreeze is toxic and does not prevent problems.
- Make sure all risers, inspection ports and manholes have tight covers. Replace any covers that become cracked

To discover more, visit septic.umn.edu and refer to the “Septic Systems Owner’s Guide.”

Source: University of Minnesota Extension faculty

What is a Rain Barrel?

What is a Rain Barrel?

Rain barrels are a very old way of collecting and using rainwater and reducing stormwater runoff. Revitalizing this old tradition is a great way to protect our lakes, rivers, and wetlands from runoff.

How Does it Work?

A rain barrel is placed underneath a shortened downspout, delivering the roof runoff into the barrel. Absent a downspout, a rain barrel can be placed under a valley of the roof. Expect to collect about a half gallon of water per square foot of roof area during a 1-inch rainfall. A typical half inch of rainfall will fill a 50 to 55 gallon barrel. Rain barrels can be made out of inexpensive 50-gallon food-grade drums manufactured to carry juices, olives, pickles, etc. Barrels can be purchased for around ten dollars from a local beverage and wholesale distribution company.

Why Use a Rain Barrel?

Water efficiency is a great benefit of using a rain barrel. Rainwater is usually “soft” and free of dissolved minerals. Here are just a few of the ways to use collected water:

- The untreated water is great for washing cars.
- A soaker hose connected to a rain barrel is an easy way to water shallow-rooted plants.
- A rain barrel is convenient for use in areas where there is not an outside spigot.
- Use water from a rain barrel to keep a compost pile wet during the dryer summer months to promote the composting process.

Some Tips for Making a Rain Barrel:

- Use a 50-gallon food-grade quality recycled barrel.
- Install an overflow at the top. This is an important feature. A full barrel has the potential to spill excess water over the top causing localized erosion.
- Consider attaching the overflow to the downspout with a spigot. The spigot can then be turned off when the barrel is full, redirecting the runoff back into the downspout.

- Purchase a spigot with a threaded nipple, and simply twist it into the 1 inch hole.
- Place the rain barrel on a **STURDY** platform to allow more clearance under the spigot. This will also increase the rate of flow when attaching a hose to the barrel’s spigot.

Safety Tips for Using a Rain Barrel:

- Do not use barrels that have previously stored chemicals.
- Thoroughly clean “food grade” recycled barrels.
- Do not use collected water for drinking, cooking, bathing or watering edible plants.
- Be sure to cover the opening with a fine screen to prevent mosquitoes from breeding in your barrel.
- Keep the lid secure so children or animals cannot fall into the barrel.
- Disconnect the barrel in late fall to avoid freezing and causing damage to the barrel.
- If a moss killer has been used on the roof, let a couple of rainfall events go by before collecting the roof runoff.



To discover more about rainbarrels, visit www.extension.umn.edu/waste

Source: University of Minnesota Extension faculty

Nibi (Water)

Everyone on the Leech Lake Reservation relies on groundwater for drinking water. Therefore, it is critical to our health and well-being to make sure there are safe, sustainable quantities of groundwater available now and in the future.

Threats to the quality and quantity of our drinking water supplies include: **failing septic systems**, improper use of chemicals, run off from construction and impervious surfaces, road salt and leaking underground storage tanks. Other threats include the improper use of fertilizers or pesticides in irrigation, landscaping and agriculture, as well as unsealed, abandoned wells. These threats can affect both private wells and community water supplies.

Testing Home Drinking Water

Public water supplies on the reservation must meet the U. S. Environmental Protection Agency drinking water standards. However, most Leech Lake Reservation residents rely on private wells for drinking water, and they are responsible for testing their own water supplies to ensure the water is safe to drink. When a new well is put into service, well contractors are required to have a water sample tested for bacteria, nitrate, and arsenic. After that the homeowner is responsible for periodic well testing.

What to Test for?

Total coliform bacteria are used as indicators that the well water has been contaminated by surface or shallow groundwater containing wastewater. Coliform bacteria are found in the waste of warm-blooded animals (humans, livestock, pets, and wildlife). Coliform bacteria don't usually cause disease themselves, but if they are detected in the water, disease-causing organisms from human or animal waste may also be present.



Nitrate is also used as an indicator that contaminated water is reaching your well. Nitrate comes from fertilizer and human or animal waste. Nitrate in drinking water is a serious health risk for infants under six months of age, people with compromised immune systems, and pregnant women in their third trimester because it can affect the ability of blood to carry oxygen.

Recent research has demonstrated that naturally occurring arsenic is more widespread in Minnesota groundwater than previously recognized. About 15% of private wells in the state exceed the safe drinking water standard. The Minnesota Department of Health recommends that private wells be tested for arsenic at least once.

