

## Wisconsin Department of Natural Resources SWIMS Project Summary

### General Project Information

**Project ID:** ARRA\_Project12 WTDL  
**Name:** ARRA 12 CARPC Black Earth Creek Study Grant 2P-00E73201  
**Type:** Grant Project  
**Subtype:** ARRA Pass Through Project  
**Status:** COMPLETE  
**Start Date:** 10/03/2009  
**End Date:** 03/31/2011  
**Purpose:** Black Earth Creek monitoring and analysis to determine the impact of agricultural runoff; contract with Capital Area Regional Planning Commission.  
**Objective:** This project is a key component of a water quality monitoring and planning project designed to determine the impact that agricultural runoff is having on Black Earth Creek. The project includes a cooperative monitoring project that involves Dane County LCD, USGS, WDNR Fisheries, CARPC, WDNR Watershed Management, and support from Partner Organizations such as the Black Earth Creek Watershed Association.

The principal needs that the monitoring will address include identification of water chemistry conditions that may be limiting trout populations. A determination will be made regarding the feasibility of establishing an alert system that would use real-time water chemistry parameters to indicate when stream conditions may potentially induce a fish kill. This alert system would notify the WDNR and other organizations to activate management plans to reduce the impact on the fisheries resource.

This project funds collection and analysis of water quality data sondes at two locations along BEC to help identify areas of water chemistry changes. These sites would use regressions to estimate the discharge (non-published) between the site locations and the active stream gages located on BEC. Manual EWI samples will be collected during base flow and periods of storm runoff. These samples will be used in the development of the regression analyses to predict real-time constituent concentrations from the water quality sonde data and water quality samples.

The funds are intended to be used for equipment, gage stations, and analysis by USGS. The results of this work will be used in a subsequent Phase two effort, to be conducted four to six years in the future, to conduct comprehensive watershed planning, including all land uses in the watershed with the goal of preserving and restoring a healthy aquatic ecosystem for Black Earth Creek. This is a key component of areawide water resources management planning for the area. The information from the current project will be tied in with other ground and surface water modeling work conducted in the watershed by the USGS, and used to estimate pollutant loading from specific land uses in the watershed, set goals, identify load reductions and establish habitat protection measures and strategies as part of an overall comprehensive watershed management plan supported and implemented by all the various stakeholders and groups in the watershed.

**Comments:** DUNS #: \_\_\_\_\_ CCR#: \_\_\_\_\_  
 Total project award: \$30,000

**Outcome:** Project Deliverables: Project report with recommended alternatives including monitoring data and analysis results

**Study Design:**

**QA Measures:**

### People

Name	Role	Status	Start Date	End Date	Organization	Comments
Capital Area RPC, CARPC	GRANT_RECIP	ACTIVE	10/03/2009		Capital Area Regional Planning Commission	
Kakuska, Mike	TEAM_MEMBER	ACTIVE	03/07/2011		Capital Area Regional Planning Commission (CARPC)	
MORTON, JAMES A	PROJECT_OFFI	ACTIVE	10/03/2009		Wisconsin DNR	
USGS,	GRANT_RECIP	ACTIVE	10/03/2009		U.S. Geological Survey	

### Project Statuses

Date	Reported By	Status	Comments
04/13/2010	JAMES MORTON	Progress: 0-25% Complete	The monitoring stations have all been installed and are reporting water quality parameters in real time. The weblinks to the monitoring stations and the parameters that are being monitored are shown on the USGS website (link provided). To date, there

