

UNIVERSITY OF IDAHO EXTENSION UPDATE

# WaterWatch

University of Idaho, U.S. Department of Agriculture, and Idaho counties cooperating.

## Summer workshops on the calendar

### Highlights

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### Contact Information

Ashley McFarland  
Program Coordinator

Kelli Duncan  
Program Assistant

Marie Pengilly  
Intern

1031 North Academic Way  
Suite #242  
Coeur d'Alene, Idaho 83814  
(208) 292-1287  
idah2o@uidaho.edu  
www.uidaho.edu/cda/idah2o

story by Ashley McFarland

Summer has finally arrived! With that comes multiple certification workshops on slate in Boise and Sandpoint. Please see details inside. To register or inquire about training opportunities, please submit your information online at [www.uidaho.edu/cda/idah2o/workshops](http://www.uidaho.edu/cda/idah2o/workshops). We look forward to working with each one of you!

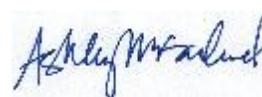
A big thank you to everyone that participated in the Spring Snapshot this past month. Results are included in this newsletter. Although we saw slightly lower bacteria levels throughout, there are still a few sites that lend themselves to some further investigation. If you would like to discuss any of the results, please feel free to call.

Included in this newsletter is a bio on our summer intern, Marie Pengilly. We are very fortunate to have her on board and hopefully you have or will have the opportunity to meet her before she heads back to Moscow to finish her Master's degree in Environmental Science and

Water Resources.

I also wanted to let you all know about a big change in my life! My husband and I welcomed a baby girl into the world on Friday, April 6th at 11:09 pm. Leah Anne weighed in at 8 lbs. 15 oz. and 21 inches long. I'm still on maternity leave, so I appreciate everyone being patient with me and my staff over the last few months. Leah arrived a few weeks early so Kelli and Marie did not get much of an orientation before they found themselves running shop! I will return after the 4th of July holiday, just in time to hit the workshop circuit!

Happy Monitoring,



Ashley McFarland  
IDAH<sub>2</sub>O Program Coordinator  
UI Area Extension Educator

*Be sure to check expiration dates on your monitoring equipment!  
Please send an e-mail if you need new pH strips or dissolved oxygen ampoules.*



**University of Idaho**  
Extension

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# Spring 2012 Snapshot Results

story by Marie Pengilly

We held our second Snapshot event on May 24<sup>th</sup>. We are grateful to all of our participants who collected samples and brought them to the center. We had a slightly smaller turnout this spring than last fall with only 8 participants, but most people collected samples from two sites so we ended up analyzing 14 samples. On the evening of the 24<sup>th</sup>, Kelli and I ran the lab analyses on the samples, testing for Nitrate, Total Phosphorus, Total Coliform, and *E. coli*.

Unfortunately, while testing for phosphorus, there was an equipment error. The error was caught too late and the samples were not re-run until past the expiration window. For best results, water must be analyzed for phosphorus within 48 hours of sampling unless a preservative is added. Since we ran all of our analyses the evening of the 24<sup>th</sup>, we did not think to add preservative to our samples. The sam-

ples were re-run so we do have data for phosphorus levels, however they are not as reliable as we would like. There is no way to tell how much the extra time affected the phosphorus levels in the sample. That being said, we have total confidence in both the nitrate and bacteria data. For the most part, nitrate and bacteria levels were lower this spring compared to last fall.

Testing ranges for nitrate were between 0.23—13.50 mg/L. To put this into perspective, EPA drinking water standards requires levels below 10 mg/L. With the exception of two sites, all of samples tested were below the detectable level. Westmond Creek and the pond at English Point Road had detectable nitrate levels, but both were under 1.0 mg/L.

Testing ranges for total phosphorus were between 0.05—1.5 mg/L. We

had seven sites that had detectable phosphorus levels, but all sites stayed well below 1.0 mg/L.

Bacteria levels were generally quite a bit lower this spring than in the fall. Lab analysis looked at both total coliform—all bacteria present in the system, and *E. coli*—a very well-known specific bacteria found in all warm-blooded organisms. Total coliform and *E. coli* values are expressed in MPN/100 mL or Most Probable Number per 100 mL of sample water. The lab analysis used can only detect *E. coli* bacteria up to 2419.6 MPN/100 mL. In order to get a count above that, we would have had to dilute the sample and run it again. However, since the 2419.6 MPN/100 mL far exceeds water quality standards, we did not feel dilution was necessary.

***Continued on Page 3...***

## Summer Intern

story by Marie Pengilly

Hi,

I'm Marie Pengilly and I am excited to be the IDAH<sub>2</sub>O summer intern! I am a first year graduate student in Environmental Science and Water Resources at the University of Idaho, specializing in water contamination.

I grew up camping and hiking in the Northwest with my mom. She instilled in me at a young age a deep appreciation for the great outdoors. I have always been passionate about our Idaho lakes and rivers

and I'm increasingly interested in water quality education. I am so thrilled to be working with Ashley in the exciting and very important field of water stewardship.

I've never spent much time in Coeur d'Alene before, but I'm already enjoying spending the summer in such a beautiful place! I'm looking forward to doing lots more camping and exploring in the area and I am hoping to learn to kayak on the lake.



