



LakeFront

Quarterly Newsletter of the Whitefish Lake Institute

Winter 2010

JULY 8TH & 9TH

WHITEFISH WINE AUCTION 2010
TO BENEFIT WHITEFISHLAKE INSTITUTE (WHITEFISHLAKE.ORG)

THURSDAY JULY 8TH | 4-6:30 PM
WINE TASTING AND AUCTION ITEM PREVIEW
LAKESIDE UNDER THE TENT AT THE LODGE AT WHITEFISH LAKE

FRIDAY JULY 9TH | 6-10 PM
DINNER, RAFFLE, AND LIVE & SILENT AUCTIONS
BALLROOM AT THE LODGE AT WHITEFISH LAKE

FOR TICKETS & MORE INFORMATION VISIT
WWW.WHITEFISHWINEAUCTION.ORG

 

862.3632 | INFO@WHITEFISHWINEAUCTION.ORG

Come help us celebrate our five year anniversary by attending the Whitefish Wine Auction. Tickets are now on sale for the inaugural event, to be held July 8 -9, 2010, at the Lodge at Whitefish Lake. Seating is limited so we suggest you purchase your tickets early. For details visit whitefishwineauction.org. If you would like to donate an item for auction or raffle, please contact us at info@whitefishwineauction.org. We look forward to sharing a toast with you this July!

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Whitefish Lake
INSTITUTE

*Protecting and improving the
Whitefish, Montana area
lake resources*

Whitefish Lake Institute
635 Denver Street
Whitefish, MT 59937

Voice: (406) 862-4327
info@whitefishlake.org
www.whitefishlake.org

Founded in 2005

The Whitefish Lake Institute is committed to acquiring scientific research and engaging the local citizenry to protect and improve the Whitefish area lake resources of today, while providing a collective vision for tomorrow.

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Mike Koopal, Editor

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Looking west towards Lazy Bay, across a frozen Whitefish Lake

Courtesy:
Susan Fletcher

What goes on under the ice in the winter? One possible scenario is for a lake to become deficient in dissolved oxygen causing a fish kill.

When a lake is frozen, a barrier is created where atmospheric oxygen cannot enter the lake. In addition, when snow falls on top of the ice, light cannot penetrate into the water. As a result, no photosynthesis occurs which produces dissolved oxygen. At the same time, bacteria on the lake bottom consume dissolved oxygen as they respire.

For a large, deep lake like Whitefish Lake, this isn't much of an issue. But for Blanchard Lake, which is smaller and only about 30 feet deep, the potential for a winter fish kill is much higher.

WLI data found that there is an oxygen deficit on the bottom of the Blanchard lake, limiting the available fish habitat to the upper strata. However, different fish species vary in their tolerance to low oxygen.

For all lakes, it is important to limit the input of nutrients (nitrogen and phosphorus). N and P are what drive algae production. When algae die they precipitate to the lake bottom supplying more food to bacteria, further depleting oxygen levels.

Winter Sampling



Director Mike Koopal augers a hole on Blanchard Lake in order to lower the Hydrolab. The ice thickness was 13 inches on Feb. 20th.



Scientist Chris Ruffatto lowers the Hydrolab into Blanchard Lake to get instantaneous water quality readings from the surface to the lake bottom.



The ice was only five inches thick on Whitefish Lake on February 20th. As a rule of thumb, four inches of ice is considered safe for foot traffic. However, watch out on Whitefish Lake, where shoreline seeps and tributaries can weaken the ice near the shoreline.

Re-Visiting the 1989 Train Derailment Along Whitefish Lake

On July 31, 1989, a freight train derailed during which two full diesel fuel tankers fell down an embankment into Whitefish Lake. A total of 20,000 to 25,000 gallons of diesel spilled into Mackinaw Bay, about midway down the lake's west shore.

According to a Montana Department of Environmental Quality (DEQ) file report on their website, Burlington Northern (BN) and its contractors, with DEQ oversight, began emergency response and cleanup the day of the accident. While emergency response crews plugged the leaking tankers, BN's contractors set out floating booms and absorbent materials to contain free product on the lake surface. Much of the product was contained in Mackinaw Bay, but some escaped and spread as far as Carver Bay on the opposite (east)



Mackinaw Bay- Site of the 1989 BN train derailment along Whitefish Lake. Courtesy of Whitefish Pilot.

shore. The cleanup effort was hampered by inefficient communications, inadequate supplies of absorbent materials and possibly inadequate front-end commitment of manpower.

