LakeFront

Quarterly newsletter to Whitefish Lake Institute members *Fall 2005*

Whitefish Lake Monitoring Meeting

The Whitefish Lake Institute spearheaded a meeting November 2nd at the Flathead Lake Biological Station to discuss long-term monitoring strategies to study Whitefish Lake.

At issue, is the need to develop an annual monitoring plan that compliments and augments the data collected on Whitefish Lake by other studies. In particular, the work by Dr. Jack Stanford and others from the Flathead Lake Biological Station in 1983 and 2002.

Whitefish Lake is under ever-increasing pressures. Nutrient input in the form of nitrogen and phosphorus from a variety of sources, ranging from increased development, timber harvest and atmospheric loading all combine to produce a cumulative effect on the lake.

In fact, Stanford's 2002 research found that Whitefish Lake had a 65% increase in primary production and a corresponding 61% increase in phytoplankton density compared to 1983.

Jim Craft and Dr. Stanford state in their 2003 report that the water quality in Whitefish Lake cannot be effectively managed by water quality measures obtained by studies completed every 20 years or so. Routine monitoring was recommended, because Whitefish lake is approaching a threshold of change -(*continued on page 3*)

Pat Roosa, along with his daughter Lindsey, visitors from Missoula, soak in the scenery and hope for a nibble during a recent trip to Whitefish Lake.

IN THIS ISSUE…

Whitefish Lake INSTITUTE

Protecting and improving the Whitefish, Montana area lake resources

501 (c)(3) Non-Profit Corporation

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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.

LakeFront is published by the Whitefish Lake Institute four times a year. The opinions expressed in ***LakeFront*** are those of the authors. We welcome comments and submissions.

Mike Koopal, Editor

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OVERVIEW OF THE SUBDIVISION REVIEW PROCESS

Editor's note: With the recent annexation of Whitefish Lake along with some controversial subdivision requests before the City of Whitefish, the Institute felt our readers needed to be informed of the review process.

Annexation of the lake gives the City of Whitefish local control in reviewing subdivision requests rather than this being accomplished at the county level. This includes all shoreline property with varying setbacks distances around the lake.

The City of Whitefish is in the process of zoning some of the upland areas to be consistent with land use designations shown on the 1996 City/County Master Plan map. All subdivision requests must comply with the City/County Master Plan, zoning regulations and the Montana subdivision and platting act. -MK

-Submitted by Sean Conrad, Whitefish City Planner II

- Please be aware the following is a brief synopsis of the subdivision review process. Individual subdivisions may require greater review depending on the scope of the project.

1. Schedule a pre-application meeting with the Planning Department
2. Based on meeting submit appropriate application and applicable fees
3. Proposed subdivision scheduled for Site Review Committee (Committee made up of staff of the Planning Department, Department of Public Works and the Whitefish Fire Marshal)
4. Notify, if applicable, appropriate advisory agencies including but not limited to: Post Office, MT Fish, Wildlife and Parks, School District, County Road Department, and MT Department of Transportation.
5. Based on comments at Site Review Meeting and advisory agencies submit additional material:
   - If the proposed subdivision is a major subdivision (6 or more lots or a subsequent minor subdivision from a tract of record) the following also applies:
     - Notify adjoining property owners within 150 feet of proposed subdivision a minimum of 15 days prior to Planning Board hearing and place legal advertisement of meeting in local paper
6. Based on information and comments received from Site Review Meeting, advisory agencies and adjoining property owners (if applicable) planning staff writes up a staff report and provides the Planning Board with a recommendation.
7. Staff report based on following findings:
   - Effects on: local services, natural environment, wildlife and wildlife habitat, public health and safety, and;
   - The proposed subdivisions conformance with: The Whitefish Zoning Regulations, The Whitefish Subdivision Regulations, The Whitefish City/County Master Plan and the Montana Subdivision and Platting Act.
8. Based on the above findings planning staff provides a recommendation to the Planning Board
9. The Planning Board holds a public hearing and in considering all pertinent information, provides a recommendation to the City Council
10. The City Council reviews the application, Planning Board recommendation, Planning staff report and other related information and either approves, conditionally approves or denies the proposed subdivision.

Crystal Clear Or Clear as Mud?

-Mike Koopal, Executive Director of the Whitefish Lake Institute

My dad is a Montanan at heart but lives in Iowa. He's always sending me clippings from the *DesMoines Register* to keep me posted on environmental issues facing the "Hawkeye" state. There seems to be an endless stream of articles detailing the degradation of Iowa's waterways.

Causal agents range from feeder lot nutrient runoff to the new threat of toxic discharge from the burgeoning ethanol industry. Add to the mix the pressure to obtain the greatest yield from every square foot of acreage and it's regular practice of farming right up to the stream bank. This adds sediment and delivers liberally used fertilizers and pesticides to the waterways. Thus, the streams and rivers that act as the arteries that feed the breadbasket of our nation are plugged with a toxic plaque making Iowa one of the most contaminated states in the union.