In addition to regularly scheduled water testing, additional testing is recommended if there is a change in the taste, odor or color of the water, or if family or visitors frequently get ill when drinking the water. Symptoms might include upset stomach, nausea, or diarrhea. If you are expecting a new baby or have children under six months of age frequently visiting your home have the water supply tested.

Keep Your Records

A safe water supply is also important to your property value. Keep the results from regular water tests with your other homeowner records to demonstrate that you have a safe water supply.

Get a Water Test Kit- Beltrami County \$35 Nitrate and Coliform Test Kit ☎ 218-333-4158
Beltrami County Environmental Services Administration Building
701 Minnesota Avenue NW, Ste. 113
Bemidji, MN 56601

Community Drinking Water Supplies

The Leech Lake Reservation is responsible for enforcing the Safe Drinking Water Act and safe-guarding the quality of drinking water on the Reservation. This includes the responsibility of regulating 14 public water supply systems Reservation-wide.

These systems include Tract 33, Cass Lake West Side Acres, Plantation, Bena, Inger, Ball Club, Oak Point, Old Agency, Northern Lights Casino, Palace Casino, Palace Hotel, and the Bug-o-Nay-Ge-Shig School.

Any time a drinking water standard is violated, the affected community water system must take corrective actions that include notifying its residents of the violation. In addition to this notification, all community water systems issue an annual **Water Quality Report** (sometimes referred to as a Consumer Confidence Report) that lists the source of the system's drinking water as well as a list of all regulated contaminants that were detected, even in trace amounts well below the legal standard, during the previous calendar year. To get a copy of last year's **Consumer Confidence Report** for a particular community water supply, contact Leech Lake Health Division's Environmental specialist.

If you have questions about your well water, contact the Leech Lake Health Division at ☎ 218-335-4500 and ask to speak with the environmental health specialist.

To discover more about drinking water, visit

Minnesota Department of health at www.health.state.mn.us/divs/eh/water/index.html

Environmental Protection Agency at www.epa.gov/safewater/sdwa/index.html

University of Minnesota Extension at www.extension.umn.edu/water

Source: University of Minnesota Extension faculty and Leech Lake Health Division staff

How Do I Disinfect My Well?

If Your Water Isn't Safe

If a water test indicates your water supply isn't safe, you may be able to find a new source of water or install water treatment. In the meantime, you can bring water from a safe water supply. If you choose water treatment, be sure it is adequate to remove those contaminants that are causing a health risk.

The Purpose of Disinfection

If bacteria or other living microorganisms have contaminated your private water supply or well, proper disinfection should kill them. It can make water safe until a sanitary supply is secured. Disinfect the well whenever it has been flooded or open for maintenance or repair. By disinfecting you may also be able to reduce nuisance bacteria that cause odor or aesthetic problems.

Ways to Disinfect

Water can be disinfected with heat, chemicals or light, depending on your situation.

- **Boiling.** This will kill bacteria and parasites such as cryptosporidium. First make sure nitrate is not in your water, because boiling will concentrate whatever nitrate is. Where ever The Center for Disease Control and the Minnesota Department of Health recommend bringing water to a rolling boil and boiling it for one minute.
- **Chlorine.** This is the chemical most often use to shock-chlorinate private wells. You may hire a professional or, if you want to do it yourself, go to www.extension.umn.edu/distribution/naturalresources/DD5941.html for more detailed instruction on how to shock-chlorinate your well safely and effectively.

Shock-chlorination is appropriate when the well has been contaminated through a one-time event such as a flood or during maintenance. It is not a long-term solution for an unsafe well with continuous contamination, such as one with a damaged well casing. Shock-chlorination may also be effective in reducing nuisance bacteria that do not present a health risk.

The two most important considerations are chlorine concentrations and exposure time. You'll need enough chlorine to kill the living organisms, but don't want so much that it damages your pump, plumbing, or septic system. Too much chlorine can take a long time and a lot of water to flush from the system. The entire plumbing system must be exposed to the chlorine for an adequate amount of time to ensure complete disinfection. The chlorine should remain in your household plumbing system for 6-8 hours.

- **Ultraviolet light.**
- Some countertop water treatment models use ultraviolet light to disinfect water. However, the systems have limitations: the water must be filtered and free of iron and other compounds, that could interfere with the ultraviolet light's ability to penetrate cell walls to kill living organisms.

A Note of Caution

Disinfection isn't a substitute for a permanent, safe water supply. It can help make water safe until a sanitary supply is secured. If your well is contaminated, boil water, carry water from a safe source, or buy bottled water. Disinfection is only effective against living organisms and will not improve water contamination by nitrate, arsenic, or other chemicals.

