

Northern Highland-American Legion State Forest Visitor's Guide 2012

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Northern Highland-American Legion State Forest • 4125 Forest Headquarters Road • Boulder Junction, WI 54512 • www.dnr.wi.gov

Spotlight

Greetings



Your opinion matters. Let us know what you think.

Turn to page 2

Lyme Disease



Find out how to avoid this devastating illness.

Turn to page 9

Shoreline project



The shoreline at Crystal Lake is being restored.

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Van Vliet hemlocks



Travel the trails through the beautiful hemlock forest.

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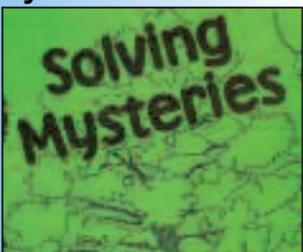
Nature Center



See what's on the schedule at the Nature Center.

Turn to page 19

Hey kids!



'Exploring the Extremes' is hot-off-the-presses.

Turn to page 30

Your 'place up north'

Wisconsinites care deeply about the current and future use of public forests in Wisconsin. The Northern Highland American Legion (NHAL) State Forest is no exception. As the largest state-owned property, the NHAL is a vast and cherished part of Wisconsin's ecological, economic and social past, present and future. The NHAL State Forest covers 232,000 acres located in northern Wisconsin in Vilas, Oneida and Iron counties.

In 1925, the Wisconsin legislature created the public forest to preserve the headwaters of the Wisconsin, Manitowish and Flambeau rivers – once a region of dense

towering white pines denuded by logging near the turn of the last century. Retreating glaciers 10,000 years ago carved the land's structure, forming the forest's unique hills, lakes, boulders and wetlands.

The lakes and rivers are one of the primary features that draw more than two million visitors to the forest each year. Fishing, boating, swimming, canoeing and kayaking are all popular summer activities. Trails and woods roads crisscross the forest, providing opportunities for hiking,

biking and snowmobiling.

Graced by some of the most consistent snowfalls in the state, the forest provides more than 400 miles of snowmobile trails that connect with hundreds of more miles of riding opportunities.

There are approximately 40 miles of groomed cross-country ski trails and many more miles of ungroomed trails. There are 18 family campgrounds with 865 campsites in the forest and two outdoor group camping areas that will each accommodate a total of 80 people. Boat

See WELCOME... page 5



Welcome to the State Forest



Paul Lueders photograph

Wildlife is abundant on the NHAL. Enjoy all the state forest has to offer.

Emergency information

Hospital – Howard Young Medical Center, Woodruff. 715-356-8000

Clinic – Marshfield Clinic, Minocqua. 715-358-1000

Ambulance – dial 911

Fire – dial 911

Disturbances – In case of a civil disturbance, notify the nearest Ranger Station, DNR office, or if necessary phone the Sheriff's Department (911). Be sure to write down auto license numbers, make and model of cars, campsite numbers, etc.

Clear Lake Ranger Station: 715-356-3668

Crystal Lake Ranger Station: 715-542-3923

Severe weather – In case of severe weather, visitors should check for updates at the Ranger Stations or tune radios to the following stations: 92.5 WJJQ (Tomahawk), 94.5 WRJO (Eagle River), 95.9 WMQA (Minocqua), 98.3 WCQM (Park Falls) or 99.7 WIMI (Ironwood/Hurley).

Telephone – There is a public pay phone located in many of the small towns in the area. Emergency telephones are available at the Ranger Stations during open hours. Resident managers and campground hosts have cell phones for emergencies.

Office hours – The Clear Lake and Crystal Lake Ranger Stations are open daily 8 a.m. to 11 p.m. from Memorial Day to Labor Day. From mid-May to Memorial Day and again from Labor Day to the end of September the Ranger Stations are open daily from 9 a.m. to 5 p.m. The rest of the year, the Ranger Stations are open as staffing allows, and usually at least one station is open each day except holidays. For Clear Lake call 715-356-3668, or for Crystal Lake call 715-542-3923. The forest superintendent is located at the Woodruff Service Center at 715-356-5211, ext. 225. Other forest operations are handled out of the Trout Lake Forest Headquarters at 715-385-2727.

NATURE TRAIL

MAPS

Escanaba Trail, Fallison Lake Nature Trail, Lumberjack Trail, Madeline Lake Trail, McNaughton Lake Trail, North Trout Nature Trail, Powell Marsh Trail, Raven Nature Trail, Shannon Lake Trail, Tom Roberts Memorial Trail 24, 25

CAMPGROUND

MAPS

Allequash Lake, Clear Lake, Day Lake, Jag Lake Group, North Muskellunge Group, Nebish Lake 25
Big Lake, Buffalo Lake, Cunard Lake, North Trout Lake, Sandy Beach Lake, South Trout Lake 26
Crystal Lake, Indian Mounds, Muskie Lake, Upper Gresham . 27
Clear Lake, Plum Lake, Starret Lake . 28
Carrol Lake, East Star Lake, Firefly Lake, Razorback Lake, West Star Lake 29

Welcome from the superintendent

Welcome to the 2012 version of our Northern Highland-American Legion State Forest Visitors Guide. For the sixth year it is being produced by The Lakeland Times and we are grateful for their support, and the support of the advertisers that allow us to put this paper out each year, with timely information to make your stay here pleasant.

This column is my opportunity to share with you some of the significant changes over the last year. A year ago, for instance, I shared with you the retirements of several of our staff and the transfer of several others to different jobs in the area. The tide has turned! Reinforcements are arriving!

On the Monday before Memorial Day weekend Melissa Baker will join our staff as the Operations and Visitor Services Supervisor. She will lead the teams that maintain and develop our property and also those staff that provide customer service at the ranger stations and in the campgrounds. Melissa most recently has been the Professor of Forestry Recreation at the University of Wisconsin – Stevens Point. She brings



not only incredibly strong academic credentials but also experience and passion for working in our business and serving the public. We are very excited to have her join us.

Chase Christopherson is our new forester and grew up nearby, in Boulder Junction. He has worked in the northwest and in Alaska and is an enthused and welcome addition to our staff.

In addition to some new hires, we are changing some of the roles existing staff have. This is as a result of some analysis done by the Division of Forestry to best align our program staff with the most important work to be

done. Some of these changes are immediate, for instance the breadth of the program that Melissa will be leading. Others will be implemented more slowly, as we are able to hire more people. The most notable of those changes is that we will be hiring more Rangers that will work year round rather than hiring Rangers just for the summer. Those Rangers will also have responsibilities off the property for forestry related law enforcement like timber theft and fire cause investigation. Brett Bockhop's role as our property's supervisor for the Ranger program will expand to the other state forests as a coordinator to assist those superintendents.

I look forward to those changes and believe it will provide you with consistent, high-quality service from that Ranger corps as well as better serving our Forestry Division and its customers. What I will miss, though, is the satisfaction of seeing so many of our summer Rangers move on to other DNR careers. Look for an article in this paper sharing where some of those

former staff are now.

Something I enjoyed last summer was meeting with more of you to hear your views on the property. This summer both Melissa and I will be hosting campfire listening sessions on Tuesday evenings in July. The schedule is listed in our nature center article and will be posted in the stations and campgrounds as those dates approach. I was happy to get your feedback last year and I learned a lot about your views. Some things we were able to respond to immediately and other issues will take longer to study and solve.

We are happy to host you on your visit to the Northern Highland-American Legion State Forest. We all hope you enjoy your stay and return again and again. Let us know if there is something we can do to make your stay here more pleasant.

Steve Petersen, Superintendent
8770 Highway J
Woodruff, WI 54568
715-356-5211 extension 225
Steven.petersen@wisconsin.gov

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Data coverage and wireless hotspots for your devices

Data coverage is available at most if not all of the NHAL campgrounds. It might not be the latest generation and fastest but you will likely have some service.

There are many local businesses that offer wireless hotspots and they usually post that. Some of them require a "key" that you'll get with a purchase. The town

of Minocqua provides wireless internet on most of the island. Other municipal hotspots are at the Boulder Junction and Manitowish Waters libraries.

While you are spending time in the NHAL you will still be able to stay connected with work, family, and friends. Tell them what a great time you are having!

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Enjoy your time on the forest

It is with great pleasure that I join the Northern Highland-American Legion State Forest team as the Operations and Visitor Services Team Supervisor. For the past several years I have been bringing students from the University of Wisconsin – Stevens Point to the forest to learn about managing for recreation on public lands. Throughout each of these visits it has been clear to me that the NHAL is a special place. I am honored to be a part of the team that manages this resource that is of such importance to the many visitors to the forest and the character and economy of this area.

I hope you will take the opportunity to talk to a member of our visitor services staff during your visit. Our visitor services team is led by two full-time



staff: Kim Krawczyk (Crystal Lake Ranger Station) and Rosalie Richter (Clear Lake Ranger Station). We are also very fortunate to have a great group of seasonal visitor services associates, campground hosts and resident managers. These folks are a very friendly bunch and a great source of

information on things to do in and around the forest.

Another group I would like to acknowledge is the operations team. The operations team is led by three full-time employees: Dick Logan (facilities), Dan Jacoby (boat landings and water trails) and Tony Martinez (trails). They are joined by a dedicated group of seasonal maintenance crew members. If you have enjoyed a campsite, trail, boat ramp, picnic area or any of our visitor facilities while on the forest it is because of the hard work of this team.

As you enjoy your time on the forest, I encourage you to think about all of the hard work and dedication that goes into providing all aspects of your experience. When you see a member of the operations or visitor services teams, I

hope you will take the chance to say hello. I think you will find them to be helpful, friendly, and passionate about the work they do to provide you with the best possible recreation experience.

I am very much looking forward to getting to know the forest, the staff, and you, the visitor, during my first year. I would welcome the chance to talk with you about what you find special about your state forest and to answer any questions you might have.

Melissa Baker, Operations and Visitor Services Supervisor
Trout Lake Forestry Headquarters
4125 County Highway M
Boulder Junction, WI 54512
715-385-355 Extension 119
Melissa.Baker@Wisconsin.gov

Rangers working for you on the State Forest

This past year has brought some changes to the states firearms laws, including those that regulate the carrying firearms on the state forest. In this years column I will outline some of the changes for you.

2011 Wisconsin Act 35 established a concealed carry of weapons (CCW) program and made changes to a number of statutes that apply to firearms in the state. People with a valid CCW permit can carry concealed weapons (knives, billy clubs, electric weapons, handguns) on the state forest, including campgrounds and ranger stations. Act 35 also removed handguns from the prohibition of loaded/uncased firearms in vehicles.



Additionally the law specifies that openly carrying a handgun by anyone at least 21 years old is not against the law on the state forest, including campgrounds and ranger stations.

Another law change, 2011 Act 51, removed the case requirement for unloaded long guns in vehicles, however, long guns still cannot be uncased or loaded within 100 yards of a forest campground or picnic area.

I don't expect you will notice many differences with these changes during your visit to the forest, but I wanted you to be aware of the possibility that one of your fellow visitors may be carrying a firearm. The vast majority of people exercising their Constitutional right to carry a firearm are honest, law abiding people like you and me. If you do see something that concerns you though, please let us know.

I hope these new law aren't too confus-

ing to you. If you need clarification, please ask any of our rangers, they are more than happy to answer your questions. Also, when you see a ranger on patrol, I hope you will stop and visit with them. They can give you an inside tip about the best hiking and fishing spots. You can also contact me anytime with questions or concerns. I hope you have a safe and enjoyable visit to your state forest.

Brett Bockhop, Ranger Supervisor
Clear Lake Ranger Station
8282 Woodruff Rd.
Woodruff, WI 54568
Phone 715-356-4752
Brett.Bockhop@wisconsin.gov

2011 Reservation System and Registration Statistics

There were a total of 8,372 transactions made for camping in the Crystal Lake and Clear Lake groups of campgrounds.

51.6% were by the internet
8.6% were through the call center
39.7% were in person at the counter.
More of you are reserving by internet and fewer by telephone or in person.

That change will be watched in following years.

Registrations by state
Wisconsin 90.99%
Illinois 3.36%
Minnesota 2.10%
Michigan 1.68%
Indiana .30%

Iowa .29%
Campers came from 39 states, two provinces, Guam, and a few unknown places.

From within Wisconsin more of you came from Wausau and Rhinelander than anywhere else. Other common areas are the Fox Valley, Milwaukee, and the Madison area. Locals are still a big part

of our camping population and our local communities combined exceed even Wausau.

The same company continues to manage the reservation system and while they no longer have a call center in Madison their customer service is by Wisconsin residents answering the calls at a home office.

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CAMPANILE CONSERVATORY STUDENT RECITAL Sunday, May 20, 1:00pm. Our Students share the fruits of their labors with our community to show off their talent. You will be entertained with voice, piano, cello, violin/fiddle, and guitar. A delightful way to spend a Sunday afternoon. Admission is free but donations are always gratefully appreciated.

ELVIS TRIBUTE Tuesday, June 5, 7:30pm. The King Returns!!! Back by popular demand, Garry Wesley and Co. will wow the audience all over again; be sure to join the fun. Adults \$20, Reserved \$30, Students \$10.

THE SUMMER CHILDREN'S THEATER presents THE WIZARD OF OZ Friday and Saturday, June 29 and 30, 7:00pm, Sunday July 1, 2:00pm. The non-musical version of this classic story is the culminating event for the Children's Theater and to be enjoyed by young and old alike. Adults \$10, Students \$5, Families \$25.

THE BARLEY JACKS Tuesday, July 10, 7:30pm. A fresh blend of folk, jazz, old-time, bluegrass and roots music played with acrobatic skill and soul. Adults \$20, Students \$10.

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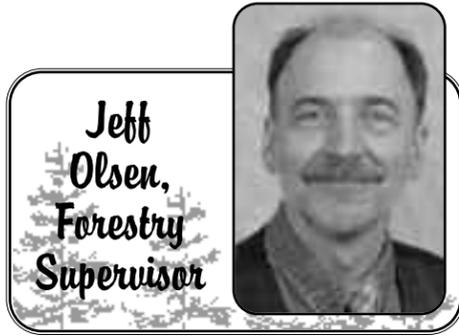
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NHAL forest management

For over 100 years the state forest has been involved in shaping the environment, the forest aesthetics and ecology of the northwoods. 1911 saw the first seeds of a new forest planted at the Trout Lake nursery where the Forestry and Maintenance buildings are located today. You can see some of these pine trees today at the Star Lake Nature Trail. Currently we have 8 forester positions, several limited term employees, a visitor associate and supervisor to look after an active management program. For example, trees are planted each spring, timber management plans developed and sales set up; contracts for services are administered, close monitoring and suppression of small wildfires and inventory of each timber stand on the Forest is recorded every 20 years. We sell 1000s of cords of firewood permits, Christmas tree permits along with bough and bark gathering permits. It's a very busy year around organization to run. Check us out at, <http://dnr.wi.gov/topic/stateforest/nhal/>



actively managed, according to a 2007 report to the Wisconsin Legislature. On the NH-AL, about 5000 acres are set up for management in 2012. You can look for them on our website and look at our future plans there also. The Forest also plants about 200 acres to red, white and jack pine trees. We keep up with the forest inventory by sampling about 30,000 acres and entering them into our data base.

Of the area harvested more than 70 percent of the management prescriptions are selective, to accelerate growth of the remaining trees and leave many trees in the stand. Approximately 30 percent of the stands actively managed each year are harvested using regeneration techniques. After harvest these stands are either replanted or regenerate naturally and will continue to grow and produce forests and wood products for future generations. These regenerating forests also provide important habitat for wildlife species associated with young forests such as ruffed grouse, snowshoe hare and woodcock.

Harvested stands are either regenerated naturally or are planted with seedlings.

The determination of which method to use is based on the ability of the site to regenerate naturally and the ability of the desired species to regenerate on a particular site. For example, if a site experiences hot and dry conditions planting may be the best alternative. This is most common for the pine species, especially jack pine.

White pine is our key tree species on the NHAL

After the cut over of the Northwoods at the turn of the last century, many thought the majestic white pine was gone forever. Now it is obvious that the biggest of our pine species is back and taking its position as a dominate tree on more acres every year. Even though the percentage of pure white pine stands is low on the NHAL, (about 10%), white pines are making it into the understory of many other forest types. In most timber harvests, the white pine trees are left in good numbers to reseed, grow and contribute to the composition of many stands. We have small and large old-growth stands of white pine scattered across the NHAL too. They were inventoried and monitored to assess health and growth. Even though many are "only" 100 years old, they are large and impressive to stand by or walk by. They also stand taller than their fellow trees and from the air are seen dotted across the forest. The Star Lake Plantation of red and white pines is 101 years old this year. There are natural stands of old pines at Cathedral Point and west of Bittersweet lakes area to name a couple. Please take time to observe them when you can.

They are worth the effort to experience and remember on your time in the Forest.

Sustainable forestry is our goal

To guide our actions and apply our practice, we define sustainability – "To practice sustainable forestry in the present without compromising the ability of future generations needs by practicing a land stewardship ethic that integrates reforestation and the managing, growing, nurturing, and harvesting of trees for useful products through the conservation of soil, air and water quality, biological diversity, wildlife and aquatic habitat, recreation, and aesthetics."

Principles of sustainable forestry practices are, to use and to promote sustainable forestry practices among forest landowners that are both scientifically credible and economically, environmentally, and socially responsible. To protect forests from economically or environmentally undesirable wildfire, pests, diseases, and other damaging agents and thus maintain and improve long-term forest health and productivity. To manage forests and lands of special significance (biologically, geologically, historically or culturally important) in a manner that takes into account their unique qualities and to promote a diversity of wildlife habitats, forest types, and natural community types. And to continually improve the practice of forest management though training and monitor measure and report performance in achieving the commitment to sustainable forestry. As a staff, the forestry portion of the NHAL holds these objectives and standards in high esteem and strives to incorporate them in all we do.

A 2012 overview of forest management on the NHAL

Wisconsin DNR lands are managed for multiple-use objectives as the 2005 NHAL Master Plan specifies. Along with non-timber objectives, the DNR lands are used to demonstrate various forest practices to the public, while meeting a variety of habitat objectives. Resource managers within the Department of Natural Resources use these objectives in conjunction with other demands to manage each state forest as a healthy ecosystem. Each year, about one percent of the land under all DNR ownership statewide is

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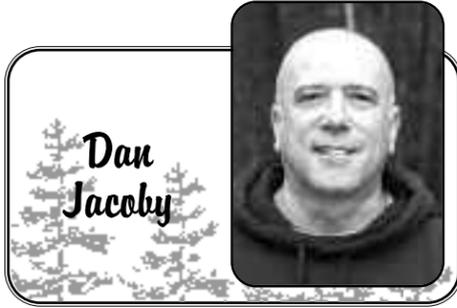
Boat landings and water trails

The water levels of lakes on the Northern Highland-American Legion (NH-AL) State Forest are still below normal. The water levels have improved 2011 but are still very low on seepage lakes. Seepage lakes are those which have no inlet or outlet and are affected most by drought.

2011 started out with above normal rains but summer and fall were below normal once again. We are not back to previous low water levels but still have very few lakes at normal or full status. Plan to have about the same or slightly better water levels as last year. Above normal, early summer rainfalls in 2012 are needed and could help you to launch on some of those lakes that were difficult to access last year.

Currently all landings on the NH-AL State Forest are open. Small boats, canoes, and kayaks are still able to access all the lakes. Boarding docks have been adjusted at many landings and may no longer be attached to the usual approach ramp. Some landings will not have a boarding dock due to excessive low water.

Before unloading, always walk around and look at the launch site first. Look to see if it is deep enough to launch and float your boat. Check the ground surface and slope to see if you will need four-wheel drive to pull out the weight of the boat and trailer. Remember, it is easier to launch a boat, than to pull the boat and



Dan Jacoby

trailer back up the ramp. There may be lakes nearby with water levels more suited to your boat and trailer. Hip boots or waders in your towing vehicle along with oars or paddles in the boat may be helpful in lakes with shallow, flat areas.

We recommend several things that can keep landings functioning:

Trim-up to power load. This technique pushes surface water back and will propel your boat onto the trailer. Use the hand winch to pull the remaining cable and boat into the cradle. Leaving your motor down will push sand and gravel back, which builds a sand reef between you and the deeper part of the lake. The reef that is formed from not trimming up or tilting up the motor can eventually become impassable. We have "No Power Loading" signs up this year to discourage the practice but realize some trailers by design require some power to push a boat onto the bunks. Coasting on using as little power as needed will not be near as



detrimental to the ramp as extreme power loading

Always use four-wheel drive (4WD) to launch and pick up your boat as the added traction will keep the ground from being torn up and rutted. If equipped, use 4WD to avoid spinning tires which can damage the surface of the approach.

One new suggestion we would like to make would be to tread lightly on access sites. We are seeing increased shoreline erosion. Try to concentrate use, to one area of shoreline. Without the water levels up to the normal shore, people tend to climb up and down the shore in multiple

areas and cause the sandy soil to collapse or erode. Shoreline areas are unique ecosystems and it is up to us to keep them in good shape.

We appreciate the cooperation we receive from the public. The public should feel free to inform us if they notice something at the landing that needs attention. Our goal is to provide safe, clean and functional access to water. Public input is an important part of achieving that goal.

Dan Jacoby is the NH-AL Boat Landing Coordinator and can be reached at 715-385-3355 extension 118.

WELCOME

From page 1

landings are provided at most campgrounds.

There are five family campgrounds that accept reservations; Crystal Lake, Muskie Lake, Firefly Lake, Clear Lake and Indian Mounds. There are also five remote camping areas with a total of 17 campsites, also available by reservation. Seventy-eight canoe campsites, accessible only by water, are situated along the shorelines of the forest's myriad water-

ways. Winter camping is permitted at the Clear Lake Campground. Many of the campgrounds also feature nature trails, picnic areas with drinking water, toilets and swimming beaches.

