



Miskwaagamiwi-zaaga'iganiig Aki-genawendamowaad

RED LAKE DEPARTMENT OF NATURAL RESOURCES

MAZINA'IGAN ONJI ODAAKEWIGIMA LETTER FROM DIRECTOR

Boozhoo! It seems like spring is being a little finicky this year! We had warm spring-like temperatures, that turned to cold and snow again, and we are hoping that the spring weather will return soon. The Red Lake Wildland fire crew was busy this spring conducting prescribed burns and putting out wildfires. Wildfire in pine plantations is causing loss of wildlife habitat, erosion into streams and lakes, and the loss of pine for future harvest.

With spring weather also comes fawns, duckling and other newborn wildlife. The Wildlife Department would like to remind you to leave baby animals where you find them. The parent is most likely nearby and will be back to care for it. We know that some of the baby animals look cute and cuddly, but they are wild animals that need to stay in the wild.

Our Water Resources Program is very busy this spring checking the water quality of our local streams that flow into Red Lake. We'd like to remind you to do your part to prevent aquatic invasives from spreading onto reservation lakes. If you use your boat in the big lakes, please be certain to clean all vegetation off both boat and trailer before transporting your boat anywhere,

and be sure to pull the plug.

The Environmental Program continues to monitor the air quality on the reservation. There is a monitor on the Red Lake Hospital that measures fine particulates every hour. You can access this up-to-date information on the website. This is a great way for anyone with asthma or other health issues to check the air quality when needed.

The Fisheries Program has been busy with getting their new aquaponics unit up and running. They are growing tilapia and lettuce at the hatchery building in Redby. This will be a great learning experience in the future for our middle and high school students! The walleye season will officially open on Saturday, May 6th. Please look over the regulations included in this issue before you go out fishing. Be safe, have fun and take a kid fishing!

In closing, a great friend and co-worker, Clarence "Ken" Hanson, passed away this spring. He worked in the Red Lake Forestry Department for almost 40 years. Ken will be greatly missed by many!

Miigwetch!

Al Pemberton



ZIIGWAN
(SPRING)
2017

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Visit us on the web!
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FISHERIES

GIIGOONYIKEWIN



DEMONSTRATION AQUAPONICS UNIT ADDED TO RED LAKE FISH HATCHERY

Aquaponics is a sustainable method of intensely growing fish and vegetables in a small space, with the aid of beneficial bacteria, without having to use harmful chemicals to control pests. This winter, we converted the south hatchery building in Redby into an aquaponics lab that we hope will become a living classroom for interested middle and high school students in the future. This system takes up approximately 1,000 square feet and is able to produce 450 pounds of fish and approximately 2,500 heads of lettuce a year. We are able to grow fish and vegetables year round, because this system is indoors and we have total control of the environment.

These systems are extremely efficient and very environmentally friendly. Tilapia is the fish of choice for this type of system because they grow very quickly, have a very high conversion rate of fish food to fish flesh, and can be grown at high densities in small spaces. They originate from the Nile River in Africa and prefer water temperatures in the low to mid 80's. They can withstand water temperatures below 60 for only a short period of time before they will die. When our aquaponics unit is fully stocked, we will have approximately 150 tilapia growing at various sizes. These fish will range between 2 grams to a pound and a half. It takes approximately 9 months for these fish to reach harvestable size after being stocked in the system at approximately 2 inches. Currently we have just over 50 fish in our system and we will be adding more every 6 weeks. Once we have this system fully operational, we will be able to harvest approximately 50 pounds of fish every 6 weeks.

We will be growing various types of lettuce and herbs in our system because it only takes approximately 2 months to go from seed to a harvestable head. No fertilizer is needed, because the fish, fish food, and bacteria provide all the nutrients needed for the plants. We only have to add water occasionally, because it is recirculated and the fish waste is taken care of by the plants and bacteria, there is very little waste produced by this system. For every 1.6 pounds of fish food that you put in an aquaponics system, it is estimated that you can produce one pound of fish and over 6 pounds of lettuce. You do not have to worry about soil borne diseases or dirt on your lettuce when growing vegetables in an aquaponics unit, because the lettuce is grown on floating rafts, is totally soilless, and only the roots touch the water to take up the nutrients. This system will be able to produce approximately 45 heads of lettuce a week once it is fully stocked with fish.