To discover more about drinking water, visit: www.extension.umn.edu/environment
www.extension.umn.edu/distribution/naturalresources/DD5941.html

US Department of Health and Human Services Center for Disease Control and Prevention www.cdc.gov

Source: University of Minnesota Extension's Lake Home and Cabin Kit

Indoor Air Quality

What Is Mold?

Mold is a type of fungus that normally grows on plants and fibers. It plays a very important role in the environment as a decomposer, breaking down dead organic matter such as fallen trees and dead leaves. Mold travels through the air as tiny spores which like to grow in wet or moist areas. Mold will not grow indoors unless there are moisture problems in the building. It is often found in damp bathrooms, basements and attics.

If mold is spotted, it's best to **act immediately** to prevent its spread. Mold can grow in a variety of **colors** and **textures** on wood, drywall, carpeting, wallpaper, floors--almost anywhere. A musty **odor** could indicate a mold problem even if the mold is not visible.

Prevention and Cleaning

- The key to mold prevention is moisture control in the home.
- Most mold problems can be cleaned with soap and water, but more stubborn stains require a bleach solution.
- When mold is disturbed, it can release spores into the air and can cause increased exposure.
- Wear protective gear such as a face mask, gloves, and eye protection while cleaning, and make sure the area is well ventilated to avoid breathing in mold.

To discover more about mold prevention, visit

University of Minnesota Extension

www.extension.umn.edu/distribution/naturalresources/00058.html

Minnesota Department of Health

www.health.state.mn.us/divs/eh/indoorair/mold/index.html

Leech Lake Division of Resource Management

www.lldrm.org

Health Effects of Indoor Mold

Exposure to mold occurs when **spores** are **inhaled**.

Exposure to spores happens every day, **indoors and outside**. **Mold**

can be a serious **health risk** to those who are **susceptible** to allergies and asthma.

Mold exposure can cause **irritation** or **damage** to the respiratory system.

Common health problems due to exposure are: **nasal and sinus congestion, sore throat, cough, breathing difficulties, skin or eye irritation, and upper respiratory infections**. Those

who are consistently **exposed** to mold will often have **chronic** problems and may develop **lung infections**.

Source: University of Minnesota Extension faculty and Leech Lake Division of Resource Management staff.

Silent but Deadly: Radon

Did You Know...?

Radon is the second leading cause of lung cancer. On average, one in 15 homes in the U.S., and one in three homes in Minnesota have high radon levels.

What Is Radon?

Radon is a radioactive gas released from the normal decay of uranium in rocks and soil. It is an invisible, odorless and tasteless gas that seeps up through the ground and diffuses into the air. Radon gas usually exists at very low levels outdoors. However, in areas without enough ventilation (such as our homes during winter), radon can grow to a level that heavily increases the risk of lung cancer.

How Do I Check for Radon?

There are no immediate symptoms that will alert you to radon in your home. Testing is the only way to know if your home has elevated radon levels. The Leech Lake Air Quality Program has radon test kits available free of charge.

If you have questions about radon, please call the Air Quality Specialist at the Leech Lake DRM Air Quality Program at ☎ 218-335-7429 or the National Radon Information Line at ☎ 1-800-SOS-RADON (1-800-767-7236)

To discover more about radon, visit

University of Minnesota Extension: www.extension.umn.edu/housingtech

Minnesota Department of Health: www.health.state.mn

Leech Lake Division of Resource Management: www.lldrm.org

Source: University of Minnesota Extension faculty and Leech Lake Division of Resource Management staff



We Want Your Burner!

Ashes pollute the air, soil, water, garden, play areas, and wildlife in your backyard!

In 2006, the Leech Lake Air Quality Program implemented the **Burn Barrel Clean-Up Project**. As of 2008, 60 barrels have been collected. Each household was given two recycling bins to promote recycling and reduce waste in exchange for their burner removal.

The elimination of backyard burning reduces the risk of pollution on the reservation dramatically and recycling can cut household waste in half.

The Leech Lake Air Program continues to work toward developing solutions for removing these pollution producers. You can help our sovereign nation by stopping **illegal** burning on the reservation and by recycling, reducing, and reusing to lessen the amount of garbage in our environment.

Did you know that, in as little as fifteen minutes, 25 feet of soil around your burn barrel will become contaminated with toxic chemicals? Burning household waste or garbage in a barrel or a fire pit in your backyard is twice as harmful as it was twenty years ago. Burning trash can release:

- Lead
- Mercury
- Chromium
- Cadmium
- Many other pollutants

LEAD Cadmium
Mercury

CHROMIUM

and many other pollutants.

Join us in our fight for a cleaner reservation for generations to come.

- To turn in your burnbarrel call the Leech Lake Air Quality Program at ☎ 218-335-7429 or ☎ 1-800-442-3942 Monday through Friday.