In addition, the forest cleans our air and water, provides habitat for a wide range of plant and animal species, and helps us sustain our quality of life. A variety of rare species inhabit the forest, including a sampling classified as endangered, threatened or sensitive. Species such as the spotted salamander, wood turtle and Cooper's hawk are quite uncommon and inconspicuous. Others

such as the bald eagle, osprey and common loon provide visitors with more frequent viewing opportunities across the forest landscape. Gray wolf packs have once again found a home within the forest boundaries and sometimes greet visitors with distinctive howls heard in the still of the night.

Hunting, subject to certain regulations, is permitted in the forest. The area is very popular with many deer, bird and small game enthusiasts.

The NHAL State Forest has also earned a reputation as one of Wisconsin's hardest working forests. At any

time, there may be 30 to 40 active timber sales in progress, so don't be surprised to see active logging operations taking place on your state forest. These timber sales provide necessary wood-based products while ensuring a healthy, sustainable forest that visitors will use and enjoy for many years to come.

Healthy, sustainable forests equal fun, too. As a matter of fact, nearly all of the NHAL's cross-country ski and mountain bike trails trace their origins to timber sales. Many visitors actively seek out new timber sales for their enhanced wildlife viewing potential, as well.

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Goods from the Northwoods

Birch bark, burls, berries and boughs – these are just some “Goods from the Northwoods” or Nontimber forest products (NTFPs) that are gathered and used for food, medicine, and crafts. Non-timber forest products have been important to the livelihood of the inhabitants of North America from prehistoric times to the present. As elsewhere in the world, early inhabitants of North America made extensive use of the vegetation that surrounded them. Archaeological evidence indicates, for example, that by 6,000 B.C. Native American residents of the Upper Great Lakes Basin relied heavily on plant foods gathered from the forest.

Learning how and what to gather is a process. Many gatherers in our area learned about plant uses from their families, which is especially true for plants that were commonly harvested during childhood—berries, fiddleheads, fir, and hazelnuts. I remember being sent out with my brothers and sisters to pick pails full of wild strawberries and raspberries. The job was not done until all of our buckets were full. This method of knowledge transfer was particularly significant for Native American NTFP gatherers who learn and teach about medicinal plants by speaking with elders and by participating in hands-on group gathering activities and ceremonies. Even today folks that want to learn more about harvesting can rely on books, including field guides and the Internet for additional information about the use of forest products.

From the view of most forest managers, gathering is a harmless and inter-

esting economic activity but certain regulations and restrictions, including where and how much harvested, do apply. There are certain guidelines to follow when interested in gathering from the forest. Here are a few tips on harvesting:

- **Permits and guidelines.** Before harvest, find out about policies, guidelines and permits. The State WDNR, Forest Service and Counties all have different policies on harvest so it's important to be aware of this. Permits allow the agency to monitor the demand and use of various products. Failure to have a permit may result in a fine.

- **Be careful where you step.** While harvesting, it is easy to damage a sensitive environment in a short amount of time. Plant populations can be destroyed by trampling. Certain soils are easily compacted, which affects root growth and plant health. While harvesting, try to minimize the number of trips you make to avoid unnecessary damage.

- **Know what you are picking.** Sometimes desirable plants and fungi have look-alikes and are difficult to identify. Proper identification can mean the difference between sinking your teeth into a delicious edible morel and becoming sick from ingesting a false one. To help make positive identifications, carry a guidebook that describes plants and fungi found in your area.

At various times throughout the year, there are classes offered that teach about

harvesting and use whether it's birch bark basket weaving to edible mushroom identification. Here are a few products that are harvested in the Northwoods and info on each.

Birch bark. The birch tree – wood, leaves, roots and sap – have proved to be useful to people throughout history. Yet it is the bark that stands out among the trees many gifts. Birch bark can be collected from dead trees and on the ground and used for many decorative items. The bark can also be harvested on a live tree during mid-June to early July. Less than 1/8 of an inch of the outer bark is harvested while the dark inner bark is maintained. Harvesting bark can injure a tree so it's best to follow guidelines from an experienced harvester. Birch bark basket classes are popular in the Northwoods. Never harvest birch bark from public use areas in the state forest.

Balsam boughs. The smell of Christmas is in the air when balsam boughs are being harvested. Boughs are usually harvested from mid-September until November. Proper harvest of boughs is done 50 feet from a road and includes harvesting only a portion of the branch

leaving green behind so it can regenerate. Bough harvest can be an economic opportunity during the late fall season selling for about \$500 per ton to local wreath making companies.

Pine cones. There are a variety of conifer trees in northern Wisconsin that produces cones of various shapes and sizes. Cones have been used for decorative displays for many projects. Harvesting cones can also be a small economic opportunity when the state nurseries are in need of conifer and other tree seeds. Here, the state nurseries can pay the harvester per bushel of cones they pick following appropriate guidelines. If interested, contact the nearest state nursery.

The final product from gathering can be a rewarding experience whether it's a birch bark basket or a beautifully carved, wood bowl. There are so many creations and products that can be gathered from the woods, but proper harvest and following guidelines are so important to maintaining a sustainable resource for future generations.

More information on Nontimber Forest products, see the following websites: <http://www.mymnnesotawoods.umn.edu/category/nontimber-forest-products/> <http://dnr.wi.gov/topic/TimberSales/nonCommercial.html>



Fun fact

In 2011 the state forest produced an average of 12 board feet per productive acre and enough pulp to produce 11 cases of toilet paper per productive acre.



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The Soldiers of Poverty tells the courageous story of Civilian Conservation Corps Company 692 sent from Makanda, IL to develop Copper Falls State Park in Mellen, WI. During the severe drought of 1936, a desperate cry for help from the U.S. Forest Service on Isle Royale, MI sent Company 692 to help contain the inferno that nearly destroyed the entire island. The story is told through the experience of the author's father. \$21.95



My Life to My Children is the reprinted memoir of Jack Vilas originally written in 1929 but never published until now. Enjoy page-turning descriptions of his flight over Lake Michigan in a 1915 Curtiss flying boat and his experiences as the first “flying fire warden” over Trout Lake in Boulder Junction. This is a **MUST READ** for lovers of pioneer aviation and northern Wisconsin history. \$21.95



Rustic Reflections of Copper Falls State Park contains the document that placed the park site on the National Register of Historic Places. Copper Falls contains one of the largest collections of rustic architecture from the CCC and WPA era and also qualified for National Register status in the areas of conservation and recreation. \$9.95



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Dear Steve ...

I love camping in the NHAL, but recently something happened that has me a bit concerned. The person camping next to me was carrying a gun. Should I be worried?

I.M. Passive

Dear Mr. Passive

Seeing a visitor with a gun is not necessarily a reason for concern. Recent changes to the states firearms laws allow people with a concealed carry permit to carry weapons. These same changes also allow anyone 21 or older to openly carry handguns. You can find more information in the "Rangers Working for You" section of the visitor, or ask any of our rangers.

Dear Steve,

During our last trip to the forest we noticed that some sights were designated for "campground hosts." We love the forest and would like to have a closer association with it. What is a campground host and how can we become campground hosts on the forest?

Mr. & Ms. Hap E. Camper

Mr. & Ms. Camper,

We are always looking for experienced campers to be volunteer campground hosts. You get a free campsite for a month in exchange for helping us out. Some of the host duties are working at the nature center, staffing the wood bin, light maintenance in the campground

and providing visitors with information about the forest and surrounding area. If this is something that interests you, please stop by one of the ranger stations for to talk to our visitor services associates and get a campground host application.

Dear Steve,

One of my favorite spots on the forest is the Clear Lake Campground beach. Many times when I try to go there, however, there isn't enough parking. Why isn't there more parking at the Clear Lake Campground beach?

Frustrated Boater

Mr. Boater,

We feel your pain and know it gets congested. Unfortunately we don't have much room to expand that area. Rangers strictly enforce parking for the safety of everyone. I'm sure you don't want to be the one who needs an ambulance, but if you do it is important that the ambulance be able to get there and not be blocked by those who are illegally parked. The good news is we have plans in the works to put in overflow parking out on Woodruff Road, a short walk to the beach. The bad news it will take a couple years to get the funding. In the meantime you can help us out by using the boat landing and beach on the north side of the lake, and campers can help out by leaving their vehicles and boat trailers at their campsite.

Dear Steve,

I have been trying to get a campsite in one of the reservable campgrounds for a long time. They fill up so fast that I rarely end up getting the site I want. I have heard that many people take advantage of loopholes in the system to make reservations they may not otherwise be allowed to have. Can't you just get rid of the reservation system and go back to the way things used to be?

Ivanna Sitesobad

Ivanna,

In today's world many people need to be able to plan ahead and know they have a campsite. Others enjoy the convenience of knowing exactly where they will be camping. While our reservation system isn't perfect it provides a service and accommodates many of our policies. Last summer at my listening sessions I learned more details about how some people game the system to their advantage. That's really disappointing when those people exploit loopholes or outright lie to get a campsite. While that shows me how important this forest is to them when they vacation it also shows me humanity's dark side. We can work to close loopholes and adjust policies but we can't change someone's character. So the foibles of the reservation system fall into two categories - those we can change and those we can't. We do our best with the system we have. And that system does work well for many people.

If the reservation system does not work well for you, we also have many beautiful sites in campsites that do not use the reservation system. Many of these campgrounds offer great locations and, while they may be a bit more primitive, they offer great opportunities to get away from it all.

Dear Steve,

Why do you limit the length of camping stays to 14 days? It used to be 21 days and that was much better.

Yamean Igottaleave

Ms. Igottaleave

I recall the days when the limit was 21 days and people would complain that was too short. Back then someone would get on a lake site and occupy it for several weeks. Meanwhile, people that don't get that much time off couldn't get a lake site. When we moved the limit to 14 days that created what I call "churn" and more people got the opportunity to camp on a lake site. It was a statewide policy to create a more fair system and provide more opportunity. Here at the NHAL you may move to another campground outside of the immediate area and return after a week. You might be surprised to hear that I have people suggesting to me that the limit be even shorter.

Dear Steve,

About that firewood... It's costly and I can't get a fire started.

Cold and Wet

Dear C and W,

Firewood was one of them. Campers are passionate about their campfire. Last year in our outlying campgrounds we lost a fair bit of money on firewood sales. This year we are again adjusting our sales procedures and since we will be selling it ourselves we hope to make up for our losses in some places by more closely monitoring it where the most wood is sold. But you should realize that part of the cost of your wood is to pay for the wood someone else stole.

Our wood is purchased wholesale from a local firewood dealer who processes wood cut from the property. I am certain it is seasoned more thoroughly than the wood you could have bought here a few years ago. I use it for my campfire programs and usually pick the worst looking stuff in the shed just to see how bad it is. I have yet to have a problem starting a fire. When you are starting a fire I suggest you use some crumpled newspaper (not this one!) and some nice dry kindling. There will be fire building programs at the Crystal Lake Nature Center a couple times this summer as well.

Fun fact

Each year the property goes through about 175 cases of industrial duty toilet paper. Placed end to end that toilet paper would stretch from Boulder Junction to Memphis, Tennessee.



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Crystal	Muskie	Firefly	Indian Mounds
Carrol	Razorback	West Star	North Trout
Big Lake			
Opening the Thursday Before Fishing Opener (May 3rd 2012) Closing the Tuesday after Columbus Day Weekend (Oct. 9th 2012)			
Starrett	Gresham	Buffalo	
Opening Monday Before Memorial Day Weekend (May 21st 2012) Closing Tuesday After Labor Day Weekend (Sept. 4th 2012)			
South Trout	Cunard	East Star	Plum
Opening Monday Before Memorial Day Weekend (May 21st 2012) Closing Tuesday after Columbus Day Weekend (Oct. 9th 2012)			
Sandy Beach			

Memorials and Commemorations

Each year several requests are made to the property to place a memorial to a loved one or remember a significant event. So far the property has facilitated placement of benches within campgrounds and picnic areas. These standard benches provide a uniform look across the property. The goal is to provide a dignified and respectful memorial, a reflective place to put it, and a service to all property visitors. The benches, produced by Aqualand Manufacturing in Woodruff, are purchased and then donated to the state forest. Forest staff install the bench at a site agreed to by the donors and the superintendent.

Other memorials on the state forest property are not allowed. Staff are sensitive to those survivors' wishes to memorialize a loved one, however these memorials can be intrusive to other state forest visitors. Any unauthorized memorials found on the property will be collected and returned to the owner if known or kept for a year before disposal. This policy is similar to the Wisconsin Department of Transportation's policy on memorials. Please share your ideas with the superintendent, whose contact information is listed elsewhere in this publication. You may also contact them to discuss placement of a bench.



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Lyme Disease: What you should know

International Lymes and Associated Diseases Organization

Lyme disease (LD) is the most common vector-borne disease in America and considered an endemic in Wisconsin. According to the Center for Disease control, in 2009 approximately 38,000 cases were reported in the US. But because of apparent flaws in the surveillance/reporting system cases more likely exceed 450,000. Recent Studies of tick infested areas document that 1 in 5 ticks carry lyme disease and co-infections. The recent lyme map shows Wisconsin, along with many New England states, have higher incidence of LD.

Transmission

The black-legged tick, *Ixodes scapularis*, is the most common carrier of LD in the mid-western and eastern states. *I. pacificus* is known to be the vector in the west. Other species of ticks such as the dog tick or wood tick, the lone-star tick and the rabbit tick, and biting insects such as mosquitoes, deer flies and horse flies have been shown to carry the Lyme disease bacterium and co-infections. However, their ability to transmit the disease is not known at this. There is a myth that the tick has to be attached for 24 hours before transmission can take place. The truth is transmission can occur within a few hours. So, it is important to do frequent tick checks. Studies of human transmission are few, however, LD spirochetes have been found in human breast milk, tears, urine and semen. Through some studies the disease has shown that it can be transmitted to the fetus in the womb by an infected mother.

Bacterial Invasion and Testing

Lyme bacteria can exhibit differing forms in the infected organism: spirochete, I-form and cyst. These forms can complicate both testing and treatment. When in cyst form, by hiding in cells and tissues, a person can test neg-

ative – since antibodies do not recognize this form as an invader. At this stage of infection treatment becomes more difficult and strong antibiotics are used to “scare” the cysts out of the tissues and then can be treated more readily in the spirochete form.

Standard testing is unreliable. Most regular medical practitioners use a stepped approach by first using ELISA and then the Western Blot. The ELISA test is the simplest, least expensive, easiest to perform, and most common Lyme test ordered. It is a test based on detecting the antibodies that our bodies make in response to being exposed to Lymes. However, because of varying forms of the bacteria, this test is only 30 to 50% reliable at detecting LD.

The Western Blot essentially makes a map of the different antibodies the immune system produces to the bacteria. The map separates the antibodies by the weight of their respective antigens. The test is more reliable up to 80%. Most Lyme Literate doctors use a thorough, clinical evaluation of symptoms and don't rely solely on these tests since seronegative is very common. And not to forget there are a list of co-infections which most medical practitioners do not test for including Bartonella, Powassan, Ehrlichiosis, Babesiosis and Mycoplasmas.

Know the symptoms

Lyme disease, as it progresses in the body, has 3 stages (if left untreated). Being a great mimicker of other diseases, there are over 100 symptoms of this disease and can be diagnosed as something else. And each infected person may have differing symptoms to greater or lesser degree. Bull-eye rash or radiating red spots only show in about 30% of cases but headache, fatigue, continual neck stiffness and muscle pain are common in the early stages. As LD progresses in the body it can affect any organ including the brain, heart and joints and can become a chronic disease.

It is important to know your body and if symptoms persist. It's also helpful to know the symptoms of the co-infections such as those listed above. At the end of this article lists the different stages and symptoms of LD.

Treatment

Opinion within the medical community is deeply divided regarding the best approach for treating Lyme disease, particularly LD that is not cured by short-term protocols. There is controversy between physicians as to how long and what is the best mode of treatment.

In many of these cases, relapses occur while on short-term, less aggressive treatment. Research has shown that LD can stay in the body in remission and surface at times with low immunity. When LD has advanced to the disseminated or late stages, its best to seek out a lyme literate doctor of which there are few in the state. In my situation, eleven years ago I had LD, was treated with short term antibiotics and it appeared to be cured.

However, last year my symptoms reappeared (maybe a new tick bite) and were persistent while testing negative. Symptoms continued to get worse under regular medical attention so I decided to see a lyme literate doctor. Fortunately, with several months of aggressive antibiotic treatment under supervision of a lyme literate doctor, I am getting better. Because this is a chronic condition, I will still have to watch for flare up of symptoms.

What you can do?

It is important to know the facts and stay informed. LD is a great mimicker and can be diagnosed as something else. One of the better LD websites is ILADS.org, International Lymes and Associated Diseases Organization. Here

they not only give you background information and latest research but also highlights the best treatment recommendations in agreement from Lyme Literate Doctors all over the world. If you do have some spare time, the DVD documentary, “Under our skin” is a gripping documentary of the untold story of LD and the medical community. It's a must see.

Prevention

There are many ways to protect yourself against ticks but nothing is 100% effective.

Repellent – DEET is not always the best against ticks, Cloths sprayed or soaked in pyrethrin is better. Lemon Eucalyptus is a natural repellent that can be used in conjunction with pyrethrin.

Repellent clothing – expensive but has been tested that it significantly reduces ticks

Wear Light colored clothing
Do tick checks several times a day
After your day afield, put cloths in a hot dryer to kill the buggers.

Stages of Lymes Disease

The first stage of Lyme disease is called early Lyme disease. Early Lyme disease usually causes one or more of the following symptoms that occur days to weeks after infection. Fatigue, chills and fever, headache muscle and joint pain, swollen lymph nodes, rash or Erythema migraines

The second stage of Lyme disease is known as early disseminated Lyme disease, which means that the infection of bacteria is beginning to spread and is affecting certain body functions. This stage occurs weeks to months after the bite of an infected tick. Problems can include: numbness and pain in arms or legs; paralysis of facial muscles (usually

See LYME. . . page 10






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Have a story to share?

Over the years we've noticed that many families have a favorite campground on the Northern Highland-American Legion State Forest, and many of you have been camping here for years. It is especially nice to hear about generations of the same family coming back

year after year. After hearing some of your great memories, we'd like to start saving, and maybe sharing them.

So please, tell us your story.

Your Name:

Hometown:

Can we post your story on our website?

Send your story and photo to:

Clear Lake Ranger Station

8282 Woodruff Road

Woodruff, WI 54568

attn: Northwoods Memories

or email to:

Rosalie.Richter@Wisconsin.gov



Carry in – carry out

Welcome to your state forest! You'll notice at the picnic areas, shelters, beaches, and other day use areas that there are no garbage or recycling bins.

When you visit many Wisconsin state forests, parks and recreation areas, you need to take your garbage and recyclables home with you.

Why?

Home away from home: The forests belong to all of us, and just like home, we need to care for them and keep them clean.

Less mess: Removal of the garbage

and recycling containers eliminates the smells and mess they create. It also cuts down on yellow jackets and other pests.

Reduce, reuse, recycle: Wisconsin

state law requires us to recycle many materials we once threw away. Better yet, we can make new choices of what to bring with use. The more reusable things we pack, the less garbage we'll create.

It's good for us and for our earth home.

Thanks for helping out by carrying out what you've carried in.

Carry in – carry out.



LYME

From page 9

on one side of the face); meningitis—fever, stiff neck, and severe headaches; abnormal heart beat (rare).

The third stage of Lyme disease is called late (or chronic) Lyme disease. This stage can occur weeks, months, or even years after infection in patients who either never received antibiotic

treatment for early Lyme disease or whose treatment did not kill all of the bacteria that cause Lyme disease. Patients with late Lyme disease may get: Chronic Lyme arthritis—brief bouts of pain and swelling usually occurring in one or more of the large joints, especially the knees; nervous system problems, including memory loss and difficulty concentrating; chronic pain in muscles and/or unrefreshing sleep.

Weather warnings? What to do

On July 27, 2010, a tornado struck the Turtle Flambeau Flowage, a short distance northwest of the NHAL State Forest. The flowage has a number of remote campsites and many people were camped that night. There were a few serious injuries, and thankfully there were no fatalities. Here on the NHAL that night, we had some trees blown down and some camping equipment damaged, but no serious injuries. Our facilities were cleaned up and repaired within a few days. We were pretty lucky that night. If the tornado's course had been twenty miles south, some of our campgrounds could have seen serious damage.

The National Weather Service announces dangerous weather. They will issue "watches" if conditions offer potential for severe weather. "Warnings" are issued if there is a likelihood of severe weather, or if it is directly reported. Weather forecasting has evolved to become very accurate and warnings should be taken seriously.

The easiest way to receive weather announcements is from a weather radio, available at low cost from many stores. Battery operated, they will work just fine in our campgrounds and remote campsites. Alternatively, local commercial radio stations will broadcast warnings, and these may be able to better pinpoint a storm's location and direction of travel for you. That being the case, it is helpful for you to be aware of where you are geographically. The most local radio stations for the NHAL area are: FM 92.5 WJJQ; 94.5 WRJO; 95.9 WMQA; 98.3

WCQM; and 99.7 WIMI.

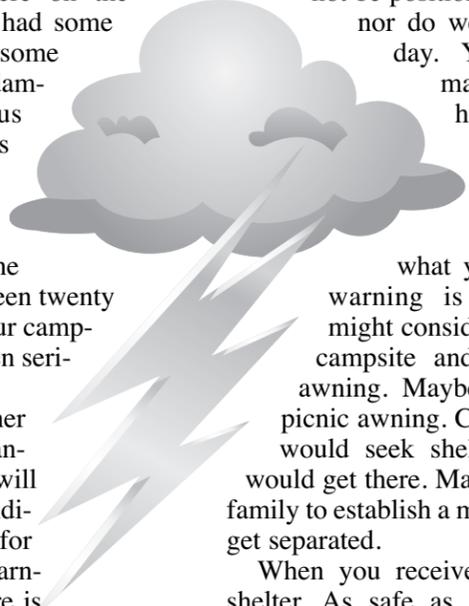
Do not depend on Rangers or other staff to provide warnings to you. As much as we would like to assure we can do this, we simply can not. To the degree that we are able, we will do so, but our staff is spread too thin and may not be positioned to be effective, nor do we staff 24 hours a day. Your safety is ultimately in your own hands.