It will be exciting to see this system grow during the summer and we hope to be able to share our knowledge with the community and the middle and high school science classes as early as next fall.





Reservation Walleye Fishing Regulations

Upper and Lower Red Lake and Tributaries

SEASON:

- Walleye Season will start at 12:01 AM on Saturday, May 6, 2017 and will close at 11:59 PM on March 31, 2018.

BAG LIMIT:

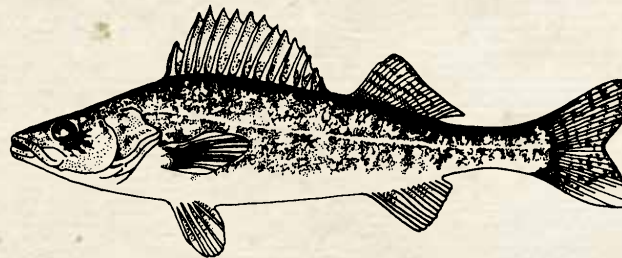
- *Personal Use* = 10 walleyes a day, 30 walleyes in possession.
- *Commercial* = 100 walleyes a day, must be turned into the Fisheries.

SIZE LIMIT:

- *Personal Use* = Walleye smaller than 22 inches may be kept, walleyes between 22 and 28 inches must be released, and only one walleye over 28 inches may be kept daily.
- *Commercial* = Only walleyes between 14 and 22 inches will be accepted at the Fisheries. This may change based on markets by the Fisheries manager.
- There is no size limit on walleyes caught below the Red Lake Dam in the Red Lake River west to the reservation boundary, but bag limits still apply.

ADDITIONAL REGULATIONS:

- Only Red Lake Band members may fish on the reservation waters of Upper and Lower Red Lake and its tributaries.
- The Red Lake River below the Dam does not close to fishing.
- Hook and Line is the only legal way of fishing.
- Fish must be transported to a residence before they are filleted.
- One proper fitting life vest is required for each person in any type of watercraft, including but not limited to boats, canoes, inflatables, jet skis and kayaks.



Protect, respect and enjoy the
Red Lake walleye into the future!

AIR QUALITY INDEX (AQI): FORECASTING & NOTIFICATIONS FOR RED LAKE

The Air Quality Index (AQI) is an index for reporting daily air quality. It tells you how clean or polluted your air is, and what associated health effects might be a concern for you. The AQI focuses on health effects you may experience within a few hours or days after breathing polluted air. EPA calculates the AQI for five major air pollutants regulated by the Clean Air Act: ground-level ozone, particle pollution (also known as particulate matter), carbon monoxide, sulfur dioxide, and nitrogen dioxide. For each of these pollutants, EPA has established national air quality standards to protect

public health. Ground-level ozone and airborne particles are the two pollutants that pose the greatest threat to human health in this country.

The purpose of the AQI is to help you understand what local air quality means to your health. Think of the AQI as a yardstick that runs from 0 to 500. The higher the AQI value, the greater the level of air pollution and the greater the health concern. The AQI is divided into six levels. These health concerns are shown in the chart below.

