

# REGISTRATION

## 20<sup>th</sup> High Altitude Revegetation Workshop

### March 6 - 8, 2012

## 20<sup>th</sup> HIGH ALTITUDE REVEGETATION WORKSHOP

You are cordially invited to the Twentieth High Altitude Revegetation Workshop to be held March 6-8, 2012, at the Lory Student Center on the Colorado State University Campus, Fort Collins, Colorado. This conference is a continuation of the Workshop series that began in 1974. For over thirty-five years, interested people from the environmental restoration industry, academia and regulatory agencies have gathered every other year to learn about new techniques, products and methods for solving revegetation and restoration problems.

The High Altitude Revegetation Committee, through Colorado State University, conducts biennial workshops and annual field tours to promote understanding of reclamation and revegetation techniques and problems that occur when fragile, high-elevation ecosystems are modified by human activities or natural events. This information is valuable for rehabilitating disturbances at all elevations. Registrants will receive the published proceedings of the workshop. An exhibit area will feature displays of new restoration techniques, equipment, services and plant materials. Poster paper displays will convey additional revegetation information and case studies from diverse ecoregions.

In addition to the Wednesday and Thursday program of presented papers, there will be a half-day session on Exotic Plant Management and Native Plant Restoration. This special session will be held at Rocky Mountain National Park on Tuesday afternoon for a small additional fee.

Continuing education credits will be available for many professional groups.

### **TUESDAY, MARCH 6, 12:30 – 5:00 p.m. (additional-fee session)**

#### **➤➤ EXOTIC PLANT MANAGEMENT AND NATIVE PLANT RESTORATION at Rocky Mountain National Park:** Co-chairs – Cini Brown and Jim Cheatham.

This session will give participants an overview of exotic plant control and native plant restoration techniques and challenges at Rocky Mountain National Park. Issues included in the discussion will be changing strategies in light of climate change, nitrogen deposition, beetle tree kill, and fuel reduction (prescribed fire & pile burning). The session will include presentations from park staff, a tour of the park greenhouse and seed storage facility, and a field tour to exotic plant control and native plant restoration sites. Please come prepared with plenty of warm clothes.

You can either show up at the Rocky Mountain National Park Beaver Meadows Visitor Center at 12:30 p.m. or ride the bus that will be leaving from Colorado State University at 11:00 a.m. Please eat beforehand or bring your lunch to eat on the bus. You are encouraged to ride the bus to avoid parking congestion at the Visitor Center. If you are riding the bus, please meet on the southeast side of the CSU campus in the parking lot located between College Avenue and the train tracks. The parking lot number is 575

(<http://parking.colostate.edu/maps/mapside.pdf>). From College Avenue, you can access the lot either from Pitkin Street on the north or Lake Street on the south. Please make sure you pick up a parking pass and place it in your vehicle prior to boarding the bus.

**➔ If you wish to attend this special half-day session, please be sure to indicate that when registering.**

#### Four ways to register:

At <http://col.st/oiYDI2>, by mailing this form, by telephone at 970-491-7501, or by FAX at 970-491-7747.

Name \_\_\_\_\_  
 Affiliation \_\_\_\_\_  
 Mailing Address \_\_\_\_\_  
 \_\_\_\_\_  
 City \_\_\_\_\_  
 State \_\_\_\_\_ Zip \_\_\_\_\_ Telephone (\_\_\_\_\_) \_\_\_\_\_  
 Fax \_\_\_\_\_ E-mail \_\_\_\_\_

- Regular registration (2 lunches, breaks, social hour, and conference proceedings) @ \$175 (\$200 if postmarked or paid after Feb. 22) ..... \$ \_\_\_\_\_
- Full-time student registration (2 lunches, breaks, social hour, and conference proceedings) @ \$25 with valid student ID which must be presented at registration check-in (\$35 if postmarked or paid after Feb. 22) ..... \$ \_\_\_\_\_
- Exotic Plant Management/Native Plant Restoration Workshop, Tuesday at Rocky Mountain National Park @ \$25 ..... \$ \_\_\_\_\_
- Exhibitor space: (includes Wed. & Thurs. registration for one person)

Exhibit Size	Regular Fee	Fee after Feb. 22
Up to 12'	\$200	\$300

\$ \_\_\_\_\_

- I would like vegetarian meals.
- ADA special needs: \_\_\_\_\_
- I plan on attending the following:
  - Luncheon on March 7.
  - Social hour on March 7.
  - Luncheon on March 8.

