

**HAYDEN LAKE WATERSHED ASSOCIATION  
BIANNUAL NEWSLETTER**

**March 4, 2022**



*“Our vision is for Hayden Lake and the overall watershed to be managed, protected and restored to maximize environmental, social, recreational and economic values. We seek to accomplish this with involvement of a broad spectrum of stakeholders.”*

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## President's Message

HLWA President Jan Wilkins



At the January meeting of the Board of the Hayden Lake Watershed Association, I was honored to be elected as the President. I will be serving alongside our new Vice President Will Neal, and re-elected Treasurer Barb Neal. Fortunately, Will has agreed to also continue in his role as our Technology/Communications officer. Geoff Harvey will assume the role of President Emeritus and will continue to oversee our

Honey Badger and FSR437 projects, as well as monitoring our science-based interests.

The Board members at large are Gil Rosner, Shawn Hathaway and Leda Kobizar. We are still in need of a Recording Secretary and would urge that if you or someone you know would be interested in serving on our board in this or in an at-large capacity that you contact me. We have a hardworking and results oriented board and it is a great privilege to serve with all these folks.

You will see from the following Bi-annual update that our agendas are full dealing with proposals and conditions that could have permanent and irreversible consequences for the future of the lake as we know it. We will continue to keep you informed through our website as activity occurs that you should be aware of.

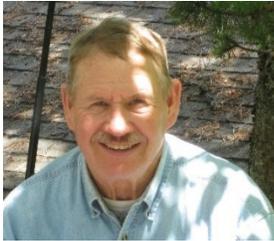
One item of business: [Please pay your annual dues](#) if you have not already this year. Go to our website to see the PayPal or mailing options. Thank you in advance!

We would like to express our immense gratitude and admiration for past president Geoff Harvey's knowledge, experience, and contributions to this organization. His greatest achievement may be the publication of his book, [Hayden Lake: A Brief Primer](#). The scientific and historical background that he describes will be an invaluable resource as we face new challenges. His efforts to record for us the wide spectrum of his understanding of the lake is his legacy and a great gift to us all for this and future generations. The book is available through Amazon, and I hope that you will read it.

Thank you, Geoff, for your many years of service and commitment to our lake and to our community!! We have impossibly large shoes to fill!

## Lake Water Levels

HLWA President Emeritus Geoff Harvey



Many are staring out across docks sitting on the bottom in a little water or worse sitting in a mud flat with the water well out from the usual shoreline. Others are looking at waterless fishing locations or just witnessing Hayden Lake astonished by the low level of its water. Very few have seen Hayden Lake this low. In fact, we know of only one other who described similar low water that occurred in the early 1940's. Pat Lund is most likely the oldest person still around who has been associated in one manner or another with Hayden Lake for over eighty years.

As a young boy, Pat visited his grandfather, who lived in the home that has been Pat's own home for over fifty years. The Bursar's House of the former Clark Estate is on the lake's south shore just west of the Clark House. Pat visited prior to World War 2 in summers of 1940 and 1941. A few years back, while trying to track down the Hayden Lake dike's history, Pat said that during that visit he walked the sandy beach well out from shore around to Sandy Bay. Anyone familiar with that piece of shoreline knows that would be impossible at the ordinary high water.

At the time I took it to suggest the dike was not present but learned from other records that it was and had been since 1910. Pat was describing another instance of the low water in the Thirty's and early Forty's. One similar to the event, we are currently experiencing. His experience is vast enough to have witnessed this before, few others go back even half as far.

All this is borne out by water level data collected since 1920. The graph below is a plot of data collected by the U.S. Geological Survey and much later the Watershed Improvement District. Note the water level reached the lowest recorded in December 1931, but water levels were still quite low in the early Forty's as Pat described; roughly, ten feet lower.