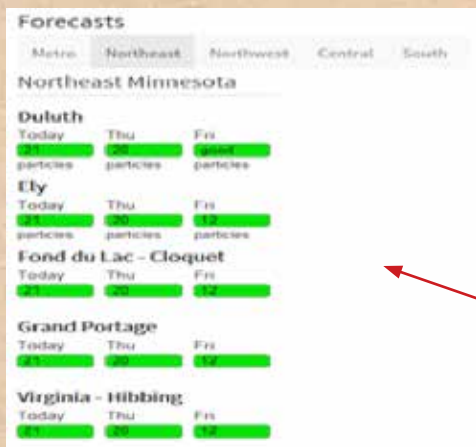
Air Quality Index	Who Needs to be Concerned?	What Should I Do?
Good 0-50	No one. Air quality is good for everyone.	It's a great day to be active outside!
Moderate 51-100	Some people may be unusually sensitive to particle pollution and may need to take precautions.	Unusually sensitive people: Consider reducing prolonged or heavy exertion. Watch for symptoms such as coughing or shortness of breath. These are signs to take it a little easier. Everyone else: It's a good day to be active outside!
Unhealthy for Sensitive Groups 101-150	Sensitive groups include people with heart or lung disease, older adults, children and teenagers.	Sensitive groups: Reduce prolonged or heavy exertion. It's OK to be active outside, but take more breaks and do less intense activities. Watch for symptoms such as coughing or shortness of breath. People with asthma should follow their asthma action plans and keep quick relief medicine handy. If you have heart disease: Symptoms such as palpitations, shortness of breath, or unusual fatigue may indicate a serious problem. If you have any of these, contact your health care provider.
Unhealthy 151 to 200	Everyone can be affected.	Sensitive groups: Avoid prolonged or heavy exertion. Consider moving activities indoors or rescheduling. Everyone else: Reduce prolonged or heavy exertion. Take more breaks during all outdoor activities.
Very Unhealthy Alert 201-300	Everyone	Sensitive groups: Avoid all physical activity outdoors. Move activities indoors or reschedule to a time when air quality is better. Everyone else: Avoid prolonged or heavy exertion. Consider moving activities indoors or rescheduling to a time when air quality is better.
Hazardous 301-500	Everyone	Everyone: Avoid all physical activity outdoors. Sensitive groups: Remain indoors and keep activity levels low. Follow tips for keeping particle levels low indoors.

AIR QUALITY INDEX FOR RED LAKE

The Beta Attenuation Monitor on top of Red Lake Hospital provides local air quality data for the Reservation. The monitor measures fine particulates (PM_{2.5}), like those found in smoke and haze, which are 2.5 micrometers in diameter or less. The Hourly data from this monitor is available on the Real-time Air Quality Reporting Page (<http://www.smogwatch.com/minn/realtimedata.cfm>), MPCA's Current Air Quality webpage (<https://www.pca.state.mn.us/air/current-air-quality>) and the AirNow website (<https://airnow.gov/>). This data will soon be used for both forecasting and notifications.

FORECASTING FOR RED LAKE

Beginning June 1, 2017, the MPCA's new in-house AQI forecasting program will provide information on air quality to the state in two ways: MPCA meteorologists will provide daily forecasts for the monitors



Example of the 3-day forecast color bars

currently in their network and when AQI forecast values exceed 100, MPCA meteorologists will also provide alerts to the impacted geographical areas of the state.

MPCA's air monitoring network consists of 18 monitors throughout the state and currently includes the Red Lake monitor. A daily forecast for each of the in-network monitors will consist of a 3-day forecast color bar that will identify the monitor location (i.e. Red Lake) and the AQI level (see example below).

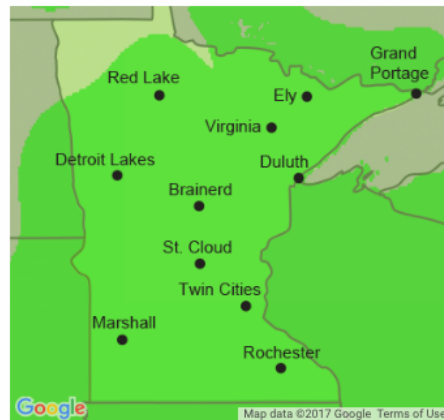
In addition to providing a monitor-specific daily forecast, when AQI forecast values are greater than 100,

MPCA meteorologists will issue alerts that identify impacted counties and select cities. MPCA will also include Tribal Nations, including the Red Lake Nation.

Air Quality Forecasts for Red Lake will be publically available at the following web address: <https://www.pca.state.mn.us/air/current-air-quality>.

Air Quality Notifications for the Red Lake Nation may be made available through: radio broadcasts, local television, email (<http://redlake.enviroflash.info/>) or a smartphone app. (<https://www.pca.state.mn.us/air-quality-index-smartphone-app>).

