

Fall 2011

Wyoming Reclamation and Restoration Center News

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Spring
Workshop
series set to begin
January
2012

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College of Agriculture and Natural Resources
Department of Ecosystem Science & Management

UW graduate students work with BP to ID effective reclamation practices

Story written by Steve L. Miller

Two graduate students are compiling and sifting through a database from BP of more than 1,000 gas well pads to glean the best restoration and reclamation practices in Wyoming's natural gas fields.

Renewable Resources students Benjamin Wolff and Michael Curran, working with the Wyoming Restoration and Reclamation Center (WRRC) and BP, are collaborating with Conservation Seeding and Restoration (CSR), a reclamation contractor for BP, to identify effective and timely reclamation practices.

"BP is contributing its large reclamation database developed over the past seven years working in Wyoming gasfields with an estimated value of \$1.2 million," he says. BP is paying the salaries of two CSR employees to work on the project, and the WRRC is paying for the students' graduate assistantships and travel costs.

CSR is based in Kimberly, Idaho, with a field office in Rock Springs.

Gary Austin, BP America's regional regulatory adviser, and CSR restoration ecologist Steve Paulsen, who have worked together on gasfield reclamation in western Wyoming for several years,

initiated the project. They met with Steve Williams, a professor in the Department of Renewable Resources, who works with the WRRC, and Stahl, Wolff, and Curran.

"I think they could see how much benefit could come from this kind of research - advancing the state of land reclamation in the cold, high deserts of Wyoming, not only for BP and CSR, who will certainly benefit, but for the whole industry and state of Wyoming," said Wolff of Laramie, who took on the project for his thesis.

"We all have very strong interests in reclamation and also in improving our ability to accomplish good land reclamation in the challenging environments we have in Wyoming," said Wolff.

Working out the details took time but, "All agreed the research and potential benefits are too important to let details get in the way," he said.

The database could help identify trends that lead to successful reclamation of sites disturbed by oil and gas drilling, said Curran of Manasquan, N.J., who will also develop his thesis from the project.

"If we can pinpoint and understand these trends leading to successful reclamation, that knowledge is going to play a huge role in implementing successful practices on future reclamation projects," he said.



Organizing the database is the first phase. The database will incorporate more than 1,000 BP well pads undergoing reclamation. Later this summer, general reclamation trends will be isolated and techniques for further examination identified.

The infusion of Geographic Information System information will boost the database horsepower.

"Without the geospatial component, essentially all we have is a database that can perform limited operations," said Wolff. ...

[Click here to view the rest of the story](#)
written by Steve L. Miller

WRRC supports undergraduate laboratory work



Wyoming Reclamation and Restoration Center Graduate student Zachary Liesenfeld (right) & Alan Hamner gather data on soil samples.

Photo courtesy of Ted Brummond UW Photo Service 2011

In an effort to help undergraduate students gain experience working in a laboratory, the Wyoming Reclamation and Restoration Center is providing funding to pay students to assist with research projects. Currently the WRRC has two undergraduate students, Alan Hamner (pictured at left) and Travis Wyatt (not pictured), both from the School of Energy Resources,

working in the Department of Ecosystem Science and Management Soils Lab conducting soil analyses.

Hamner is working on a project to identify effective methods for restoration of sage-grouse habitat on bentonite minelands in the Bighorn Basin and Wyatt is assisting with research on organic soil amendments to facilitate revegetation of natural gas wellpads in the

Pinedale area. Both students are majoring in Energy Resources and are pursuing the Reclamation Undergraduate Minor.

If you are an undergraduate student interested in working part-time in a research lab or are a faculty member in need of a little help in the lab, please contact WRRC in this regard.

Cally Driessen completes Master's degree in Reclamation

The first student to complete a graduate degree working on a reclamation project from Dr. Jay Norton's Lab, Cally Driessen, has recently finished up her M.S. in Soil Science with a graduate certificate in Land Reclamation in the Department of Ecosystem Science and Management.

The title of her thesis is: Properties of Reclaimed Soils and Their Response to a Controlled Livestock Treatment. Cally has been working for the past few months for, and is currently, employed by K.C. Harvey Environmental Services.

She is working on land reclamation projects in the gas fields of southern Wyoming and Montana. She is living in Bozeman, MT with her husband Luke.

(right) Cally Driessen collects soil samples



UW Trustees Approve Renaming Extension Service, Renewable Resources Department

November 28, 2011 — The extension service and a department in the College of Agriculture and Natural Resources at the University of Wyoming have been renamed.