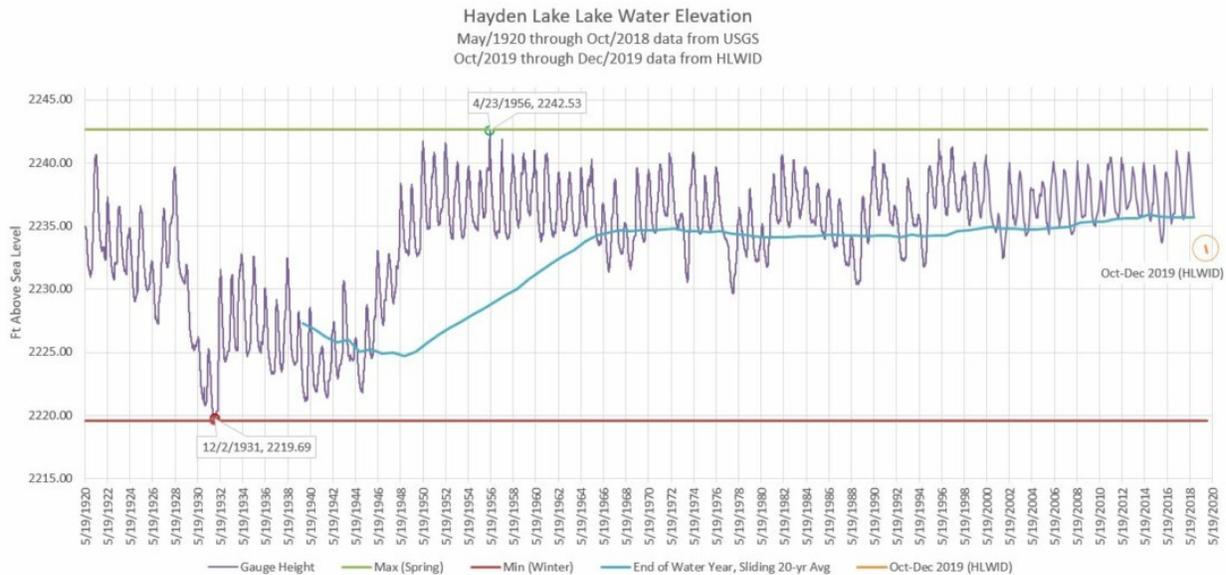


Figure 1 - Graph a product of the Hayden Lake Watershed Improvement District

There are more than a few explanations for such low water. Foremost among these is input of water from the watershed. Based on precipitation measured at Boyington Field, the closest recording weather station, 3 miles west, a little over ten inches less precipitation was received in 2021 (10.32”) as compared to 2020 (20.72”). No precipitation was recorded between April 2021 and September 2021 and less than an inch each in the two preceding months (February and March). If one examines the snowpack data for 2020 and 2021, the average of the two closest Snowtel Stations, records eleven inches less water equivalent in 2021 (39”) as compared to 2020 (50”). Input to our lake suffered through the 2021 water year by a conservative estimate of 20% and more likely a higher percentage.

There are afoot other explanations that may at least contributed to the low lake levels. Dalton Irrigation District pumped nearly unrestrictedly from the lake during the very hot summer months. Separated by a ridge from Hayden Lake, those irrigating to the south were rumored to be watering in the heat of the day, sometimes 3 times a day.

One fact is certain, although the irrigation district has a limit on its water right, it does not gauge its withdrawals, so no record exists of its actual water use. The country club also irrigates a part of its golf course from Hayden Lake, but its withdrawals are likely modest as compared to those of the Dalton Irrigation District.

Another theory being considered is that the bentonite plug installed many years back in the Honeysuckle Bay whirlpool site has failed. The existence of a whirlpool goes back to the First Nations legends concerning the lake, long before Matt Hayden won a game of seven up and gave the lake his name.

