Portage Canal Gages

USGS Project ID: 9KH60

Dollar amount: $2,500

Start date: 03/01/2014

End date: 12/31/2014

Deliverables: One season of water level readings from two pressure transducers in an electronic format that is useable without proprietary software (excel or csv file). One stage-discharge rating curve.

Summary: The USGS will install two submersible pressure transducers for the purpose of continuously recording (15-minute interval) the water level at the Portage Canal Site. One transducer will be located within the Portage Canal (open water), adjacent to the on-site staff gauge at the railroad crossing, as field conditions allow (see attached map). The other transducer will be offset approximately 10-ft from the water's edge to the southeast, and installed in a groundwater well to monitor groundwater elevation.   The pressure transducers will be checked approximately once a month for the 2014 season (May to October). During the monthly visits, the USGS will check that equipment is functioning correctly (verify the datalogger is recording), download the data, and apply a barometric correction. DNR will perform a level loop and determine the ground surface elevation and top of casing at each location. From the staff gauge readings and the DNR level loop, elevations of the pressure transduces, and thus, water elevations can be calculated by DNR. Following each visit, the data will be emailed to the DNR. In addition to the monthly visits, four site visits will be performed (at various water stages). At these four visits (coinciding with other site visits in the area), a remotely controlled acoustic Doppler current profiler will be used to record water velocity measurements at numerous points across the channel. The velocity measurements and channel geometry will be used to develop a stage-discharge rating curve for the canal. With the water level readings and the stage-discharge rating curve, the DNR will be able to combine the data and estimate the flow (continuously) for one-season at the Portage Canal.