Extra meals (for someone accompanying you) by preregistration only:  
 # \_\_\_\_\_ Luncheon March 7 @ \$25.00..... \$ \_\_\_\_\_  
 # \_\_\_\_\_ Luncheon March 8 @ \$25.00..... \$ \_\_\_\_\_

**TOTAL DUE AND ENCLOSED** ..... \$ \_\_\_\_\_

Method of Payment:  Check  VISA  MasterCard  Diners Club  
 Credit Card # \_\_\_\_\_ Exp. Date \_\_\_\_\_

Form and payment should be mailed to: Office of Conference Services, High Altitude Revegetation Workshop, 8037 Campus Delivery, Fort Collins, CO 80523-8037. Make check payable to: Colorado State University.

A \$17.00 service charge will be made on all returned checks. Cancellation refunds, less a \$50.00 handling fee, will be made for cancellations received by the Office of Conference Services by 5:00 p.m. MST, Feb. 28, 2012. No refunds will be granted after that time, although a designated alternate may attend.

## **WEDNESDAY, MARCH 7**

7:30 – 10:00 a.m. CONFERENCE CHECK-IN for preregistered participants and LATE REGISTRATION at the Lory Student Center just outside the North Ballroom. Coffee available in Exhibit Area.

8:45 – 9:00 a.m. **WELCOME:** Randy Mandel, Chairman of the High Altitude Revegetation Committee.

➤➤ **KEYNOTE SESSION:** Co-chairs – Mark Paschke and Cini Brown.

9:00 – 9:30 a.m. **Species Distribution Modeling, Climate Science, & Land Management: A Vision for the North Central Climate Science Center.** Dr. Jeffrey Morisette, Director of the Department of the Interior's North Central Climate Science Center (NC CSC) located at Colorado State University in Fort Collins.

9:30 – 10:00 a.m. **Anticipating Climate Change Impacts on Seed Germination: Implications for Restoration in Montane Ecosystems.** Dr. Kristina Hufford, Assistant Professor of Restoration Ecology and Land Reclamation in the Department of Renewable Resources, University of Wyoming, Laramie, WY.

10:00 – 10:30 a.m. COFFEE BREAK in Exhibit Area.

➤➤ **KEYNOTE SESSION (cont.):**

10:30 – 11:00 a.m. **Global Change, Water, and Invasion in a Semi-arid Grassland.** Dr. Dana Blumenthal, Ecologist, USDA-ARS, Fort Collins, CO.

11:00 – 11:30 a.m. **Panel Discussion with Keynote Speakers.**

➤➤ **SESSION 2 – Climate Change:** Chair – Randy Mandel.

11:30 – 12:00 p.m. **Do Chilling Requirements Limit Southward Spread of Russian Olive in Western North America?** Cini Brown, Associate Professor, Colorado State University, Fort Collins, CO.

12:00 – 12:30 p.m. **Impact of Soil Hydrologic Properties on Revegetation of Harsh Sites in a Changing Climate.** Vic Claassen, Soil Scientist, University of California, Davis, CA.

12:30 – 1:30 p.m. LUNCHEON.

➤➤ **SESSION 3 – Case Studies:** Chair – Lynn Kunzler.

1:30 – 2:00 p.m. **Vegetation Diversity and Heterogeneity on Abandoned Gas Well Pads in the Piceance Basin of Western Colorado.** Richard Alward, Aridlands Natural Resources Consulting, Grand Junction, CO.

2:00 – 2:30 p.m. **Development of a Sagebrush Steppe Plant Community 33 Years after Surface Disturbance.** Brock Bowles, Environmental Protection Specialist, Colorado Division of Reclamation, Mining and Safety, Fort Collins, CO.