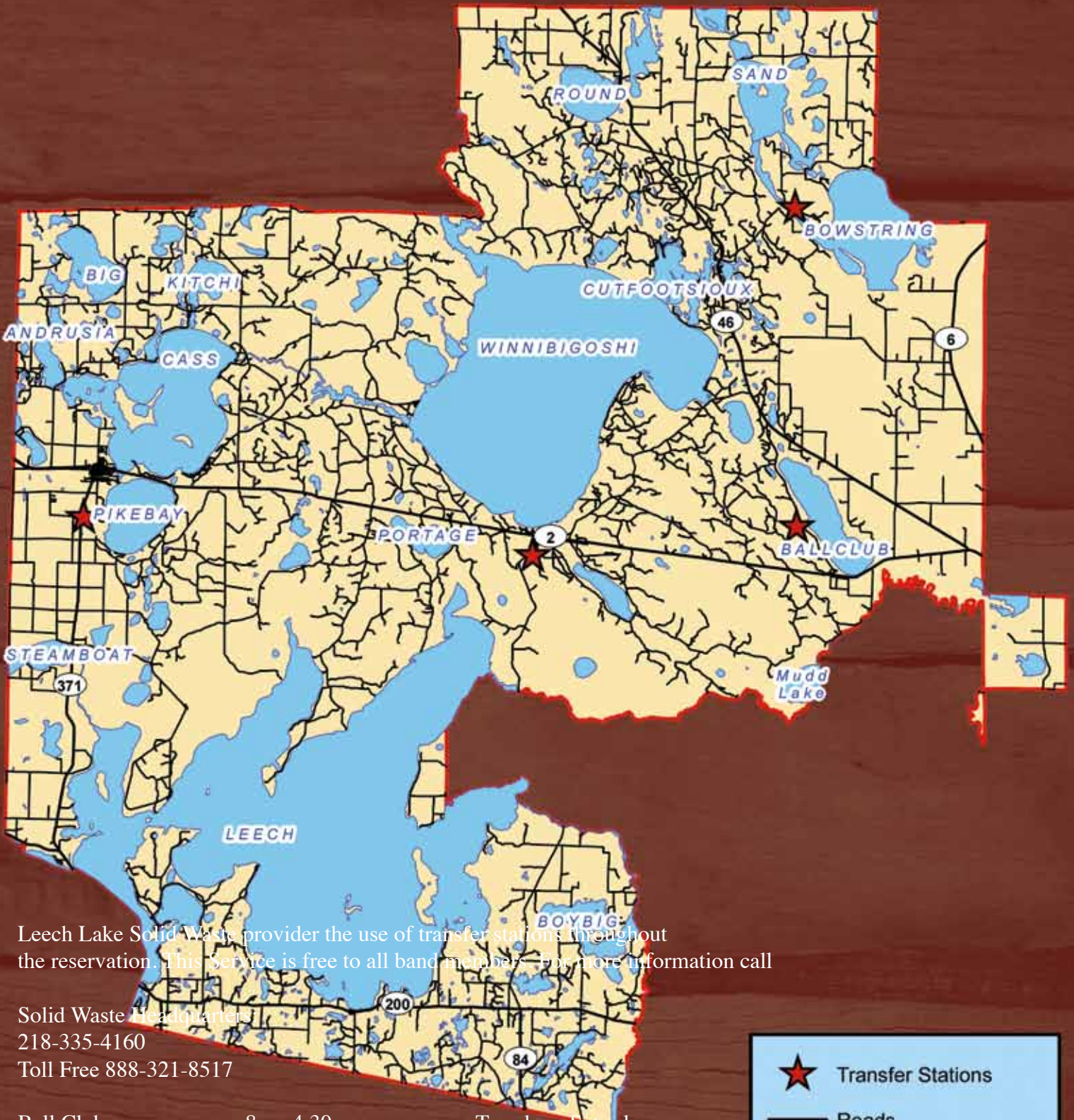
- To report illegal burning call the Leech Lake Conservation Enforcement at ☎ 218-335-7400 or ☎ 1-800-442-3942.

To discover more about the burnbarrel clean-up project, visit www.lldrm.org

Source: Leech Lake Division of Resource Management staff



Leech Lake Transfer Stations



Leech Lake Solid Waste provider the use of transfer stations throughout the reservation. This Service is free to all band members. For more information call

Solid Waste Headquarters
 218-335-4160
 Toll Free 888-321-8517

Ball Club	8am-4:30pm	Tuesday - Saturday
Bena	8am-4:30pm	Tuesday - Saturday
Cass Lake	7am-5:30pm	Monday - Saturday
Inger	8am-4:30pm	Tuesday - Saturday
Onigum	8am-4:30pm	Tuesday - Saturday

★ Transfer Stations
 Roads
 Reservation Boundary



Firewise

A Program to Protect Your Home

Fire is a natural part of our environment. Yet with more people living in rural areas there is a greater chance of wildfires causing loss of life, property and damage to natural resources. Protecting everyone's property presents a challenge when trying to control wildfires. Homes close to evergreens and tall prairie or marsh grasses are most at risk. Protecting homes from an approaching wildfire is the goal of the Firewise program.

