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September 6, 2012

TO: Donalea Dinsmore, Great Lakes Funding and Quality Assurance Coordinator
Wisconsin Department of Natural Resources

FROM: Matt Hudson, Watershed Action Director
Bad River Watershed Association

RE: 2012 Addendum to the Bad River Watershed Association's Quality Assurance Project Plan entitled "Staff Baseline Water Quality Monitoring Near the Potential Penokee Iron Ore Mine - Continuous Temperature, Macroinvertebrate, and Conductivity_Revision0."

Staff of the Bad River Watershed Association (BRWA) are collecting continuous temperature, macroinvertebrate, and conductivity monitoring data during 2012 from streams in the vicinity of a potential open pit taconite mine near Mellen, WI.

The following document summarizes updates made as an addendum to the BRWA's Quality Assurance Project Plan (QAPP) entitled "Staff Baseline Water Quality Monitoring Near the Potential Penokee Iron Ore Mine - Continuous Temperature, Macroinvertebrate, and Conductivity_Revision0" to reflect monitoring activities that are occurring during 2012. All other aspects of the project described in the QAPP remain the same for 2012 monitoring activities.

1. Update to section A6.1 *Project Objective and Site Selection*

Field Sample Timing and Locations for 2012: Macroinvertebrate samples were collected and continuous temperature loggers were placed in streams by BRWA Project Managers during May 2012. Conductivity data are collected during subsequent visits to stream sites. Table 1 lists the location of 2012 monitoring sites and parameters measured at each site. Figure 1 shows the site locations on a map.

Table 1. Sites monitored by the Bad River Watershed Association during 2012 near the site of a potential open-pit iron ore mine between Mellen and Hurley, WI. Also listed are stream designation*, parameters measured at each site, and whether the site was considered a reference or impact site with respect to the potential mine.

Stream	Site Location	Longitude (DD)	Latitude (DD)	Stream Designation*	Stream Order	Temp Site	Macro Site	Conduct Site	Reference Site	Impact Site
Tyler Forks River	Caroline Lake Rd.	-90.502850	46.277116	ORW, Class II Trout	3	X	X	X	X	
Tyler Forks River	Hwy. 77	-90.494603	46.347492	ORW, Class II Trout	4		X	X		X
Tyler Forks River	Stricker Rd.	-90.590000	46.394720	ORW, Class II Trout	4		X	X		X
Potato River	Upson Park	-90.412086	46.370889	ORW, Class II Trout	4	X	X	X	X	
Erickson Creek	Casey Sag Rd.	-90.465233	46.372039	Class II Trout	2	X	X	X	X	
Rouse Creek	Casey Sag Rd.	-90.465767	46.360833	Class III Trout	2	X		X	X	
Javorsky Creek	Hwy. 77	-90.518417	46.344836	ERW, Class I Trout	1		X	X		X
Operegard Creek	Near Revai Rd.	-90.586017	46.341617	Class II Trout	2	X	X	X		X
Unnamed Tyler Forks Tributary	Forest Road 703	-90.501528	46.290863	None	1	X		X		X
Devils Creek	Off Oppergard Rd	-90.592891	46.317543	ERW, Class I Trout	3		X	X		X
Ballou Creek	Red House Rd.	-90.575977	46.305917	ERW, Class I Trout	3	X	X	X	X	
Bad River	Gilman Park	-90.579573	46.318298	ERW, Class III Trout	4	X	X	X		X
Bad River	Caroline Lake Outflow	-90.56162	46.267905	ORW	2	X		X	X	
City Creek	Lake Dr.	-90.644975	46.308677	Class II Trout	3	X	X	X	X	

