

Summer 2010



Fond du Lac Environmental Program

Get your Earth Machine Backyard Composting Bin and/or System Rain Barrel!

The Fond du Lac Environmental Program is sponsoring an Earth Machine Backyard Composting Bin and System Rain Barrel Sale! Turn your food and yard waste into nutrient-rich dirt and save water by collecting rain for your indoor/outdoor watering needs! Advance purchase is required - take advantage of this great deal! Earth Machines are \$44 (\$100 value) and the Systems are \$53 (\$120 value)

Offer open to everyone!

**All orders and payment must be received by
Friday, July 9th.**

**For more information, please Call Shannon Judd,
Environmental Outreach Coordinator at 878-7123**

Orders will arrive for pick-up in late July.



Beach Time!!

There is nothing better than a nice dip in a cool lake to take the edge off the hot and humid summer days. Fond du Lac residents are privileged to have beautiful, clean waters in which to swim!

Many of you have probably heard about occasional beach closings around Minnesota as a result of high E. coli bacteria levels. High E. coli levels are usually the result of animal and/or human waste, bird droppings and other sources of e coli washing into the water.

Big Lake is tested for E coli weekly to ensure that it is safe to swim. Beach closings on Big Lake are extremely rare, but signs will be posted if acceptable levels are ever exceeded. Usually, any high levels are the result of a big storm that washes goose droppings and dirty diapers into the water. Within a day or two, the water is usually back to normal. As previously stated, closings are rare and Big Lake is overall an ideal, clean lake for swimming.

Please do your part to keep Big Lake clean and avoid beach closings: throw dirty diapers and other trash in an appropriate receptacle rather than on the ground.

If you ever have any questions or concerns, please contact the FdL Office of Water Protection at 878-7110.

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Water Program Update

Written By:
Kari Hedin

Tracking the Lifeblood of the Reservation: Our Streams

What is that pipe doing in the stream?

Visitors to streams on the Fond du Lac Reservation may wonder at the new equipment installed at six locations on five of Fond du Lac's streams. Each site has a pipe that holds a data logger, and next to each pipe is a staff gauge to measure water height. The Fond du Lac Environmental Program, Office of Water Protection, is taking on the responsibility for measuring water level and flow at each stream.

Long Term Monitoring

One of the strengths of Fond du Lac's work in water quality is our long term dataset for lakes and streams on the Reservation. We have a wealth of data on parameters like temperature, dissolved oxygen, nutrients, and the types and abundance of algae, zooplankton, macroinvertebrates and fish in our lakes and streams. We can use these data to track short-term and long-term changes in water quality and take action where necessary to prevent problems. Our new stream gauges are part of this long-term dataset.

Measuring stream water level and stream flow are important for tracking changes due to climate change. As rain flow patterns change, stream dynamics may also change. More frequent heavy rain events would cause more flooding, while periods of drought could cause some streams to become very shallow and slow-flowing. Without stream gauges, we would not be able to accurately tell how the streams react to changes in rainfall. As the hydrologic regime changes, so does the water temperature, and this affects what kinds of fish can survive in Fond du Lac's streams. Continuous temperature loggers have been deployed in Fond du Lac streams for nearly ten years, and we continue to collect temperature data to track changes over time. Our new stream gauges will give us a better idea of how our watersheds will be impacted by climate change.

How the Stream Gauges Work

Each pipe holds a data logger called a pressure transducer that is submerged in the stream. The pipe, called a stilling well, has holes in it that allows water to flow through the pipe. When water levels are high, the weight of water over the data logger exerts more pressure on the data logger than when water levels are low. The data logger automatically takes a pressure measurement every 30 minutes, from May through October. Periodically we pull the data loggers out of the streams to download the data before re-deploying them. In addition to the underwater data loggers, we also have pressure transducers deployed above the water to record barometric pressure. Since changes in barometric pressure can cause the underwater pressure transducers to record changes in water level even when there isn't a change, having the barometric pressure data allows us to correct for changes in weather. Next to the stilling wells, we have installed staff gauges, which look like big rulers stuck in the water. They are used to take water height readings and compare them to the pressure transducer data to check for errors. Fond du Lac received important assistance from the US Geological Survey in setting up these stream gauges in May 2010.