If severe weather threatens, begin to form a plan of

what you would do if a warning is announced. You might consider picking up your campsite and rolling up your awning. Maybe take down your picnic awning. Consider where you would seek shelter and how you would get there. Make plans with your family to establish a meeting place if you get separated.

When you receive a warning, seek shelter. As safe as your vehicle may seem, many people have been injured or killed within them during violent weather. Seek shelter in low lying areas or within sturdy buildings, like our shower buildings or concrete toilet buildings. Our recently constructed solid concrete toilet buildings are built to sustain very high winds. At the Turtle Flambeau Flowage area, many people improvised and sought shelter under the massive log constructed picnic tables or at the shoreline.

Severe weather can lead to tragedy. Modern forecasting and planning on your part can help to keep you safe. Please take a few minutes to plan how you would respond to a severe weather warning.



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Camping in bear country

- Always keep a clean camp.
- Use a designated camping area.
- Don't leave food out when not in use. Store it in bear-resistant storage unit, hard shelled vehicle or car trunk.
- Set up tents with space between them.
- Keep pets on a leash.
- Keep your sleeping area, tent and sleeping bag free of food and odors.
- Don't sleep in clothes you were wearing while you cooked food.
- Keep a flashlight readily available.
- Don't leave dirty utensils around the campsite
- Before going to bed, place garbage in dumpsters provided by the campground.

Stay far away from bear traps

Although it's tempting to check out the bear traps we have set out to catch our nuisance bears, our attempts to capture will be much more successful if everyone steers clear of the traps. Please don't add to Law Enforcement Ranger duties by forcing us to monitor traps for people as well as bears.

Frightening black bears

Black bears are occasionally encountered on trails or at campsites. In most cases bears can be frightened away, but be sure they have an obvious and large escape route. Use sticks, rocks, frying pans, or whatever is available to frighten the animal away. They can usually be frightened away by shouting, clapping hands, or throwing objects. Such actions can be augmented by the noise of pots banging.

It is important to attempt to determine the motivation of the offending bears. Habituated, food-conditioned bears can be very dangerous. Aggressive behavior toward a black bear should not be carried so far as to threaten the bear and elicit an attack.



Michele Woodford photograph

Black bear encounters

Black bears should always be considered unpredictable and potentially dangerous. A black bear will usually detect your presence and flee the area before you notice unless the bear has been conditioned to people and their foods.

If a black bear is visible, but not close, alter your route so that you will move away from its area.

If a black bear approaches, do not run. Remain calm, continue facing the bear and slowly back away. If the bear continues to approach, try to group together and pick up small children. Try to scare the bear away by shouting and acting aggressively.

If a black bear attacks, it is suggested to fight back using everything in your power, fists, sticks, rocks, and E.P.A. registered bear pepper spray. To this date, there is no recorded report of a black bear attacking a human on the Northern Highland American Legion State Forest.

Our concern—your safety

The safety of forest visitors is a priority so please be careful at all times and please impress safety precautions on your children. Following are some precautions to keep in mind.

Swimming—Swim safely. Swim at a designated beach where available. None of the Forest beaches have lifeguards.

Don't swim alone, at night, or in unfamiliar places. Use caution when wading in unknown waters, as water depth may change abruptly. Watch small children closely near the water.

Boating/Canoeing—Every boat and canoe must carry a Coast Guard approved lifesaving device for each person aboard, and passengers should wear lifejackets at all times. Don't overload your craft. When boating, be aware of your wake and stay well away from swimmers. Please do not power load boats. If you coast on and trim up – this will help keep the lake bottom in place.

Hiking—Hike safely. Be aware that trails vary in difficulty. Not all trails are surfaced. There may be steep climbs or descents or stairways. Watch small children closely. Trail surfaces can become slippery when wet or covered by leaves or pine needles, or where there is loose gravel.

Biking—For your protection, wear shoes, pant-leg clips and helmet when bicycling. Wear reflective clothing for bicycling at night. Keep your bike under full control at all times. Pull off the road or trail to view wildlife, flow-

ers or scenic views. Be cautious in areas with loose gravel or sand, wet leaves, or other loose material. Always be alert to traffic. Park and forest roads follow the terrain and often have steep grades, corners and intersections. Burrowing animals may leave bumps and holes in the trail. Bikes are not allowed on developed nature or hiking trails.

Skiing—Be aware that groomed trails cannot always be groomed on a daily basis. The quality of groomed trails can vary depending on heavy use, weather and terrain. Skiers should not ski beyond their abilities or allow speed to build up beyond the skier's ability to control their descent.

Plants—Never eat berries or plant parts unless you are certain of their identity.

Severe weather—The time to prepare for severe weather is before the storm hits. Please develop a plan with your family on what you will do if threatening weather approaches.

Questions to consider

- What county and city are you visiting?
 - Where will you go if threatening weather is approaching?
 - How will you find out if a storm is moving toward your area?
 - How will you receive warnings and forecasts before the storm strikes?
- A brochure on Severe Weather Information from the National Weather Service is available at the ranger stations.



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We want everyone to have fun in the Northwoods.



See Me Tri Triathlon at Clear Lake picnic Area

Join hundreds of Triathletes at the Clear Lake Picnic Area on Saturday, August 11, 2012 at 7:30 am as the Northern Highland American Legion State Forest co-hosts the 3rd Annual "See Me Tri" the Minocqua Triathlon. The swim, bike and run courses will challenge athletes among the woods & waters of our scenic Northwoods.

"Great cities have great marathons and great triathlons," said race founder Andrew Teichmiller. "Look at Boston, New York, Philadelphia and Chicago and so we welcome participants to a big time event right here in the northwoods with our signature triathlon --See Me Tri the Minocqua Triathlon. We would like to thank Marshfield Clinic & Ministry Health for their generous sponsorship."

The Clear Lake location makes this event perfect for the Athletes and spectators alike. This event also provides great opportunities for community non profit groups who want to be part of a triathlon event, support the local tourism economy & raise some funds.

Sprint & Olympic distances for team or individuals.

Sprint

- Swim: 500m
- Bike: 20km (12.4 miles)
- Run: 5km (3.1 miles)

Olympic

- Swim: 1500m (.93 miles)
- Bike: 40km (24.8 miles)
- Run 10km (6.2 miles)

The triathlon will be staged at Clear Lake Picnic area off Hwy J. The swim will be an out & back. The bike course



will be along the bike lane on Hwy J and on to Hwy E through wooded back roads. The run will be on the historic and scenic Raven Trail. Volunteers in watercraft will provide safety for athletes during the swim portion of the race.

After finishing the bike, which rolls along Gilmore Lake and the Rainbow Flowage, athletes will don their jogging shoes and run on a wilderness trail in the Raven Hiking Trail system then along Woodruff Rd to the finish. A gala finish line welcomes athletes with a celebration, -- music, food and beverages -- for athletes, friends, families and spectators.

For more information and to register - www.minocquatriathlon.com



Steve Petersen photographs



Camping without power

By Kent Plowman
of Plowman's Marine

The nice thing about being a camper is we can all do it differently. Some of us like to "rough it" without any conveniences of home. No power, no roof over our head, no bathroom, etc. Some of us, like me, want my house brought with me: power, roof over my head, and a hot shower when I want it.

If you are in the latter group, there are some challenges providing enough power to enjoy all of the conveniences of home. As of now, none of the Northern Highland State Forest Campgrounds have 110v electricity. Most modern towable and motorized campers will work with just a 12V battery or batteries providing the power we need. The only items that will not work on a 12V battery are the air conditioning and

microwave oven.

Let's look at the items you will need to "dry" camp without 110v electricity. The camper's water pump, refrigerator, entertainment system, etc. will work off a 12V system already in your unit. If you "dry" camp a lot, I would recommend you have two batteries. The best is to use what is called a "deep cycle" battery. It is designed to hold a charge longer. The item that will draw down the battery the most is the water pump. Try to take shorter showers than at home to conserve the battery life. Items like entertainment systems and refrigerators do not draw a lot from the battery.

Another item you might want when you are "dry" camping is a generator. The size of generator you will need will depend on what you want to do with it. If you are only looking to charge your

battery system, a 1000 watt generator will do just fine. Just plug it into the camper's 110V cord, and it will recharge the battery in an hour or two. If you are looking to run the air conditioning or microwave, you will need at least a 3000 watt generator. Some companies claim as low as a 2400 watt unit will also work, but I recommend a 3000 watt unit to be sure it will get the job done.

Remember, there are only certain hours you can use your generator in the campground, so be sure to check the rules for generator use, and also get a generator permit.

You will also need to follow some safety rules. Never have the generators exhaust pointing at the camper or any flammable items, like lighter fluid or a gas can you have with you. You will also need to make sure all windows in



the area of the generator are closed. This will prevent carbon monoxide from entering the unit. These rules also apply if you are tent camping. The other thing to do when using a generator is to always remember to be courteous to your surrounding campers.

With these simple rules, we all can enjoy our camping experience.

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Lake Tomahawk: 715-277-3144 (Summer Only)

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Collecting firewood for your campfire

Registered campers on the state forest do not need a permit to cut campfire wood for use at their campsite, but the rules are the same

ing off the trunk, loss of fine branches, or trees without leaves during leaf out. Do not cut trees with buds on them. If in doubt, DO NOT CUT.

You may not cut wood in any area signed "closed to wood harvesting."

Frequently asked questions about wood cutting permits

Q: Who is required to have a wood cutting permit?

A: Every household cutting firewood on the state forest for home use is required to have a wood cutting permit. Members of the permit holder's family or friends may assist the permit holder without a permit. Any person having their wood permit revoked may not cut wood or assist others until the term of their revocation is over.

Registered campers on the state forest do not need a permit to cut campfire wood for use at their campsite.

Q: What trees can I cut?

A: Only slash from logging or dead standing or downed wood may be harvested. Standing dead trees are defined as trees with bark com-

Q: Where can I go to cut firewood?

A: Most areas of the state forest are open for wood harvesting. On timber sales, you may not cut trees with marking paint on them, you may not cut wood from logging piles (even if they look old) or any forest products left in the woods by loggers. You may not cut any wood in timber sale areas if logging equipment is present.

Campgrounds and picnic areas are closed for wood harvesting except from Nov. 1st through April 30th when you may harvest **downed** wood from these areas. At no time may standing trees be cut in campgrounds or picnic areas.

Areas within 100' of any shoreline are closed to wood harvesting. This preserves shoreline aesthetics and helps prevent erosion.

Q: Can I sell the firewood that I cut on the state forest?

A: No. A wood cutting permit is for personal use only.

Q: What equipment can I use to cut firewood?

A: No motorized equipment other than chainsaws may be used to harvest wood. Licensed motor vehicles are only allowed on woods roads that are not bermed or gated. All off-road use of vehicles including ATV's, tractors, skid steers, and snowmobiles for hauling or skidding is strictly prohibited.

Q: What will happen if I violate the conditions of the permit?

A: Violations of the permit conditions will result in prosecution and revocation of the wood cutting permit. The minimum fine for violating the wood permit conditions is \$389.50 plus restitution.

2012 fee schedule

Clear, Crystal, Musky, and Firefly Campgrounds
 Wisconsin Resident \$15
 Non-resident \$17

Vehicles with Wisconsin license plates
 Annual admission \$25
 Daily admission \$7

All other campgrounds and remote reservable campsites
 Wisconsin resident \$12
 Non-resident \$14

Vehicles with out-of-state license plates
 Annual admission \$35
 Daily admission \$10

Musky and Jag group camps

1-20 people \$40
 21-30 people \$60
 31-40 people \$80
 41-50 people \$100
 51-60 people \$120

Reservations \$10
 Cancellations \$5
 Reservation changes \$8

Vehicle admission discounts available for Wisconsin residents 65 and older.

Trail passes are required for people 16 and older biking and skiing on most state forest trails where those activities are permitted, as posted at the trailhead. Hikers do not need a state trail pass.

All vehicles at campsites also require vehicle admission stickers.

Annual trail pass \$20
 Daily trail pass \$4

Take a walk through the Crystal Lake shoreland restoration project

**Mike Meyer, WDNR Science Services, Rhinelander
 Dan Haskell, Michigan Technological University, Houghton**

Wisconsin DNR Science Services has partnered with Michigan Technological University and WDNR Forestry to install a Shoreland Restoration Demonstration and Research Project on the west shore of Crystal Lake in Vilas County. The project covers 1700' of lake shore adjacent to the Crystal Lake Nature Center, and the public is invited to follow the hiking trail through the project. Shoreland restoration is a new lake management practice designed to improve wildlife habitat and reduce nutrient runoff on lakes with housing or recreational development. This is accomplished by planting native trees, shrubs, wild flowers, ferns, grasses, and sedges as well as controlling erosion with biodegradable materials. The Crystal Lake project is designed to help establish the most cost-effective methods for conducting this work in the Northern Highlands.

Work crews began prepping the Crystal Lake project in 2010. Twenty two study plots have been established within the project, each 100 feet x 75 feet. An eight foot temporary fence was installed around 16 of the plots to prevent deer browsing and an irrigation system was installed within the fence to guarantee all plants receive at least 2 inches of rainfall

per month during the growing season. Outside of the fence, 6 plots received no irrigation or protection from deer browsing. Native trees, shrubs and groundcover were then planted into 10 plots within the fence and 4 plots outside – the remaining plots were designated as "No-Mow" allowing a natural return to native plants. Seven plots received native plantings from WDNR Wilson Tree Nursery (1534 trees, 606 shrubs) and seven plots received native plantings from a local greenhouse and nursery which specializes in lakeshore restoration (658 trees, 1460 shrubs, and 4318 wildflowers, grasses, vines, and ferns). Over the next 10 years, scientist will monitor the plots to determine which plant species survive and grow best, and whether irrigation and protection from deer browsing improves survival and growth rates. In addition, "gravel-culture" trees and shrubs have been planted and will be monitored. Trees and shrubs planted into gravel can be planted as "bare-root" stock late into the summer, and are much less expensive than is planting potted trees and shrubs. The overall goal is to provide landowners in the Northern Highlands practical, cost-effective methods for restoring their lake shore properties.

Finally, wildlife scientists will be monitoring the wildlife habitat quality on the plots, and how birds, mammals, pollinators, and amphibians respond to

the restoration practices over the next 10 years. On near-by restoration projects in Vilas County, it has been found that small mammals such as deer mice carry much lower numbers of deer ticks, which can carry Lyme's disease. Scientists from Marshfield Clinic Research Foundation will visit the Crystal Lake project in 2012 to assess whether this

positive effect occurs on this site as well.

It is expected that this project will yield rewards for wildlife, lakes, and visitors to the lake country of northern Wisconsin.

Questions regarding the project can be directed to Mike Meyer, Research Scientist, WDNR Rhinelander, 715-365-8858, Michael.Meyer@wisconsin.gov.



Mike Meyers photograph

The Crystal Lake shoreland restoration project before habitat improvement.



Mike Meyers photograph

The Crystal Lake shoreland restoration project after habitat improvement.



Mike Meyers photograph

Work crews began prepping the Crystal Lake project in 2010.

Reservable picnic shelter at the Crystal Lake beach area

The Northern Highland American Legion State Forest has a shelter building at the beautiful Crystal Lake beach area that can be reserved for large group picnics, family reunions, weddings, and other events. The facility may not be occupied before 8 a.m. and must be vacated by 11 p.m.

Electricity is also available at this shelter.

Reservations will be accepted beginning 11 months before the rental date.

To reserve the shelter, fill out and mail a shelter reservation form to the Crystal Lake Ranger Station, 10200 Hwy. N, Boulder Junction, WI 54534.

Please note that all vehicles will need admission stickers.



The shelter at beautiful Crystal Lake beach is reservable for many events.

State natural areas program

Dramatic Changes to Wisconsin's Landscape

Prior to European settlement, Wisconsin contained a mosaic of natural communities, ranging from prairies and oak savannas in the south, to pine forests and boggy wetlands in the north.

In all, more than 75 unique types of natural communities made up Wisconsin's landscape of the early 1800s. Over the decades since intensive settlement began, the quality and extent of those communities have been extremely reduced by urbanization, agriculture, and industry, and by the ecological impact of fire suppression and the spread of exotic plant species. The last remaining vestiges of our native landscape are called natural areas.

We owe much to Wisconsin's early conservationists of the 1930s, 40s, and 50s -- including Aldo Leopold, botanists Norman Fassett and Albert Fuller, and plant ecologist John Curtis -- who recognized the importance of natural areas and the consequences of their loss.

Under their guidance, the State Board for the Preservation of Scientific Areas was created in 1951 as the first state-sponsored natural area protection program in the nation. That first board evolved into today's State Natural Areas (SNA) Program.

Preserving our natural legacy

The SNA Program is located in the Department of Natural Resources' Bureau of Endangered Resources and advised by the Natural Areas Preservation Council, an 11-member group of scientists and conservationists.

By 2002, its 50th Anniversary year, the SNA Program had grown to nearly 400 sites encompassing more than 150,000 acres of land and water. SNAs are found in 70 of Wisconsin's 72 counties and range in size from less than one acre to more than 7,700 acres.

SNAs protect outstanding examples of native natural communities, significant geological formations, and archaeological sites. They harbor natural features essentially unaltered by human-caused disturbances or that have substantially recovered from disturbance over time. SNAs also provide the last refuges in Wisconsin for rare plants and animals. In fact, more than 90% of the plants and 75% of the animals on Wisconsin's list of endangered and threatened species are protected on SNAs.

SNA establishment and protection

The process to establish a SNA begins with the evaluation of a site identified through field inventories conducted by DNR ecologists. Assessments take into account a site's overall quality and diversity, extent of past disturbance, long-term viability, context within the greater landscape, and rarity of features on local and global scales. Sites are considered for potential SNA designation in one or more of the following categories:

Outstanding natural community

Critical habitat for rare species

Ecological benchmark area

Significant geological or archaeological feature

Exceptional site for natural area research and education

Site protection is accomplished by several means, including land acquisition from willing sellers, donations, conservation easements, and cooperative agreements. Sites on existing DNR-owned lands, such as State Parks and Wildlife Areas, are established as SNAs through the master planning process. Areas owned by other government agencies, educational institutions, and private conservation organizations are brought into the natural area system by formal agreements between the DNR and the landowner.

The SNA Program owes much of its success to agreements with partners like The Nature Conservancy, USDA Forest Service, National Park Service, conservation organizations, and county governments. High priority sites on private land are acquired by purchase or through donation and help fill gaps in the natural area system.

Once secured by purchase or agreement, sites are formally "designated" as SNAs and become part of the natural area system. Designation confers a significant level of land protection through state statutes, administrative rules, and guidelines. A higher level of protection is afforded by legal "dedication" of SNAs through Articles of Dedication, a special kind of perpetual conservation easement.

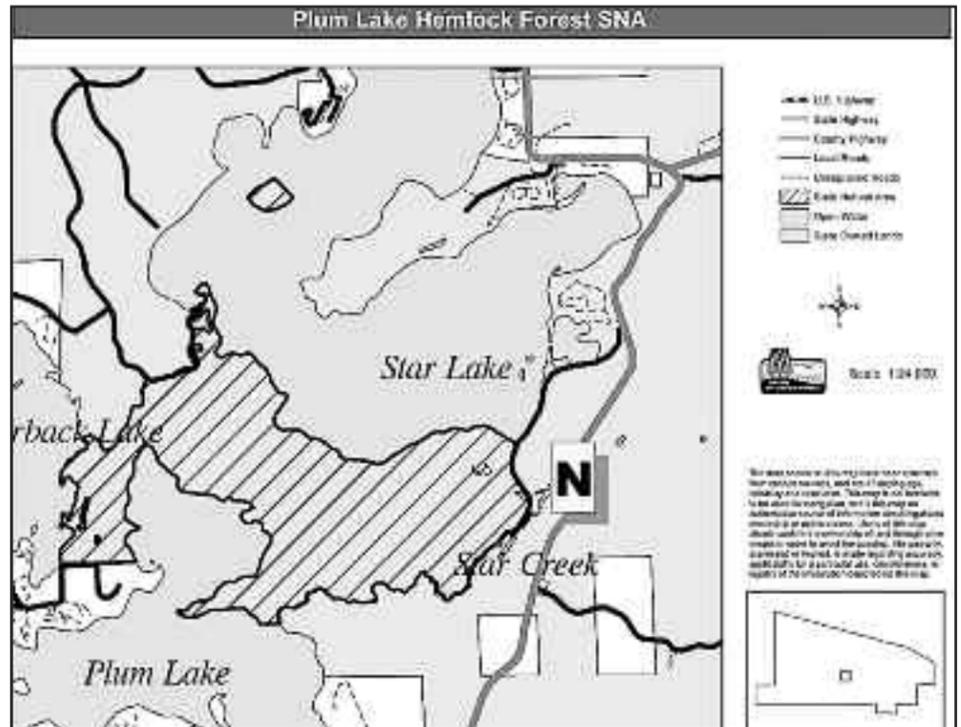
Laws establishing the State Natural Areas Program are found in Wisconsin Statutes Chapters 23.27, 23.28, and 23.29. Rules governing the use of SNAs are found in Wisconsin Administrative Code, Chapter NR 45.

SNA management and use

Rules governing the general management and use of State Natural Areas are outlined in Wisconsin Administrative Code, Chapter NR 1.32. Land stewardship is guided by principles of "ecosystem management". For some SNAs, the best management prescription is to "let nature take its course" and allow natural processes, and their subsequent effects, to proceed without constraint.

However, some processes, such as the encroachment of woody vegetation and the spread of invasive and exotic plant species, threaten the biological integrity of many SNAs. These sites require hands-on management and, in some cases, the reintroduction of natural functions -- such as prairie fire -- that are essentially absent from the landscape.