The latest article that my dad sent me really provided a parallel perspective to Whitefish Lake. The headline read *"Clear Lake tainted 4 years after alert."* Located in north central Iowa, Clear Lake is considered a "premier" resort, popular for sailing and fishing, with good beaches for swimming.

Touted as one of the most intense studies in the state's history, a researcher from Iowa State University found that over a two year period the lake had algae and bacteria problems posing human health risks. Problems pointed to nutrient loading from upland management practices. This year, the most popular beach on the lake had warning signs posted suggesting swimmers stay out of the water eight of the 17 most heavily used weeks in the summer. Last year, warnings were posted 16 of the 23 weeks that were sampled.

As I finished reading the article, I couldn't help but go back to the headline. After four years, a solution to the problem has yet to be found? The lesson is that it's harder and more costly to clean up a lake once it has been degraded, than to keep a lake clean to begin with. It just takes a little vision.

It's unfortunate that the Clear Lake study didn't happen much sooner. I would bet that the nutrient problem and human health risk have existed for quite some time. I visited Clear Lake as a young boy, and the only thing I remember about it were the dead fish along the shoreline, a punctuated memory.

I traveled to Iowa recently and attended a lecture at Drake University by Dr. Jane Goodall, the famous chimpanzee researcher. She was upfront about the way Iowans have treated the land. She was discouraged that many songbirds have disappeared from that state and she touched upon how high density hog confinements and pesticide use are degrading the landscape and waterways. "We didn't pay much heed to Rachel Carson, did we" is how she summed it up, referring to the landmark environmental book *Silent Spring* written in 1962, warning us of the consequences of pesticide use.

I'm sure Clear Lake was aptly named and this is what concerns me. Whitefish Lake is crystal clear yet what goes on below the surface is complex and subject to the increasing pressures we place upon it.

The Whitefish Lake Institute is in the process of developing a long-term monitoring program for Whitefish Lake. This is being accomplished through an open dialogue with all interested stakeholders. We need to utilize the collective strength of all who cherish the lake to keep it from becoming the valuable resource that once was. Our mission is crystal clear.

Whitefish High School students Alex Adams, Lindsey Stutzman and Emily Butz listen as their science teacher, Chris Ruffatto, makes a point at the recent Whitefish Lake Monitoring Meeting. Jane Solberg, former member of the Whitefish Lakeshore Protection Committee is pictured at Chris' left.

(*Whitefish Lake Meeting– con't from page 1*) that will be very expensive, if not impossible, to reverse.

Meeting participants concluded that in order to document the changes that are occurring in the lake, data for some primary response variables will need to be collected regularly. They include primary productivity, periphyton and macrophyte (attached and rooted plants) communities, a critical lands analysis, and determining oxygen/temperature profiles.

The meeting was well attended by state and federal government personnel, members of the Whitefish Water and Sewer District, Dr. Jack Stanford and Jim Craft from the Flathead Lake Biological Station, three Whitefish High School students, and members of the Institute's two committees and Board of Directors. –MK

Defining Lake Use and User Densities

During this past summer, the Whitefish Lake Institute completed a census of boats and boat docks in use by lakeshore residents. The purpose of the census was to initiate an understanding of user dynamics and the potential effects to the lake ecosystem. This information, blended with a community survey effort currently underway at the Institute, will provide a comprehensive dataset that will determine lake use density patterns.

The study included all boats moored along the lakeshore and stored up to 20 feet above the high water mark on the shoreline. We found that there were 509 motorized watercraft parked around the lake. This included 298 boats,140 personal watercraft and 71 pontoon boats. We found 461 non-motorized boats including 134 canoes, 135 kayaks, 61 pedal powered boats, 27 sailboats, 8 scull boats, 78 "john boats," and 18 that were classified as other.

An actual count of boats in use on the lake was then conducted and it was found that 106 motorized watercraft, including 65 boats, 28 personal watercraft, and 13 pontoon boats were on the lake. We also observed 2 kayaks. We made the conservative assumption that at least 1 in 4 of these boats came from shoreline docks as opposed to being launched from City Beach or the State Park, and that immigration and emigration of boats from boat docks were equal during the survey. Adding that percentage to the actual count, that increases the total estimate to 536 motorized and 462 non-motorized watercraft parked around the lake by shoreline residents. This equates to one boat per 86 feet of shoreline.

We also inventoried just how boats were stored or moored around the lake. We found that there were 721 available parking spots for watercraft, including; 278 docks (43 of which had 317 boat slips), 81 off-shore mooring buoys, 24 boat houses, and 64 elevated mooring stations.

We broke the lake down into six different geographic areas with similar shoreline lengths for comparison. We found the lowest density of boats and docks on the west shore from the State Park halfway up to Lazy Bay. This is compared to 13 times that density from City Beach to Houston Point on East Lakeshore Drive.

