The UW Water Resource Program has arrived at Beaver Dam

They are a group of graduate students at the University of Wisconsin-Madison in the Water Resources Management program, Nelson Institute for Environmental Studies. Their cohort research project this year is to work with the Beaver Dam Lake Improvement Association and communities in the watershed to assess stream and lake quality and to develop strategies for improving water quality in Beaver Dam Lake.

To do so, they are focusing efforts on Beaver Creek, one of the main tributaries of Beaver Dam Lake, and its surrounding watershed. Currently, less is known about water and habitat quality in Beaver Creek. To assess the health of the stream, they have formed four task groups that will focus on different aspects of the stream, its watershed, and Beaver Dam Lake itself:

Upland

- Seeking to identify "hotspots" in the Beaver Creek watershed that may be vulnerable to excess soil loss to determine priority areas for land management.
    - Using computer modeling, satellite imagery, and soil information
    - Perform agronomic soil tests throughout the watershed
    - Identify current farming and conservation practices
- Conduct bird surveys to identify native and migrating birds in Columbia and Dodge Counties.
- Goal is to identify these vulnerable areas in order to make recommendations on land use practices for reducing soil and pollutant runoff.

In-Stream

- Seeking to quantify the contribution of Beaver Creek to water quality issues in the lake
    - Determine phosphorus loading in the sediment, which can have short-term and long-term impacts
    - Establish baselines for water quality and stream health measurements by taking water and sediment samples and performing biological surveys such as macroinvertebrate surveys.
- Goal is to determine if Beaver Creek is a major contributor to water quality issues in the lake and to identify areas for improvement.

In-Lake

- Assess water quality within Beaver Dam Lake
    - Collect water samples to gather data on temperature, pH, dissolved oxygen, and nutrient levels
    - Collect sediment samples to gather data on phosphorus levels in the sediment.
- Create a model that utilizes wind speed, carp, and boating data to assess how sediment resuspension contributes to water quality issues.

Stakeholder Engagement

- Determine the community's goal, priorities, and abilities for improving water quality in Beaver Creek and Beaver Dam Lake
    - Interview farmers and landowners in the Beaver Creek watershed to determine which soil conservation practices are being used and what barriers exist to adopting additional practices.
    - Host town hall meetings to hear from community members about their values and goals for Beaver Creek and Beaver Dam Lake
    - Maintain a presence in the community by giving regular updates on this project's progress.

At the end of the summer, we will have a better understanding of Beaver Creek, land use practices in the watershed, and the community's priorities for improving Beaver Creek and Beaver Dam Lake. We will then provide recommendations to the local community for improving lake health, reducing algal blooms, and improving recreational uses of the lake.

These efforts will allow us to better manage the current land and water health while planning for the next generation.