On August 2, 1989, DEQ sampled residents' water supplies which are obtained from lake water. Most supplies showed no contamination, but several had very low levels of BTEX (benzene, toluene, ethylbenzene, and xylene). None of the samples had contaminants exceeding drinking water standards.

In September 1991, DEQ noted an oil sheen on the lake surface which appeared to come from a small area of contaminated soil near the derailment site. BN's contractors kept a boom and absorbent materials in place across Mackinaw Bay to contain the sheen. Some sheen was still visible in April 1992.

On the 20 year anniversary of the spill, WLI collected a soil and water sample along the southwest shore of Mackinaw Bay. Samples were analyzed for extractable petroleum hydrocarbons which indicate diesel contamination.

The water sample came back at 8,400 micrograms per liter which is 16.8 times higher than the maximum contaminant level. The soil sample came back at 1,730 milligrams per kilogram, 8.65 times the maximum contaminant level.

WLI contacted Montana DEQ with this new data. DEQ had closed the file for the 1989 spill, but based on the new data, they will open a new file and assign it to the remediation division. WLI has requested that DEQ perform a site visit to determine the feasibility of additional remediation to clean up and purge the site of contaminants.

WLI suspects that the diesel spilled on the shores of the lake penetrated much deeper into the soils than what the initial remedial investigation determined. The diesel could be manifesting at the shallow groundwater interface with the lake and since WLI sampled in November when the lake is at a low pool level, this chronic situation may not have been observed for the past 20 years.

WLI believes that the active release of contaminants is contained to a small area, as was noted in 1992 report by Montana DEQ, however for this condition to exist for 20 years, it suggests that there is a large parent source of contaminated soil that was not appropriately mitigated. It is in the best interest of public health and for the ecology of the lake to get it cleaned up, and it's a lesson for us all to understand that these contaminants can persist for a long time in the environment.

WLI's Newest Member

Mike and Mae Koopal welcomed into their family Case Michael Koopal. Born 12-27-09, Case was 7lbs. 1oz and 21 inches.

Whatever his future holds, we're sure Case will become an important member of the WLI team. Maybe he'll grow up to be a limnologist!



Create a Whitefish Lake Legacy

With the addition of Case to their family, it was a good time for Mike and Mae to update their will and include a bequest to the Whitefish Lake Institute.

We welcome you to join us in creating a strong future for WLI. Including WLI in your estate planning is a great way to ensure that the important scientific and educational programs at WLI continue so that Case and his generation enjoy the same great water quality we all cherish.

WLI is a 501 (c) 3 tax exempt organization. Charitable bequests can reduce your estate tax liabilities. Naming WLI in your will is easy, and you can designate any amount you wish. Please consult with your attorney if you are ready to create or amend your will.

If you do decide to include WLI in your estate plans and you would like to make us aware of your decision, please contact our office so that we may express our appreciation.

Rock Drop Underway

Who needs Punxsutawney Phil? Place your wager at the Boat Club at The Lodge at Whitefish Lake for when the rock will fall through the ice signifying Spring! If more than one person picks the right date, a lottery is conducted. First prize splits the pot with WLI, second prize wins two nights lodging at The Lodge and all others get a Whitefish Lake map or WLI T-shirt. WLI uses our half of the proceeds to fund the Frank Morrison Jr. Scholarship Fund.



Board member Sue Fletcher and WLI Scientist Chris Ruffatto place the Rock Drop structure on the ice.

WLI Awarded Grant for Tally Lake

Located in northwestern Montana on the Flathead National Forest, Tally Lake is a regionally unique aquatic resource. The lake is considered medium sized at 1,235 surface acres, but extraordinarily deep at 445 feet.

Under a Forest Service Resource Advisory Committee grant, WLI has been monitoring water quality and the presence/absence of any Aquatic Invasive Species at Tally Lake.

Preliminary WLI data shows the bottom half of Tally Lake with unusually low dissolved oxygen levels, with a complete lack of dissolved oxygen on the lake bottom. This complete lack of oxygen is very different from other local lakes of similar size.

The lack of oxygen in the bottom half of the lake is probably caused by a combination of factors. Unlike other local lakes, the waters of Tally Lake might not completely mix every year due to its great depth to surface ratio. Chemically, humic matter delivered to Tally Lake from the Starr Meadows area could produce a chemical reaction in the water induced by ultraviolet radiation, robbing it of oxygen.

Like all lakes, it takes that collection of data over time to tell the complete story. WLI will continue research efforts on Tally Lake in 2010 to further define this unique ecosystem.

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Account #: _____

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Name _____

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