Is Your Home Firewise?

As a homeowner, you must realize that the threat of wildfire is real. Minnesota experiences more than 2,000 wildfires a year. While fire is an inherent danger when living in a home in the woods, there are ways to help minimize the risks and to protect your property and your home from the ravages of wildfire.

Creating a defensible space around your house can enable your home to survive a wildfire. This defensible space is an area of reduced vegetation (fuels) between your home and the forest.

Creating a Defensible Space Zone

The National Fire Protection Association's Firewise Communities Program has developed guidelines to help save lives and property from wildfire.

Step 1: Assess Your Property

- Do you border wildland?
- Is there a substantial amount of tall vegetation growing around your home?
- Do tree limbs extend over your home?
- Do you have a woodpile near to your home?
- Do you have any fuel tanks nearby?
- Does your property's driveway provide easy access to your home for firefighters?

To Discover more about fire prevention contact the Leech Lake DRM Firewise Program,
☎ 218-335-7400

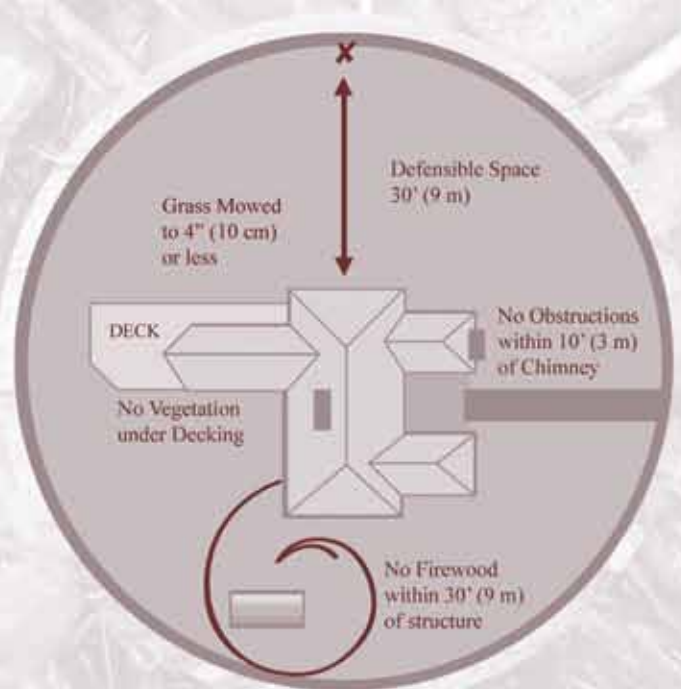
National Fire Protection Association at:
www.firewise.org
Leech Lake Division of Resource Management
www.lldrm.org

Source: The National Fire Protection Association

Step 2: Take Action!

- Thin tree and brush cover around your home.
- Dispose of slash and debris from thinning.
- Remove dead limbs, leaves and other litter.
- Stack firewood away from your home.
- Maintain an irrigated greenbelt.
- Mow dry grasses.
- Prune bottom branches to 10 feet above the ground.
- Trim other branches as necessary.
- Clean your roof and gutters.
- Make sure your driveway has not been overtaken with vegetation. Emergency vehicles need a 12-foot-wide clearance and adequate space to turn around.

Every year, Minnesota wildland firefighters and local fire departments respond to wildfires that are a result of careless human actions. Debris burning causes about 40 percent of Minnesota's wildfires. Burning household waste has been illegal on Leech Lake Reservation since 2006.



Permits are required for all fires. Most burning permits have an approved time frame (usually from 6 p.m. to 8 a.m.) and require the fire to be attended at all times.

Waabashkikiwan (Wetlands)

Wetlands

Anishinaabe are connected to all that is around us. Life is a web and everything is connected. But, like the spider's web, when strands become weak or broken, the strength of the web is lost. We begin to lose our connections.

Think of this in terms of wetland loss. The Anishinaabe people recognize that wetlands nurture many of our critical resources. The entire Anishinaabe subsistence cycle of hunting, fishing and gathering is dependent on the region's water system, which is intricately connected to the Reservation's vast wetland resources. Traditional ecological knowledge recognizes that these wetlands are not only vessels of life for a vast number of plants and animals, but are an integral part of the people's lives. What happens to our culture if we don't have mashkiigobag (Labrador Tea), aagimaak (black ash), manoomin (wild rice), or giizhik (cedar)? All these plants and hundreds more, grow in wetlands. Many if not all of the clan animals rely on wetlands for part of their lives. What happens if your doodem (clan) loses what it needs for survival?

