

 **Fall 2013**



Wyoming Reclamation and Restoration Center News

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

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A Note from the Director...

Another beautiful Wyoming summer has passed and it's time to get busy with fall seeding. This time of year reminds me that as reclamationists, our work is never done. And our work is never finished because it is so important. The entire nation depends on natural resources produced in our state, and reclamation of lands disturbed by natural resource extraction is a critical part of the process of keeping the country supplied with the materials it needs. Keeping the nation supplied with energy and raw materials as well as restoring and protecting Wyoming's unique environmental quality and amazing wildlife habitat, in my opinion, is extremely important work and I am very proud to be part of it.

As reclamationists working in Wyoming we have to deal with extremely challenging environmental conditions, but we strive to get better at what we do and our results continue to improve. The Wyoming Reclamation and Restoration Center was created to contribute to natural resource production and environmental quality in Wyoming and this is still our goal. We are here to help. If you are in need of any kind of assistance with efforts in this regard whether you are an individual landowner, natural resource producer, reclamation contractor or regulatory agency, we encourage you to contact us.



**Special topic
Workshop
Sage Grouse
Habitat Restoration**

April 2014

Check our website
for details!

Thanks to our current sponsors:



Research



Reclamation Database Project Aims to Assist in Sage Grouse Listing Decision

WRRC graduate student Michael Curran is currently finishing up his Master's in Rangeland Ecology and Watershed Management and has been working with BP America Production Company and Conservation, Seeding, and Restoration, Inc. to develop a database containing oil and gas pad reclamation information. Since the inception of this project, the U.S. Fish and Wildlife Service (USFWS) has requested a comprehensive, industry-wide report on disturbance and reclamation associated with oil and natural gas development from WRRC. The purpose of the industry-wide report is to assist in the 2015 decision of whether to list the greater sage grouse as an endangered species. The USFWS will consider reclamation as part of the Endangered Species Act's Policy for Evaluating Conservation Efforts when making a listing decision.

After Curran finishes his M.S., he will stay at the University of Wyoming to work towards his Ph.D. and will be continuing to expand this project. Companies currently sharing data, or agreeing in principle to share data for this project include BP, Chesapeake Energy, Anadarko Petroleum, Linn Energy, EOG Resources, Noble Energy, ConocoPhillips, QEP Resources, Fidelity, Chevron and EnCana. Curran along with Pete Stahl and others are actively working to increase the number of energy companies participating in this project. In addition to providing the USFWS with a report prior to their listing decision, this project aims to better understand best management practices for reclamation of disturbed lands associated with oil and gas development as well as to continue evaluation of reclamation standards in place by regulatory agencies.

*If you are not participating in this project, but would like to, please email the center wrrc@uwyo.edu or Mike at mcurran2@uwyo.edu.

Visiting Scientist Investigates Saline Sodic Soils

We recently said goodbye to Dr. Emad F. Aboukila, a visiting research scientist who has been with us for the past five months. Aboukila, from Damanhour University in Egypt, worked closely with our Director Pete Stahl, Research Scientist Calvin Strom and graduate student Sam Day on reclamation and water movement of saline sodic soils using different amendments. His assistance and ideas have been greatly appreciated, he will be missed.



Education

Graduate Assistantships Offered by WRRC Growing

WRRC is funding four new graduate assistantships beginning this fall for students to conduct research on reclamation issues at the University of Wyoming. This brings the total number of graduate students currently funded by WRRC to 8. Thank you to our sponsors who are helping us achieve two key points in our mission: research and education. With your help, we hope to steadily increase the number of assistantships we can offer!

Education

WRRRC Graduates Two with Master's; Undergraduate numbers increasing

Two graduate students conducting Master's Degree research funded by the Wyoming Reclamation and Restoration Center, Zack Liesenfeld and Megan Taylor, completed their degrees and graduated in May. Megan's Thesis was entitled: "Control of Halogeton Invasions in Reclamation Settings" and Zack's was on "Improving Sagebrush Reclamation Success on Bentonite minelands in the Bighorn Basin".

Ten undergraduate students completed their program this past academic year while also earning a Minor in Reclamation Ecology. There are currently more undergraduate students declaring this minor than ever before, with a total number of 77.