The UW Board of Trustees voted to change the Cooperative Extension Service to University of Wyoming Extension.

The trustees also approved changing the name of the Department of Renewable Resources to the Department of Ecosystem Science and Management.

Source: [UW Trustees Approve Renaming Extension Service, Renewable Resources Department](#)

Annual PAW Reclamation Meeting held in Casper

The Annual Petroleum Association of Wyoming Reclamation Meeting was held in Casper at the Parkway Plaza on December 1st, 2011. A number of presentations were given by land reclamation experts from around the state. Displays were provided by reclamation and environmental companies operating in Wyoming.

The meeting was well attended and the conference room was packed all day. A keynote presentation was given by Steve Paulsen from Conservation Seeding and Restoration (CSR), who discussed the joint database project discussed in the front page story entitled "UW graduate students work with BP to ID effective reclamation practices". Adrienne Pilmanis, of the Bureau of Land Management state office, gave a presentation on BLM's effort to increase native seed availability.

WRRC Reclamation Demonstration Plot established in Laramie

The Wyoming Reclamation and Restoration Center has established a Reclamation and Restoration Demonstration Plot at the Wyoming State Veterinary Laboratory along the Laramie River in Laramie. The purpose of the plot is to provide an area to grow and display native plants and to conduct reclamation and restoration research projects.

To prepare the area for its intended purposes and to simulate a disturbance like that found at a site of natural resource extraction, soil was stripped from the site and replaced last spring in preparation for planting. Soon after the dirt work was

completed, spring rains and mountain snowmelt brought the Laramie River right up to the demonstration plot and delayed planting until fall. The first plantings at the site were made this past October and November.

The first research project to be set up on the site has been established by Dr. Brian Mealor (Assistant Professor, Plant Sciences) and his graduate student Beth Fowers (PhD candidate). Their project is investigating methods to restore native plant communities to sites overrun by invasive species.

In another area of the

demonstration plot, Calvin Strom, Research Scientist with the WRRC, has planted a demonstration study to examine the influence of different grass seeding rates (1-6 lbs. per acre) and methods (drill vs. broadcast) on forb and shrub establishment, which were seeded at 3.8 lbs. per acre.

This winter, in cooperation with the Wyoming State Office of the BLM and WRRC, Dr. Kristina Hufford (Assistant Professor, Ecosystem Science and Management) will be planting native plant seed collected from around the state over the summer at the WRRC

demonstration plot. As part of the BLM's Seeds of Success (SOS) Program, Wyoming collected native plant seed planted at the site will be compared to commercially available cultivars.

University of Wyoming graduate students have been encouraged to utilize the demonstration plot and will be placing some experiments and displays in the plot early next year. The WRRC Reclamation Demonstration Plots will also be used as an outdoor teaching and workshop location for the local and state community as the plots become further established.




Update

The ROaR Club at UW is a recognized student organization (RSO) as well as a student chapter of the American Society of Mining and Reclamation (ASMR). ROaR "provide(s) a venue in which undergraduate and graduate students with an interest in reclamation and restoration of disturbed lands can assist local organizations on projects while gaining skills for success in their future careers and networking with others in the field" (<http://www.uwyo.edu/roar/>).

The current president, Kyle Lilly reports: ROaR was busy this semester and grew to an active membership of about a dozen students and community members. We continued to work on two projects this fall. We have an ongoing project on a piece of state land just east of Laramie. It's called Cactus Canyon. The land has been closed to vehicular traffic so we put up signs and cleaned up several truckloads of garbage and refuse in that area. The objective of the Cactus Canyon project is to reclaim some of the two-track trails to decrease erosion, increase plant diversity, and decrease soil compaction.

The second project involved working with the Laramie Rivers Conservation District on a Laramie River reclamation project. This project entails streambank stabilization and aquatic habitat restoration along the Greenbelt area in town. ROaR focused on prepping willows for large-scale plantings along the river. Finally, this winter we are planning on starting an annual scholarship to help a student at UW attend an academic conference or other event dealing with reclamation issues. We are also interested in planning a new local reclamation project for this upcoming spring and summer.

Our newsletter is full of [hyperlinks](#). Try clicking on things to go to their website!




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**WRRC will be closed
Friday, Dec. 23-Monday, Jan. 2,
for the Christmas and New Year's holidays and
winter break. Normal business hours resume
Tuesday, Jan. 3.**

**We hope you have a very
happy & safe holiday!**