2:30 – 3:00 p.m. **Beyond the Technical: Engaging Citizen Science and Collaborative Stewardship in Ecological Restoration Projects on Federal Forest Lands of the Uncompahgre Plateau, Western Colorado.** Tony Cheng, Director, Colorado Forest Restoration Institute, Colorado State University, Fort Collins, CO.

3:00 – 3:30 p.m. COFFEE BREAK in Exhibit Area.

➤➤ **SESSION 4 – Riparian/Wetland:** Chair – Carl Mackey.

3:30 – 4:00 p.m. **Science-based, Vegetative Designs Presented using Engineering Specifications.** George Annandale, Program Leader, Golder Associates, Inc., Lakewood, CO.

4:00 – 4:30 p.m. **Creating a Vision for the Lower Poudre River: Back to Native or Forward to a Modern Alternative?** Jennifer Shanahan, Environmental Planner, Natural Areas Program, City of Fort Collins, CO.

4:30 – 5:00 p.m. **Reclamation of the Ute-Ulaly Tailings Impoundments, Lake City, Colorado.** Tara Tafi, Environmental Protection Specialist, Colorado Division of Reclamation, Mining, and Safety, Gunnison, CO.

5:00 – 6:00 p.m. **POSTER PAPER SESSION:** Presenters will be available at their posters for discussion.

5:30 – 7:00 p.m. **SOCIAL HOUR** in the Exhibit Area.

## **THURSDAY, MARCH 8**

➤➤ **SESSION 5 - Forestry:** Chair – Ron Bowman.

8:30 – 9:00 a.m. **Ecosystem Changes after Pine Beetle and Salvage Logging in Colorado Subalpine Forests.** Chuck Rhoades, Research Biogeochemist, USDA Forest Service, Rocky Mountain Research Station, Fort Collins, CO.

9:00 – 9:30 a.m. **Understory Plant Community Response to Salvage Logging in Lodgepole Pine Stands Impacted by Mountain Pine Beetle.** Paula Fornwalt, Research Ecologist, USDA Forest Service, Rocky Mountain Research Station, Fort Collins, CO.

9:30 – 10:00 a.m. **Revegetation of Slash Pile Scars in Colorado Front Range Forests.** Amber Shanklin, Graduate Student, Restoration Ecology, Colorado State University, Fort Collins, CO.

10:00 – 10:30 a.m. COFFEE BREAK in Exhibit Area.

➤➤ **SESSION 6 - Climate Change/Weeds:** Chair – Mindy Wheeler.

10:30 – 11:00 a.m. **Leveraging Watershed Restoration as a Proactive Approach to Global Climate Change Adaptation and Ecosystem Resilience.** Carolyn Browning, Watershed Restoration Ecologist, ICF International, Englewood, CO.

11:00 – 11:30 a.m. **Effects of Imazapic Application on Cheatgrass and Native Plant Species in Rocky Mountain National Park.** Christopher Davis, Graduate Student, Colorado State University, Fort Collins, CO.

11:30 – 12:00 p.m. **Testing Strategy Choices in Moderate Weed Risk Areas.** Danielle Bilyeu Johnston, Habitat Researcher, Colorado Division of Parks and Wildlife, Grand Junction, CO.

12:00 – 1:00 p.m. LUNCHEON.

➤➤ **SESSION 7 - Case Studies:** Chair – Jody Nelson.

1:00 – 1:30 p.m. **Cover - The Misunderstood Vegetation Measure.** David Buckner, Senior Plant Ecologist, ESCO Associates, Inc., Boulder, CO.

1:30 – 2:00 p.m. **Restoration of the Wernimont Ponds Regional Stormwater Detention Facility, Loveland, Colorado.** Heather Houston, Ecologist, Western Biological Resource, Inc., Boulder, CO.

2:00 – 2:30 p.m. **USFS R2 Native Plant Materials Program (Northwest Colorado Emphasis Area).** John Proctor, Botanist, USDA Forest Service, WRNF, Glenwood Springs, CO.

