December 3, 2014

With our 2014 field season largely behind us, the Academy's DRWI work is transitioning into a new phase. Chemistry sampling will continue, and winter stormwater monitoring will soon be underway, but many on the team will spend the next few months in the lab and at their computers, processing samples and data and synthesizing findings.

On the horizon: a report summarizing 2013 monitoring results, and a basin-wide database for use by DRWI partners. We're especially excited to be making the database a reality -- you can learn more about this ambitious effort below.

While you're waiting for these resources, check out the new Cluster Characterization Report, available on our website. You're likely to learn something new about the cluster where you work, as well as find information that may be useful in your own communications.

- Roland Wall

One Stop Data Shop

Upcoming Events

Tapping our Watershed
ANS' Seminar Series
December 15, 2014
at 6 PM
National Mechanics
22 S. 3rd St.
Philadelphia, PA
*See below for more information.

DRWI All-Cluster Meeting
January 15-16
Inn at Pocono Manor
Pocono Manor, PA
Contact: Kathryn Christopher

2015 Delaware Estuary Science and Environmental Summit
Balancing Progress and Protection - 10 Years of Science in Action

The DRWI stands out for its commitment to producing a **comprehensive, standardized database** of stream records collected from across the basin that is easily accessible. Why doesn't a database like this already exist? Developing, building, populating, and maintaining one is *hard* and often outside the mandate of agencies and nonprofits with smaller geographic boundaries. With the support of the William Penn Foundation, and with the expertise of Drexel PhD student and database whiz Scott Haag, this hard work is underway.

Hundreds if not thousands of data sets are stored in various federal, state, and local agencies and organizations around the basin. Combining them into a single database where data can be easily analyzed across both space and time requires a series of progressively more time-consuming steps.

First, the Academy had to purchase a new server for holding and serving up the massive quantities of data. Next, specialized open-source software was loaded, and Scott used it to build a custom-designed database. He and Academy team members are now in the midst of a third step, known as ETL (short for Extract, Transfer, and Load). Extracting means obtaining data sets from partner organizations. Transferring involves standardizing those data; for instance, converting all data to a single date/time standard, a single geographic projection, and shared units of measurement. And loading entails inputting the newly standardized data (whose quality is confirmed through a QA/QC process) into the database.

When will the database be finished? Scott cheerily says "never," because new data will continue to be added over the life of the project. But partners won't need to wait forever to access the new database. Plans are underway to provide access as soon as some first data sets are loaded and

January 25-28, 2015
Cape May, NJ
www.delawareestuary.org

Society for Freshwater Science - Mid-Atlantic Chapter Annual Meeting
January 30, 2015
The Academy of Natural Sciences of Drexel University

Tapping Our Watershed

On December 15 at 6 p.m. we look forward to hearing Scott Haag speak on "An Information System for the Delaware River Watershed." He will discuss the need for, and execution of, a comprehensive database for the DRWI.

Tapping Our Watershed lectures aim to engage students, scientists, and interested citizens in discussions about issues pertaining to the Delaware River

tested. We'll announce the database launch in a not-too-distant update. In the meantime, please direct any database queries to Stefanie Kroll.

Conference Compendium

ANS team members spent much of the past two months sharing information about the DRWI at **professional conferences** -- specifically, the American Water Resources Association (AWRA) annual meeting, the AWRA's Philadelphia section meeting, and the Coalition for the Delaware River Watershed forum. Some highlights:

- Getting confirmation from peers in other watersheds about the **importance of monitoring** as the basis of effective management, and being reminded of how fortunate the DRWI is to have dedicated monitoring funding
- Participating in a lively discussion about **modeling applications** coming online and their relevance to the DRWI
- Hearing the AWRA keynote speaker, Kathryn Sullivan (Under Secretary of Commerce for Oceans and Atmosphere and NOAA Administrator), speak about the importance of '**environmental intelligence**' and '**observational infrastructure**,' and thinking about how those concepts translate to the DRWI
- Discussing how the **DRWI's structure** could be translated, in whole or part, to other watersheds in the region and beyond
- Seeing, at the Delaware River Watershed Forum, the **growing alignment of partners** around common strategies, and the growing sense of a Delaware identity