Public use of SNAs is channeled in two directions: scientific research and compatible recreation. Natural areas serve as excellent outdoor laboratories for environmental education and formal research on natural communities and their component species. A permit issued by the DNR is required to conduct stud-



The year's featured SNA -- Plum Lake Hemlock Forest, Wisconsin's 26th designated State Natural Area.

ies or collect specimens on SNAs. Natural areas are not appropriate for intensive recreation such as camping or mountain biking, but they can accommodate low-impact activities such as hiking, bird watching, and nature study. As such, many SNAs contain few or no amenities such as parking areas, restrooms, or maintained trails.

Now and the future

Since human evolution over time was largely in a natural world, our future may well depend on the preservation of biological diversity such as that protected in SNAs.

Protected natural communities and their thousands of plant and animal species are irreplaceable genetic reservoirs of potential benefit to humans and are important in their own right. SNAs are vital to scientific research because they provide some of the best examples of natural processes acting over time with minimal human interference. They are valuable benchmarks against which we can judge the impact of our society on Wisconsin's natural landscape.

The year's featured SNA -- Plum Lake Hemlock Forest, Wisconsin's 26th designated State Natural Area

Access

From the north junction of State Highway 155 and County Highway N in Sayner, go west on N 2.1 miles, then north 4.2 miles on Razorback Road, then east 1 mile on Rearing Pond Road, then south at the T intersection 0.5 mile to the western boundary. Park along the road

and walk southeast into the site. To access the eastern portion, from the south junction of 155 and N in Sayner, go east and north on N 4.8 miles, then southwest on Trampler's Trail (Hook Lake Road) 0.8 miles to a parking area.

Description

Plum Lake Hemlock Forest is a near virgin stand of old-growth on rolling topography between Star Lake and Plum Lake. Canopy trees include hemlock, yellow birch, sugar maple, basswood, and paper birch. The presence of large white birch suggests a fire origin with the stand originating around 1810 and succeeding from aspen to pine to hemlock. Selective cutting of white pine, as evidenced by scattered stumps, occurred in the 1880's. Seedlings of birch and red maple are present, but hemlock reproduction is sparse due to overbrowsing by deer, which often use the area as a winter deer yard. The forest contains substantial numbers of snags and coarse woody debris strewn about the forest floor. Shrubs, though not dense, include mountain maple, American fly honey-suckle, and red elderberry. The understory includes a diversity of herbaceous species including Canada mayflower, shining club-moss, creeping-snowberry, bunchberry, American starflower, pipsissewa, lesser rattlesnake-plantain, and Indian-pipe. Nesting birds include red-eyed vireo, black-throated green warbler, Blackburnian warbler, northern parula, winter wren, ovenbird, hermit thrush, and veery. Rare birds include Swainson's thrush (*Catharus ustulatus*), and black-throated blue warbler (*Dendroica caerulescens*). Plum Lake Hemlock Forest is owned by the DNR and was designated a State Natural Area in 1953.

Please note that a permit is required for scientific collection and research on State Natural Areas.

Van Vliet Hemlocks area - 2012 Purchase

In January Governor Scott Walker approved the purchase of the Van Vliet Hemlocks area for the NHAL State Forest. The area has been owned by the Board of Commissioners of Public Trust Land since before Wisconsin was a state. The 432 acre parcel is located north of

Big Lake campground a few miles and has an existing network of trails through the beautiful hemlock forest. When the sale is finalized the state forest will work with the Friends of the Van Vliet Hemlocks to manage and maintain those trails for public enjoyment.



Jill Wilm photograph

Miles and miles of unspoiled shoreline can be found in the Van Vliet Hemlocks.

If you are a camper from outside of Wisconsin, please do not bring firewood with you. It will be confiscated and if the wood is from a quarantined area, you could be violating a federal law that forbids moving wood of any kind out of your state or county of residence. Be aware, if you transport firewood from Illinois, Indiana, Ohio, or lower Michigan, you can be liable for federal fines up to \$1,000.00.

If you are a camper from Wisconsin, please only use firewood from a Wisconsin source within 25 miles of where you will use it. Ideally, purchase firewood from within the campground where you are staying, as that wood is often cut on site and sold by groups who reinvest earnings in the same park. If you purchase your firewood outside of the park but within Wisconsin, near the campground you are visiting, please have a receipt ready to show proof of that purchase.



Jill Wilm photograph

Pristine bog lakes provide a purifying habitat for countless living species.



Jill Wilm photograph

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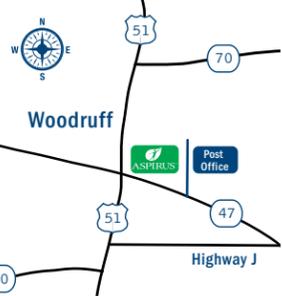
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- June 15 - Oct. 19 - (Every Friday) Minocqua Farmers' Market
- June 16 - Devil's Elbow 5K
- June 23 - Minocqua Island Swim Challenge
- July 4 - Independence Day Festivities
- July 7 - Muggy Buggy 5K & Muggy Buggy X
- July 9 - Culpepper & Merriweather Circus
- July 21 - Bear Cupboard Run
- July 27-29 - Antique & Classic Wooden Boat Show
- Aug. 4-5 - Arbor Vitae Fireman's Picnic
- Aug. 11 - Minocqua Triathlon
- Sept. 1 - Minocqua/ Kawaguesaga Pig Roast
- Sept. 2 - No Frills Marathon
- Sept. 28-29 - Beef-a-Rama & Rump Roast Run
- Oct. 28 - Nutty Squirrel Cyclocross Challenge
- Dec. 27 - Light Up the Night Concert
- Dec. 31 - New Year's Eve Fireworks and Chili Feed

2013

- Jan. - Inga Lami Women's Day
- Feb. 2 - Loop Around the Lake 5K
- Feb. 2 - Wolf Track Rendezvous Ski Marathon
- March 2 - Lakeland Loppet Ski Races



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Marsh blossoms



Jill Wilm photograph

Nature provides vibrant spring colors.

Fiddlehead ferns

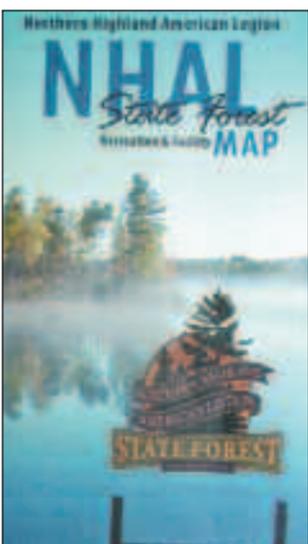
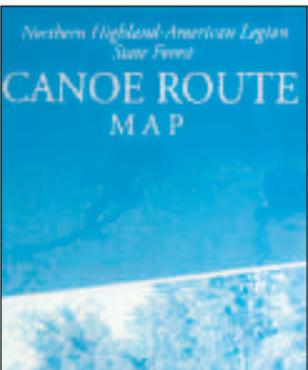
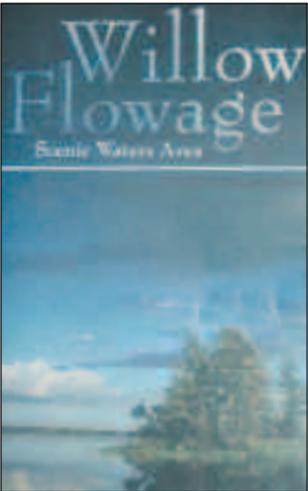


Jill Wilm photograph

Fiddleheads are the furled fronds of a young fern.

Maps available

Maps of the Northern Highland American Legion State Forest, the Willow Flowage Scenic Waters area, and the NHAL Canoe Route map are available at Ranger Stations.



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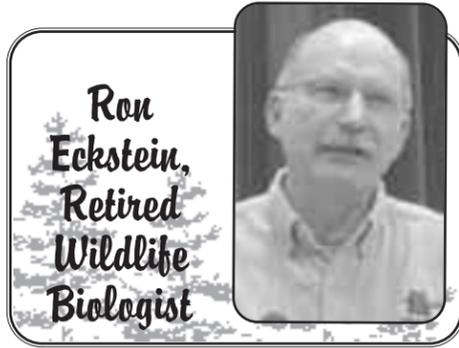
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What is old growth?



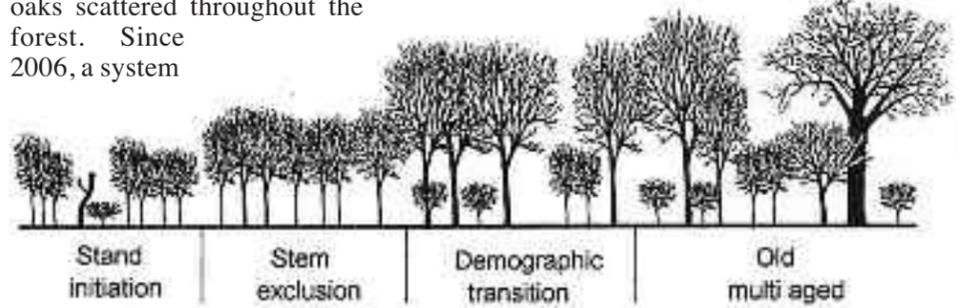
occurs when forests reach about 140 years old. Some of the mature canopy trees begin to die and their death allows sunlight to reach the forest floor. The sunlight encourages the growth of new seedlings and saplings and the stand is in transition to old growth. The last stage begins at about 160 years old and lasts another 100 to 150 years. This final stage is called "old multi-aged" and is better known as old growth.

So, what is old growth? It certainly is old trees but it is much more than old trees. Old growth forests are complex and have the following characteristics:

- Large, very old live trees
- Large, very old dead trees
- Large, old trees fallen to the forest floor
- Gaps in the forest canopy with young trees in the understory
- Today, only 1% of the Northern High-

land's forests are older than 170 years and only 3% are older than 120 years.

People have always expressed a desire to allow a portion of the Northern Highland State Forest to grow back into big old trees. Since 1972, a forest management system called Big Tree Silviculture has been used to allow individual trees and groves of white pine, red pine, red oak, eastern hemlock, and sugar maple to grow to a very old age. That is why visitors see large pines and oaks scattered throughout the forest. Since 2006, a system



of Managed Old Growth has been used in selected areas. Foresters use this system to actively manage areas of several hundred to several thousand acres in size with the goal of developing old growth characteristics. The idea is to thin the relatively young 90-year old forest to allow the remaining trees to grow larger and older.

In summary, the current management system calls for addressing old growth

in two ways. One way is to continue the traditional Big Tree Silviculture practice of managing individual trees and groves of old white pine, red pine, red oak, and eastern hemlocks to a very old age. The second way is to manage the 90-year old upland pine, mixed hardwood, and hemlock hardwood to develop old growth characteristics.

The best examples of existing old growth are protected in the State Natural Areas, Passive Management Areas, and

Recreation Management Areas. Those forest stands managed for old growth characteristics are found in Native Community Areas scattered across the Northern Highland.

People can access the DNR Forestry web site (dnr.wi.gov/master-planning/nhal/) for more information on the management and location of old growth on the Northern Highland-American Legion State Forest.

Earthworms are not native to Wisconsin's Forests

Wisconsin's native earthworms were destroyed during our last ice age, and the forests of Wisconsin as we know them evolved without earthworms. The glacier scoured the land down to bedrock, forcing all life forms to move south and, since earthworms did not repopulate once removed. Our native ecosystems depend upon the slow break down of organic matter to gradually release nutrients back into the soil for uptake by native plants. Healthy, undisturbed forests are dynamic ecosystems anchored in a very complex soil structure that teems with macro and microscopic life. The key to a healthy forest resides in a fungal-based soil that slowly decomposes its organic matter. A healthy layer of leaf litter, also known as "duff" in a northern forest is woven together with threads of fungi that bind the litter to the soil.

To explain, the leaf litter on a forest floor is comparable to the skin on an animal. It retains moisture, protects the organs (roots), breathes, prevents erosion, deters pathogens (non-native plants), and promotes seed germination. This nutrient balance has evolved in a stable system between the vegetation above ground and below the leaf litter. When the system loses its leaf litter it is like puncturing your skin and the nutrients quickly bleed into the soil. This disturbance soon exposes the soil, causing erosion, compaction, and increasing rainwater run-off which would normally keep the soil moist. Thus this disturbed soil makes the forest vulnerable to non-native, invasive plant species. Together the disturbed soil and invasive plants soon cause a decrease in the diversity of plant/animal relationships which in turn

begins a cycle of non-native invasions competing for critical resources that can create detrimental monoculture conditions.

So while earthworms are notorious disturbers of soil and disturbance creates healthy conditions for farms and gardens, the opposite is true for forests. Additionally, earthworms have voracious appetites. On one acre of land, earthworms can turn over five tons of organic matter a year, so imagine what they can do in a forest! Once a forest becomes heavily infested with earthworms they consume most of the leaf litter in one season so that by summer's end the forest floor is depleted and the soil is exposed to weathering, compaction, and erosion.

So the next time you encounter an earthworm remember they are pioneers in the colonization and preparation of the land, pre-dating the introduction of fungi, land plants, insects (400 to 500 million years), dinosaurs, mammals (200 million years), and hominids (4 million years). Earthworms are ubiquitous in all but the driest regions of the world and like many of the world's most widespread species—such as pigeons, rats and cockroaches – earthworms thrive under human dominated conditions, and are found wherever European settlers spread. That said, while there is no way to truly avoid the earthworms we are all familiar with we can slow their spread into the forest - and you can help! Don't release live bait on land or in the water. Keep your compost contained near native landscapes. Wash your shoes and tire treads, don't spread worm eggs. Spread the Word: **CONTAIN YOUR CRAWLERS! Keep Worms out of Wisconsin's Woods!**



For more information go to: dnr.gov search invasives or contact Bernie Williams bernadette.williams@wisconsin.gov.

Boreal bird surveys in the north

By Nick Anich
Research Scientist, Wildlife and Forestry Research Section, WDNR



Photo courtesy WIDNR

Researchers will be out and about conducting bird surveys in lowland conifers this and next spring on several properties across Northern Wisconsin, among them being the NHAL, Pine-Popple Wild Rivers, Iron County Forest, Oneida County Forest, and several area State Natural and Wild areas.

It is a very broad survey with the target species being Spruce Grouse, Black-backed Woodpecker, Gray Jay, and Boreal Chickadee. Researchers will be doing silent point counts and also broadcasting bird calls to attract these species. They hope to estimate occupancy and abundance, and hopefully extrapolate population size estimates for these uncommon to rare conifer-loving birds. These estimates are important because they currently lack baseline data on population size for these species, which leaves them unable to detect any climate-driven

changes in population. They also hope to be able to learn things about their habitat preferences that should provide management recommendations for foresters and Wildlife Managers.

Researchers need to assess the rarity of these species and the amount of surveying required for adequate monitoring of their populations. The Wisconsin Bird Conservation Initiative and Midwest Coordinated Bird Monitoring Partnership are interested in developing future monitoring projects for boreal birds and these surveys should help them focus their surveys in these areas. This project was funded through a State Wildlife Grant.

Nature Center schedule

The Crystal Lake Nature Center is staffed by campground hosts from 10 a.m. to 4 p.m. daily. There is no naturalist on staff this summer however occasional programs will be offered. Here's a sampling of programs that are planned:

- Saturday evenings**
- June 23 – Let's go Birding
- July 7 – Birds of Prey
- July 21 – Who Walked Here?
- TBA – Fire Building, Camp Skills
- TBA – Wisconsin Loons

July Tuesdays - Meet Steve Petersen and Melissa Baker
July 3, 17, 31 at Crystal Nature Center

July 10 and 24 at the Clear Lake Ranger Station

Thursday evenings
Smelt Research Project weekly updates – Zach Lawson



Visit the North Lakeland Discovery Center

The North Lakeland Discovery Center (NLDC), in Manitowish Waters, is a place where people can come to connect to the natural world. Our location within the Northern Highland American Legion State Forest is beautifully remote, surrounded by water and forests, and yet accessible to visitors. Whether you have vast experience in the outdoors or are new to exploring, we have a program or drop-in activity for your interests and skill levels.

Enjoy scheduled programs including weekly nature hikes, themed canoe trips,

and an array of youth and family eco-learning and wildlife-based activities. Drop-in opportunities include canoeing and kayaking on 25-acre Statehouse Lake, visiting the Nature Nook classroom paired with Saturday activities, geocaching, fishing, walking along our 16-station interpretive trail, and much more.

The North Lakeland Discovery Center is a nature-based education and community center with a mission to naturally inspire and enrich lives through meaningful connections with nature, people

and community. The diverse, undeveloped land surrounding the site provides for unparalleled teaching and learning opportunities and feature lake, river, mixed forest and bog environments ideal for a Northwoods family adventure.

Enjoy the Discovery Center year round through activities like hiking, biking, skiing, snowshoeing and wildlife watching along our 12-mile trail system. The terrain is gentle and winds through the woods, along the lake, bog and nearby Manitowish River allowing you to explore a variety of habitats each with

their own unique plants and animals. Our trails are OPEN TO EVERYONE from dawn to dusk - your donations help to keep the system well-maintained and safe.

Experience the Northwoods' beautiful natural settings and friendly hospitality in Manitowish Waters - an official Wisconsin Bird City - come explore! For more information call the DiscoveryCenter at 715-543-2085. The Discovery Center is located on CTH W just 1.2 miles north of USH 51. Visit us today.

The Northern Highland fishery research area



The Northern Highland Fishery Research Area contains one of the largest fishery data bases in the world, obtained from five lakes: Escanaba, Palette, Nebish, Spruce, and Mystery. All lakes are managed by the DNR, using and evaluating different strategies.

These five lakes have been managed as experimental waters since 1946. Every fish taken by anglers over the years has been counted and measured in this longest continuous record of angler harvest in the world. Research on these lakes has included stocking everything from walleye to coho salmon; size limits on smallmouth bass, northern pike and largemouth bass; cisco biology; smallmouth bass nesting success; chemical treatment of small lakes with unbalanced fish populations; fish feeding habits; factors affecting walleye fishing success and reproduction; and testing and validating creel survey methods.

Along with fishery data, water temperature and weather data are collected year-round, making up one of the largest fishery data bases in the world. Fishery professionals from all over the world request data from this unique research station.

Wisconsin is the only state in the union with a continuous research program of this type. When most states have research projects that last several years, why does Wisconsin collect such long term data? The striking advantage is that biologists can discover trends and relationships in long-term data that wouldn't show up during a study period of several years. And because the lakes are typical of northeastern Wisconsin lakes, results will continue to provide fishery biologists with valuable baseline information. Knowing how and why fish populations change leads to better management. For example, long-term monitoring of angler catch rates shows

that today's angler is no more successful at catching walleyes than anglers of the 1940s! And that's despite the advent of depth finders, underwater cameras, trolling motors and a variety of new lures and techniques.

This remote fishery research station is nestled in the 232,000 acre Northern Highland State Forest of Vilas County, 3.5 miles from paved roads. The station is powered entirely by a solar panel electrical system and back-up AC generators.

There is no closed season for any species except that lake trout fishing on Palette Lake is not allowed, as noted below. Current fishing regulations are as follows:

Escanaba Lake

Walleye:

28-inch minimum length limit and daily bag of one

Species other than walleye:

No length or bag limit

Nebish Lake

No fish are allowed for bait

Smallmouth bass:

No fish can be kept from 9-12 inches; Bag limit of 5/day

Other species:

No length or bag limit

Palette Lake

Smallmouth bass:

22-inch minimum length limit;

bag of 1/day

Lake trout: No fishing allowed

Other species:

No length or bag limit

Spruce Lake

Only artificial bait allowed

Largemouth bass:

12-inch minimum length limit;

bag of 2/day

Other species:

No length or bag limit

Mystery Lake:

All species:

No length or bag limit

The research station on Escanaba Lake is open from 4 a.m. to 8-10 p.m. during openwater season, and from 4 a.m. to 6-8 p.m. during ice-fishing.



Contributed photograph

Greg Sass giving a presentation at the Wisconsin Lakes Convention meeting this April. In addition to long-term ongoing studies of fisheries population dynamics on the NHFRA lakes as well as the walleye exploitation study, Dr. Greg Sass and collaborator's from Michigan State University were funded to reevaluate Ceded Territory walleye management policies. Greg is coordinating a grant with UW to evaluate the factors controlling abundance and distribution of walleye and black bass across northern Wisconsin lakes. Greg is also working on a book entitled, "Foundations of Fisheries Science" with Professor Mike Allen from the University of Florida. The book will be published by the American Fisheries Society.



Contributed photograph

From last fall electroshocking young of year walleye with Gary Kubenik and Matt Lorenzoni.

Summer Rangers from years past: Where are they now?

Over the years many of the Wisconsin DNR Wardens got their start in conservation law enforcement here at the NHAL State Forest. Here's a list of a few of them and where they are now:

Pat Novesky worked here in 1992 and 1993. He became a deputy sheriff and police officer and following that became a Warden in 1999. He is now a stationer nearby in Three Lakes.

Joseph Jerich worked here in 1990 and is now a Warden Supervisor in southeast Wisconsin.

Steve Daye worked here on the forest and for the local wardens the summer of 1983 and then the summer and fall of 1984. After that he went to work for

Missouri as a Conservation Agent. In 1987 he came back to Wisconsin to be a Warden. He is currently a special investigator with the Special Operations unit in the Bureau of Law Enforcement.

Tim Ebert was here on the NHAL the summers of 2002, 2003, and 2004. He was a Warden in northeast Wisconsin before returning to this area in 2007. He is married to Roxie Ebert, who worked here in 2007-2009 in the campgrounds and Ranger stations and now has a fulltime job with the Forest Service in Park Falls.

Darrell Waldera was a summer Ranger here 1981-83 before becoming a Warden in 1984. He is now the Train-

ing Director for the Bureau of Law Enforcement.

Matt Meade worked here 2002-2004 and was hired as a Warden in 2005. He is stationed in Crivitz, Marinette County now.

Joe Paul worked as a Ranger on the state forest in 2003 and 2004 along with Tim Ebert and Matt Meade. Now he's the Warden in Lakewood, Oconto County.

Nick Webster worked in the Crystal Lake Ranger Station the summer of 2005. He was hired as a Warden in 2006 and is stationed in Lafayette County now.

