



The WDNR and our study partners, the United States Geological Survey (USGS) and Wisconsin Geological and Natural History Survey (WGNHS), are at the midpoint of the Central Sands Lakes Study (CSLS). The following summarizes CSLS activities between January and June 2019.

### **Lake level monitoring**

During this period, the USGS continuously monitored water levels on each of the three study lakes. Precipitation data are collected at the Hancock research station and at precipitation gages near Plainfield and Pleasant lakes. In the past two years, the Central Sands region has experienced frequent, intense precipitation. As a result, lake levels on each of the three study lakes, are very high and continue to rise. This is similar to precipitation increases that have resulted in groundwater flooding (high water table) in many areas across the state. The groundwater flow model used for the CSLS will simulate water table levels at both lows (2012) to highs (2018) to demonstrate that the model can reasonably represent a full range of hydrologic conditions that the lakes experience.

### **Local geology**

WGNHS and DNR staff are creating water table maps and characterizing the subsurface of the area based on compiled data from over 60,000 well construction reports and exploratory drilling completed to fill data gaps.

### **Modeling**

Modelers at USGS and DNR have built and calibrated a preliminary regional groundwater flow model using best available data. They also created inset groundwater flow models to better represent local conditions surrounding the three study lakes. The model will be refined as more data become available. The model will be used to analyze the impacts of groundwater withdrawals.

### **Lake characterization**

DNR biologists continue to conduct lake assessments as part of the effort to define significant impacts to lake levels. The winter assessments included collection of temperature and dissolved oxygen. DNR staff analyzed data collected last summer to better characterize physical, chemical and biological characteristics of the lakes. The DNR has drafted new lake bathymetric maps using LIDAR and survey data. Fisheries staff conducted fish surveys (electroshocking) on Pleasant and Long Lakes in May 2019. Characterization of the 3 lakes is planned to continue through 2019.

### **Outreach**

By request, DNR staff provided an update on the CSLS at the following meetings in Spring 2019: the Water Supply Regulatory Affairs Seminar, Farm Bureau Policy Development Committee, Waushara County Watershed Lakes Commission, Groundwater Coordinating Council and Pleasant Lake Management District. For more information regarding the status of the CSLS or to request a presentation, contact project manager, Jeff Helmuth at (608)-266-5234.

### **Funding**

In the first biennium (FY2017-19) the joint committee on finance allocated \$400,000 to DNR to fund the study. All the money for the FY2017-19 biennium is allocated to be spent. In Spring 2019, the DNR prepared a budget request as part of the legislative budget making process to fulfill the statutory requirements for the second and final biennium of the CSLS. The CSLS was not included in the FY2019-21 budget. The DNR is currently evaluating next steps to implement the remainder of the study.