HAYDEN LAKE WATERSHED ASSOCIATION, INC.

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PRESIDENT'S REPORT
President Geoff Harvey

After a high water wet spring with high water persisting well into the summer, fall 2011 and early winter 2011 and 2012 have been quite dry around Hayden Lake as the weather has throughout the Pacific Northwest. After some early snow in mid-November, most of which was rained away shortly after at low elevations, little precipitation occurred between the third week of November and the third week of January. As a result, the lake has fallen to a very low level. A large snowfall in late January may go a long way to even the balance sheet, but our lake's watershed remains well behind the average precipitation received annually. Low lake levels may be a problem next summer, affecting both lakeshore owners' beaches and docks.

The U.S. Forest Service released its draft forest plan for the Idaho Panhandle National Forests a few weeks ago. The draft that was ten years in the making due to legal wrangling is out for public comment. Since 63% of the watershed of Hayden Lake is federal land managed by the Forest Service, the plan's prescriptions are important to the continued health of the lake. All the Forest Service managed lands of the lake's watershed are classified as general forest. The exception is the relatively few acres of the English Point area the agency manages. English Point has a management direction of intensive recreation that reflects the recreational trail system provided. The general forest direction is management for multiple resources as timber growth and harvest, high water quality and fish habitat dispersed motorized recreation and wildfire control especially in areas of urban forest interface. This direction is little changed from the earlier forest plan. To the Forest Service's credit, a good deal of funds and effort has been spent in the Hayden Lake Watershed to close and decommission old roads placing them in a condition less likely to yield sediment and phosphorous to the lake. In addition, the forest that was heavily harvested from the 1950s through the 1970s has regenerated from the plantings, producing a more stable watershed. The Association will continue to review Forest Service's project plans and will remain vigilant for practices or projects we believe have a potential to harm the lake. The Association will continue to lobby the Forest Service to make improvements such as replacement of culverts along the Ohio Match Grade.

Late last year appeals by the Association to the Governor's Office concerning the existing Hayden Lake Watershed Improvement District came Steve Meyer and Mel Schmidt as new directors. The District has existed since the 1960s, but has been inactive since at least the early 1990s. The Association believes the District can be the tool to implement the activities necessary for the protection of our lake and its unique environment. These activities include management of aquatic weeds, removal of abandoned docks and other floating debris, storm water management, water quality monitoring, and management and other actions that benefit all of us living around the lake. The District has the authority to assess fees to pay for these activities. The Association came to the conclusion some time ago that these activities would only occur if the residents around the lake pay for them. Unfortunately, the state and the county only provide excuses for their inability to address Hayden Lake's pressing issues . The Association believes any fee assessment should be approved by the voters of the District. The new directors will appoint a third director. The directors will develop a list of activities the District proposes to implement

together with a budget to accomplish the work. The budget will be translated into a fee that is strictly limited by Idaho law. The District's voters will be asked to approve the fee based on the planned improvement projects. The Association will be carefully tracking the District's work to assure it benefits the lake and the landowners around it.

New Board member appointed!
We are pleased to welcome Joe Threadgill as the newest HLWA board member. Joe has been the camp manager of of Camp MiVoden for 11 years, is an avid triathalete, and even completed the Ironman twice! Joe is married and has three sons. Thanks Joe for your willingness to serve for our lake!

SECRETARY'S REPORT
By Chris Meyer, Secretary
Slowly but surely we're still working on the revise HLWA website, keep an eye out for it to launch this spring!

MEMBERSHIP APPLICATION FORM

Name_____
Local Address_____
_____
Local Phone_____
Winter Address_____
_____Winter Phone_____
Cell Phone_____
Email Addresses_____
_____
Dues Payment ($25)_____
Donation _____
Total _____

Mail To: HLWAI
P.O. Box 3583
Hayden, ID 83835
HLWA@imaxmail.net

Sportsmen's Access reconstruction update:
According to Chip Corsi of the Idaho Department of Fish and Game, the funding for this project was received too late in the year for them to secure the necessary permits during the summer construction season. The renovations are expected to be completed during the summer of 2012. We'll keep you posted as we learn more.

ISSUES AROUND THE LAKE
by Todd Walker, Lake Manager

Hope all of you around the lake have enjoyed the mild weather. The lake, on the other hand, took quite a hit a couple of weeks ago when we had a rain on snow event. As I drove around the lake I could see we still have many places on the south shore that are vulnerable. Too much silt and phosphorous from the road is getting into the lake. In these events the ditches and swales cannot contain the amounts of stormwater coming off the hill and the overflow runs directly into the lake through overflow culverts. These vulnerable areas will be impacted adversely with more development. This leads me to consider the need to address this situation now, and a concern we had late last summer regarding the Hemlock Hills subdivision. There was much protest to the proposed plan by neighbors and the plan for 36 homes on approximately 40 acres was rejected by the county commissioners. This developer is now working on a new plan in which he has 4 separate parcels and plans to present them to the County Commissioners as 4 separate short plats which would allow 4 homes on each parcel for a total of 16 homes. This process is simplified and means the developer will have fewer requirements to fulfill than on a long plat subdivision. Obviously, 16 homes compared to 36 seems to be a more fitting use for the land, but the concerns of the project impact itself are still not addressed. Specifically, it has steep slopes and weak soils, as well as the proximity to the lake. This is something to keep on the radar in the coming months.

Please feel free to call me with questions, comments, and information that you'd like to share at 771-0525.