Current air quality



Current conditions

Last Updated: 05/02/2017 10AM CDT

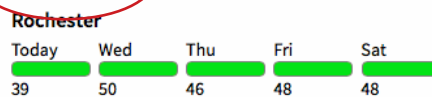
	Ozone	Fine particles
Brainerd	● 44	● 14
Detroit Lakes	● 33	● 13
Duluth	● 42	● 14
Ely	● 39	● 18
Grand Portage	○ N/A	○ N/A
Marshall	● 34	● 7
Red Lake	○ N/A	○ N/A
Rochester	● 40	● 12
St. Cloud	● 34	● 8
Twin Cities	● 45	● 26
Virginia	○ N/A	○ N/A

[\(NowCast AQI\)](#)

Detailed forecast

Today, a low pressure system will move through Minnesota, enhancing atmospheric mixing. In addition, moderate and gusty northerly to northwesterly winds will effectively disperse pollutants. As a result, AQI levels will

Forecasts



AQI information is available on the MPCA's Current Air Quality Webpage

WATER RESOURCES

EZHI-GANAWENJIGA ADEG-NIBI

WATER RESOURCES PROGRAM UPDATES

Water Quality around Red Lake

Spring is our busy season in the Water Resources Program! As the last of the snow and frost melt, you might see our staff collecting water quality data from all of the major streams flowing into Red Lake as you drive by. Our work extends far off the Reservation at times in order to catch water quality problems at their source rather than at the lake. We cooperate with state and local partners in order to collect data from all the tributaries flowing into both Upper and Lower Red Lake basins. Our program has been monitoring the water quality of Upper and Lower Red Lake and the streams that feed them for over 20 years.

What are we collecting?

Primarily, we collect information about nutrients like phosphorus and nitrogen while also measuring the amount of water flowing past each sample point (Figure 1). We can combine this data to get information about “nutrient loading” or how much of each nutrient is getting to the lake from each individual stream. We also collect basic chemical and physical information including dissolved oxygen levels, pH (how acidic or basic is the water), salinity (how much salt is in the water), and temperature. Later in the year, you might see our staff walking through some of the smaller streams with a backpack and some nets. At that time, we’ll be collecting fish using electrofishing equipment. This equipment allows us to shock and stun fish so that we can count them without killing them. The fish are all released after being counted.



Figure 1: Water Resources Staff Collecting Flow Data

What does that information tell us?

The data that we collect from lakes and streams is used to assess their water quality in a couple of different ways. First, it's used to determine the water body's background levels. The background water quality levels give us something to compare our future monitoring results to in order to determine whether water quality is getting better or worse. Second, our data is compared to water quality standards (criteria that are set to maintain a minimum level of water quality). When a water body doesn't meet those criteria, it is usually listed as “impaired.”

Are any of the waters around Red Lake Impaired?

Yes, there are a few. We are working cooperatively with the state of Minnesota to determine if the waters are impaired due to human impacts or if they are natural. Yes, some impairments are natural. For example, beavers can cause E. coli bacteria (a bacteria that lives in the guts of warm blooded animals like beavers) levels to exceed the standard or a very slow flowing stream that travels through a wetland may have a dissolved oxygen level is below the standard.

Red Lake itself doesn't actually meet the nutrient standards for the area and is technically impaired. However, because we have been monitoring it for decades and haven't seen any shifts in nutrient levels, we strongly suspect that the nutrient numbers in the lake are naturally higher. We have already launched an investigation using sediment cores to help us find out if that is indeed the case. We will be able to look back hundreds of years to determine what the nutrient levels in the lake would be naturally.

What do nutrients like nitrogen and phosphorus do?

Both nitrogen and phosphorus are necessary nutrients for all life. In fact, that's often how they end up in lakes and streams in the first place. They are applied to crops, gardens, and yards as fertilizer, but if too much is applied, they can be swept up during rain events and flushed into streams. A certain level of nutrients is expected to be present naturally. Without it, nothing would be alive. Excessive nutrients cause algal blooms (lots of algae in the water making it resemble pea soup) and can contribute to the presence of harmful algae.

