Hello Master Water Stewards,

As I write this, the air is not as smoky and dry as it has been, but our drought is far from over. Fires continue to burn, and our streams are below the normal base flows of late summer. Fish populations are extremely stressed throughout the region due to excess water temperatures, low dissolved oxygen, and low flows. As an example, for the first time in history, the Potlatch River’s flow is almost all sub-surface, through the pebbly substrate, leaving disconnected pools with nary a trickle between. These are unusual conditions, and I am proud and relieved that there are Master Water Stewards out there, keeping an eye on water quality of Idaho’s streams. The importance of continued monitoring under these conditions cannot be overstated. The data collected from years of extremes helps researchers to better understand how systems exhibit resilience under extraordinarily stressful conditions.

This summer was busy here in Coeur d’Alene. I would like to welcome the 108 new Master Water Stewards we trained during 2015. The list includes 14 high school students from the Sandpoint area, 30+ K-12 teachers, and Landscape Architecture design students (who got a rare window into the world of science to bolster their design mindsets). This success was not possible without partnering with educational-oriented organizations, including Master Naturalists (Sandpoint and Lewiston area), City Councils, Idaho Extension offices, the Boise WaterShed, many School Districts, and several small education-based nonprofits across Idaho: PCEI, SOLE, FTR, KEA. Volunteers established 26 new monitoring sites this year!

Upcoming volunteer opportunities include assisting with developing a bi-state interpretive trail and outdoor classroom in the Coeur d’Alene and Spokane areas (with help from a grant I landed!), design assistance with a new playing cards project, planting riparian native plants, and assisting with educational opportunities with hands-on learning programs such as The Confluence Project, ISTEM From Excellence, and school district field science days.

I am certainly looking forward to cooler and wetter days ahead. Keep in touch and be safe out there in the field!

Happy monitoring!

Jim Ekins

P.S., let me know if you need monitoring kit resupplies!
Remember! Check your monitoring kit equipment for expiration dates! Contact us for replacements.

Volunteers in Idaho’s five northern counties have had an opportunity to help IDAH2O to collect a separate set of water quality data twice a year during our Snapshot Events. Master Water Stewards arrange to collect a grab sample of water from the monitoring site. These samples are kept cold and hand-carried to our Coeur d’Alene Lab. For volunteers in the Sandpoint and Moscow areas, Marie and I arrange for a drop off site for the samples. The procedure is outlined on the IDAH2O QAPP.

These snapshot events have provided high quality bacteria, nitrate and total Phosphorus data using standardized methods. These data are sent back to each participant, and are published on our website.

In consultation with our Advisory Board, we have found that our equipment often does not have a sufficiently low detection limit for Phosphorus. That is, it is not always able to provide a statistically accurate phosphorous reading. Phosphorous is the limiting nutrient in our lakes and streams, and even small amounts of phosphorous increases the risk of toxic algae blooms, unwanted plant growth, and low dissolved oxygen for fish.

Therefore, IDAH2O brought much greater value to the Snapshot events by outsourcing the P test to SVL Labs in Coeur d’Alene, ID. These data will be useful in supporting TMDL nutrient (Phosphorous) implementation and assessment. This much-improved test cost us more. Even with Extension providing partial funding, the per-sample cost increased to $35. And, it took considerably longer to get the P data back. However, these data hold much greater significance to the water scientists who rely on them.

IDAH2O plans to hold the Fall 2015 Snapshot event in conjunction with the Boise Watershed Watch event. Their event is on a Saturday, but we would hold ours on the Thursday or Friday before, likely October 8th or 9th. We will confirm with all the north Idaho Stewards within the next month.

### Snapshot Event Data

**story by Jim Ekins**

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<th>Site Description</th>
<th>Nitrate (mg/L)</th>
<th>Phosphorus (mg/L)</th>
<th>Coliforms (MPN/100mL)</th>
<th>E. coli (MPN/100mL)</th>
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Summer 2015 IDAH2O Workshops stats

There were 12 IDAH2O workshops this year throughout Idaho. Workshops were held in every town that traditionally has had a workshop, including Bonner County (Sagle, near Sandpoint), Coeur d’Alene, Moscow, McCall, and Boise. Additionally, by working with the new Master Naturalist chapter in the Lewiston metro area, the first ever MWS workshop was held there. While Driggs didn’t work out this year, I am considering a southeastern Idaho circuit that might include Driggs, Salmon, Pocatello (or even Bear Lake or Preston), Twin Falls, and/or Idaho Falls.