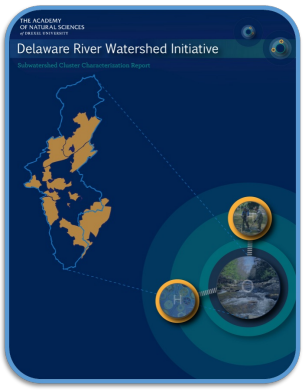
How cold is it?

What's happening in a stream in between sampling events? **Continuous temperature loggers** help fill in the blanks.

At its integrative sites, ANS has deployed HOBO-brand loggers (aka 'HOBOs') that are programmed to record the water

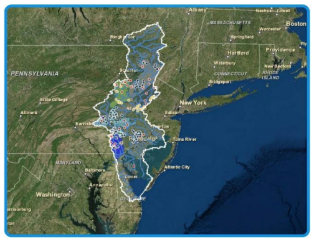
watershed and other aquatic ecology topics. Contact Allison Stoklosa with questions or suggestions for future speakers.

Downloads

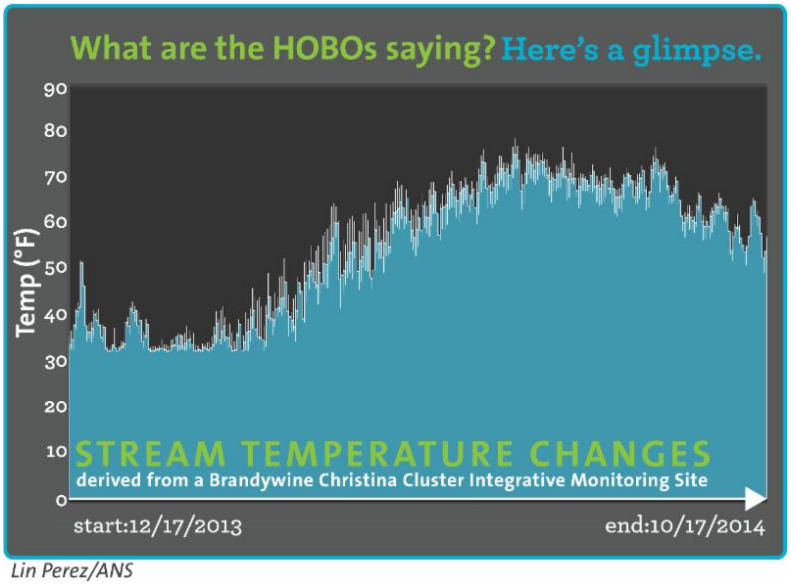


Cluster Facts
The Academy is pleased to make its Cluster Characterization Report available for download. The report includes historical data and quality classifications of the eight sub-watershed clusters, along with background on how those classifications were developed. Contact Stefanie Kroll with any questions.

DRWI Mapper



temperature every 15 minutes over several months. The loggers in use now have been active since the 2013-14 winter field season. When retrieved -- and finding the loggers isn't always so easy -- the loggers' data are downloaded to a laptop, and the devices are returned to the stream.



Lin Perez/ANS

The graph above shows temperature data from a single monitoring site. Data like these provide a pre-intervention baseline for comparing future conditions with current ones.

We'll be using these data to describe how DRWI projects can maintain and restore habitat both for cold-adapted species like trout and stoneflies, and for warm-adapted species. The data can also be used in predictions of climate change and for understanding the expected responses of stream ecosystems to those changes.

Want to know more about temperature loggers? Contact Kathryn Christopher.

Quick Link

The DRWI Mapper is available whenever you need it. Contact Lin Perez with any questions or comments.

Stream Samples Archive

Miss an issue?

Access past *Stream Samples* updates on the newsletter page of our website.

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Stay Connected

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You are receiving this email because of your interest in protecting water quality in the Delaware Basin.