What about Mercury?

Lakes across the state contain mercury including those at Red Lake. The bad news is that eating too much mercury can result in health problems. The good news is that fish are still a very healthy food, and there are ways to minimize the amount of mercury that we eat while still including them in our diets. The Red Lake Water Resources Program has fish consumption advisories available that are intended to help you choose which fish are the safest to eat. In general, pan fish and smaller walleyes and perch are



lower in contaminants and safer to eat. Large predatory fish like northern pike and big walleyes (over 20" length) are the highest in contaminants and should be avoided.

Invasive Species in Red Lake

You may be aware that there is already one invasive species in Upper Red Lake, starry stonewort, a macroalgae that invades shallow still waters. The MN DNR is working to determine the best course of action in either attempting to control it or eradicate it. In the meantime, it's especially important to ensure that we don't allow it to spread to the smaller lakes on the Reservation. If you use your boat in the big lakes, please be certain to clean all vegetation off both boat and trailer before transporting your boat anywhere, and be sure to pull the plug.

Unfortunately, it's unlikely that starry stonewort is the last invasive species we're going to have to deal with at Red Lake. In an effort to ensure boaters aren't getting passive in their efforts to protect the lake, we are launching new education efforts intended to really grab the attention of the public. We have partnered with Kelliher School to develop 3D printed models of some of our more microscopic potential invaders (Figure 2). While it has become easy to walk by a "Stop Aquatic Hitchhikers!" sign without a second thought, we think these giant 3D replicas will turn a

few heads and cause people to stop and think for a moment. We are concentrating on two of the more common species that are potential invaders in Upper Red Lake, the spiny waterflea and zebra mussels. Both of these aquatic invasive species live in nearby lakes and could be severely damaging to the ecosystem of the lake if introduced. Be on the lookout for our new models next time you see our booth at a community event! We'd love to talk to you about them!

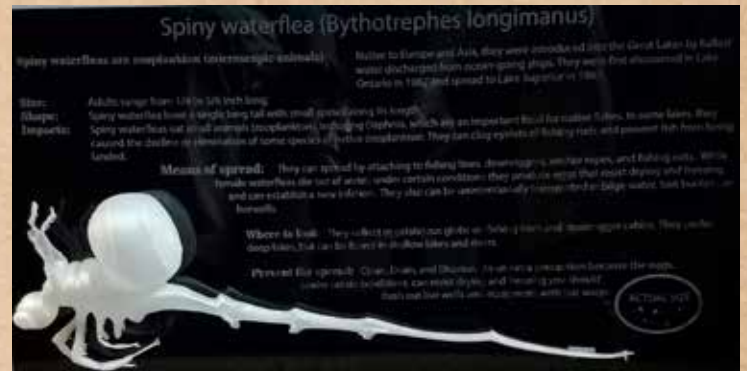


Figure 2: 3D printed Spiny Waterflea model, developed in cooperation with Kelliher School

Do you know of a well that's been abandoned and needs to be sealed? Please call us now!

The Red Lake DNR is sealing abandoned wells at no cost while funding is available. If you have an abandoned well or know of one, please contact the RL DNR Water Resources Program. We currently have funding to seal about 20 drilled wells and some additional funding to fill dug wells.

An abandoned well is any well that is no longer used as a water supply. Old, unused, and uncapped wells can pollute your drinking water. They connect to the same aquifer (underground water source) as other wells nearby and provide a pathway for harmful substances to enter including animals,

bacteria, and harmful chemicals. The images below show examples of drilled wells (usually a 4-6 inch pipe sticking out of the ground). Dug wells may just look like a hole in the ground. Both can pollute ground water and dug wells can be hazardous to people and pets.

If you think you may have an abandoned well, call Nikki Jourdain at 679-1605 for a free inspection.

This funding opportunity will run out after this summer so please don't wait!



WILDLIFE AWESIINHAYAG

LEAVE WILDLIFE WILD

With spring weather here and wildlife getting more active, the Red Lake DNR – Wildlife Department is urging people to leave fawns, ducklings and other young wildlife alone. Also, try to stay away from known den or nesting sites as the parents may be nearby and will get stressed if humans get too close.