A partnership with Selirk Outdoor Leadership and Education brought the entire IDAH2O curriculum to a class of students at Lake Pend Oreille High School last spring. I also taught elements of IDAH2O to high school students throughout N Idaho through a partnership with The Confluence Project.

111 people attended this year’s workshops, including at least 35 K-12 teachers or pre-service teachers (those in their final year in the University of Idaho College of Education). I set up 26 new monitoring sites for volunteers in several parts of Idaho. These sites include very small creeks, larger creeks and lake systems, and even a side channel of the Boise River.

Kootenai County Fair 2015

IDAH2O is well represented at the 2015 Kootenai County Fair. University of Idaho Coeur d’Alene is the prominent sponsor for the fair, and IDAH2O jumped on an opportunity to make a splash! I set up the stream table for the entirety of the fair, and about 300 kids from around the area were able to better understand how riparian/streamside vegetation and large woody debris act to stabilize streambanks and beds, and provides more complex habitat for fish and macroinvertebrates.

Spring 2015 Youth Water Summit

IDAH2O partners with University of Idaho’s Waters of the West program to offer an innovative and impactful high school program called The Confluence Project. High school students from around North Idaho find and research watershed related problems and then develop solutions. The students then develop poster presentations and travel to the University of Idaho’s Moscow Campus for two days to present these inquiry projects to UI researchers, community leaders, and their peers at the Youth Water Summit.

About 200 students presented at the Spring 2015 Youth Water Summit. I had the pleasure of working with multiple high schools in N Idaho as a resource and mentor for the students. The students’ work was above and beyond anything I expected. As an example, check out two students’ stormwater education video: https://www.youtube.com/watch?v=GWU1AlE6F7k&list=PL6g6ZYcM47s_VamxUI_xUQywtnA0CNF2T. This project could not be possible without the funding support from an EPA Environmental Education Model grant.

UI Extension Uses $37,000 Grant to Protect Water Systems

The University of Idaho Extension water education program has received a $37,000 grant from the National Fish and Wildlife Foundation to educate the public on the vulnerability of the Lake Coeur d’Alene and Spokane River water systems.

The project, will use native plants to create natural storm water pollution treatment and install signage along 60 miles of shoreline to educate tourists about how to protect the region’s pristine waters. An outdoor classroom will be built near the University of Idaho Coeur d’Alene. College and high school students will help plant the areas and conduct research as part of a service-learning component within the Confluence Project.

A service learning part of the project follows the efforts senior-level University of Idaho English technical writing class. A student team helped write an additional $3,000 grant from The Mountaineers Foundation to add to the project.

As part of the project, Ekins is working with 24 local and national partners — including all of the cities along the waterway, Coeur d’Alene Tribe’s Lake Management Division, and the North Idaho and Washington Centennial Trail Associations — to plant 1,000 native plants in waterside gardens along Lake Coeur d’Alene and the Spokane River. The gardens create natural storm water pollution treatment. This resulting bio infiltration swales and riparian buffers will filter sediment, petroleum, metals, and other impurities from storm water before it can reach lake or river. The areas will act as demonstration and educational sites for the public.

Signs with QR codes at the sites will help passersby connect to online information about the project. The signs will also act as virtual geocaches, offering an educational scavenger hunt for kids. The project began in August 2015 and is expected to be completed over two years.
This summer, Kootenai Environmental Alliance, Idaho Department of Environmental Quality, the University of Idaho and North Idaho College INBRE is working cooperatively with the Hayden Area Regional Sewer Board to launch eight floating treatment wetlands into four bays around Hayden Lake for monitoring and research. The wetlands are about 10’ x 10’, and planted with forbs, rushes, and grasses to absorb excess nutrients from the water. These nutrients are one primary cause of increasing cyanobacteria (blue-green algae) blooms in recent years.

The water around the wetlands was monitored regularly throughout the summer to see if there were any noticeable improvements in water quality. Plants will be harvested to measure how much phosphorus they absorbed this summer. Results will be out later this year.

Call for Unused Kits!

Do you have an IDAH2O monitoring kit collecting dust? If you find that, for whatever reason, you are unable to monitor for us at this time, please contact us about returning your kit. We do have limited funds so we need to make sure our kits are being used as much as possible.