Michael Sealander was a Ranger

here the summers of 1989 to 1992. Now he is the Warden stationed in St. Germain.

Dave Zebro worked here the summer of 1992 and is the Regional Warden for the DNR's Northern Region now.

Jeremy Peery was a summer Ranger here in 1998. In 1999 he became a Warden and after a stint in Ladysmith he is now a Warden Supervisor in Eau Claire.

Roy Kubisiak worked here the summers of 1986 to 1988. The next January he was hired as a Warden and was stationed in Kenosha, Burlington, and Stevens Point. Since 2001 he has been the Tactical Training Officer for the Bureau of Law Enforcement.

Musky Campground timber sale information

Logging and early forestry

Between 1896 and 1910, this area was heavily logged. Two known logging camps existed; one between Crystal and Musky, and one about two miles west on the south shore of Little John Lake. The Land, Log & Lumber Company sold this property to the State of Wisconsin in 1911 for \$4.25 per acre, and few trees were left on the site.

The first state tree nursery was established at Trout Lake in 1911. In 1914, fifteen acres of land between Crystal and Musky were planted to pine. In the mid 1920's, a 200-acre block was planted on the east side of Crystal Lake and into Muskellunge Lake Peninsula. In 1925, the Northern Highland was designated as the first state forest.

History of recreation in the area

Through the 1940's, informal camping sites were located at the abandoned logging camps. The state began improving the sites with the installation of water pumps, latrines, and garbage pits. Beginning in 1949, the public was charged 50 cents per night to camp, but only after two weeks of camping for free. By 1955, approximately 950 campers stayed at Crystal/Musky Campground, each staying approximately two weeks in length. In 1958, the Eagle Scout Forestry Camp helped state employees develop the picnic area and enlarge the trailer camp. Two new wells and ten toilets were constructed. Campers were now charged a daily camping fee. In 1960, Muskellunge Lake Campground was completed with 62

campsites and two sets of toilet buildings. The forest was thinned and trees were pruned to "reduce the feeling of isolation"

Managing for tree health and forest products

Today much of the forest has reached a point where the trees are losing their vigor due to age or lack of growing space. Aspen and white birch, two short-lived tree species found in the Crystal/Musky Campground area, have reached maturity and have begun to decline.-- In addition, some of these mature trees may become hazardous to forest visitors. Hazard trees are easily identifiable by such characteristics as dead and dying tops and or mushrooms or fungi growing on their trunk. Fungi often indicates rotten wood underneath which can make them susceptible to breakage from the wind. Others, although they may appear healthy, have been severely wounded by careless campers. For example, birch trees with peeled bark, pines full of nails or axe marks.

The pines have also begun to lose vigor as evidenced by their thinning crowns and smaller diameters. In addition, some areas have begun to experience insect and disease problems resulting in pockets of mortality. However unlike the aspen and birch, these problems are not the result of trees reaching maturity, but rather there are too many trees growing within a limited area. Trees

need to be thinned, just like vegetables in your garden. This allows them to grow large and healthy. Stress from overcrowding makes trees susceptible to attacks by insects and disease which could destroy the entire plantation. A

healthy, vigorous growing forest is the best defense against droughts, insects and disease. The trees that are harvested become the paper and lumber products each of us use in our daily lives.

The timber sale established in 2011 was begun this last winter. The 190 acre management area includes the entrance red pine area, the campground east of Musky Lake and a surrounding forest to the north of the campground. During the winter harvest, 1150 cords of wood were cut. The whole sale was estimated to remove 1900 cords at a value of \$147,100.00. There are still trees in the campground area with orange paint. These will be removed next winter.

Other resource concerns

As you know, the forest is not managed just for timber. Every time trees are harvested, the effects on recreation, fish, wildlife, and aesthetics are considered. Some areas receive extra special consideration such as the area around Crystal/Musky Campground. The primary purpose of forest management in these areas is to maintain and enhance the natural quality of the campground while continuing to provide a safe environment for a variety of recreational pursuits.

Trees marked within the campgrounds are primarily hazard trees or those that are a detriment to the overall health of the remaining trees. A variety of tree species will be maintained to provide a splash of color during the fall season.

Why the different paint colors?

Orange indicates a tree to be removed and is most common color you will see.

Red is the color which is used to indicate the boundary of the harvested area. If you walk north of the Muskellunge campground, you will notice a red paint line in an east to west direction.

Blue paint shows where private land begins and borders the sale area.

In the Future

You now know the how and why there is tree paint in the Crystal/Musky Campgrounds. You have also learned a little bit about the history and management of the surrounding forest. The story of a single generation of the forest is long, sometimes 50 to 60 years and sometimes many hundreds of years. The management and renewal of the forest is an enormous job. We now have been managing this forest for 90 years and have restored it to a productive, beautiful and healthy ecosystem. If we do not continue this management, the forest will slowly lose vigor and begin to decline. Through forest management we can pass on a beautiful, healthy and diverse forest to future generations who choose to live in or visit the Northern Highland-American Legion State Forest.

Students get hands-on experience



Contributed photograph

40 students from two of Merrill's Washington School fifth grade classes helped plant 70 red pine seedlings on the Merrill Memorial Forest on May 9, 2012, as part of their Polar Bears International educational component. Students learned in the classroom about the benefits of trees and their value for offsetting carbon emissions, then experienced hands-on tree planting for themselves. This wildlife area received almost total devastation from a summer 2011 windstorm. The Merrill Parks and Recreation Director coordinated the planting project.

Rules and regulations

State forests are special areas that have been established to protect our natural heritage. We all are given the responsibility to protect these great places. Listed below are some guidelines for you to follow to enjoy your visit and to comply with common rules and regulations. These rules are for you, your friends and family's safety and enjoyment. Feel free to report any activity that is illegal or that you feel jeopardizes someone's safety. Law enforcement rangers routinely patrol the state forest. For more information please ask a Ranger or stop and ask staff at the Crystal and Clear Lake Ranger Stations. Information is also found on the Wisconsin Department of Natural Resources website at www.dnr.wi.gov.

Vehicles/drivers

Please, always be aware and observant while driving; follow speed limits, one-way roads, obey stop signs, and all other traffic signs. We have a large amount of children, pets, bicycles, and people recreating in the area.

Camping

All campers must obtain a camping permit to secure a campsite. All camping permits expire at 3 p.m. on the last day of the permit; the camping unit and all equipment must be removed by 3 p.m. Camping is allowed in designated areas only and only one family or individual group of six people is allowed to occupy each campsite. Only registered campers are allowed in the campground after 11 p.m., which is also the start of quiet hours. Please set up your camping unit on the designated camping pad and park all wheeled vehicles on the campsite drive.

Firewood

Movement of firewood is restricted, both from out-of-state and in-state sources. Please ask us about current firewood restrictions as we are working very hard to restrict the movement of a destructive invasive species, the Emerald Ash Borer.

Vehicle admission sticker

An admission sticker is required when

a motor vehicle is operated within a designated public use fee area and it must be fully attached to the windshield by its own adhesive.

Trail passes

Are required for biking and skiing on designated trails for people 16 years and older.

Pets

Must be on a leash no longer than eight feet and under control at all times. Please clean up after your pet. Pets are not allowed in buildings, picnic areas, beaches, or on nature trails or groomed ski trails. Pets can not be left unattended; please do not leave your pet in a vehicle.

Fires

Are allowed in designated fire rings and grills for grilling food. Fires can not be left unattended and must be fully extinguished before leaving. Never burn garbage – it is illegal and releases pollutants. Campfires should be completely contained within the fire ring. Please do

not move the fire rings. Build a campfire, not a bonfire.

Fireworks

You can not possess or discharge fireworks. Rule of thumb: anything that makes a noise, throws sparks, or lifts off the ground cannot be used.

Boats

No person may operate a boat within a water area marked by buoys or other approved regulatory devices as a swimming beach; or operate a boat in a restricted use area contrary to regulatory notice marked on buoys or other approved regulatory devices.

Beaches

No person may possess or consume any food or beverage, or use any soap, detergent or shampoo on any swimming beach or in the water adjacent to any swimming beach. No person may fish in any marked swimming beach.

Thank you,

Your State Forest Law Enforcement Rangers

UW-Madison researchers are mixing Crystal Lake

Smelt history

Rainbow smelt are an invasive species that originated in the Atlantic Ocean. These fish were first observed in the Great Lakes in 1912 and have since spread to many other areas including several northern Wisconsin lakes. These small, voracious fish are capable of extraordinary ecological and economic damage once they invade a lake by collapsing native fisheries. Rainbow smelt compete with native fishes for food as well as prey on juvenile walleye and yellow perch. Rainbow smelt can cause a loss of natural reproduction and an eventual decline of these native fish populations in invaded lakes without management intervention.

A novel method for removal

Currently, the only proven method for removing rainbow smelt from a lake is to poison the entire lake. However, poisons are not selective and kill the entire fish community instead of only the invasive fish. This approach is not appropriate in many cases. Consequently, there is a need for additional management strategies to deal with rainbow smelt populations once they invade lakes.

The University of Wisconsin-Madison Center for Limnology will be conducting a whole-lake manipulation experiment during the summers of 2012 and 2013 to test an innovative management technique for removing an entire population of rainbow smelt. Crystal Lake has been chosen as a test lake for this project because of the risk of rainbow smelt spreading (nearby Big Musky, Allequash and Trout Lake can be easily connected during high water years), and a long history of scientific observations that make the lake ideal for documenting change.

During the summer, adult rainbow smelt live in cold water near the bottom of Crystal Lake. UW scientists developed a device known as a Gradual Entrainment Lake Inverter (GELI) that pushes warm water to the bottom of the lake and brings cold bottom water up to the surface to be warmed by the sun. This process will eliminate the cold waters which rainbow smelt need to survive and should gradually push rainbow smelt beyond their thermal tolerance, eliminating the entire adult population over the course of the first summer. The mixing will continue into 2013 to target smelt hatched in 2012 (juvenile rainbow smelt can tolerate warmer water temperatures during their first year), and ensure no reproducing



Contributed photograph

GELIs cycle within the enclosure and warm Crystal Lake water temperatures.

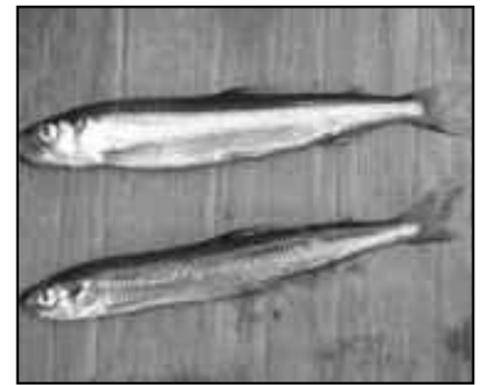
adults exist in the lake after the fall of 2013.

This study will provide scientists an opportunity to more fully understand the physical dynamics of water mixing and also a unique chance to understand the thermal limits of rainbow smelt. If successful, this method could be used as a tool by lake managers to remove rainbow smelt without damaging the native fish community through the use of poisons. Furthermore, eliminating this invasive species could reduce costly annual restocking efforts of game fish populations in smelt-invaded lakes.

Manipulation status

Through the course of the 2011 field season, the mixing system was successfully designed, constructed, and deployed into Crystal Lake. The mixing system consists of a compressor shed on shore, a "no-entry" enclosure, the air delivery buoy (center of enclosure), and GELIs radially deployed around the air delivery buoy. After the installation, we tested and fine-tuned air delivery to the GELIs resulting in an autonomous mixing system. After a few weeks of use, the GELIs successfully induced an early fall mix in Crystal Lake.

Following our success in Fall 2011, we re-installed the mixing system shortly after ice-out, and eased into mixing Crystal Lake for the 2012 season. Results were observed immediately as GELIs warmed bottom waters. If the mixing rates continue as observed this spring, the water temperatures in Crystal Lake will become too warm for adult smelt to survive by the end of the summer. Mixing will continue through the summer of 2014 in order to remove the remainder of the smelt population.



Contributed photograph

Expected weight loss of smelt shown as water temperatures increase.



Contributed photograph

The air distribution buoy controls airflow to GELIs causing them to rise through the water.

Research activities on Crystal Lake

Crystal Lake Mixing researchers will be on the lake everyday throughout the summer performing a variety of routine maintenance and scientific sampling procedures. Although this mixing system is automated, it does require routine maintenance and monitoring. Continuous cycling (over 450 GELI cycles per day) requires mixing hardware and equipment to be checked, tightened, and sometimes replaced. Occasionally large equipment such as GELIs, buoys, and anchors will be brought to shore and removed for maintenance.

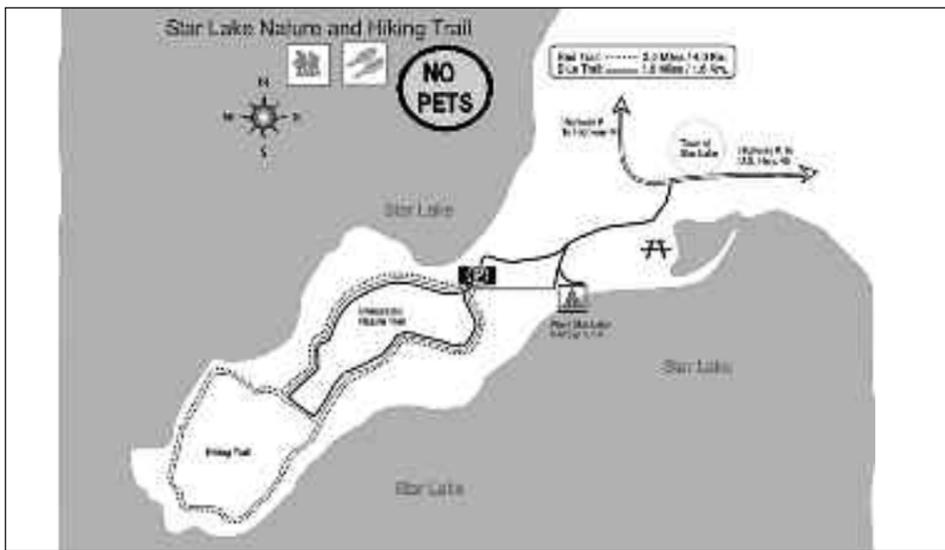
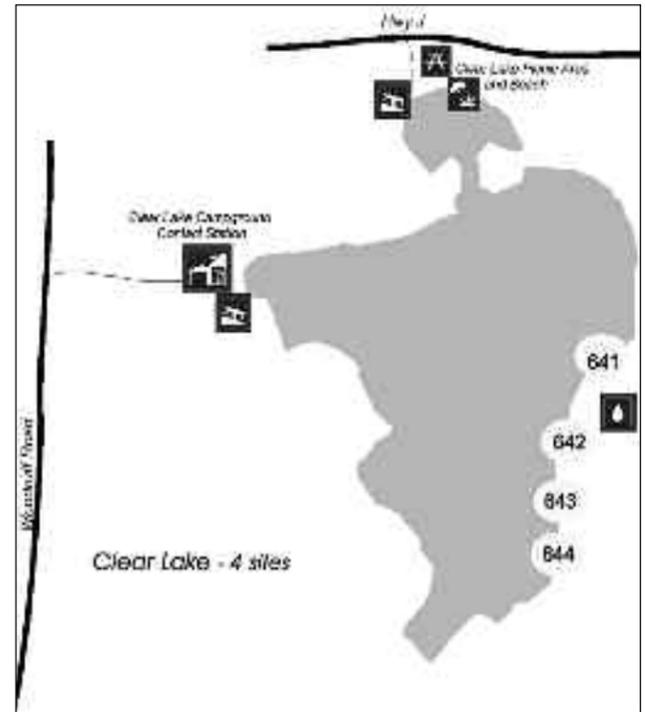
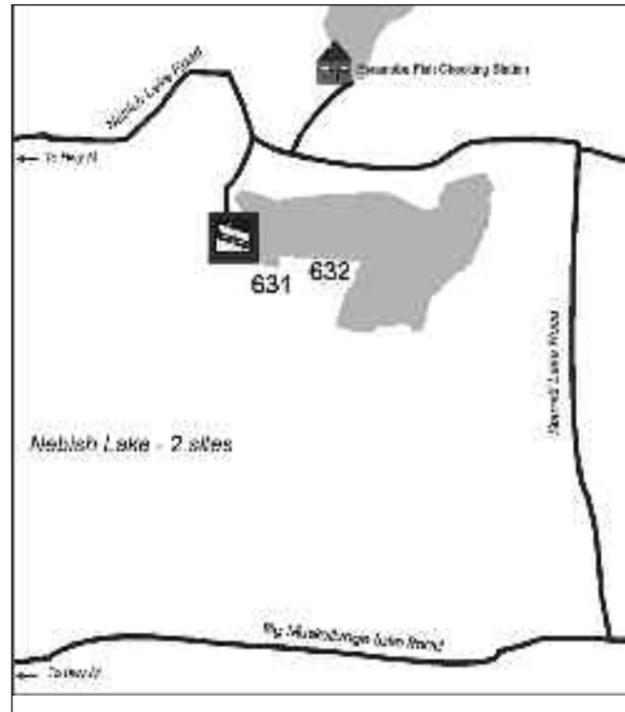
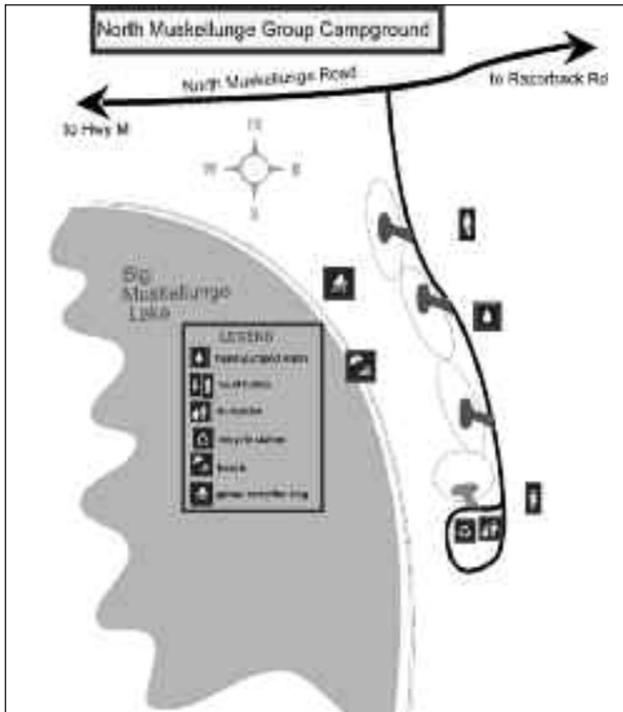
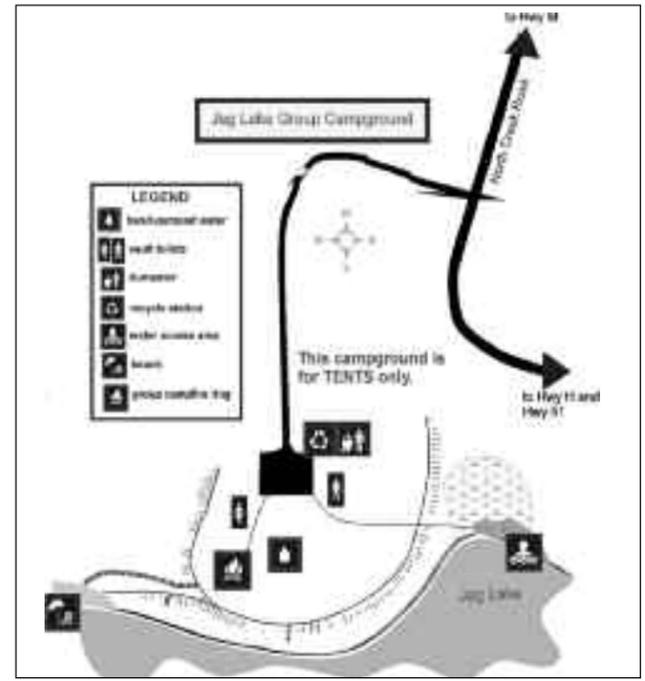
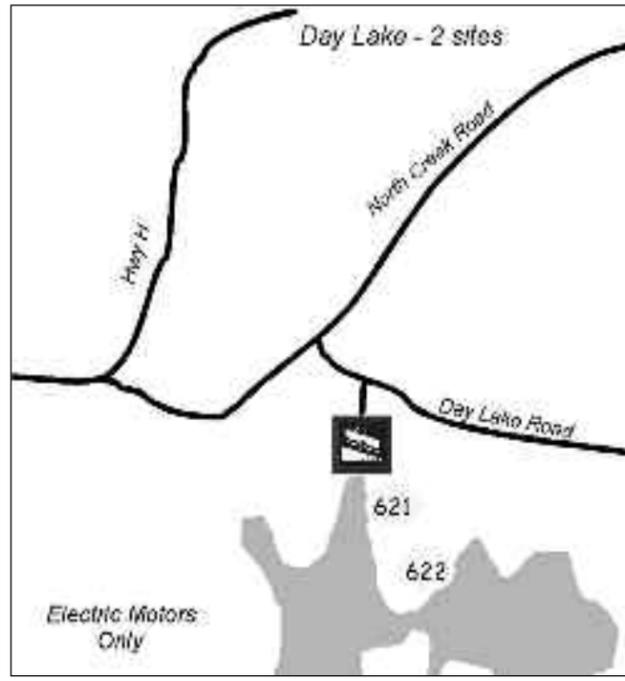
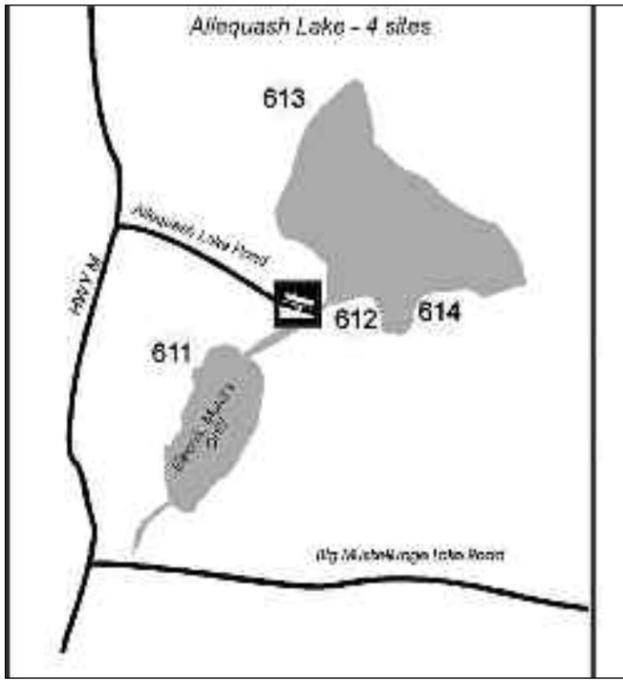
Researchers will also be seen on the lake monitoring the ecological effects of the mixing system. The instrumented buoy records meteorological (wind speed/direction, air temperature, and relative humidity) and water quality measurements (water temperature, dissolved oxygen, chlorophyll, and pH). In addition to physical sampling, we routinely sample the biolog-

ical community (fish, insect larvae, zooplankton, aquatic plants, and algae). These scientific measurements are crucial for understanding the ecological effects of our manipulation on Crystal Lake.