A doe rears its fawn by leaving it in a secluded spot after nursing for the first couple of weeks of its life. Almost always, the doe is close by feeding or resting. At least twice a day, the doe will return to feed her young and move them to a new hiding place. This will continue for two to three weeks, until the fawn is strong enough to outrun predators. Fawns have many special adaptations to keep them safe. They have white-spotted coats which provide excellent camouflage. When they are scared, they will instinctively freeze, making full use of their distinctive coloration. Also, fawns have almost no odor, so predators cannot detect them.



Fledgling birds (those just learning to fly) are extremely uncoordinated and may fall out of the nest. The parents are rarely very far away and before long, the fledgling will be able to make it back into the nest or in some cases, the parents will feed the young on the ground until they are able to fly. But if you find a baby bird and see the nest, you can put the bird back in the nest to help it out. If you don't see the nest, still leave the bird where it was found.

Ducklings and goslings are ready to venture out within hours of hatching. They feed themselves right from birth and are never fed by their mother. A lone duckling has probably just been separated from their family and the hen will return to retrieve her young when she deems it safe. Other times, a lone chick or gosling is often "adopted" by another hen or goose. Never remove young waterfowl from the place where you found them.



Leave wildlife alone for your own protection as well. Animals can and do carry many different diseases that can harm humans, including rabies and West Nile virus. They may be carrying deer ticks which transmit Lyme's Disease. Scared wildlife may also bite or scratch defensively if they are picked up or cornered. Capturing young animals may severely injure them since their bones are fragile and still growing. In addition, many young animals die of stress and shock from being grabbed and handled. Remember that wild animals do not make good pets! Young animals may be cute and cuddly and seem tame, but captivity causes them extreme stress and they can become much more aggressive and unpredictable as they get older.



Don't believe the tale that babies touched by humans will be rejected by their parents. In almost all cases, the parents will continue to care for their young. However, leaving fawns, ducklings and other young wildlife alone still gives them their best chance of survival.

If you do find a wild animal that has obvious signs of illness or injury, such as: not being afraid or odd behavior, bleeding, panting, shivering or broken limbs, it may be in need of care. If you find an animal that is in obvious distress and need of help, please leave the animal where it is and contact us at 218-679-3959.





IS RED DYE HARMFUL TO HUMMINGBIRDS?



Decades ago, a tradition was born when a little red coloring was added to sugar water to attract hummingbirds. Although modern commercial feeders have proven to be attractive without additional color in the contents, many people think a hummingbird feeder just doesn't look right unless it's filled with red liquid. With the warmer weather and spring approaching many people will be putting out food for birds, including food or nectar for hummingbirds. Some people ask the question: should I use red dye to attract hummingbirds and does it hurt them? There has been concern in the past about the synthetic chemicals that are in the red dye and whether it harms hummingbirds.

No detailed research has been done proving whether hummingbirds are negatively affected by red dye. However, it is best to use sugar water (1 cup sugar dissolved in 4 cups of water). If you want to put color in as an attractant, use a dye-free cherry, raspberry, or other fruit juice concentrate, which is a safe and simple alternative. Many hummingbird feeders have an attractant on them such as a red base or other decorations. If you can't find a feeder with a red base on it or want to use a homemade feeder, place the feeder around other sources of nectar such as colorful hanging basket flowers or other attractant ornaments.

RED LAKE COMPLETES OVER 400 ACRES OF GWWA HABITAT

Golden-winged Warbler (GWWA) are small song birds that are specialist species, requiring "young," or early-successional forests for breeding. The GWWA's depend on the conservation and habitat maintenance of breeding areas throughout the Great Lakes Region. GWWAs have suffered one of the steepest population declines of any North American songbird species, with a decline of more than 3 percent annually over the last 45 years. This decline is due primarily to habitat loss and land use change, particularly the loss of early successional or "young" forest habitat adjacent to mature forest stands. GWWAs require a diverse habitat in order to complete the summer breeding portion of their annual life cycle. Like American Woodcock, GWWAs nest on the ground in forest openings located next to older deciduous forest stands. Once the chicks have fledged, the parents will move the brood into the mature forest where they will teach their young to forage on various insects (especially leaf-rolling caterpillars) until they leave for their wintering grounds at the end of the summer.