These are challenging cultural questions we must ask ourselves when we are planning any type of development that has an impact on the land, water, or air. The action of one person might not have a huge impact, but collectively our actions could be devastating.

What Is a Wetland?

The term wetland is used to describe a wide variety of wet environments found in Minnesota. A wetland can range from a slight depression that holds water only after spring snowmelt and runoff to a forested swamp with permanently saturated peat soils.

Most people probably would describe a wetland as a small body of open water with cattails on the fringe. Lakes and streams are generally not wetlands, but may be bordered by wetlands. How do we know what is and what is not a wetland?

There are three indicators used to determine if an area is a wetland—soil, vegetation, and hydrology.

Soil

Wetland soils are poorly drained and develop certain characteristics due to the presence of water and absence of oxygen. These soils are identified as being darker than non-wetland soils, or grey with rusty streaks or spots.

Plants

Only certain plants can survive in the oxygen-deprived conditions present in wetlands. Some plants are normally only found in wetlands like Labrador Tea, sphagnum moss, and bog birch, while others can be found both inside and outside of wetlands such as red osier dogwood, white-cedar and black ash.

Hydrology

A wetland must also have water at or near the soil's surface at some time of the year. The area doesn't have to be wet all the time, but it must have water at or near the soil surface (typically within twelve inches) continually for at least two weeks during the growing season.

In most cases, **all three** of the above wetland indicators must be present in order for an area to be considered a wetland.



What Can I Do? – What are the Best Management Practices (BMPs) for Wetlands?

AVOID

MINIMIZE

REPLACE

AVOID, MINIMIZE and REPLACE are the watchwords for wetland BMPs.

Avoid wetlands whenever possible. If you must disturb a wetland area, **minimize** disruption of the soil, vegetation and hydrology. When wetland loss cannot be avoided or minimized, the final alternative is mitigation by **replacing** it elsewhere.

Even very small wetland areas can help protect water quality. Following simple practices on your property you can help maintain the integrity and effectiveness of wetlands:

- Use docks or boardwalks to cross a wetland rather than filling it in.
- Lay out access paths along high ground, even if it means a longer walk to the shore.
- Preserve existing drainage ways and never divert water into or away from wetland areas.

To discover more about wetlands, visit

www.epa.gov/r5water/wshednps/topic_wetlands.htm

www.usace.army.mil/CECW/Pages/ww_reg_permit.aspx

www.lldrm.org



Source: University of Minnesota Extension faculty

Why Does My Lake Have Algae?

Why Does My Lake Have Algae?

Algae are essential to all lakes.

At the base of the food-web, algae directly or indirectly support the whole biological community in your lake. Algae are essential to a healthy fishery and the overall health of lakes. There are many species of algae that occur in lakes. The type of algae and their populations within a given lake reflect the available nutrients, water clarity, temperature, acidity, time of the year and abundance of grazers that eat algae.

Too Many Algae Can Cause Problems

In large numbers, algae can affect people's enjoyment of lakes, the taste and odor of drinking water drawn from surface waters, and health of aquatic plants, fish, and other animals. Many of us have experienced an over-abundance of algae (often called "blooms") either as mats of algae that can cover a lake or "pea soup" green water that occurs on calm days in the heat of summer; followed by the odor that arises as the algae die and decompose. On rare occasions, blue-green algae blooms can produce toxins that are harmful to mammals, including cattle, dogs and humans. Blue-green algae can irritate the skin, eyes, nasal passages, cause sickness or even death. If humans or pets come in contact with blue-green algae, wash thoroughly as soon as possible and prevent pets from licking algae off their fur.



Which Algae are Blooming?

Most algae are microscopic and require professionals for their identification. However, large colonies are visible during a bloom, and the general nature of the bloom can give us clues about which type of algae is blooming (identification by professionals is still advised). A green mat on the surface that has a rope like texture may be green algae. A bright green layer of algae on the surface that has a slimy texture maybe blue-green algae. If the green layer on the surface is made up of small floating leaves, it is not algae, but rather an aquatic plant called duck weed.

What Causes Algae Blooms?

Turn up the water temperature and add some phosphorous and you have the perfect recipe for algae soup! Algae blooms occur when the water is warm and calm, when nutrients are plentiful, and/or when grazers that eat algae are few. Small fish and zoo-plankton are the most common grazers of algae.