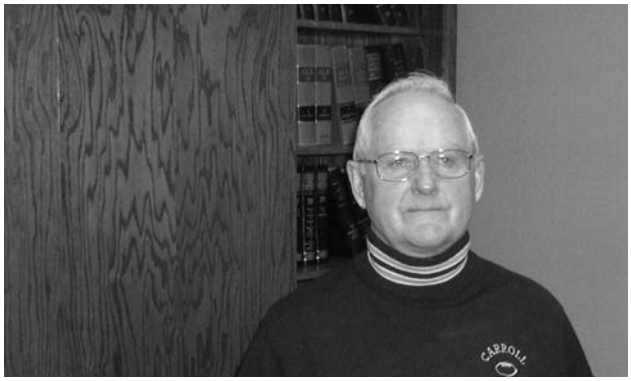
More lake density data is needed to determine appropriate levels for protecting Whitefish Lake while maintaining the satisfaction of recreationalists. Look for our community survey in the City of Whitefish Winter Newsletter. - MK

Institute Gets Research Vessel

Bill Leonard, member of the Whitefish Water and Sewer District, and long-time Whitefish resident has generously donated a pontoon boat to the Institute.

Bill purchased property on Whitefish Lake in 1968 and became a permanent resident in 1978 after retiring from the military. Since 1982, he has been a leading force in protecting Whitefish Lake when he began serving on the Water and Sewer District.

After undergoing a minor retrofit to serve the Institute's specific needs, the boat will be used for scientific data collection and for educational outings.



Thanks Bill !

Whitefish Lake Facts

Maximum depth	= 223.0 ft.
Average depth	= 109.4 ft.
Surface area	= 3,315.4 acres
Shore length	= 16.3 miles

(Data obtained from MFISH website)

Looking ahead….some things we're working on for the Winter 2006 Issue

- **An update on our Water Quality Monitoring Plan.**
- **Results from our grade level 4, 8, and 11 Whitefish Lake User-Survey.**
- **What happens in the lake during the winter?**

visit us at www.whitefishlake.org

Thank you early supporters of the Whitefish Lake Institute!

Your vision has helped the Institute get on its feet. Early sponsors have provided much needed financial support. Special thanks goes out to the Board of Directors and Committee members who have donated countless hours of their time and expertise. We still need to inform others of our mission and build a collective voice for our area lakes. If you know of an individual or business that might want to support the Institute, talk to them about our efforts, and give them the membership form provided at the bottom of this page.

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Please mail membership information and your tax-deductible charitable contribution to:
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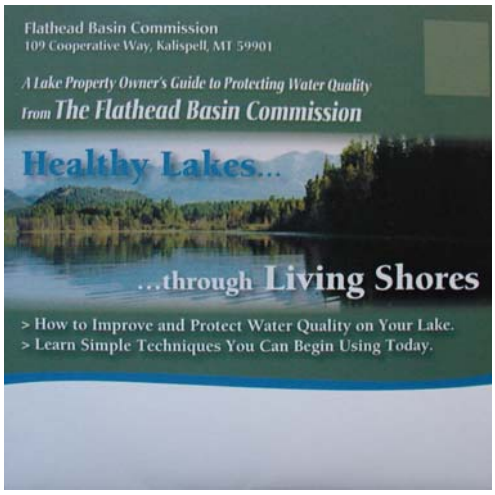
"Healthy Lakes... through Living Shores," a 17-minute video production stressing best management practices for area residents who live on lakes, is available free of charge from the Flathead Basin Commission (FBC).

Shot on location on lakes throughout northwest Montana, the video features both expert advice from such authorities as Dr. Jack Stanford of the Flathead Lake Biological Station and Dr. Paul Hansen of Bitterroot Restoration as well as practical commentary from local residents who are involved in the FBC's volunteer water quality monitoring project and utilize Best Management Practices on their lakeside residences.

The video provides side-by-side examples of exemplary land management practices as well as those that are less successful and may contribute to water pollution. The concept of "living in the landscape" through preserving native vegetation and minimizing landscapes that require heavy maintenance is stressed. Among the techniques presented are "landscape editing," through which having a nice view can be achieved through selective cutting and pruning, and using a "buffer zone" of native plants to reduce run-off pollution.



Copies of the video, available in DVD format playable on most computers and in home DVD machines, are available by contacting the Whitefish Lake Institute office or from the Flathead Basin Commission at 752-0081.

The video was produced through funding provided by a 319 grant received from the Montana Department of Environmental Quality. The FBC is a quasi-government, non-regulatory organization established by the Montana Legislature in 1983 to monitor and protect water quality in the Flathead River Basin of northwest Montana. The basin includes the Whitefish, Stillwater and Swan Rivers and extends from the headwaters of the North Fork of the Flathead River in southeastern British Columbia to the Jocko River near Arlee, and includes most of Flathead and Lake counties. For more information, visit the FBC's website at www.flatheadbasincommission.org -Mark Holston, FBC