

US EPA ARCHIVE DOCUMENT

Wyoming Department of Environmental Quality (WDEQ), Water Quality Division, WYPDES
Permitting Program

Watershed-Based Permitting for the Powder River Basin, Wyoming
State Innovation Grant Program – PI978078-01

Quarterly Report
July 1-September 30, 2008

Project Synopsis:

Final drafts were presented for committee review and a final committee meetings occurred on August 21 and 22, 2008 for the Dead Horse Creek, Crazy Woman Creek, and Beaver Creek watersheds. The WDEQ will be revising the Clear Creek and Fence Creek watershed-based permits based on the EQC decisions, and providing an additional public notice so that affected persons have the opportunity to comment on the revisions, WDEA is in the process of preparing these documents. WDEQ is also in the beginning phases of additional watershed-based permitting, the next three drainages slated for watershed-based permitting are Bitter Creek, Spotted Horse Creek, and Wild Horse Creek. WDEQ has determined that, due to changes in the watershed permitting process, not to use a third party facilitator, and will be utilizing WDEQ staff to take meeting notes, prepare meeting summaries, and to engage stakeholders in the watershed permitting process. The WDEQ is in the beginning data collection and analysis phase for the Wild Horse Creek and Spotted Horse Creek drainages, a preliminary watershed permitting meeting was held with landowners in the Bitter Creek drainage. WDEQ expects to hold the first stakeholder meeting for Wild Horse and Spotted Horse Creeks before the end of 2008.

Further progress has been made on items discussed in the First Quarter, 2008 watershed grant report:

1. Feature Analyst software has been purchased.
2. The additional computer necessary to run the Feature Analyst and ArcHydro software arrived, and is being prepared for use by the WDEQ's IT staff.
3. Further work on Powder River assimilative capacity allocation continues, with all the major and most of the minor CBM companies having made preliminary submittals.

Narrative Discussion:

The WDEQ is moving forward with watershed permitting in a streamlined manner. It is expected that Bitter Creek, Wild Horse Creek, and Spotted Horse Creek will require at most 3 stakeholder committee meetings to complete the process. The WDEQ expects that watershed permits will be in effect for these drainages by mid-spring, 2009. The WDEQ has not selected the next series of watersheds in which to begin watershed permitting efforts once the Bitter Creek, Wild Horse Creek, and Spotted Horse Creek watershed permits are near completion.

Work continues on the ArcHydro modeling front. However, it may still be necessary, based on the complexity of the modeling effort, which still remains to be seen, to hire either a contractor to develop the model, or a consultant to aid WDEQ personnel in model development.

Project Tasks and Milestones

The following is a list of project goals, descriptions, milestones, and timelines.

Task/Goal	Description	Start Date	End Date	Status/Comments
Baseline Water Quality Assessment	Assess available water quality data and channel morphology	11/9/2004	Ongoing throughout project	Each watershed incorporated into watershed permitting requires separate analysis as to availability and type of water quality data available/needed.
Identify water quality parameters	Identify water quality parameters first to exhibit a detectable response to effluent discharges, allowing for efficient assessment of model inputs and needed effluent limits (discharge limitations)	11/9/2004	Ongoing throughout project	Each watershed incorporated into watershed permitting requires separate analysis as to parameters of concern and allowable loads/concentrations.
Compile/interpret data gathered as a result of completion of above two tasks.		11/9/2004	Ongoing throughout project	Each watershed incorporated into watershed permitting requires separate water quality data analysis.
Develop ArcHydro data format protocols	Clarify inputs needed for ArcHydro model and data transfer protocols from other data sources (WYPDES database, USGS, NOAA)	10/1/2007	12/31/08	DEMs have been acquired, and are currently being evaluated for use in ArcHydro modeling efforts. Final evaluation will depend upon purchase and setup of a computer capable of handling ArcHydro modeling demands. The computer has arrived, and is in the process of being prepared for use.
Develop transferrable ArcHydro model to quantify CBM impacts within the Powder River Basin.	Develop a modeling tool that will allow assessment of Powder River Basin end goals (flow, concentration, and load)	2/1/2008	03/31/2009	Computer capable of processing information related to this task has been received and is being prepared for use by the WDEQ's IT staff.
Quantify existing and reasonably foreseeable potential future industrial development in PRB of Wyoming	Acquire future CBM development forecasts, use forecasts to model development impacts	3/22/2007 (data obtained from BLM)	6/14/2007 (05/30/08)	CBM development forecasts obtained from BLM, Kathy Shreve developed spreadsheet model that combines water chemistry reported in the course of WYPDES permit self-reporting, GIS to assign estimated water quality data to CBM wells on a spatial basis, reported ambient water quality concentration and flow at USGS stations within the Powder River Basin, and basic mass balance equations to model flow and concentration in time series to obtain modeled CBM impacts within the Powder River Basin. 2007 data has been incorporated into the model.

Task/Goal	Description	Start Date	End Date	Status/Comments
Identify potential assimilative capacity within the Powder River Basin		11/9/2004	10/9/2007	Assimilative capacity (available loading) for dissolved sodium and total dissolved solids calculations complete.
Conceptual outline for assimilative capacity allocation		11/9/2004	7/14/2006	Concept document for Powder River assimilative capacity process posted on WDEQ website.
Permitting approach/mechanism for Powder River point source discharges	Could include general permits, synchronized permitting, assimilative capacity.	11/9/2004	7/14/2006	Includes general watershed permitting/permit plans under which individual permits will be issued and assimilative capacity.
Implement Powder River assimilative capacity approach		10/1/2007	06/30/10	The WDEQ has contracted with the Wyoming Geological Survey to calculate total coal resources within the Powder River basin (cubic tons), and each CBM operator's portion (percent) of the coal resource utilizing GIS and leasehold shapefile submittals from CBM operators. The WDEQ has developed a geodatabase to track assimilative capacity credits, and plans to post the geodatabase using a GIS server to allow all operators access. <i>Assimilative capacity approach fully implemented, ongoing maintenance regarding lease tracking (lease sales and trades) ongoing throughout project.</i>
Watershed General permit implementation	Implement watershed-based general CBM permitting within the Powder River Basin	1/11/2005	Ongoing	To date, the WDEQ has issued watershed-based permits/plans for three watersheds (Pumpkin, Willow, and Fourmile Creeks). These permits will be revised according to the final EQC decision once WDEQ receives the final written order. Watershed permits are pending for the following drainages: Clear Creek, Fence Creek, (draft permit to be revised and re-advertised in public notice) Lower Tongue River, Crazy Woman Creek, and Dead Horse Creek watershed permits being prepared for public notice. The WDEQ has determined that the next watersheds slated for watershed permitting will be Bitter Creek, Spotted Horse Creek, and Wild Horse Creek. The WDEQ anticipates the first committee meeting will take place prior to the end of 2008.

Financial Report

Expenditure Summary

Budget Category	Approved Budget	Spent this Quarter	Cumulative to Date
Travel	\$ 15,991.00		\$ 1,425.00
Equipment	\$6,269.60		\$6,269.60
Supplies	\$4,000.00		\$ 1,870.00
Contracts	\$171,739.40		\$ 7,822.00
Total		\$0	\$17,386.60

Expenditure Breakdown, 3rd Quarter, 2008

No new expenses this quarter