The small amount of phosphorous that naturally occurs in our lakes is usually insufficient to support large algae blooms. However, phosphorous entering our lakes from the surrounding watershed (the area of land that drains to a lake or stream) or re-suspension of phosphorous that has settled on the lake bottom will fuel algae blooms. Under optimal conditions, the addition of only one pound of phosphorous can promote the growth of 500 pounds of algae! Fishing pressure on a lake can add to the problem. The saying, "tug on one part of the food-web and you'll affect all the other parts" holds true. Removal of too many northern pike, walleye, bass, or other game fish from a lake can affect the population of small fish and other grazers, and can ultimately lead to a greater abundance of algae.

What Can I Do to Prevent or Control Algae Blooms on My Lake?

The most cost effective strategies for long-term results involve the reduction of phosphorous inputs to a lake. Phosphorous commonly enters a lake attached to soil particles, dissolved in run-off, in seepage from failing septic systems, and through re-suspension of lake bottom sediments. Watershed strategies to filter, trap, and contain phosphorous include maintaining septic systems, planting vegetative buffers along streams and lakes, and re-routing run-off into rain gardens and storm water ponds. In-lake strategies to reduce phosphorous re-suspension include maintaining or restoring native aquatic plant populations, removing /controlling carp if they exist in your lake, reducing the speed of motor boats and personal watercraft in shallow water, and minimizing other activities that "stir up" the sediments in the lake.

Discover more about Algae and Lakes visit:

Leech Lake Division of Resource Management
www.lldrm.org
University of Minnesota Extension
www.extension.umn.edu/shoreland

Source: University of Minnesota Extension's Lake Home and Cabin Kit

What is Swimmers' Itch and How Can I Avoid It?

What Is Swimmer's Itch?

Swimmer's Itch, technically known as schistosome dermatitis, is a common malady around Minnesota's lakes during midsummer. It appears on your skin as red, itchy, bite-like welts within several hours of leaving the water. The irritation may last from a few days to several weeks, depending on an individual's sensitivity. About 30-40% of people who come in contact with the parasite are sensitive and experience irritation. There are no reported long-term effects from swimmer's itch and the parasite that causes it will not survive in humans.

How Can I Avoid It?

You can reduce the likelihood of suffering swimmer's itch by following these simple guidelines. Although even careful adherence to the recommendations may not be 100% successful in preventing an outbreak, you can minimize the extent of irritation and itching.

1 Dry off as soon as you leave the water. Rub your skin briskly to remove water drops before they begin to evaporate. Be sure to dry underneath waistbands and around leg openings of swimming suits.

2 Don't sit around in your wet swimsuit.

3 Shower with soap and fresh water as soon as possible after swimming.

4 Don't wade or play in shallow water, especially in weedy areas. Swimming from a raft or pontoon minimizes your exposure.

5 Clean beaches of weeds or other debris that have washed up on shore. They can harbor the snails that are host to the swimmer's itch parasite.

6 Don't swim when there has been an onshore breeze that may have carried parasites to your beach.

7 Don't feed geese and ducks or allow them to congregate near your beach. Waterfowl are an important adult host for the parasites and swimmer's itch outbreaks seem to be associated with people feeding ducks.

It can be especially difficult to keep children free of swimmer's itch, because they frequently play in the shallows and often wear their swimming suits for hours as they play in and out of the water. If you clear debris, watch the wind direction, don't feed waterfowl, and most importantly, teach them to dry off thoroughly each time they come out of the water, you'll minimize your children's risk of getting swimmer's itch.

Where Does Swimmer's Itch Come From?

Swimmer's itch comes from a microscopic flatworm parasite (schisosome cercariae) that lives as an adult in aquatic birds or mammals, usually waterfowl. The adult worm sheds its eggs into the feces of the host, and the eggs are released into the water where they hatch into free-swimming "miracidiae." The miracidiae swim in search of an intermediate host, one of four species of snail that inhabit shallow waters in Minnesota. The host snails live in all sorts of areas including weedy, rocky, and sandy bottoms. After 3-4 weeks in the snail, a second free-swimming stage, called a "cercaria," emerges in search of a primary host (another bird or mammal) to complete its life cycle. The cercariae are about 2 mm long and barely visible to the naked eye.

The release of **cercariae** typically occurs in late June or early July, when lakes are nearly at their **warmest** summer temperatures. If the spring has been very warm, **problems** with **swimmer's itch** may begin earlier in the summer. Most cercariae are **released** around midday, and will swim to the **surface** to increase their chances of finding a **host**.

Wind and **currents** have been shown to carry cercariae as much as four miles from the area they were **released**.

In some areas snail populations may be as high as 400 per square meter, and one infected snail may release up to 4,000 cercariae per day. Even if not all the snails are infected, that can mean millions of cercariae on a typical beach each midsummer day.