The whirlpool was an expression of a very porous area in what is now Honeysuckle Bay. Water infiltrated rapidly into the Rathdrum Prairie Aquifer at this location, so rapidly that a whirlpool was established at high water. At an unknown time and unknown place to any these days, Mitch Tobler, Mr. Perry, (owner of the Bear Creek Lodge,) and possibly others plugged the whirlpool site with bags of bentonite a clay substance used to seal ponds. Bentonite is a very stable substance that does not readily decay.

Another theory is that pilings driven into the lake in the Honeysuckle Bay area may have ruptured the bentonite seal. Although possible, it is less likely that these possibilities are contributing to the low lake levels.

So, these are the credible potential causes for our low lake levels in order of probability from fairly high to much lower. The Watershed Improvement District and Association plan to monitor the situation closely. Where positive changes are possible, the Association will pursue them. If, however, we are up against a bad spate of weather like evidently occurred in the Thirty's and early Forty's, we may all have to endure until the weather changes.

## **Honeysuckle Boat Ramp Relocation**

HLWA President Emeritus Geoff Harvey

The City of Hayden owns the Honeysuckle Beach and Boat Launch facility. Unfortunately, the facility's popularity has caused several negative interactions between boat launching traffic and pedestrians accessing the beach. In addition, the boat ramp's location at the end of Honeysuckle Avenue has led to periodic traffic incidents resulting in drownings. Parking in the lots has been assigned almost entirely to single car parking forcing most vehicles with boat trailers to park along Honeysuckle Avenue and on busy days around the corner onto the road cutting between Honeysuckle Avenue and Strahorn Road.

The City of Hayden set up a group to explore alternatives over a year ago. In January, the city released a draft plan to remedy the traffic, parking, and launch location issues. The plan would separate the boat ramp and the swimming area. The swimming area would remain in its current location with some enlargement of the beach sand onshore. The boat ramp and parking for boats would be moved to the south end of the dike onto a roughly five-acre parcel currently owned by the Dalton Irrigation District, where the current overflow channel is located. Boats would launch into Honeysuckle Bay. Temporary parking would be provided at a parking lot located in the gravel pit located at the corner Honeysuckle Avenue and East Hayden Lake Road. A shuttle bus would carry those parking at this location to the beach or the boat ramp until the launch and parking lot are completed.



The Association Board has expressed concerns that are shared by many of the members. These include:

- Honeysuckle Bay is shallow and would require dredging a trench. The trench would have to be at least 10 feet deep and 200 feet long to accommodate larger boats putting in from the new launch site. The fragile interface with the Rathdrum Prairie Aquifer could be compromised as a result.
- Honeysuckle Bay usually freezes in the winter. Fishermen and Commercial users would not be able to launch.
- Traffic impacts on Hayden Lake Road, including ingress and egress blockages and illegal overflow parking onto this busy, narrow road.
- the impact of additional power boat traffic on Honeysuckle Bay which has only recently been declared a no wake zone.
- the need to drive pilings into the bed of Honeysuckle Bay.
- the city's plan for forty (40) parking slots to accommodate boats trailers, when the Association's brochure distribution over the past three years indicates peaks of 70 to 80 boat trailers during high use periods. This leads us to believe that overflow parking will become a problem.
- impacts on lake overflow during high water years, when the plan would fill a significant portion of the lake's overflow capacity with a paved parking lot.
- impacts on wetland conservation lands set aside by easement on the Richards property; and
- the encroachment of the City of Hayden's crowd impacts on the peaceful south shore Hayden Lake communities.

Several studies of the potential impacts on Honeysuckle Bay, its connection with the Rathdrum Prairie Aquifer, traffic accommodation and control issues and impact to flood water capacity will be required before any decision could be made by the city. The city's working group will be managing the planning and planning studies required. Board members Shawn Hathaway and Barb Neal represent the Association on the planning group.