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Date	Reported By	Status	Comments
04/20/2010	JAMES MORTON	Progress: 0-25% Complete	<p>have been no alerts that would trigger more detailed sampling.</p> <p>Water Quality stations were established in September of 2009, stations were activated for automated sampling in October 2009. The monitoring stations are all available on-line via the web at the following url:  <a href="http://waterdata.usgs.gov/wi/nwis/current/?type=quality">http://waterdata.usgs.gov/wi/nwis/current/?type=quality</a>.</p> <p>Four stations were created, station id #'s and sampling gear for each are listed below:</p> <p>USGS station numbers and name, water-quality monitoring equipment present:</p> <p>05406500 Black Earth Creek @ Black Earth, automated sampler and water-quality monitor</p> <p>05406497 Black Earth Creek @ South Valley Rd, water-quality monitor</p> <p>05406479 Black Earth Ck Nr Treatment Plnt @ Cross Plain, water-quality monitor</p> <p>05406457 Black Earth Creek NR Brewery Rd @ Cross Plains, automated sampler and water-quality monitor.</p> <p>The alert process has been created that notifies (WDNR, USGS, Cross Plains officials, and Dane County LCD staff. This is an automated alert notification that USGS created to react when water quality conditions are such that a fish kill could occur.</p> <p>Runoff and base flow samples were collected starting in November or 2009 and are still being collected. Several small presentations have been given to various user groups throughout the county.</p>
08/05/2010	JAMES MORTON	Progress: 25-50% Complete	<p>Water quality monitoring is going as planned. No water quality alerts issued. USGS, Dane Co, WDNR, and partners are processing, analyzing and reporting data. The online data sites are receiving heavy use by the public.</p>
11/01/2010	JAMES MORTON	Progress: 25-50% Complete	<p>Water quality monitoring is going as planned. No water quality alerts issued. USGS, Dane Co, WDNR, and partners are continuing with processing, analyzing and reporting data. The online data sites are receiving heavy use by the public. We are seeking additional funding from project partners (nonprofits).</p>
02/08/2011	JAMES MORTON	Active	<p>Water quality monitoring ongoing. Presentation data gathering effort are being conducted. Online data received a lot of use and is seen as valuable tool.</p>
03/22/2011	Lisa Helmuth	Active	<p>2/3 of the project done, 10K left to expend. CARPC has nearly completed (march 1st invoice) 27120</p>
04/28/2011	JAMES MORTON	Progress: 50-75% Complete	<p>Project continuing. Water quality monitoring and alert system in place.</p>
05/03/2011	Lisa Helmuth	Active	<p>Need to see the dataset and a product before signoff. Not sure where the data is but should be migrated or available in SWIMS.</p>
07/27/2011	JAMES MORTON	Active	<p>Project is active. No alerts issued thus far. Online reporting going well.</p>
12/05/2011	JAMES MORTON	Active	<p>Project meeting held among participants on 11/29/11. In addition to the monitoring conducted thus far---macroinvertebrate monitoring will be conducted to better assess water quality impacts.</p>
			<p>USGS monitoring and reporting on track.</p>

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Date	Reported By	Status	Comments
12/22/2011	JAMES MORTON	Complete	Report attached.

### Project Status Detail

Answer Set: DEFAULT

#### Question

1. Reporting Timeframe (Q1 (Oct-Dec), Q2 (Jan-Mar), Q3 (Apr-June), Q4 (July-Sept):
2. Amount expended this time period:
3. Subcontracts or subgrants awarded this period:
4. Number work hours created or maintained to date:
5. Work accomplished this reporting period:

#### Answer

q4

None--contracts have already been established

Subcontracts through CARPC to USGS

WDNR estimated 40 hours this quarter

Water Quality stations were established in September of 2009, stations were activated for automated sampling in October 2009. The monitoring stations are all available on-line via the web at the following url: <http://waterdata.usgs.gov/wi/nwis/current/?type=quality>. Four stations were created, station id #'s and sampling gear for each are listed below: USGS station numbers and name, water-quality monitoring equipment present: 05406500 Black Earth Creek @ Black Earth, automated sampler and water-quality monitor 05406497 Black Earth Creek @ South Valley Rd, water-quality monitor 05406479 Black Earth Ck Nr Treatment Plnt @ Cross Plain, water-quality monitor 05406457 Black Earth Creek NR Brewery Rd @ Cross Plains, automated sampler and water-quality monitor. The alert process has been created that notifies (WDNR, USGS, Cross Plains officials, and Dane County LCD staff. This is an automated alert notification that USGS created to react when water quality conditions are such that a fish kill could occur. Runoff and base flow samples were collected starting in November or 2009 and are still being collected. Several small presentations have been given to various user groups through out the county.

Stations were installed in Sept of 2009

Stations activated for monitoring October 2009

Samplers were started to collect samples effective Nov. 2009 (base flow and runoff samples)

The url for on-line viewing of data is listed in document

The station id numbers are listed in document

Alert notification- has been established and on line for (wndr, usgs, Dane co lcd, and village of cross plains officials)

During the period july - sep 2010, no alerts were issued. USGS is preparing data reports and presentations

No alerts issued 2011

Data summary and status conducted. Additional monitoring planned for winter 11-12.

Alert notification and detailed water quality monitoring and discharge response--maintain website

6. Work goals for coming reporting period:

Continued with alert notification.