This past winter, Red Lake tribal contractors completed 140 acres of GWWA habitat on Hwy 1 and the Narrows area of the Red Lake Reservation. Contractors were faced with very challenging ground conditions, as the area received a lot of snow early in the December. This snowfall helped blanket the ground, which in turn didn't put a lot of frost into the ground. So far, The American Bird Conservancy and the Red Lake DNR has enhanced over 400 acres total of early succession GWWA habitat in the brushland/forest interface. Winter shearing of over-mature alder, willow, and sumac created a diverse mix of vegetative size and structure required by breeding GWWAs, as well as benefiting other local wildlife species (deer, moose, bear, grouse, woodcock, etc).



Completed GWWH Project Areas

FORESTRY

MISKWAAGAMIIWI-ZAAGA'IGANING
MITIGOKEWIN

NEW FORESTER HIRED



On February 14th, 2017, the Tribal Council authorized the hire of a new Forester to replace a vacated position in the Forest Development program. The Red Lake DNR Forestry Program is happy to introduce the newest member of the staff, Mr. Edward "Rob" Lussier, of Red Lake, MN.

Rob, a Red Lake Tribal member, completed his course of study and received a Bachelor's degree in Natural Resource Management from the University of Minnesota, Crookston. For the last four years during the summer months, Rob has been employed as an intern with the Forestry Program, as a Forestry aide. He gained valuable experience in all areas of the program, including: Inventory, Timber Sales, Forest Development, and Fire. He has demonstrated an exceptional work ethic and a genuine interest and regard for the management of the Red Lake Reservation Forest.

PASSING OF KEN HANSON

The Forestry Program regrets to inform you of the passing of long time staff member, Clarence Kenneth Hanson Jr. Ken began serving as a contractor in the late 70's, doing tree planting and tree improvement projects. He joined the Forestry Program in 1982 as a Forestry aide at the Greenhouse in Redby and became a technician a year later. In 1998 he transferred to the Timber Sale program and worked as a Timber Sale Technician. In June of 2016 he suffered a stroke and was no longer able to work.



On July 9, 2010 Timber Sale Technicians Ron Beaulieu and Jim Brun retired from the Forestry program with 40+ years of service each. Pictured from left to right below are fellow Technicians and friends: DNR Director Al Pemberton, Timber Sale technicians: Clarence "Kenny Boy" Hanson, Ronald "Ronny Boy" L. Beaulieu (March 20, 2011), James "Jimmy Boy" A. Brun (Sept. 18, 2015).

TICK SEASON IS HERE!

Red Lake DNR staff would like to advise the public that deer ticks (also known as blacklegged ticks) are active and abundant in the woods now. Deer ticks are the main carrier of Lyme disease, and may transmit other diseases such as Human Anaplasmosis, Babesiosis, Ehrlichiosis, and Powassan Virus.

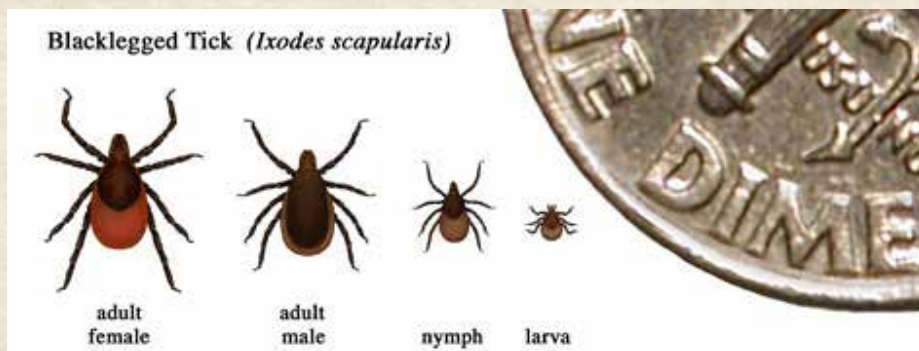
Red Lake, and the surrounding counties of Beltrami, Clearwater and Itasca, are classified by the Minnesota Department of Health as having the highest risk of Tick-Borne Diseases in Minnesota.