Additional information

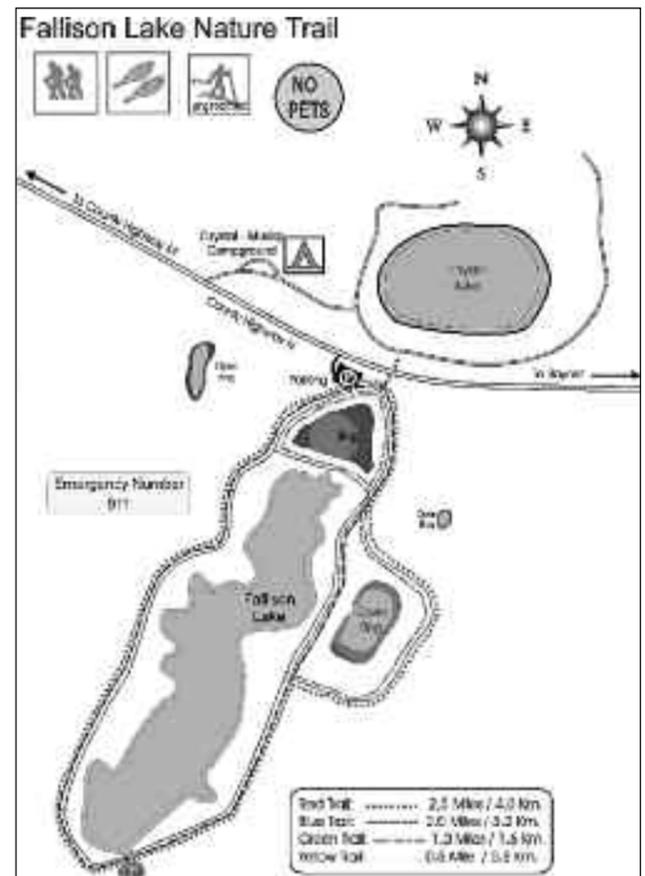
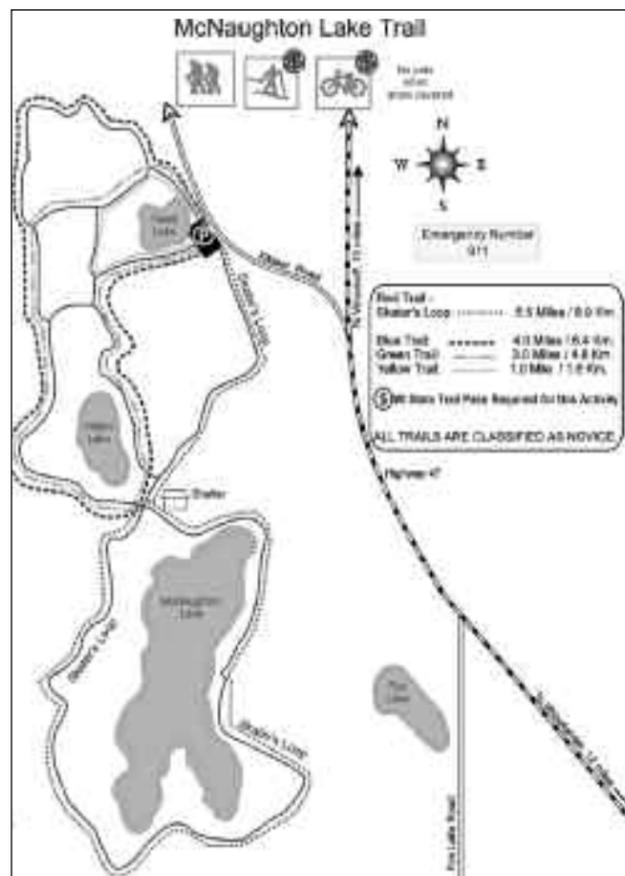
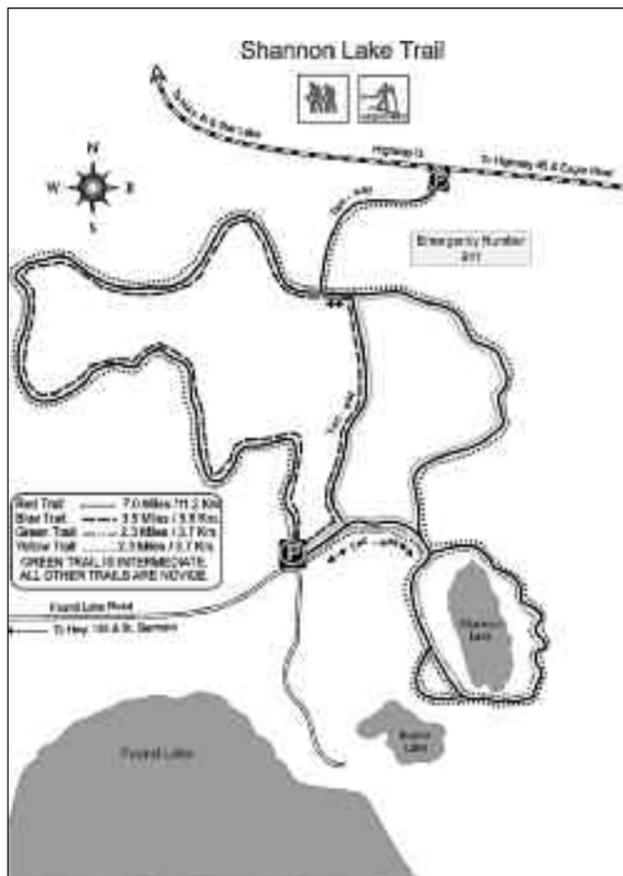
Researchers will be on the lake throughout the year, and welcome your questions, comments, and concerns. Anyone interested in learning more about the project can visit our website (crystal-lakemixing.com) for additional information, real-time data from the instrumented buoy, and an educational video. We encourage everyone to attend our weekly presentations; Thursday nights at 6:00 p.m. in the Crystal Lake Nature Center. The Crystal Lake campground contact station also has project posters and brochures available. Questions can also be addressed to info@crystal-lakemixing.com.

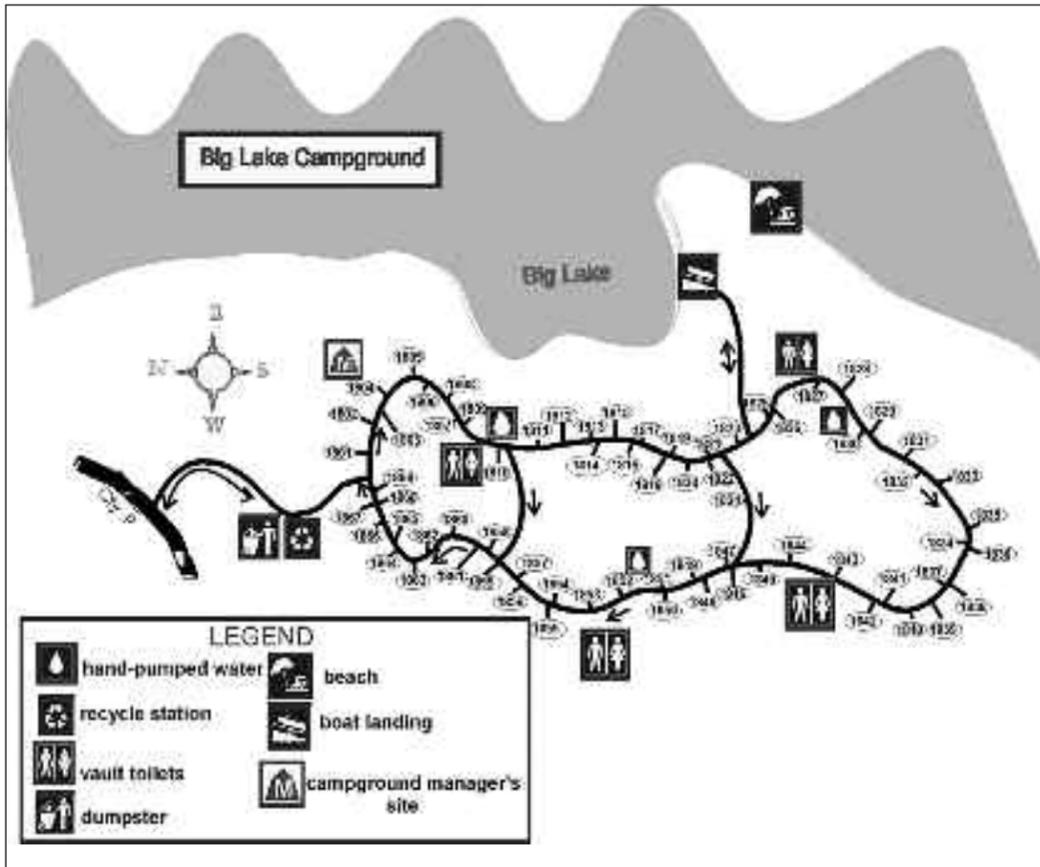
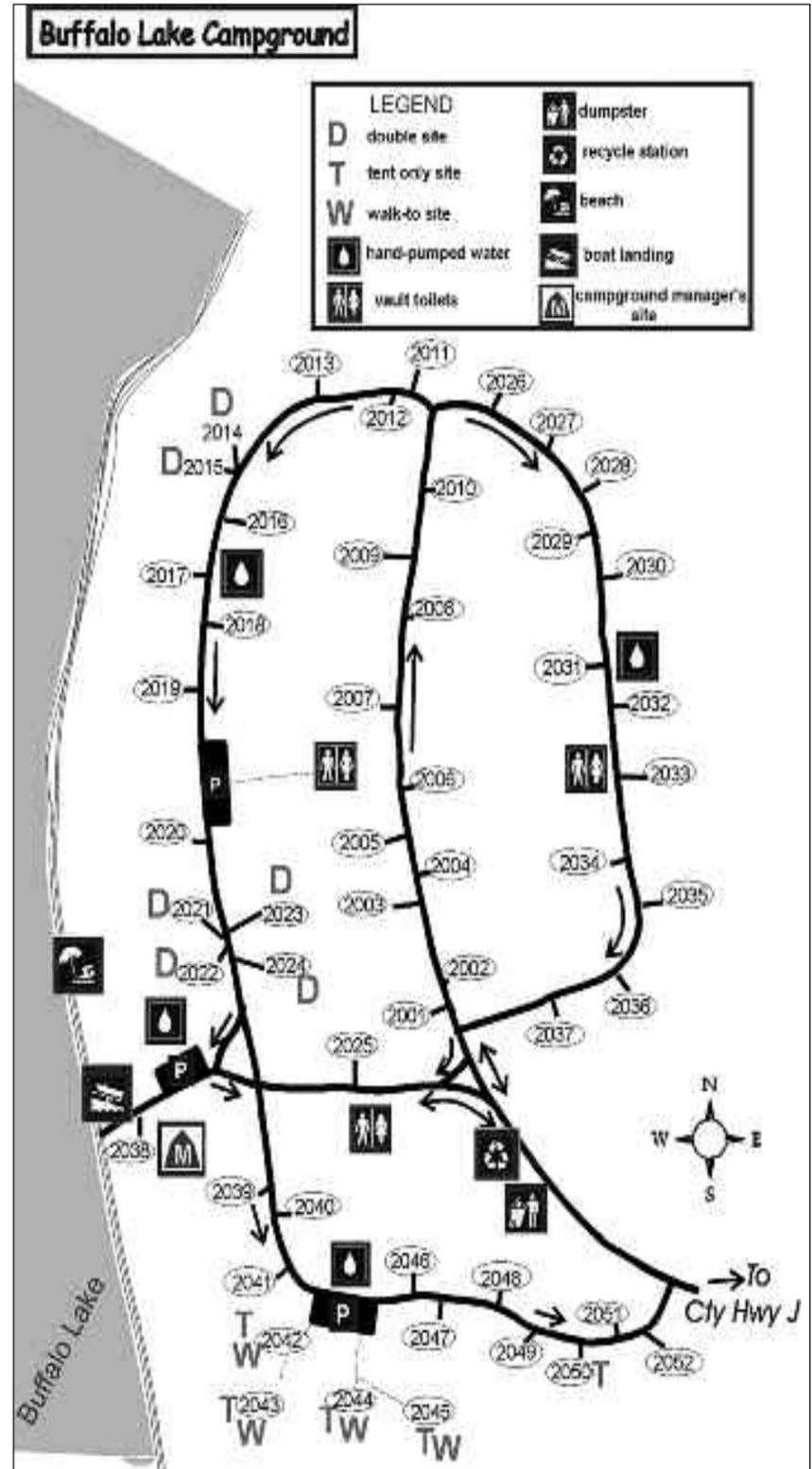
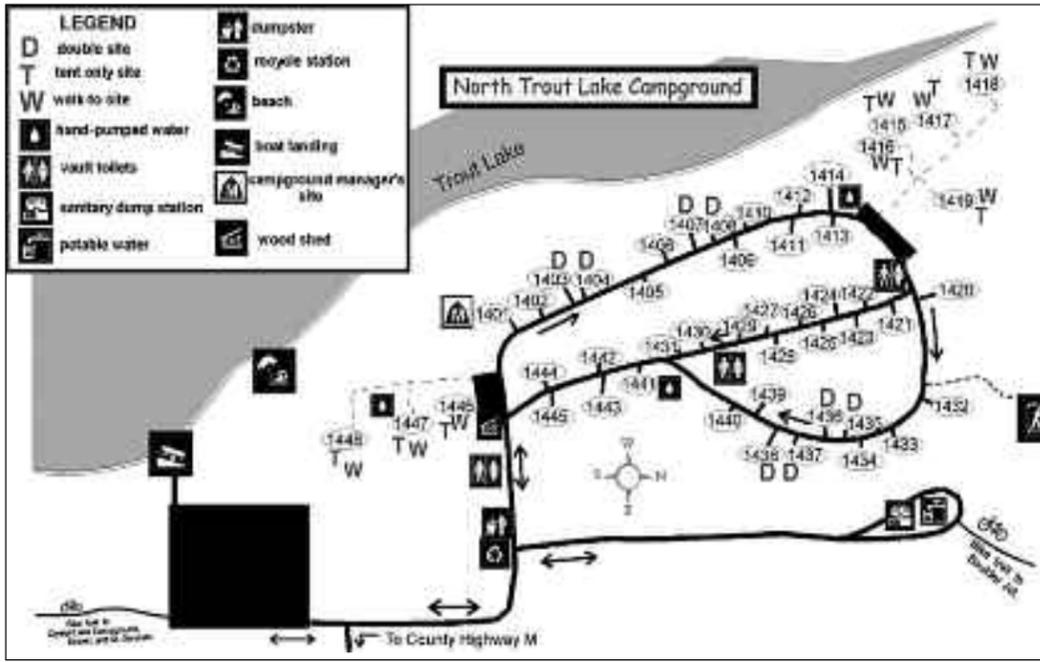
Submitted by the Crystal Lake Mixing Research Crew



If you are a camper from outside of Wisconsin, please do not bring firewood with you. It will be confiscated and if the wood is from a quarantined area, you could be violating a federal law that forbids moving wood of any kind out of your state or county of residence. Be aware, if you transport firewood from Illinois, Indiana, Ohio, or lower Michigan, you can be liable for federal fines up to \$1,000.00.

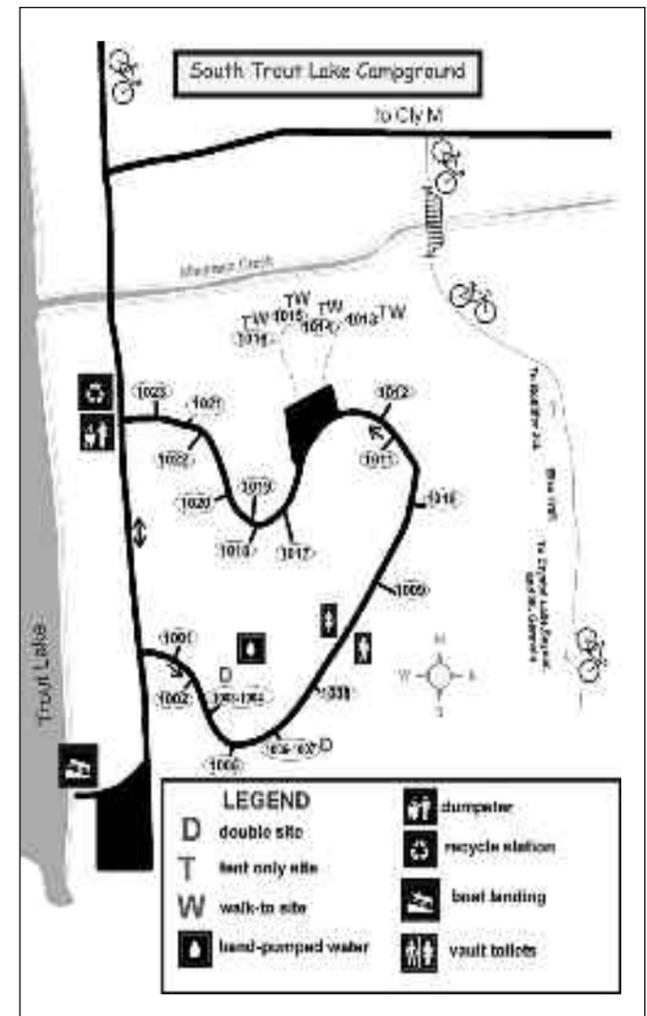
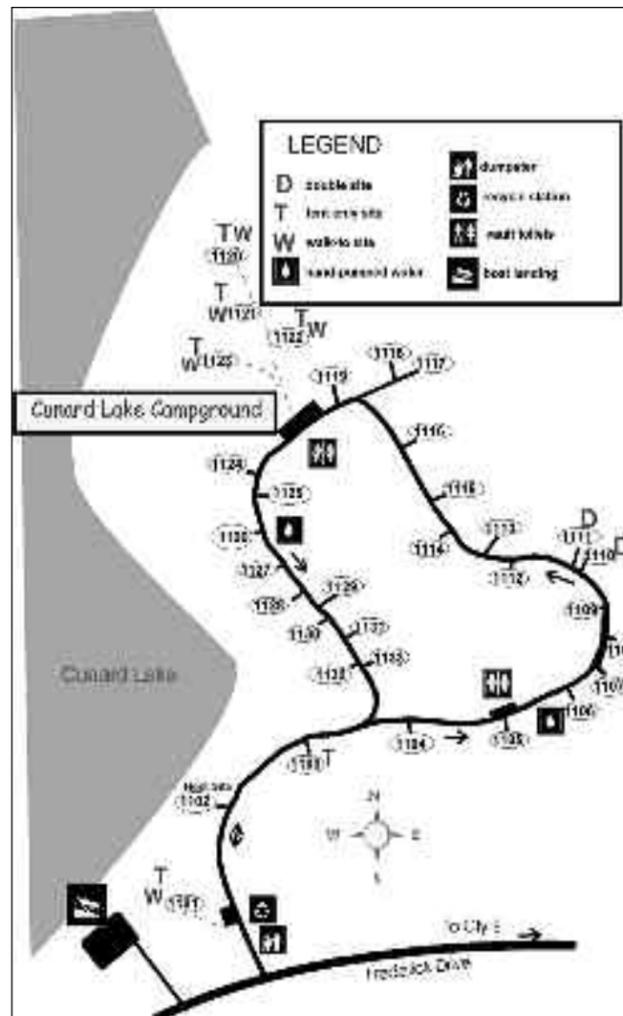
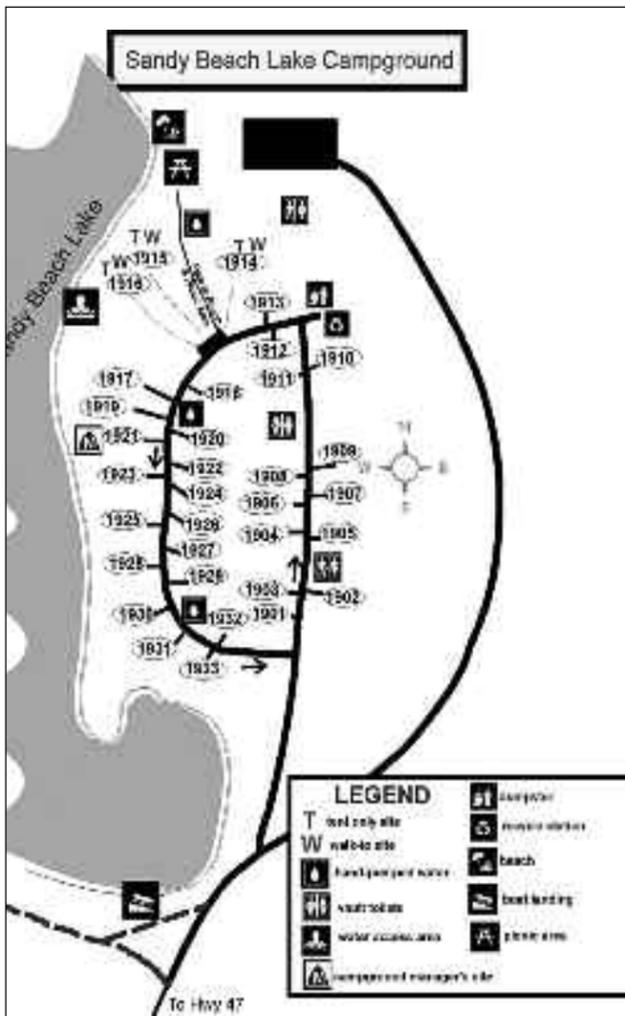
If you are a camper from Wisconsin, please only use firewood from a Wisconsin source within 25 miles of where you will use it. Ideally, purchase firewood from within the campground where you are staying, as that wood is often cut on site and sold by groups who reinvest earnings in the same park. If you purchase your firewood outside of the park but within Wisconsin, near the campground you are visiting, please have a receipt ready to show proof of that purchase.