Water Quality stations were established in September of 2009, stations were activated for automated sampling in October 2009. The monitoring stations are all available on-line via the web at the following url: <http://waterdata.usgs.gov/wi/nwis/current/?type=quality>. Additional funding need to continue effort.

7. Overall project status:

Four stations were created, station id #'s and sampling gear for each are listed below:

USGS station numbers and name, water-quality monitoring equipment

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**Question**

**Answer**

present  
 05406500 Black Earth Creek @ Black Earth, automated sampler and water-quality monitor  
 05406497 Black Earth Creek @ South Valley Rd, water-quality monitor  
 05406479 Black Earth Ck Nr Treatment Plnt @ Cross Plain, water-quality monitor  
 05406457 Black Earth Creek NR Brewery Rd @ Cross Plains, automated sampler and water-quality monitor.

The alert process has been created that notifies (WDNR, USGS, Cross Plains officials, and Dane County LCD staff. This is an automated alert notification that USGS created to react when water quality conditions are such that a fish kill could occur.  
 Runoff and base flow samples were collected starting in November or 2009 and are still being collected. Several small presentations have been given to various user groups through out the county.

Water quality stations did not show results that would have triggered a water quality alert.

Web based real time water quality reporting is ongoing

monitoring ongoing 4/28/11

Monitoring is ongoing 7/11

Reports and summary data in process of being completed.

Additional monitoring (macroinvertebrate) being planned for the winter 2011-2012

8. WDNR Question: Job equivalent Created

**Actions**

Action	Detailed Description	Start	End Date	Status
Water Quality Planning	Project: Elk Creek (BT03) Watershed Planning	07/01/2009	06/30/2010	COMPLETE

**Monitoring Stations**

Station ID	Name	Comments
10010841	Black Earth Creek - Bec-5-Riffle Below Habitat Work To S. Valley Rd.	
10030694	Black Earth Creek Brewery Rd Snowmobile bridge crossing	
10030695	Black Earth Creek Dwnstrm of Cross Plains WWTP at STH 14	
133398	Black Earth Creek at Town Rd At Black Earth WI	

**Assessment Units**

WBIC	Segment	Local Name	Official Name
1248600	2	Black Earth Creek	Black Earth Creek
1248600	3	Black Earth Creek	Black Earth Creek
1248600	5	Black Earth Creek	Black Earth Creek
1782500	1	Elk Creek	Elk Creek

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### Lab Account Codes

Account Code	Description	Start Date	End Date
WT107	Watershed Special Projects	05/27/2009	06/30/2010
WT117	STREAMS/RIVERS SPECIAL PROJECT	06/03/2010	06/30/2011

### Forms

Form Code	Form Name
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### Methods

Method Code	Description
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### Fieldwork Events