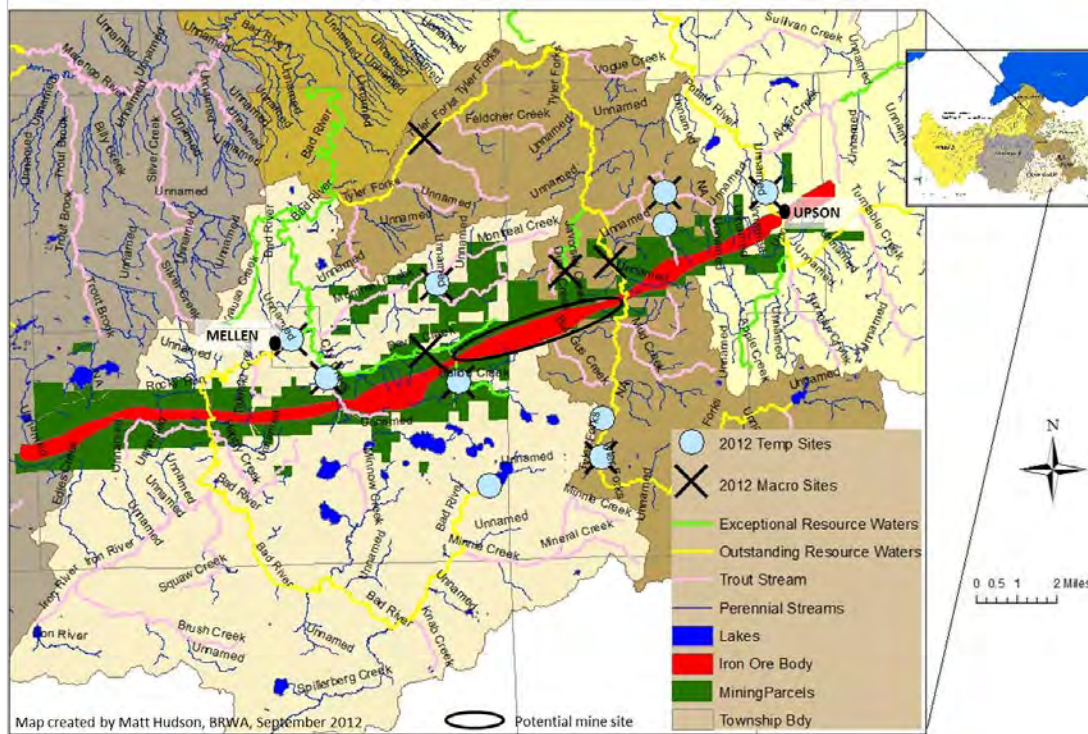


Figure 1. Sites monitored for continuous temperature, macroinvertebrates, and conductivity by the Bad River Watershed Association during 2012. Conductivity sampling took place at all sites. Subwatersheds of the Bad River watershed are shaded, the location of a potential open-pit iron ore mine, property held by mining interests, and the iron ore body are displayed.

2. Updated BRWA's Standard Operating Procedure: Bad River Watershed Association Staff Continuous Temperature Monitoring Revision 1. Changes: "BRWA Field Sheet for Continuous Temperature Thermistors" in Appendix 2 of the "Standard Operating Procedure (SOP): Bad River Watershed Association Staff Continuous Temperature Monitoring" was changed to include a column to document whether the red light on the thermistors blinked every 4 seconds with each field check. Performing this check was also added to section J, number 4 of the SOP.

3. Adjusted QAPP guideline for continuous temperature bias, in Table 3 of the QAPP. Changed the data quality objective to: "Difference between field thermometer and thermistor measurements greater than certified accuracy for field thermometer in no more than one consecutive field check measurement." Adjust corrective action #2 related to this data quality objective to: "Flag and evaluate thermistor and field temperature data to determine if temperature adjustment should be made to thermistor data."

4. Adjusted the corrective action for continuous temperature accuracy, in Table 3 of the QAPP. Changed the corrective action to: "Evaluate sample data for usability using corrective actions discussed in section B7."

These updates are minor and therefore I have chosen to include them as an addendum to "Revision 0" of the QAPP rather than completing a full revision. Thank you for your continued assistance with this project and to BRWA.

Sincerely,

A handwritten signature in black ink that reads "Matt Hudson". The signature is written in a cursive, flowing style.

Matt Hudson
Watershed Action Director
Bad River Watershed Association