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Double campsite use policy

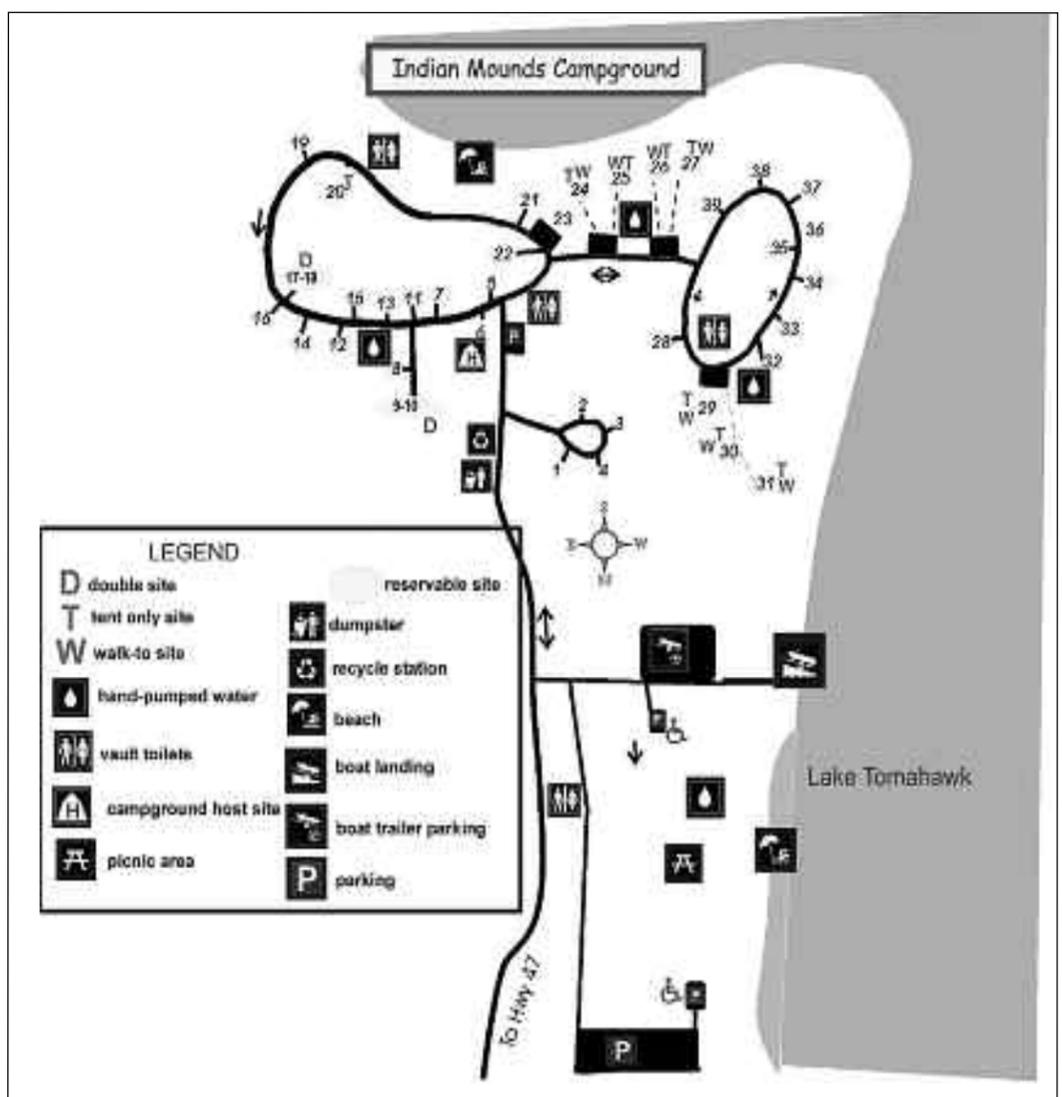
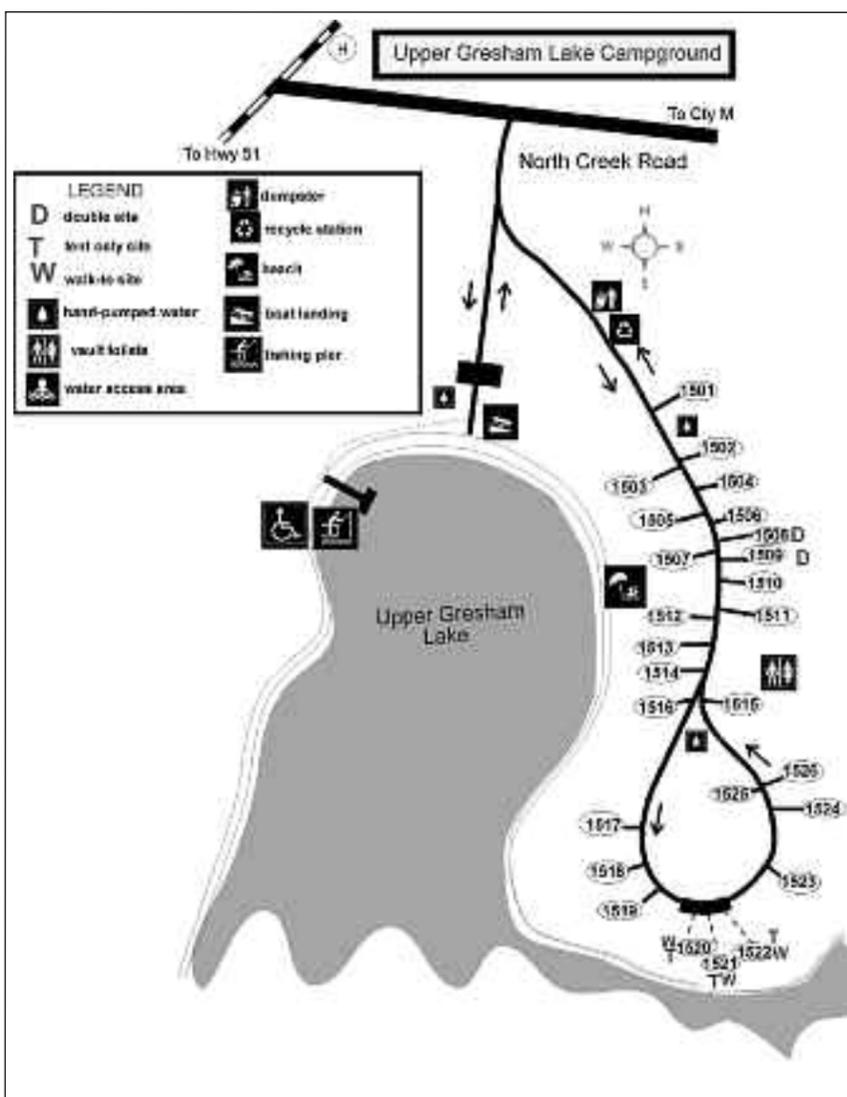
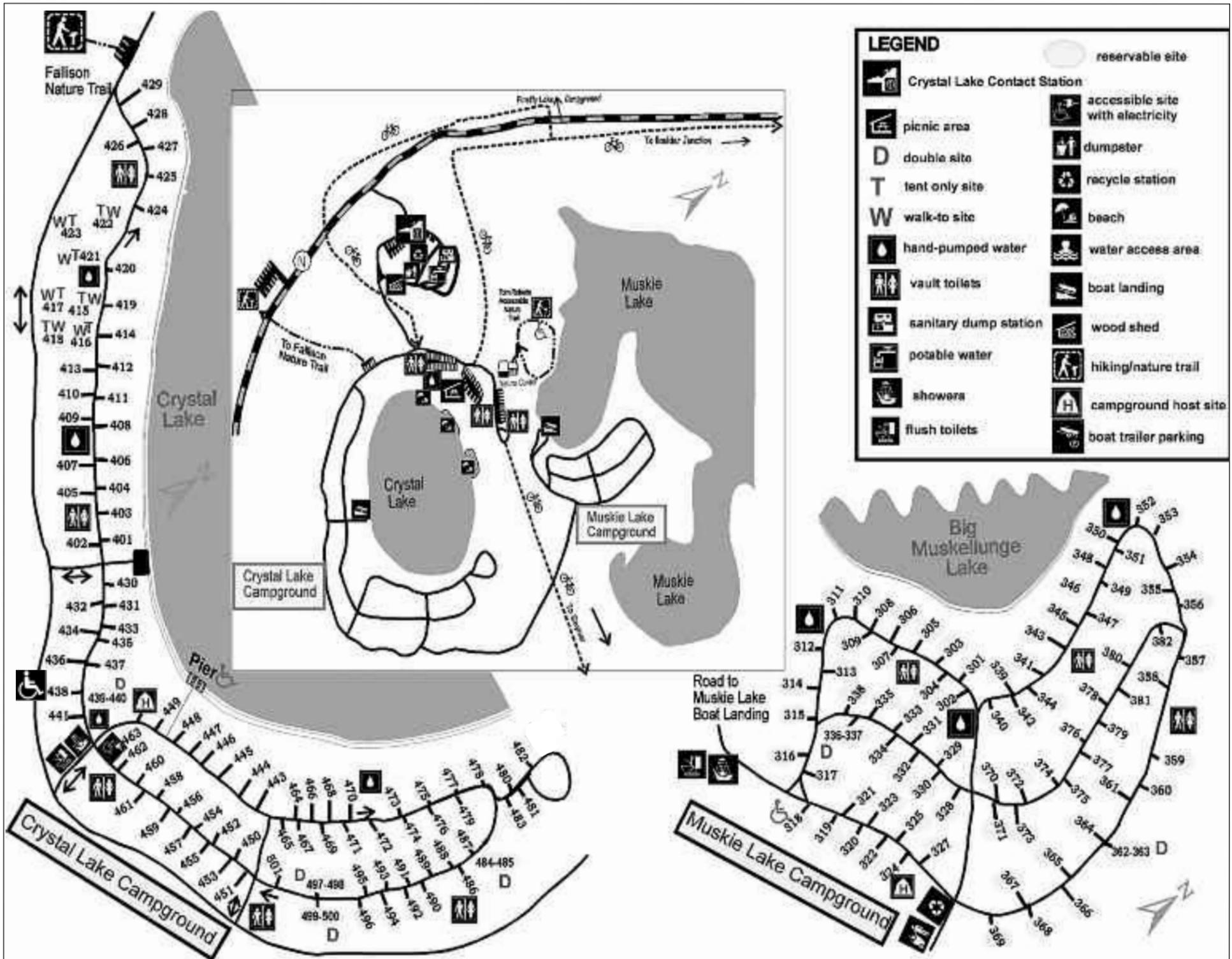
Double sites are designed to allow two separate camping parties to camp close together in a group-like setting. When making a reservation, or at check-in if the site is not reservable, campers choosing a

double site will be charged for both halves of the campsite. Upon check-in, campers will be required to provide the names, vehicle license plate information, and camping unit information for the

camping party on the other half of their double site. A usable camping unit must be set up on each side of the double site by 11 p.m. on check-in day. A double site can not be reserved/registered for a single

camping party.

The fee for a double site is twice that of a single site. Double sites can accommodate two camping units and a maximum of 12 campers.



For more information about Wisconsin's Northern State Forests contact the Division of Forestry or the forest properties

Division of Forestry
PO Box 7921
Madison, WI
53707-7921
Phone: 608-267-7494

Northern Highland
American Legion
State Forest
4125 Forest
Headquarters Road
Boulder Junction, WI
54512
Phone: 715-385-2727

Black River
State Forest
910 Hwy. 54 East
Black River Falls, WI
54615
Phone: 715-284-4103

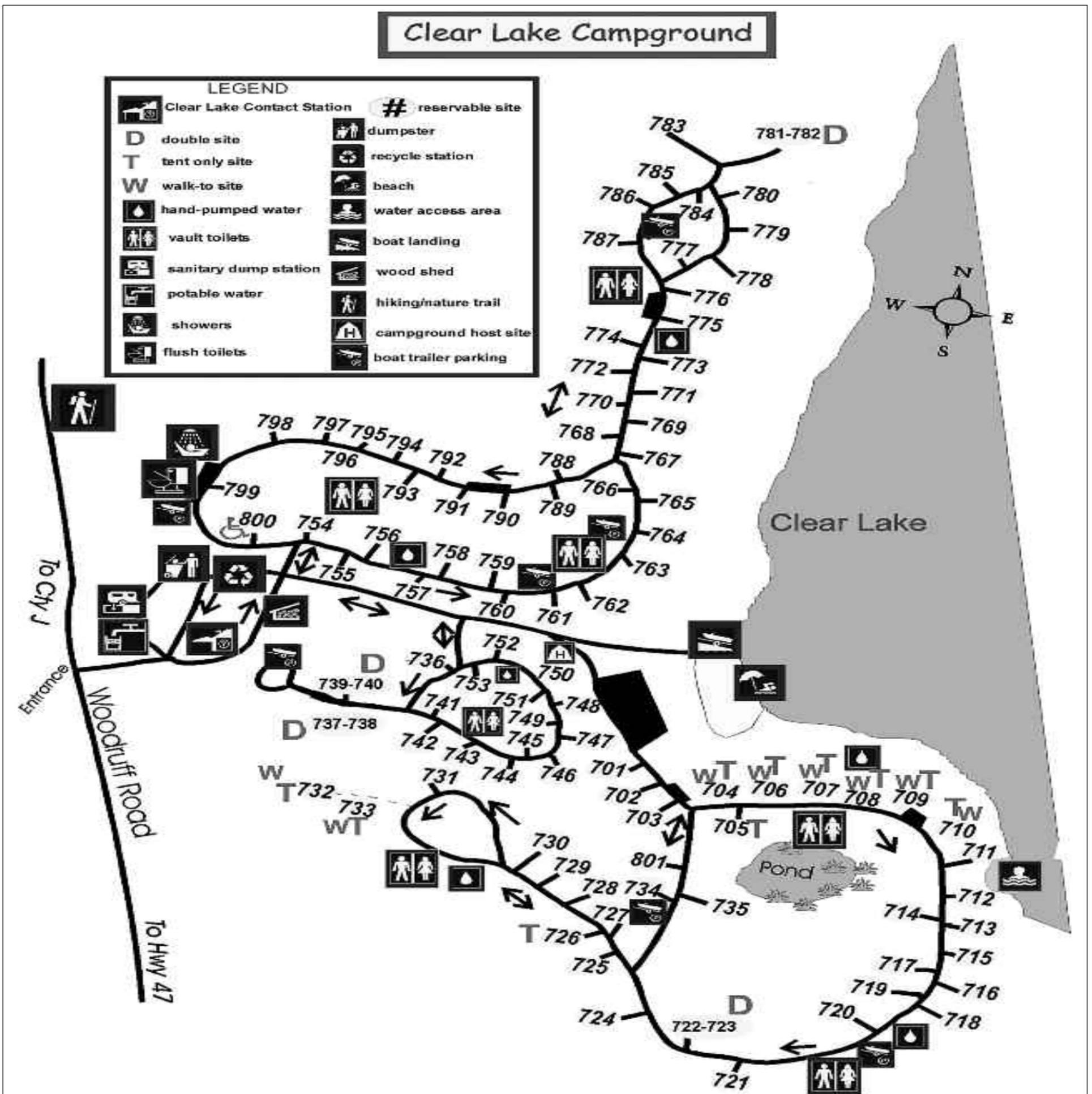
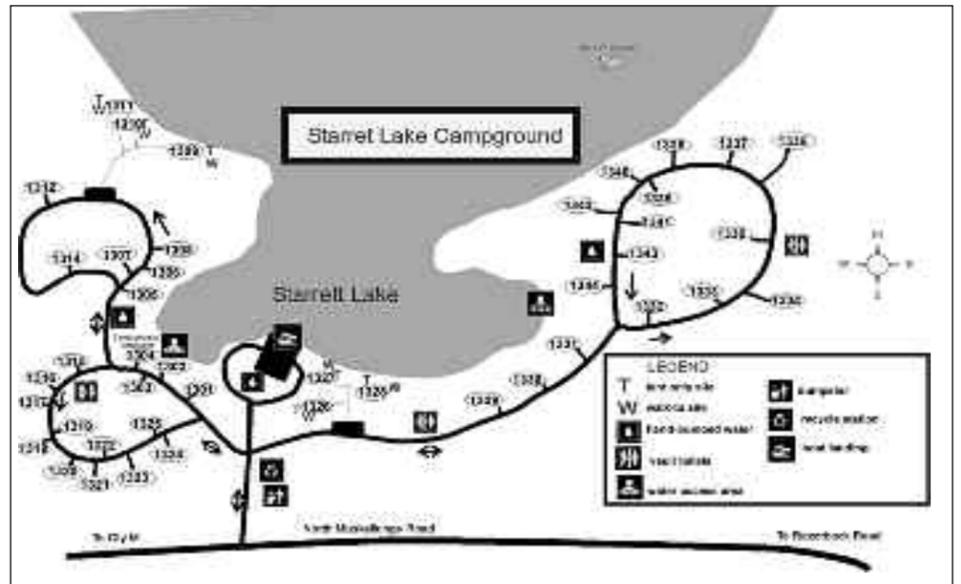
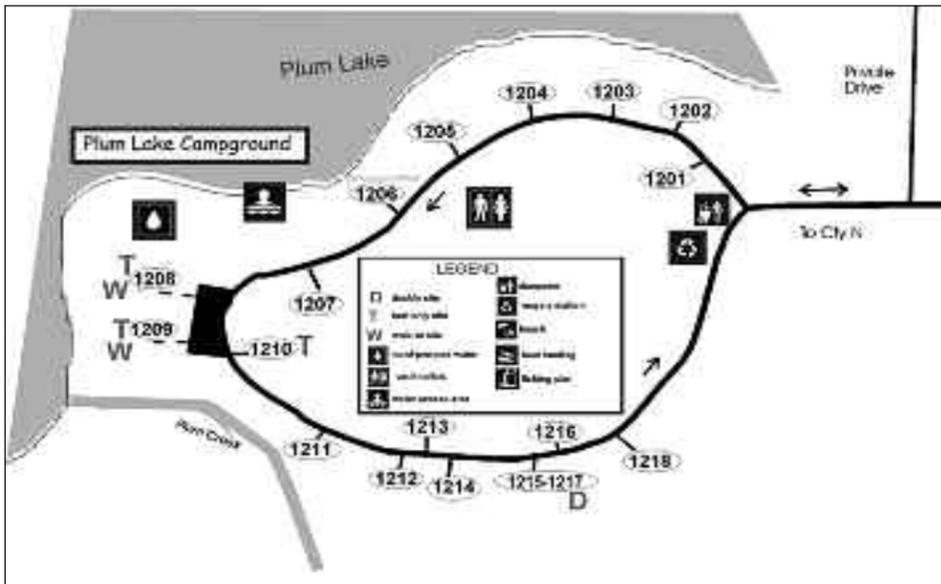
Governor Knowles
State Forest
PO Box 367
Grantsburg, WI
54840
Phone: 715-463-2898

Brule River
State Forest
6250 S. Ranger Rd
Brule, WI
54820
Phone: 715-372-5678

Flambeau River State
Forest
W1613 Co. Rd. W
Winter, WI
54896
Phone: 715-332-5271

Peshigo River
State Forest
N10008 Paust Lane
Crivitz, WI
54114
Phone: 715-757-3965

<http://dnr.wi.gov/org/land/forestry/StateForests/meet.htm#NHAL>



You can help keep our forests healthy!

Your campfire wood could be hiding insects or diseases that can kill Wisconsin's trees. Gypsy moth, emerald ash borer, oak wilt, beech bark disease and others spread easily when hidden in firewood.

For example, the emerald ash borer (EAB) feeds on an ash tree just under the bark. The pest remains hidden there even after it has killed the tree. Wisconsin's forests are home to nearly a billion ash trees and 30% of Wisconsin's city trees are ash too. It is best if EAB does not find its way to these trees.

"It's not uncommon to see campers bringing their own firewood from home," said Andrea Diss-Torrance, forest pest expert with the Wisconsin Department of Natural Resources. "We have visitors from all over the state and from across the country. The fact is

we have no idea where all that firewood is coming from, and some of that wood might just be the source of our next big problem."

Firewood is not the only way these pests move around, but it is the most difficult to stop. Nurseries, logging, mills, and other industries are regulated when forests are threatened; firewood is the last easy ride for invasive hitch-hikers. Because firewood restrictions can differ between federal, state, county and private campgrounds, it's safest and easiest to leave firewood at home or purchase only wood certified by the Wisconsin Department of Agriculture, which has been specially treated to kill any invasive hitch-hikers.

To help prevent against invasive forest insects and diseases, the DNR restricts the movement of firewood onto all state-owned

lands. All firewood brought into a Wisconsin state park or forest must be: cut within 25 miles of the state park or forest campground, AND cut within the boundaries of the State of Wisconsin, AND NOT cut or stored in a pest quarantined area (unless the property is also in that quarantined area). See dnr.wi.gov, keyword "firewood" for details AND used on-site; not transported back out of the park or forest.