When a swimmer leaves the water and the water drops on his/her skin begin to evaporate, the tiny cercariae burrow into the skin in an effort to survive. Sometimes the swimmer feels a tingling sensation on exposed parts of the body. Where water is held near the skin (at waistbands and leg openings) the cercariae have more time to burrow in. The cercariae are killed by the body's natural defense mechanisms, but they cause a welt, or red itchy spot like a mosquito bite. People cannot become a host for the parasite, either through skin penetration or by swallowing lake water.

Can Swimmer's Itch Be Treated?

Some **SUNSCREENS** and lotions may reduce the infections, although nothing is known to be completely effective. If you get swimmers' itch, lotions or ointments may **relieve** the itching. In severe cases, you may need **antihistamines** or **steroid creams** that can be prescribed by a physician.

To discover more about swimmers itch, visit

Centers for Disease Control and Prevention

HYPERLINK "<http://www.cdc.gov/parasites/swimmersitch/>" www.cdc.gov/parasites/swimmersitch/

Source: University of Minnesota Extension's Lake Home and Cabin Kit

The Emerald Ash Borer In Minnesota

Threatening an Age Old Tradition

The legend of Black Ash Baskets is very old and began as a vision of an Anishinaabe Elder who had concern for his people. The knowledge for the construction of the baskets came in a vision and as such is considered a sacred gift from the Creator.

The Elder was nearing the end of his time and he could see restlessness in his people. He wanted to leave them with something that would help them provide for their families and also teach them the patience they needed. The Elder asked the Creator what he could do to help his people, and the Creator gave him a vision. The vision told the Elder how he should instruct his people to care for his remains when he passed and that a tree would grow from his ashes. Instructions were given on how to care for the tree and knowledge of the gift the tree would bring to the people.

The Elder was very happy with this vision from the Creator and gathered the people together to share the gift. He knew the people would now learn patience by waiting for the tree to mature and weaving beautiful baskets that were useful and could be used for trade. The gift from this vision is Aagimaak the snowshoe tree.

The Anishinaabe stories relay a deep understanding of our relatives, our natural resources. These teachings have been learned and passed down for centuries and instruct us how to care for and respect all life. These teachings are now referred to as Traditional Ecological Knowledge.

The Anishinaabe relationship with the Ash tree beings is strong. They have given us medicines, baskets, snowshoes, toboggans and bows. We owe much to these beings for bringing us to where we are today. This is a sad time for our relatives the Ash, their very existence is threatened by an invasive species known as the Emerald Ash Borer (EAB).

The Emerald Ash Borer (EAB) is an insect that destroys ash trees. EAB was found in St. Paul in early 2009.

EAB only kills Ash trees, but it does so in great numbers. This little insect has already killed millions of Ash trees throughout North America. It is expected to have a huge effect on the landscape and the millions of Ash trees that grow in Minnesota.

This invasive (spreading) species was accidentally brought to the United States from Asia in the 1990s. It was first discovered in Michigan in 2002, and since then has been discovered in Ontario, Canada, Ohio, Indiana, Illinois, Maryland, Pennsylvania, West Virginia, Virginia, Missouri, Wisconsin, New York, Iowa, and now Minnesota. Millions of trees have been lost.

The EAB can only fly a short distance on its own. Most of the spread is due to people transporting the insect, especially the larvae which are burrowed under the bark of firewood or landscaping trees. Adult female Emerald Ash Borers lay their eggs on the bark of Ash trees. When the eggs hatch, the larvae burrow under the bark and eat the living tissue of the tree. This cuts off the ability of nutrients, water, and sugar to nourish the tree. After two or three years of heavy infestation, the tree starves to death.



Adult Emerald Ash Borer



What Can You Do?

Do Not Move Firewood!

The major contributor to the spread of EAB and other insect pests is the transportation of firewood from one area to the next. Larvae and pupae can hide beneath the bark and then escape as adult beetles after being transported many miles. Many of the places where EAB was found were parks and campgrounds. People had carried EAB with them when they brought firewood on a picnic or camping trip.

We do not want the Emerald Ash Borer getting to the hardwood forests of the Reservation through human movement of firewood.

Utilize local firewood!

Firewood gathering is a treaty right. Tribal members may gather firewood for personal use on public lands within the Reservation boundaries. The Leech Lake Forestry Department is responsible for all forestry related activities on tribal, band and allotted lands within the boundaries of the Reservation.

Their responsibilities include:

- Making sure there is adequate natural forest regeneration;
- Timber stand improvement projects; and
- The overall management of timber resources for the betterment of the Band.

You can contact DRM directly for more information regarding timber management and with questions on invasive species: ☎218-335-7400 or ☎1-800-442-3942

To discover more about the Emerald Ash Borer, visit
www.extension.umn.edu/enviroment

To discover more about Leech Lake Division of Resource Management, visit
www.lldrm.org

Source: University of Minnesota Extension faculty and Leech Lake Division of Resource Management staff



Leech Lake Reservation Map 1855