***Remember, each year to perform a Habitat Assessment at your site to determine if there have been any major changes in your riparian area, stream banks and streambed!***

# Snapshot Results continued...

Although bacteria levels at a some of the sites were high, caution needs to be taken when interpreting the results. Bacteria is a pollutant that can often times be very flashy in a system. Idaho DEQ has established a set of testing criterion to determine whether or not a waterway is adversely being affected by bacteria. This guidance is explained below:

- **Geometric Mean Criterion.** Waters designated for primary or secondary contact recreation are not to contain *E. coli* bacteria in concentrations exceeding a geometric mean of 126 *E. coli* organisms per 100

mL based on a *minimum of five samples collected every three to seven days over a 30-day period.*

- **Use of Single Sample Values.** A water sample exceeding the *E. coli* single sample maxima specified below indicates a likely exceedance of the geometric mean criterion, but is not alone a violation of water quality standards. If a single sample exceeds those maximum values, then additional samples must be collected as specified below for additional sampling. For waters designated as secondary

contact recreation, the single sample maximum is 576 *E. coli* organisms/100 mL. For waters designated as primary contact recreation, the single sample maximum is 406 *E. coli* organisms/100 mL. For areas within waters designated for primary contact recreation that are additionally specified as public swimming beaches, the single sample maximum is 235 *E. coli* organisms/100 mL.

We are looking forward to continuing these snapshot events to further understand the streams we are monitoring!

## Summer Workshops

story by Marie Pengilly

It's not too late to sign up for one of our three scheduled workshops this summer! We are very excited to be expanding our program south and offer two workshops in Boise. We are in the process of organizing additional workshops, specifically in the Moscow area, so stay tuned on the website for more information!

The workshops consist of a classroom instruction session and an outdoor field session. Certified Master Water Stewards will be given an IDAH<sub>2</sub>O water quality monitoring kit and will be encouraged to adopt a stream location to monitor. Each workshop costs \$20, which is due at the time of the workshop. These workshops are filling up quick so be sure to register at:

[www.uidaho.edu/cda/idah2o/workshops](http://www.uidaho.edu/cda/idah2o/workshops)

If you are unable to attend one of the scheduled workshops, but are interested in certification, please let us know! We would love to keep you updated on upcoming events.

### Sandpoint

**Friday, July 20<sup>th</sup>**

8am-5pm

University of Idaho

Sandpoint Center

1904 North Boyer Avenue

### Boise

**Friday, July 27<sup>th</sup>**

8am-5pm

Boise WaterShed Environmental

Education Center

11818 West Joplin Road

**Saturday, July 28<sup>th</sup>**

8am-5pm

Boise WaterShed Environmental

Education Center

11818 West Joplin Road

# WaterWatch

## Moon Creek Field Day with University of Idaho and Silver Valley Upward Bound

story by Denna Grangaard

Early in 2012, Denna Grangaard DEQ-Kellogg public outreach and Marcee Hartzell University of Idaho Silver Valley Upward Bound Director began conversations about how to get kids in touch with fun community projects and career options. At the same time, Ashley McFarland Area Extension Educator held an open house to present the community with the new Water Resource Education Center at the University of Idaho Coeur d'Alene Campus. By March the trio had plotted out a teen field science day to be held at a beautiful USFS restoration site -- Moon Creek near Kellogg, Idaho.

The group gathered expert resources US Forest Service Hydrologist Aaron Prussian, DEQ Watershed Coordinator Kajsa Stromberg, and Community Water Resource Center Assistant Kelli Duncan to provide a science field day for Silver Valley Upward Bound Students enrolled in high school.



About 15 students gathered on a Saturday afternoon to hear an introduction to the Coeur d'Alene River Basin superfund and remediation history from Denna Grangaard.

This area is now thriving. "There are particular species of aquatic life in the stream that tells us that the stream is coming back," commented Kajsa Stromberg with DEQ. It is likely that these species were here before the Moon Creek mill site was established over 80 years ago.

USFS Hydrologist Aaron Prussian commented that the historic milling operation had moved Moon Creek to the other side of the narrow canyon. Now, logs and boulders are strategically placed to provide habitat and balance the velocity of the stream.

Students used magnifying glasses to study insects they collected in the river alongside Kajsa and Aaron.



Teens slipped into waders, rolled up sleeves and scrubbed critters off river rocks to collect them in nets. "Aquatic insects have gills. They also hunt tediously for the perfect rocks and woody material to build a shell around them," commented Aaron as students began the investigation of their find.

Kelli Duncan, with IDAH<sub>2</sub>O Water Resource intern Marie Pengilly, provided a 3-D model of a watershed featuring urban development, agricultural development, and mountainous areas. The students crowded around the display to see how murky water generated from typical human disturbances carried sediment to surface water. Kelli and Marie described the differences between point source and non-point source pollution. Teens were involved taking water temperature, dissolved oxygen, and pH measurements as a demonstration of how pollutants can impair the habitat.

The teens were engaged and interested to learn about remediation, restoration, and careers in science at work in the Silver Valley. "We all had a great time with this program. We'd love to do this again," comments Denna Grangaard of DEQ.