The Association has suggested remedies that the planning group has not considered. These include:

- Expand the temporary parking facility envisioned at the gravel pit to become permanent, using a shuttle bus to ferry users to the beach and boat ramp; and
- Place a splash pad at Finucane Park to expand water recreation opportunity and couple this with a shuttle to the beach and ramp area; and
- Continue to explore the alternative of re-locating the beach facilities rather than the boat launch. A beach and/or a boardwalk could take advantage of the shallow sandy lake bottom in Honeysuckle Bay for swimmers and other non-motorized users,

The Association will continue closely track issues concerning relocation of the boat ramp due to its potential to impact Hayden Lake and its residents. We will let you know when a proposal reaches the city council for consideration.

## **Forest Service's Honey-Badger Project Update**

HLWA President Emeritus Geoff Harvey

The Association has continued its active engagement with the Forest Service on the Honey-Badger Project. The project involves the entire portion of the watershed managed by the agency. This is 62% of Hayden Lake's watershed.



Based on the draft decision notice was issued in August, the Association filed a formal objection to the planning process. The draft decision and supporting documentation removed any consideration of the management of sedimentation from lower Hayden Lake Road (FSR 437) and the Hayden Creek Shooting Range. These two issues were the principal issues for the Association, hence the objection. A plan to remove and replace the road's lower section, rework other eroding sections, and manage the shooting range was developed by the Association and provided to the Forest Service to bolster its position. In October, representatives of the Association met with the Forest Service leadership and staff at a formal objection meeting. During the meeting Forest Service managers alluded to a separate process to address the road and shooting range issues.

The Forest Service recently committed to a process to explore the Association's issues with the road and shooting range. Two promising meetings on the road and shooting range have occurred. The Association is cautiously optimistic that the road erosion and lake sedimentation issues as well as the proper management of the shooting range can be

addressed. However, the Association still has planned alternate actions it can take if the process fails.

The Honey-Badger Project is now restricted to vegetation management and some trail building activities. Activities on the ground will likely not occur until 2024. Final harvest unit design and contracting will be underway soon.

## **Hayden Lake Water Quality Update**

HLWA President Emeritus Geoff Harvey

The Hayden Lake Watershed Improvement District just wrapped up another two years of water quality monitoring on Hayden Lake. The overall goal of the long-term monitoring is to establish the quality of the lake's waters not just in its main body, but in its north arm and major bays. Water quality problems typically arise in the shallower bays or in areas like that part of the lake's north arm north of Henrys Point; the section is a result of the 1910 impoundment of the lake by the dike. The past two years focused on the mid-lake to add to that record, but also Mokins and O'Rourke Bays. Part of these bays and certainly Mokins Slough were artificially expanded by the impoundment. Both bays are fed water by fully forested watersheds primarily under Forest Service management.

The main basin of the lake maintains very high-water quality. Monitoring at the mid-lake station evidenced by clarity up to eight meters and other physical measurements in the normal range. Dissolved oxygen increases with depth even when the upper waters of the lake's water column (epilimnion) is at its warmest. This absence of a dissolved oxygen "sag" (decline with depth) indicates that no buildup of organic material is indicated. Average total phosphorous for the two years of monitoring was 4.5 micrograms per liter (4 ug/L 2020; 5 ug/L 2021) well below the over thirty-year average of 7.5 micrograms per liter. Orthophosphate, the chemical species used by planktonic algae was typically undetectable and only on occasion rose to the 1 microgram per liter the detection limit.

The phosphorous data support the conclusion the main body of the lake is well into the desired oligotrophic range that ranges up to ten micrograms per liter total phosphorous. Monitoring of nitrogen chemical species found these at the expected range. Chlorophyll monitoring found this indicator of plankton productivity averaging below 1 microgram per liter. This data set supports the conclusion that lake productivity is what is expected. The data set is not complete. The analysis of the plankton present in the lake over the two years is not yet analyzed.

The same measurements were completed at monitoring stations established in Mokins and O'Rourke Bays. These stations are shallow with the entire water column warming during the summer season. Clarity reaches easily to the bottom and dissolved oxygen remains high throughout the water column. Total and ortho-phosphorous are a bit higher, but generally in the range of that found in the main body of the lake. Nitrogen chemical species remained in the expected range. Chlorophyll measurements typically reflected low planktonic productivity.