TREASURER'S REPORT
By Gloria Lund, Treasurer

It's that time of the year that I dislike the most. It's time to ask you to *PLEASE* send in your dues. Out of almost 260 homeowners surrounding our lake that have shown an interest in receiving our newsletter, only 32 have paid dues. Fortunately, 10 of those 32 have sent donations of $100 or more which has helped us to remain solvent. I have hesitated to send notices to you because of the high cost of mailing. There are better uses for our limited funds. Most of what we receive in dues goes to pay Todd for his very thorough work of checking work being done around the lake and getting answers for you when you have questions.

If you have questions regarding your account please contact me anytime at glolee@roadrunner.com

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SPECIAL REPORT: PHOSPHOROUS LEVELS IN HAYDEN LAKE
By President Geoff Harvey

You may have heard over the years that phosphorous can be a negative influence on the water quality of lakes and streams. Certainly the presence of too much phosphorous in the water of Spokane River has a negative impact on the waters of Long Lake, an impoundment of the river in Washington. As remote as that problem seems to you living around Hayden Lake, if you are served by the sewer, it is quite likely going to double your sewer fees.

So what is phosphorous and why all the fuss about it in the Spokane River, and, to a lesser extent in Hayden Lake? Phosphorous is an element of matter, like carbon, oxygen, hydrogen, iron, and some one-hundred other elements, whose basic structure is the atom. Phosphorous does not exist by itself in the natural world, but rather combines with other atoms, typically oxygen, to form phosphate. The soda you may have been sipping on contains a large quantity of phosphoric acid, which is a loose association of hydrogen ions and phosphate in water. The term phosphorous then refers to any compound that contains the atom, but again, in the natural world, this is primarily phosphates attached to carbon based organic matter or soil particles. There are two classes of these phosphates, those that enter any solution of water at the range temperatures and acidity found in lakes, and those attached to particles that require high temperature and/or acidity to enter the solution. Only a small part of the phosphate present readily enters a water solution under the normal range of conditions. However, this small fraction is difficult to measure, and living systems like algae have devised chemical means of salvaging phosphorous that is bound to soil particles. For these reasons total phosphorous is typically the value measured and on which goals are set.
Those of you familiar with lawn or garden fertilization know that nitrogen (actually the nitrate), phosphorous (actually the phosphate), and potassium (NPK) are the primary active ingredients in most fertilizers. Plants, whether the grass of your lawn, trees in the forest, vegetables in the garden, or algae, which are microscopic plants floating in the lake, require several elements in various compounds to grow. However, nitrogen, potassium, and phosphorous are those most likely to be limited in the soil and therefore, limit the amount of plant growth. Some soils lack nitrogen but have plenty of phosphorous or potassium, while other soils may lack either of these two elements and have plenty of nitrogen. In the lake waters of North Idaho, scientific research

has demonstrated that phosphorous (phosphate) is the most limiting of all required elements to plant (algae) growth.

Since phosphorous is naturally being mobilized by erosion from the land and carried into the lake by water, this limitation of algal growth is a balance: too much phosphorous results in too much algal growth. As an example, one pound of phosphorous as phosphate would grow algae sufficient to turn and area of 3,144 square feet of lake surface essentially so green that it would appear black to the eye. This would be an area off your beach a little in excess of 100 feet long and 30 feet wide. Excess algal growth becomes a nuisance when the algae dies and decays using up the dissolved oxygen required by fish and other lake organisms. This scenario is exactly what is occurring in Washington's Long Lake. However, if too little phosphorous is available, algal growth is limited. Since algae convert the sun's energy to chemical energy that is used by most of the living creatures in the lake, too little phosphorous is a problem. Dams on the tributaries to British Columbia's Kootenay Lake have limited its phosphorous content in the lake causing problems sustaining its fishery.

So where do we stand with phosphorous in Hayden lake? Hayden Lake's phosphorous is slightly above, three-quarters of a microgram per liter of water, the concentration believed to be optimal to both maintain its clear oxygenated waters and its trout fishery. To maintain the water quality of the lake, we need to reduce phosphorous inputs to reach a goal of 7 microgram phosphorous per liter of water.

How can these reductions be achieved? We must be vigilant that our sewage effluent, rich in phosphorous, does not enter the lake. Remember that soda you sipped? It does not stay with you nor does all the phosphate that it and other foods contain. It enters the sewage stream. The replacement of Mivoden's outdated sewage system with a land application system set back nearly a mile from the lake is a large step forward. Those owning on-site septic systems should be aware that these systems, which have a limited functional lifespan, are properly operating and treating their waste. We must be vigilant concerning land disturbance activities in the watershed. Soil particles have phosphorous attached, and when these particles are washed into the lake that phosphorous is potentially available for algal growth. Whether it is the Forest Service or Highway District building a road or a resident developing their lake lot, vegetation and soil disturbance can result in additional phosphorous entering the lake. Just the act of removing the vegetation from a lake lot, is estimated to double the amount of phosphorous erosion and yield from that lot. Thus, it is important to limit vegetation removal to that necessary and to apply prescribed best management practices like erosion fence, storm water retention and treatment, and infiltration of water back to the soil to protect the lake. Finally there are a number of other routine activities that lake shore and watershed land owners might do on their property that could increase phosphorous yield to the lake's waters. The Association has provided a homeowners guide available on this web site to provide you the best recommended methods of curtailing the phosphorous loading impact and others you may have on the lake.

Are you still getting this newsletter in the traditional mail? Please help us save your precious dues money and get the newsletter via e-mail! Send your e-mail address to HLWA@imaxmail.net and we'll add you to our digital distribution list. Thanks!