Start Date	Status	Field ID	Station ID	Station Name
05/17/2011 09:00	COMPLETE	BEC4-18	133398	Black Earth Creek at Town Rd At Black Earth WI
05/17/2011 09:30	COMPLETE	BEC3-18	10010841	Black Earth Creek - Bec-5-Riffle Below Habitat Work To S. Valley Rd.
05/17/2011 10:00	COMPLETE	BEC2-18	10030695	Black Earth Creek Dwnstrm of Cross Plains WWTP at STH 14
05/17/2011 10:25	COMPLETE	BEC1-18	10030694	Black Earth Creek Brewery Rd Snowmobile bridge crossing
05/25/2011 08:15	COMPLETE	BEC1-1-S21	10030694	Black Earth Creek Brewery Rd Snowmobile bridge crossing
05/25/2011 08:15	COMPLETE	BEC4-1-S21	133398	Black Earth Creek at Town Rd At Black Earth WI
05/25/2011 11:15	COMPLETE	BEC1-2-S21	10030694	Black Earth Creek Brewery Rd Snowmobile bridge crossing
05/25/2011 12:30	COMPLETE	BEC4-2-S21	133398	Black Earth Creek at Town Rd At Black Earth WI
05/25/2011 14:15	COMPLETE	BEC1-3-S21	10030694	Black Earth Creek Brewery Rd Snowmobile bridge crossing
05/25/2011 17:15	COMPLETE	BEC1-4-S21	10030694	Black Earth Creek Brewery Rd Snowmobile bridge crossing
05/25/2011 18:30	COMPLETE	BEC4-3-S21	133398	Black Earth Creek at Town Rd At Black Earth WI
05/25/2011 23:15	COMPLETE	BEC1-5-S21	10030694	Black Earth Creek Brewery Rd Snowmobile bridge crossing
05/26/2011 00:30	COMPLETE	BEC4-4-S21	133398	Black Earth Creek at Town Rd At Black Earth WI
05/26/2011 05:15	COMPLETE	BEC1-6-S21	10030694	Black Earth Creek Brewery Rd Snowmobile bridge crossing
05/26/2011 06:30	COMPLETE	BEC4-5-S21	133398	Black Earth Creek at Town Rd At Black Earth WI
05/26/2011 15:30	COMPLETE	BEC4-6-S21	133398	Black Earth Creek at Town Rd At Black Earth WI
06/08/2011 19:30	COMPLETE	BEC1-1-S22	10030694	Black Earth Creek Brewery Rd Snowmobile bridge crossing
06/08/2011 19:30	COMPLETE	BEC4-1-S22	133398	Black Earth Creek at Town Rd At Black Earth WI
06/08/2011 21:30	COMPLETE	BEC1-2-S22	10030694	Black Earth Creek Brewery Rd Snowmobile bridge crossing
06/08/2011 23:35	COMPLETE	BEC1-3-S22	10030694	Black Earth Creek Brewery Rd Snowmobile bridge crossing
06/08/2011 23:40	COMPLETE	BEC4-2-S22	133398	Black Earth Creek at Town Rd At Black Earth WI
06/09/2011 00:45	COMPLETE	BEC4-3-S22	133398	Black Earth Creek at Town Rd At Black Earth WI
06/09/2011 01:45	COMPLETE	BEC1-4-S22	10030694	Black Earth Creek Brewery Rd Snowmobile bridge crossing
06/09/2011 02:45	COMPLETE	BEC4-4-S22	133398	Black Earth Creek at Town Rd At Black Earth WI
06/09/2011 03:50	COMPLETE	BEC1-5-S22	10030694	Black Earth Creek Brewery Rd Snowmobile bridge crossing
06/09/2011 06:30	COMPLETE	BEC1-6-S22	10030694	Black Earth Creek Brewery Rd Snowmobile bridge crossing
06/09/2011 06:45	COMPLETE	BEC4-5-S22	133398	Black Earth Creek at Town Rd At Black Earth WI
06/09/2011 10:45	COMPLETE	BEC4-6-S22	133398	Black Earth Creek at Town Rd At Black Earth WI
06/16/2011 10:00	COMPLETE	BEC-4	133398	Black Earth Creek at Town Rd At Black Earth WI
06/16/2011 11:45	COMPLETE	BEC-1	10030694	Black Earth Creek Brewery Rd Snowmobile bridge crossing
06/16/2011 13:00	COMPLETE	BEC1-19	10030694	Black Earth Creek Brewery Rd Snowmobile bridge crossing
06/16/2011 14:40	COMPLETE	BEC2-19	10030695	Black Earth Creek Dwnstrm of Cross Plains WWTP at STH 14
06/16/2011 15:00	COMPLETE	BEC3-19	10010841	Black Earth Creek - Bec-5-Riffle Below Habitat Work To S. Valley Rd.
06/16/2011 15:30	COMPLETE	BEC4-19	133398	Black Earth Creek at Town Rd At Black Earth WI

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<b>Start Date</b>	<b>Status</b>	<b>Field ID</b>	<b>Station ID</b>	<b>Station Name</b>
06/16/2011 16:00	COMPLETE	BEC-Q	133398	Black Earth Creek at Town Rd At Black Earth WI

**Documents**

Title	Description	Author	Published	Comments
ARRA_12_FinalQuarterlyReport	Grant Report		12/22/2011	
ARRA_12_Q1FFY11_Report	Grant Report		01/31/2011	
ARRA_12_Q2FFY10_Report		Wdnr	04/28/2010	
ARRA_12_Q2FFY11_Report	Grant Report		04/29/2011	
ARRA_12_Q3FFY10_Report	Grant Report		08/05/2010	
ARRA_12_Q3FFY11_Report	Grant Report		08/01/2011	
ARRA_12_Q4FFY10_Report	Grant Report		11/01/2010	
CARPC ARRA Project 12 CARPC Black Earth Creek 2009 Project Description	Project Description	Wdnr	10/27/2009	
Presentation on Project by Matthew Komiskey, USGS	powerpoint presentation describing acomplishments of project.	Matthew Koninsky, USGS	11/29/2011	

**Budget**

**Combined Budgets:**  
**Combined SLOH:**  
**Combined Total:**

**Funding**

Organization	Source	Type	Amount	Start Date	End Date
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