The situation changed remarkably in Mokins Bay and to a far lesser extent in O'Rourke Bay during the second half of the 2021 monitoring. As Mokins Slough shallowed and it

bottom was exposed, phosphorous increased dramatically. In response, chlorophyll a, the surrogate measure of planktonic productivity increased. Expected planktonic analysis results should better define the change that occurred in Mokins Bay as water levels declined during mid-to late summer 2021. The results we have to date suggest that declines in water levels and exposure of lakebed sediments may allow nutrients, especially phosphorous to escape into the lake water and enhance greater planktonic productivity and a decline in water quality.

## Boat Wake Management Update

HLWA President Emeritus Geoff Harvey

Damaging boat wakes have been a continuing concern for the shoreline owners of Hayden Lake. The Association worked with other groups concerned with wakes on the Spokane River and Lake Coeur 'Alene to lobby for an excessive wake rule. Although the groups believed a 500 feet limit was necessary to protect lakeshore and property, a 300 feet limit from the shore was set for Hayden Lake. Summer 2021 was the first full summer the excessive wake limit was in place.

The Association and the Watershed Improvement District worked to educate the boating public. Flyers were sent out to lakeside owners and were placed at marinas. Eye catching signs defining the limit were placed at the entrance to the Honeysuckle Boat Ramp and on two docks at key points on the lake.

Since it is unclear if the 300 feet limit is sufficient, the Hayden Lake Watershed Association set out to assess the effectiveness of the 300 feet limit. An electronic form was set up on the Association's website where complaints concerning excessive wakes and their impacts to shoreline and property. The Association is looking for records of substantive cases that are well documented to demonstrate, if there is compliance the 300 feet limit and whether it is effective.

Another approach to assess compliance was the use of remote cameras. A set of two cameras were mounted on a dock located near a limit marker buoy. One camera photographed boats running near the dock while the second was activated by the motion of the dock as the wave came to shore. The second camera viewed a gage on a stationary dock piling and allowed the height of the wave to be measured. A single camera platform was deployed last year, and considerable data was collected and is being analyzed. However, this was a learning season, and the approach is expected to be more efficiently applied during the 2022 season.

While the Association was working on limit effectiveness, the Hayden Lake Watershed Improvement District is addressing the number of limit marker buoys. Currently, the District owns and manages 14 buoys marking the 200 foot no wake zone and three buoys marking the no wake zone in Honeysuckle Bay. The district is planning to roughly double



the number of marker buoys to better define the limit for boaters. The Watershed Improvement District is currently applying directly to the Idaho Department of Lands for these additional buoys.

## Treasurers Note

HLWA Treasurer Barb Neal



On behalf of the HLWA board I would like to thank our members for their continued support. Our membership numbers have grown significantly in the past two years. We are a 100% volunteer organization so all dues and donations are used for education and projects.

In addition to membership dues and donations, the HLWA was recently awarded two grants. One from the Innovia Foundation and the other from the CDA Tribe (Winter Blessing). Each grant was for \$1,000.

Your financial support literally protects and restores environmental health, sustainability, and scenic beauty of the Hayden Lake Basin. You are the stewards of this special area and without your support we would be hard pressed to accomplish with what we do. Here are just a few things that your money has supported:

- Distribution of informational handouts at boat launch sites about lake regulations.
- Wildfire prevention materials mailed to residents in the watershed.
- Website development to keep members informed on current issues.
- Outreach educational materials mailed to owners of short-term vacation rentals informing their visitors about current regulations.
- Funding for an informational booth at Hayden Days this summer.

HLWA is a public, non-profit 501c3 organization EIN 86-1130379 and donations are tax deductible to the extent allowed by law per IRS Publication 526.

Again, thank you for your continued support.

Barb Neal, Treasurer