Education - Profiles



Beth Fitzpatrick is a Ph.D. student in Melanie Murphy's Landscape Genetics lab. She came to the University of Wyoming after a long stint of living in Maryland. She graduated from the University of Maryland with a Bachelor of Science in Zoology, worked at the National Aquarium in Baltimore for 7 years, and received her Master of Science in Biology from Towson University. After receiving her Master's she was interested in continuing research and really wanted to be a part of an applied project. Her dissertation project investigates the influence of development on lek occurrence and gene flow across the landscape. Using that information we can predict changes in lek distribution and gene flow which can inform prioritization of specific areas for restoration. This project is important because it targets specific areas for sagebrush restoration which is often expensive and time consuming. The Wyoming Reclamation and Restoration Center funded this project and Beth has been greatly helped by the expertise of both Pete Stahl and Calvin Strom.



Melanie Murphy is an Assistant Professor in Ecosystem Science and Management at the University of Wyoming's College of Agriculture and Natural Resources; Murphy is also Fitzpatrick's advisor. Dr. Murphy came to University of Wyoming in 2010 from Colorado State University where she was a post-doctoral researcher. She received a Ph.D. in Biology from Washington State University, M.S. in Wildlife Ecology/Conservation Genetics from University of Idaho, and a B.S. in Wildlife Management (spatial ecology focus) from University of Idaho. Dr. Murphy teaches both the introductory principles of rangeland management course and the capstone planning course as part of the Rangeland Ecology and Watershed Management program. She also teaches graduate courses in applied spatial statistics and landscape genetics. The goal of Dr. Melanie Murphy's research is to understand where species are, why they are there and how these occupied areas are connected in changing landscapes. While presence of a species is important, movement of individuals across landscape is critical for maintaining that species over the long-term and preventing local extirpation due to extreme events (fire, flood, etc.).

Outreach

“Reclamation Across Industries” – Reclamation Symposium and Annual Meetings held in Laramie

The Reclamation Center successfully organized and hosted a joint reclamation conference in Laramie in June of this year. The 2nd Wyoming Reclamation and Restoration Symposium and 30th Annual Meetings of the American Society of Mining and Reclamation took place at the Hilton Garden Inn and UW Conference Center June 1-7. We are proud to announce we had over 370 people in attendance, with 32 vendor booths and over 100 technical sessions presented. Of those, 27 were student presentations, 10 of those by students affiliated with the WRRC.

Wyoming Governor Matt Mead kicked off the conference with opening remarks on the state’s natural resources. Two field trips were offered to mine sites in Wyoming as well as workshops related to ArcGIS and GPS. BP hosted a group of over 200 people at their sites in Wamsutter for a great tour!

The 2014 meetings will be held in Oklahoma City, OK June 14-19. For more information visit <http://www.asmr.us>.

Regional Reclamation Schools a Success

June was a busy time for the Wyoming Reclamation & Restoration Center; after the ASMR meeting we immediately hit the road (after picking up some Wyoming Extension Specialists) to host three workshops throughout the state. The first was held in Riverton June 10th and 11th. The following week we were in Gillette and the last week of June we were in Rock Springs. We were fortunate enough to have the University of Wyoming include a story about our workshops in their September 2013 issue of UWYO Magazine. The article can be found here:

<http://www.uwyo.edu/uwyo/2013/15-1/soil-reclamation.html>

We are already talking about our next special topic workshop tentatively scheduled for April 2014, “Sage Grouse Habitat Restoration”. Stay tuned for details on this, and next year’s Regional Schools. Email us and let us know if you’d like us to hold one in your area!

New Bulletin Published by WRRC and Wyoming Extension

“Reclamation Considerations for Oil and Gas Lease Contracts on Private Lands” (B-1242) hit the shelves in April 2013 and is currently available in print and online.

Please visit our website to request copies: <http://www.uwyo.edu/wrrc/bulletins.html>



ROaR is interested in restoration and reclamation of disturbed lands, primarily lands affected by wildfires, oil/gas, and mining-related operations. Members include graduates and undergraduates from a wide array of backgrounds.

Networking plays a key role at ROaR. The club is often contacted by company representatives throughout industry who wish to speak to ROaR about upcoming opportunities or projects. Members are active on and off campus, helping improve our community through volunteer efforts.

This semester ROaR has grown its membership base to 55 students and members of industry. Several projects are under consideration, including on campus small scale projects for undergraduates. These small projects offer numerous opportunities for undergraduates to gain valuable understanding about the reclamation process; small in both scale and time period allowing participants to easily see a project through start to finish. **ROaR works closely with industry to gain valuable real world experience and knowledge for graduate as well as undergraduate members.** Contact ROaR if your organization has a project, uwroar@gmail.com.

Submitted by Olie Moss (ROaR President).



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