2:30 – 3:00 p.m. COFFEE BREAK in Exhibit Area.

➤➤ **SESSION 8 - Mine Reclamation:** Chair – Mike Ellis.

3:00 – 3:30 p.m. **Reclamation of the Searle Gulch Historic Mining District, Climax, CO.** Robin Bay, Environmental Scientist, Habitat Management, Inc., Englewood, CO.

3:30 – 4:00 p.m. **Shrub Establishment for Wildlife Enhancement on Reclaimed Lands in Northwestern Colorado.** Jesse Dillon, Biologist, Cedar Creek Associates, Inc., Fort Collins, CO.

4:00 – 4:30 p.m. **Reclamation of Mine Impacted Soils Utilizing an Insitu Mixing Implement Leads to Revegetation Success.** Clay Combrink, Project Manager, Frontier Environmental Services, Inc., Arvada, CO.

4:30 p.m. **CLOSING REMARKS.** Randy Mandel, Chairman, High Altitude Revegetation Committee.

## REGISTRATION

The regular registration fee for the Wednesday and Thursday sessions is \$175, or \$200 for registrations postmarked or paid after Feb. 22, 2012. Full-time students with a valid student ID may register for \$25 (\$35 after Feb. 22, 2012). All registrations include two lunches, social hour, coffee breaks, and published workshop proceedings. Meal tickets may be purchased for guests, but might not be available for late registrants. The additional registration fee for the optional Tuesday afternoon session at Rocky Mountain National Park is \$25.

Cancellation refunds, less a \$50.00 handling fee, will be granted if received by Conference Services by 5:00 p.m. MST, Feb. 28, 2012. No refunds will be granted after that time, although an alternate person may attend. For questions about registering, call the Office of Conference Services (970-491-7501). For questions about program content, contact Joe Brummer at [joe.brummer@colostate.edu](mailto:joe.brummer@colostate.edu) or 970-491-4988.

Conference check-in for preregistered participants (and late registration at the door) will begin at 7:30 a.m. on Wednesday, March 7, just outside the North Ballroom of the Lory Student Center on the Colorado State University Campus, Fort Collins, Colorado.

## SPECIAL SESSION AT ROCKY MOUNTAIN NATIONAL PARK

A special half-day session looking at how Rocky Mountain National Park is managing exotic plants and restoring native plant communities will be held from 12:30 to 5:00 p.m. on March 6<sup>th</sup>. Please refer to the program section of this brochure for details.

If you plan on attending this session, you can either show up at the Rocky Mountain National Park Beaver Meadows Visitor Center at 12:30 p.m. or ride the bus that will be leaving from Colorado State University at 11:00 a.m. Please eat beforehand or bring your lunch to eat on the bus. You are encouraged to ride the bus to avoid parking congestion at the Visitor Center. If you are riding the bus, please meet on the southeast side of campus in the parking lot (#575) located between College Avenue and the train tracks (<http://parking.colostate.edu/maps/mapside.pdf>). From College Avenue, you can access the lot either from Pitkin Street on the north or Lake Street on the south. Please make sure you pick up a parking pass and place it in your vehicle prior to boarding the bus.

You must register for this extra ½ day session for the additional fee of \$25.

## ACCOMMODATIONS

A block of rooms has been reserved at the Hilton Fort Collins, as well as the Best Western University Inn. Rates for the Hilton are as follows: \$99 for single, \$109 for double, \$119 for triple, and \$129 for quad occupancy rooms per night. For reservations, contact the Hilton Fort Collins at 970-482-2626 and mention that you are with the High Altitude Revegetation Workshop to receive the above quoted rates. After Feb. 9th, the special room rate will be subject to availability.

The rate for the Best Western University Inn is \$70 per room per night. For reservations, call 970-484-1984 or toll-free at 888-484-2984 and mention that you are with the High Altitude Revegetation Workshop to receive the above quoted rate. The cutoff date for this rate is Feb. 20<sup>th</sup>.

A map and list of other local hotels and motels will be included with your conference registration confirmation.