Wisconsin has quarantines in place for gypsy moth and emerald ash borer. You may not move firewood from a quarantined area to a non-quarantined area. Violations are enforced with fines and jail time. The entire eastern half of Wisconsin is quarantined for gypsy moth, and several counties are quarantined for emerald ash borer.

In Wisconsin, campers can take

simple steps to help protect the state's healthy forests:

Leave firewood at home.

Purchase firewood certified by the Wisconsin Department of Agriculture or firewood within 25 miles of your campsite. Find a list of certified firewood dealers online at: www.emeraldashborer.wi.gov. Also, many properties offer firewood for sale, or private sellers have it available near the park.

Burn your firewood at your campsite; do not take it with you to another destination.

Cook over gas or charcoal instead of an open fire.

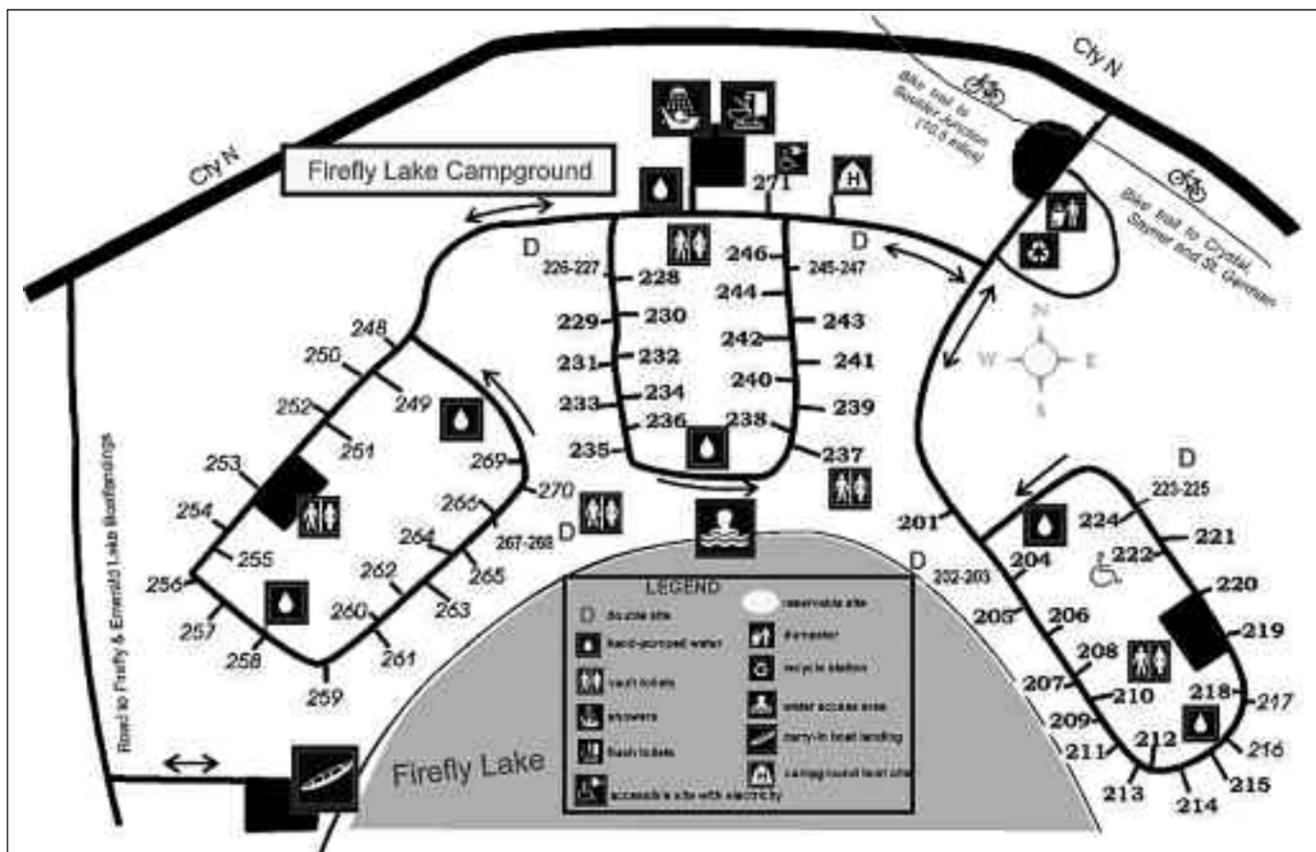
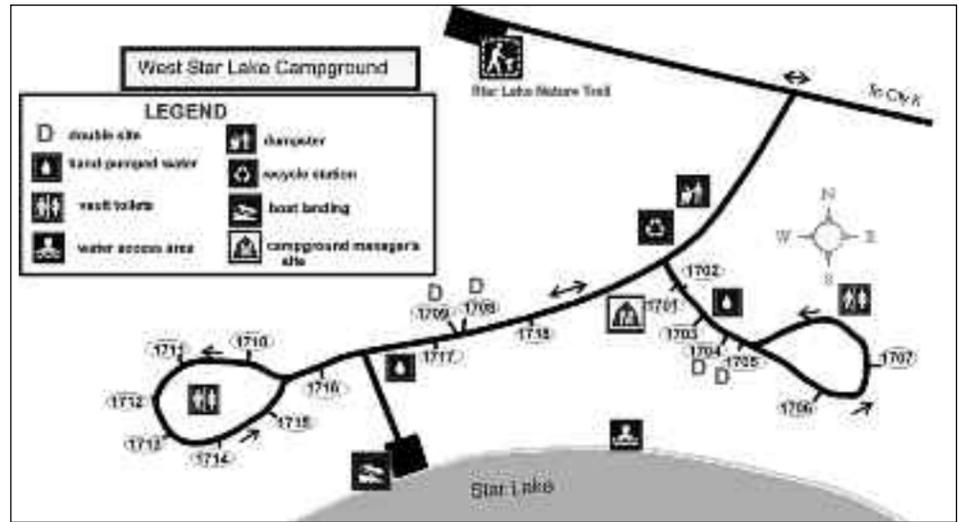
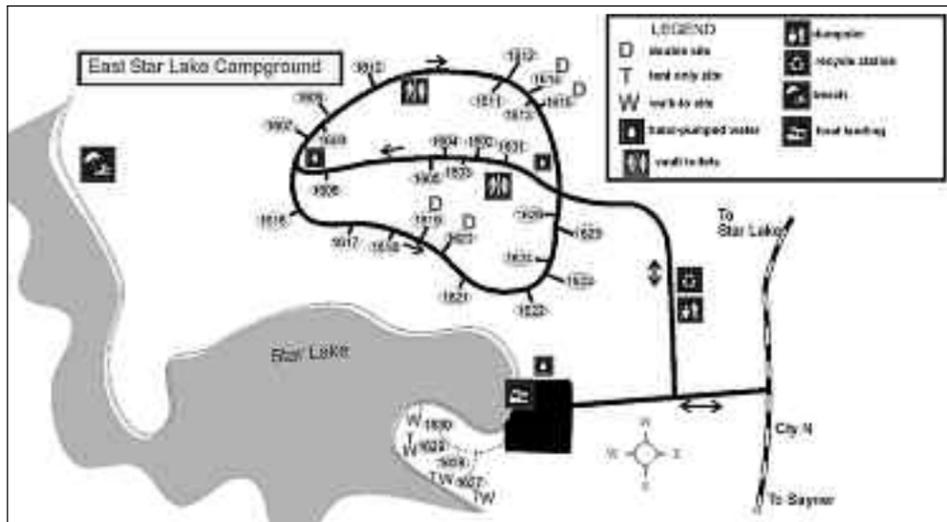
Instead of an evening campfire, explore new night-time activities like star-gazing or viewing wildlife by flashlight.

Stay updated on firewood rules and restrictions.

Campfires are an important part

of the outdoor experience in Wisconsin, but we must all take a few precautions to keep our forested areas and campgrounds – and our city parks and yards – safe from invasive insects and diseases.

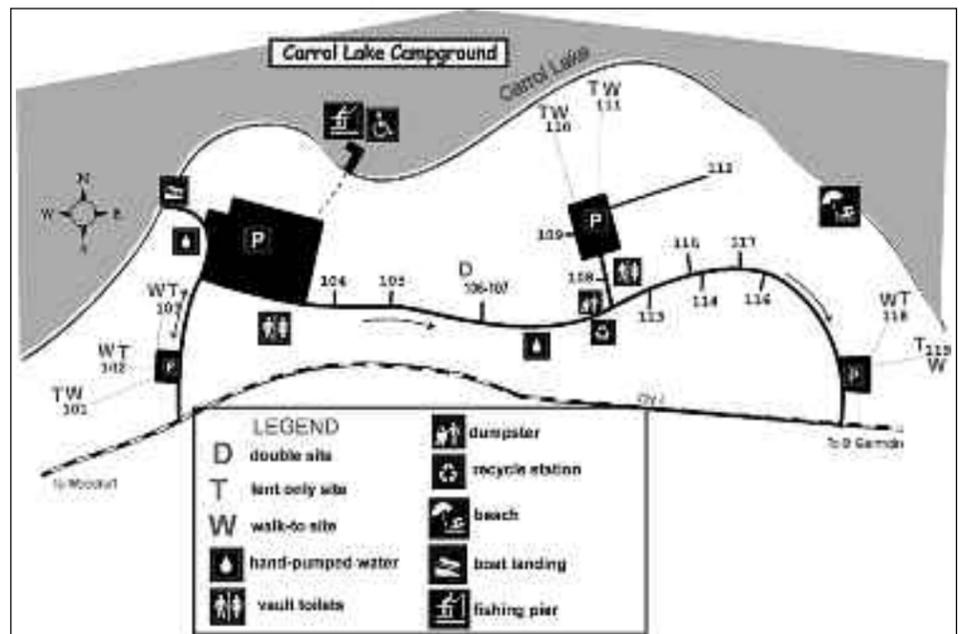
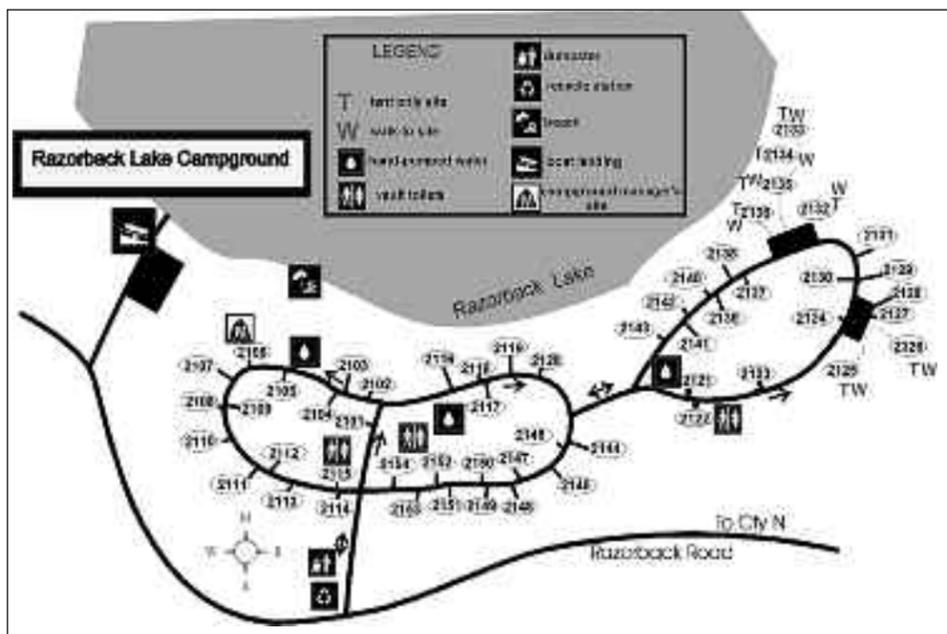
Campers will find reasonably-priced firewood within or nearby all state parks and forests. Wood from unapproved sources may be confiscated and destroyed. "We are counting on campers," said Brett Bockhop, NHAL State Forest Ranger supervisor, "to help us protect the quality of our forest by complying with the rules. Firewood is available at Clear and Crystal Ranger stations and at Buffalo, West Star, North Trout, Starrett, Razorback, Gresham, Big Lake, and Sandy Beach Campgrounds. Ask a ranger or campground host about firewood rules, or visit online: dnr.wi.gov keyword "firewood".



Campfire Safety

If a fire is desired and conditions are favorable, use an existing fire ring or charcoal grill.

1. Keep tents and gear at least 10 feet away from the fire.
2. Never leave your campfire unattended and always have a shovel and bucket of water on site.
3. When finished, douse your campfire thoroughly with water and stir the ashes.
4. Scrape all embers off of the partially burned sticks and logs.
5. Check the entire area outside the campfire circle for any hot embers. Remember that it only takes one spark or ember to start a forest fire!
6. Add more water to your fire and stir again until it's cold.

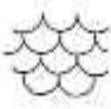


DETECT PUZZLING PATTERNS

From tree rings to turtle shells, nature's patterns are both beautiful and perplexing. Why do things form patterns as they grow? Is there a secret? Is their growth predictable?

LOOK FOR DESIGNS IN NATURE

Walk around the campground, visit the nature center, or hike through the park looking for patterns. Did you find any of the patterns described on this page? Write about or draw pictures of the patterns in the boxes below.

<p>branching patterns As living things grow, they may branch out. Look at the arrangements of leaves on a twig. Check out lightning bolts and bark beetle carvings.</p> 	<p>overlapping patterns Animals depend on their body coverings to protect them from wind, rain, and cold. Look for overlapping patterns on fish, birds, and reptiles.</p> 
<p>compact patterns Nature tries to make the best use of space. Look for tight-fitting patterns in honeycombs, flower seedheads, and pine cones.</p> 	<p>exploding patterns You can find patterns that reach out in many directions by looking at seedheads, mushroom gills, conifer needles, and rosettes (like dandelions).</p> 
<p>spiral patterns Look for snail shells, galaxies, sunflower seedheads, spiderwebs, and curled up millipedes.</p> 	<p>_____ patterns Draw pictures or describe other patterns you see.</p>

Color the World

Look around the park. If you can only see green, you need to look closer! Nature is full of hidden colors!

Write a poem

Take a crayon hike (see below). After your hike, read the sample poem. Then sit down with your family and write your own poem about the colorful things you saw.

Green as the grass,
Blue as the sky,
Black as an ant,
Yellow as a butterfly.



Think of the colorful things you saw and write your poem here.

_____ as _____,

_____ as _____,

_____ as _____,

_____ as _____.

Grown-ups

Take a crayon hike

Grab a box of crayons or colored pencils and go for a hike. Look for matching colors in nature. Can you find red veins in leaves, silver spots on twigs, gold eyes on frogs, and purple dots on butterflies?

Only use plants from mowed turf areas. Many wildflowers are protected and shouldn't be picked.

Read a story

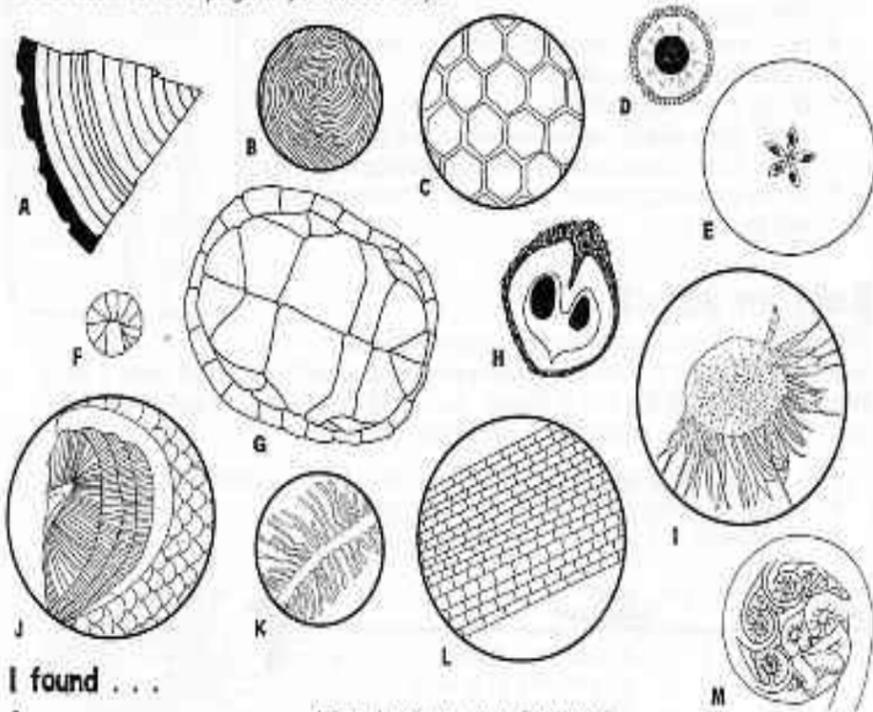
Beautiful Moments in the Wild: Animals and their Colors by Stephanie Maze
Living Color by Steve Jenkins
Red Eyes or Blue Feathers: A Book about Animal Colors by Patricia Stockland

Paint a nature picture

Your child can use the blank space on page 17 to experiment with nature "crayons." He can also try woodchips or campfire charcoal.

Discover Hidden Patterns

Take a nature walk. How many of these hidden patterns can you find? They start out easy and get hard! Use a magnifier if you have one. See the hints at the bottom of the page if you need help.



I found . . .

- A _____ Hint: Look at your firewood.
- B _____ Hint: You don't have to leave your tent for this one.
- C _____ Hint: Watch out! Don't look too close!
- D _____ Hint: Look under the cap of an oak tree seed.
- E _____ Hint: Cut a round red fruit in half.
- F _____ Hint: Look under a rock or log. It's alive and small.
- G _____ Hint: Check out a four-legged reptile.
- H _____ Hint: Split a nut in half.
- I _____ Hint: Blow away the fluffy white "wishes."
- J _____ Hint: Ask an angler (person who fishes) for a peek.
- K _____ Hint: Look under the bark of a dead tree.
- L _____ Hint: Peek inside the leaf of a cattail.
- M _____ Hint: Search in a fern forest in spring.





Kids!

Make tracks to the nearest contact station, park office, or nature center and get ready to explore the extremes of nature!

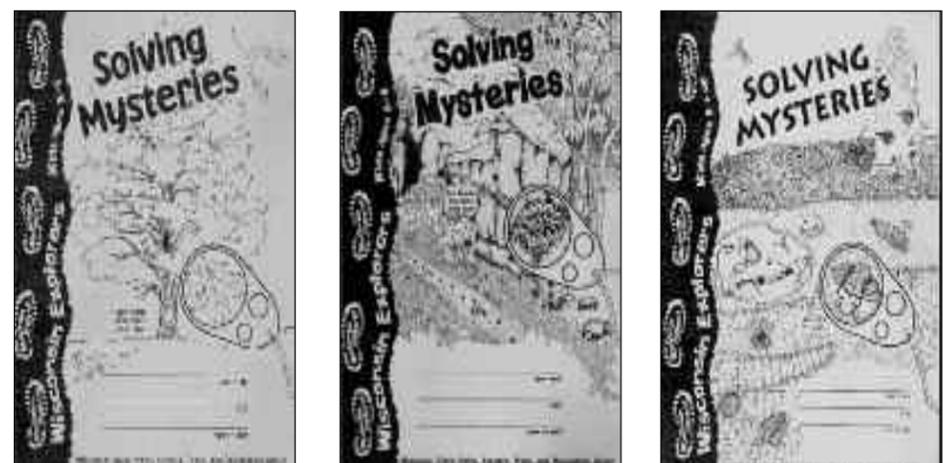
Ask for a new *Wisconsin Explorers* book. Open the book and start exploring up in the sky, under your feet, during the night, and under the water! If you complete the requirements, you'll earn a colorful patch.

Grown-ups: This new program replaces the Junior Ranger and Wisconsin Explorer programs. We hope you enjoy the new activities, the addition of a preschool booklet, and the collectable state symbol patches. Booklets are available for three age levels (3-5, 6-8, and 9+).

Get out there and start *Exploring the Extremes* together!







Who's watching who these days?

With the great advances in remote camera technology, smaller and more powerful units are now available. Deer and bear hunters have been using field cameras since the 1980's, starting with film flash cameras. Their desire to always have the latest gadgets available has led to rapid improvements and new models for sale. Now small digital no-flash cameras with tremendous memory capabilities are in vogue. And the uses of these remote cameras have increased to things like property surveillance and wildlife research.

Cameras will be used in 2012 at common loon nests in an attempt to identify which predators are destroying loon nests

in northern Wisconsin. An earlier study used cameras with limited exposure capability and missed some predation events. They did catch raccoons destroying some loon nests. With newer cameras pointed directly at the loon nests we should get evidence on any predator that visits the loon nests. These new cameras and logistics support are being provided by grants from LoonWatch and the Wisconsin Society of Ornithology. Common loon nest success can often approach only 50%, so renesting is frequent. Wisconsin loons are doing OK as they are a long-lived species and thus every nest does not have to successfully produce chicks each year. Still they are a species

of special concern and anything we can do to increase their nest success would benefit the species. These remote cameras will aid us in identifying the leading causes of loon nest failure. Then possibly some negative management options directed at these predators would increase loon nest success.

So now you may get your picture taken not only when in the woods but while out on the water! Actually you would have to be right at a loon nest to get your picture taken by one of the cameras used in this research project. And hopefully everyone out there knows NOT to approach active loon nests too closely to avoid disturbing the breeding loons.

When observing loons try to not disturb them. If the loon leaves its nest because of your presence, please back off and let the loons return to its nest. Their eggs are very vulnerable when adults are off the nest.

You may also track loon migratory movements from current and previous studies using satellite transmitters online at the U.S. Geological Survey Upper Midwest Environmental Sciences Center website: http://www.umesc.usgs.gov/terrestrial/migratory_birds/loon/migrations.html

Enjoy the loon's call of the wild while out in our great outdoors.

Paul Lueders photographs



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