Please check yourself and your children after being outside. Deer ticks are small, and during the nymph stage of their life cycle can be very difficult to find. If you find a tick embedded in the skin, or want more information about deer ticks, please visit the following websites or go to your local health care practitioner (IHS). Symptoms to look for include headaches, fever, joint aches, fatigue, and raised/weltd skin around the bite. Physicians may be able to prescribe antibiotics to treat the diseases.

<http://www.health.state.mn.us/divs/idepc/dtopics/tickborne/index.html>

<http://www.cdc.gov/lyme/transmission/blacklegged.html>

<http://canlyme.com/lyme-basics/>





RED LAKE PINE INITIATIVE

Establishing new pine stands requires a significant investment in money, manpower and time. The process to establish pine requires logging the site when an “over-story” exists. Pine seedlings require full sunlight to grow properly, so a significant portion of the canopy must be removed. The site is then scarified. This removes about a square foot of sod every six to eight feet to temporarily relieve grass and brush competition. This also provides a spot for a pine seedling to be planted and establishes the planting density. After planting is complete, the site is monitored every year for five years to ensure survival and address any problems that may affect growth, such as competing vegetation.

There are many threats to plantation success. Mortality due to drought and animal browse may require partial or fill-in replanting. Mortality due to wildfire however, results in significant losses and usually requires full replanting.

Unfortunately, all plantation fires on the reservation to date are human-caused, and as such, are avoidable. Wildfire can reduce our efforts, and tribal investments, to ashes in a matter of minutes. Losses due to wildfire set plantations back 10-30 years, but also result in a loss of wildlife habitat, and can contribute to erosion into streams and lakes.

The Forestry program employs highly trained, well-equipped professional firefighters to combat wildfire. Forest Development Foresters design plantations to minimize risks due to wildfire and to aid in fire suppression efforts. In addition, our Fire Prevention program provides awareness and education in the schools and community about the problem of wildfire on the reservation. However, we also need community involvement to help protect tribal heritage and these valuable cultural resources.

The Red Lake Reservation participates in the national WeTip Arson Hotline program. Cash rewards of up to \$10,000 may be given upon verified reports from law enforcement that WeTip information was received prior to arrest, and that the information was helpful in the arrest and conviction of individuals committing arson on Indian Lands. The reward is paid at a secret postal location, using the assigned code names and case numbers. No personal contact is ever made with the informant. Join our war on arson, call toll free nationwide: 1-800-47-ARSON (1-800-472-7766).



Figure 1: Scarifying new pine site



Figure 2: Replanting Pine Seedlings



PRST STD
U.S. POSTAGE
PAID
MAILED FROM 56601
PERMIT NO. 30

RED LAKE DNR

15761 High School Drive
Red Lake, MN 56671

www.redlakednr.org

POSTAL CUSTOMER
ECRWSS EDDM

PLEASE DO NOT BURN

Garbage burning is bad for the environment and BAD FOR YOUR HEALTH

Burning household waste **produces many toxic and cancer causing chemicals** and is one of the **largest known sources of dioxins** in the nation. These chemicals poison the water, the wildlife and the people! Red Lake's Hazardous Substance Control Act (HSCA) prohibits open burning of household wastes and hazardous wastes. Please dispose of wastes properly at the designated collection area in one of the four Tribal communities. Reduce, Re-use, Re-cycle and Respect your Lands!



NOW AVAILABLE AT RED LAKE NATION FOODS IN RED LAKE!

- wild rice & wild rice blends
- hand harvested wild berry jams, jellies & syrups
- maple syrup
- wild rice pancake mix
- fish batter mix
- gift boxes & baskets
- hand-crafted birch bark baskets
- herbal tea
- popcorn



Hours: Monday - Friday, 8:00 AM - 4:30 PM

Located in the former Nibi Bottling Plant - Redby

redlakenationfoods.com • 888-225-2108