So, if you're out fishing, hiking, or gathering, near Fond du Lac streams, don't disturb the stream gauges. They are tracking the health of our streams, and the streams are the lifeblood of the Reservation.

Pictured right: Greg Melhus, USGS hydrologist, fits a PVC sleeve in the stilling well.





FdL Air Program Update

2008 Fond du Lac Reservation Air Emissions Inventory

The Fond du Lac Air Program has submitted the 2008 reservation emissions inventory to the National Emissions Inventory System. What is an emissions inventory? It is an important air quality tool that provides information to help assess overall air quality and identify potential problem areas. It is basically done by identifying all of the sources of air pollution within a certain area, and cataloging how much and what types of pollution are being released. Emissions inventories are used to help determine significant sources of air pollutants, establish emission trends over time, target regulatory actions, and estimate air quality through computer modeling. A complete inventory typically includes all pollutants that are subject to regulation.

The emissions inventory was initially sent to the Institute for Tribal Environmental Professionals for quality assurance and submission. Quality assurance involves reviewing data and the process used to collect data to ensure that it was collected and calculated using correct, unbiased methods, and determining that there are no errors.

The 2008 inventory was due June 1, 2010. There is a delay so agencies can gather accurate data. The Air Program is grateful to all staff and facilities that helped gather the necessary information for the submittal.

Some of the facilities included in FdL's emissions inventory are the Black Bear Casino Resort, the TransCanada compressor station, Cloquet Forestry Center, Cloquet Carlton County Municipal Airport, the Human Services Division campus, prescribed fires, and emissions from road use.

Fond du Lac is the second tribe in the nation to submit its emissions inventory directly to the national system, and the first tribe in EPA Region 5 to do so. Direct submission to the National Emissions Inventory database demonstrates Fond du Lac's ability and capacity to assume responsibility for environmental protection within the Reservation. Air Program staff will be displaying a poster on this topic at the 2010 National Tribal Forum on Air Quality in July and have been asked to present at the International Emissions Inventory Conference this fall.

Going forward, this information will be used to help assess the Reservation's greenhouse gas emissions, which will assist in tracking Fond du Lac's carbon footprint and energy use. If you would like more information, please call 878-7112.

Natural Pest Control: Dealing with Ants



Ants: These industrious, smart little creatures are fascinating and not a nuisance most of the time. On the other hand, when munching through your wooden structure or crawling around inside your house, they can be quite undesirable and even destructive. What should you do? Here are a couple of ideas to try without using chemicals.

Plants: Chrysanthemums and catnip repel ants, so keep these plants around to deter them from your garden.

Quick Grits: Sprinkle dry quick grits around the colony or in a frequented area, and the little workers will bring the morsels to the queen. Once consumed and in contact with moisture, the grits expand.

Molasses Paste: 1/3 cup molasses, 6 TBSP dry active yeast, 6 tbsp dry granulated sugar. Mix together, put on lids, cardboard or bottle caps and place in areas where ants frequent. This paste essentially gives them a lethal case of indigestion.

Recycle

Plastic

Magazine Paper

Aluminium

Newspaper
Cardboard



Mixed paper

Do your part to conserve natural resources and protect the environment for future generations....Recycle.

Fond du Lac Waste Site: 878-8069

Who's Who? New Phone Numbers!

Fond du Lac Reservation Environmental Program Staff- (218) 878-7101

Wayne Dupuis - Environmental Program Manager.....	878-7106
Mary Munn - Air Program Coordinator.....	878-7112
Nancy Schuldt - Water Projects Coordinator.....	878-7110
Shannon Judd - Environmental Education Outreach Coordinator.....	878-7123
Russell DuFault - Recycling Coordinator.....	878-8069
Rick Gitar - Water Regulatory Specialist.....	878-7122
Kari Hedin - Watershed Specialist.....	878-7109
Andrea Junker - Environmental Health Specialist.....	878-7111
Tim Krohn - GIS Specialist.....	878-7128
Waste Collection Site Supervisor.....	878-8069
Bruno Zagar - Environmental Specialist.....	878-7165
Joy Wiecks - Air Quality Technician.....	878-7108
Dave Smith - Land Records Researcher.....	878-7119