## TRANSPORTATION

Interstates 70 and 80 east and west, connecting with Interstate 25 north and south provide easy access to Fort Collins. If driving to Fort Collins, take Exit 268 from I-25 and proceed west approximately 5 miles on Prospect Road. Continue on Prospect Road to the Hilton Fort Collins, 425 West Prospect Road or turn North onto College Avenue until East Elizabeth Street to the Best Western University

Inn, 914 S College Avenue.

Air travel to the area is possible on most major airlines to Denver International Airport. Ground transportation from Denver to Fort Collins is available by rental car or airport shuttle. Shamrock Shuttle provides hourly service between DIA and Fort Collins ([www.rideshamrock.com](http://www.rideshamrock.com)).

## PARKING

Parking permits will be distributed at onsite registration. Parking permits are valid in all "A", "Q", "X" and "Z" parking zones. This permit is not valid in metered zones, or the "A" parking zone west of Moby Arena. Upon receiving your parking permit, you will need to IMMEDIATELY place it in the front windshield of your car.

## POSTER SESSION

Posters will be displayed in the meeting room throughout the workshop. During the Poster Session (5:00 – 6:00 p.m. Wednesday), authors will be available at their poster for discussion.

You are invited to bring a poster concerning any aspect of revegetation. To volunteer a poster or for details, please contact Joe Brummer ([joe.brummer@colostate.edu](mailto:joe.brummer@colostate.edu) or 970-491-4988). Posters should be designed to fit on either 4 by 4 foot or 4 by 8 foot carpeted backboards, which will be provided. Please provide an abstract of your poster. You can also contribute a manuscript of your poster for inclusion in the published proceedings.

## FOOD SERVICE

Luncheons on Wednesday and Thursday, coffee breaks, and the Wednesday evening social hour (hors d'oeuvres) are included in the registration fee for all attendees. Additional meal tickets for persons accompanying you, but not attending the sessions may be ordered with your registration. Please indicate on the registration form if you desire vegetarian meals.

## EXHIBITS

Commercial displays dealing with all aspects of revegetation will be located in the Cherokee Park Room which adjoins the meeting room. A display space with skirted table(s) will be provided for commercial exhibitors for the Wednesday and Thursday period. The fee is \$200 for a space up to 12 feet (\$300 if postmarked or paid after Feb. 22). Your exhibitor fee includes full registration for one person. Nonprofit, educational and public organizations will be provided with complimentary exhibit space, but must register the individuals attending. For information, please contact Mark Phillips ([4mphilips@gmail.com](mailto:4mphilips@gmail.com) or 303-665-2618) or Ed Spence ([edward.spence@co.usda.gov](mailto:edward.spence@co.usda.gov) or 720-544-2869). Exhibitors may set up beginning at 7:00 a.m. on Wednesday, March 7<sup>th</sup>.

## SPONSORSHIP

Sponsorship contributions are used to underwrite the workshop and help with such expenses as the coffee breaks, social hour, meals, publishing the proceedings and to subsidize student registrations. If you or your company would like to become a recognized sponsor, please contact Mark Paschke ([mark.paschke@colostate.edu](mailto:mark.paschke@colostate.edu) or 970-491-0760), or Randy Mandel ([randy\\_mandel@golder.com](mailto:randy_mandel@golder.com) or 970-379-3169).

## WORKSHOP PROCEEDINGS

Workshop proceedings in CD form will be distributed to all registrants by mail after the conference. Proceedings of all nineteen previous workshops are available through the Colorado Water Resources Research Institute at: <http://www.cwi.colostate.edu/publications.asp?pubs=is>.

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# TWENTIETH HIGH ALTITUDE REVEGETATION WORKSHOP

**High Altitude Revegetation Workshop**  
Office of Conference Services  
Colorado State University  
Fort Collins, CO 80523-8037

**FORT COLLINS, COLORADO**

**MARCH 6 - 8, 2012**

*Sponsored by:*  
Colorado State University  
Departments of  
Soil and Crop Sciences  
and  
Forest and Rangeland Stewardship  
and the  
High Altitude Revegetation Committee

**Colorado  
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University