



Stream Flow Monitoring of Cold Creek & Crystal Lake Outlet

Benzie Conservation District
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Project Name

Stream Flow Monitoring of Cold Creek Inlet & Crystal Lake Outlet

Grant number: VSM2016-10

Grant Amount: \$3142.00

Matching Funds: \$1093.00

Project Amount: \$4235.00

Project Duration

June 2016 to May 2017

Applicant

Benzie Conservation District
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Contact: John Ransom,
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Project Location

Benzie County, Crystal Lake watershed

Project Partners

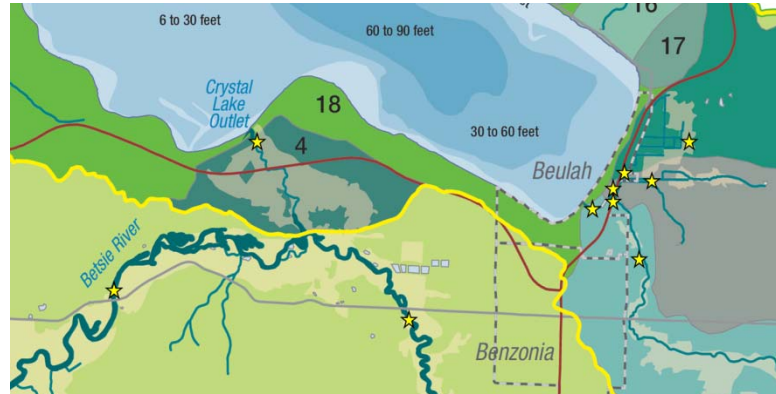
Crystal Lake & Watershed Association, Benzie County Drain Commissioner



A nice day to monitor flow on Cold Creek (Pictured: Jane Perrino and Ed Hoogterp)

Project Summary

The Benzie Conservation District and the Crystal Lake & Watershed Association partnered up to monitor baseline flows into and out of the Crystal Lake. The Goal of this project is to gain a better understanding of the hydrological balance of the Crystal Lake Watershed through quantitation of both inlet and outlet stream flows of Crystal Lake, and to associate these flows with specific concerns for water quality, water distribution, and water uses for better water resource management.



Map of monitoring sites on Cold Creek (far right), Crystal Lake Outlet and the Betsie River in Benzie County, MI.

Project Accomplishments

We were able to successfully conduct three flow monitoring events at ten sites on Cold Creek, Crystal Lake Outlet and Betsie River. Four volunteers and two interns helped monitor flow throughout the watershed during late summer of 2016. Additionally, three monitoring checks were conducted at a USGS station on the Platte River with an average 6.76 percent error. This information will be used by the project partners to track nutrient and sediment movements throughout the watershed as well as help understand lake level fluctuation in Crystal Lake.

Monitoring Activities

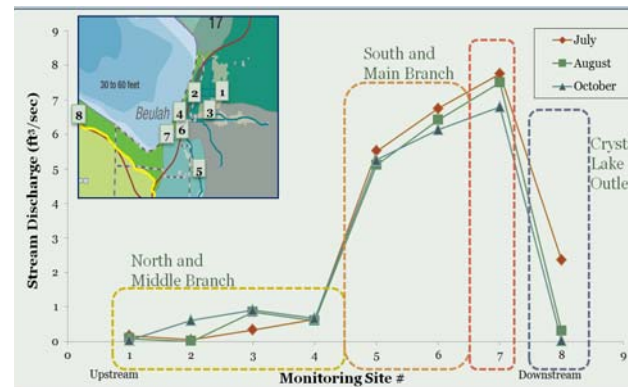
Four flow monitoring events were held during the grant period from July through December 2016. Baseline flow data was collected at 10 sites and three checks were completed at the USGS gauge station on the Platte River (table right).

USGS check	Measured (cfs)	Gauge (cfs)	% error
1	133.3	130	2.5
2	121.7	118	3.1
3	135.3	118	14.7

Significant Measurable Results



Intern Ashley Garver measuring flow at the USGS station on the Platte River



Results from our flow monitoring on Cold Creek and the Crystal Lake Outlet. During baseline conditions the south branch has much greater flow than the north and middle branches.