

Great Basin Native Plant Project Annual Meeting

March 17-18, 2014

Spring Hill Suites, Boise Park Center

This meeting was attended by 78 attendees who discussed subjects dealing with the national perspective of the organization and scientific areas dealing with native plant increase, storage, and distribution in the western U.S. Scientific papers were presented in the areas of: 1) Genetics, plant materials, and climate change; 2) The development and increase of native plant materials, and; 3) Restoration and relationships with fire. FRRL laboratory scientists Drs. Shaun Bushman and Doug Johnson presented a paper entitled, "Establishment of *Dalea ornata* and *Astragalus filipes* on wildland sites."



Discussion among attendees during a program break at the Great Basin Native Plant Project Annual Meeting.



FRRL researcher Dr. Shaun Bushman presents a paper co-authored by Dr. Doug Johnson on methods for improving germination in native legumes.



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Great Basin Native Plant Project Annual Meeting

Spring Hill Suites, Boise Park Center—424 East Park Center Blvd., Boise, Idaho

Monday, March 17 (1:00 to 5:00) — Tuesday, March 18 (9:00 to 4:30), 2014

PROGRAM

Monday, March 17

Welcome

Moderator: Francis Kilkenny, USFS-Rocky Mountain Research Station, Boise, ID

- 1:00-1:30 National Perspective**
Peggy Olwell, National Native Plant Conservation Program Lead, USDI-BLM, Washington, D.C.
- 1:30-1:40 GBNPP - Updates and Welcome**
Francis Kilkenny, Research Biologist and Team Leader, Great Basin Native Plant Program, USFS-Rocky Mountain Research Station, Boise, ID
- 1:40-2:00 BLM Seed Procurement - Updates and Challenges**
Paul Krabacher, National Seed Coordinator, USDI-BLM, Boise, ID
- 2:00-2:20 BREAK**

Genetics, Plant Materials, and Climate Change

Moderator: Corey Gucker, GBNPP Outreach Coordinator, Boise, ID

- 2:20-2:40 Conservation, Adaptation, and Seed Zones for Key Great Basin Species**
Richard C. Johnson, Research Agronomist, USDA-ARS, Western Regional Plant Introduction Station, Pullman, WA
- 2:40-3:00 Relationships between Common Garden Responses and Climate in Big Sagebrush (*Artemisia tridentata*)**
Bryce Richardson, Research Geneticist, USFS-Rocky Mountain Research Station, Provo, UT
Co-authors: N. Shaw, M. Germino, S. Carlson, S. Still, H. Ortiz
- 3:00-3:20 Landscape, Climate, and Genetic Factors Affecting Success of Big Sagebrush Outplants in the Birds of Prey NCA**
Matt J. Germino, Supervisory Research Ecologist, USGS-Forest and Rangeland Ecosystem Science Center, Boise, ID
Co-authors: M. Brabec, B. Richardson, B. Lazarus

3:20-3:40 Approaches to Subspecies Diagnostics in Big Sagebrush (*Artemisia tridentata*) Using an Electronic Nose

Hector Ortiz, Intern for USFS-Rocky Mountain Research Station, Chicago Botanic Garden, Glencoe, IL

Co-author: B. Richardson

3:40-4:00 BREAK

Moderator: Megan Haidet, Seeds of Success National Collection Curator, USDI-BLM, Washington, D.C.

4:00-4:20 Progress on Establishment of Reciprocal Transplant Tests to Study Adaptation of Bluebunch Wheatgrass

Brad St.Clair, Research Geneticist, USFS-Pacific Northwest Research Station, Corvallis, OR

Co-authors: F. Kilkenny, N. Shaw

4:20-4:40 Using Common Garden Studies to Predict the Effects of Climate Change on Native Grass Species

Francis Kilkenny, Research Biologist, USFS-Rocky Mountain Research Station, Boise, ID

Co-author: B. St.Clair

4:40-5:00 Seedling Root Architecture Strongly Influences Field Performance of Genotypes of a Common Bunchgrass (*Elymus elymoides*)

Daniel Z. Atwater, Post-doctoral researcher, University of Nevada, Reno, NV

Co-author: E. A. Leger

Tuesday, March 18

Development and Increase of Native Plant Materials

Moderator: Anne Halford, State Botanist, USDI-BLM Idaho State Office, Boise, ID

9:00-9:20 Basin Wildrye as a Test Species for Comparing Methods of Plant Material Development

Scott Jensen, Botanist, USFS-Rocky Mountain Research Station, Provo, UT

9:20-9:40 Wildflower Seed Yield in Response to Irrigation in a Dry Year

Clint Shock, Director and Professor, Oregon State University Malheur Experiment Station, Ontario, OR

Co-authors: E. Feibert, L. Saunders, N. Shaw

9:40-9:50 Update of Activities at the USDA-NRCS Aberdeen Plant Materials Center

Loren St. John, Team Leader, and Derek Tilley, Agronomist, USDA-NRCS, Aberdeen Plant Materials Center, Aberdeen, ID

9:50-10:20 BREAK

Moderator: Mark Mousseaux, State Botanist, USDI-BLM Medford District Office, Medford, OR

10:20-10:40 How to Measure the Success of Native Plant Selection and Increase
Stan Young, Research Professor, Utah Crop Improvement Association/Utah State University, Logan, UT

10:40-11:00 Dynamics of Cold Hardiness Accumulation and Loss for Great Basin Native Plants
Matt Fisk, Biological Technician, USFS-Rocky Mountain Research Station, Boise, ID and M.S. Student, Department of Forest, Rangeland and Fire Sciences, University of Idaho, Moscow
Co-author: A. Davis

11:00-1:00 LUNCH (on your own)

Restoration and Relationships with Fire

Moderator: Holly Beck, District Botanist, USDI-BLM Bruneau Field Office, Bruneau, ID

1:00-1:20 Reestablishing Native Plant Diversity in Crested Wheatgrass Seedings in Northern Nevada
Kent McAdoo, Associate Professor/Natural Resources Specialist, University of Nevada, Cooperative Extension, Elko, NV
Co-authors: J. Swanson, N. Shaw

1:20-1:40 Establishment of *Dalea ornata* and *Astragalus filipes* on Wildland Sites
Shaun Bushman, Research Geneticist, and Doug Johnson, Plant Physiologist, USDA-ARS Forage and Range Research Lab, Logan, UT

1:40-2:00 Fire Intensity and Forb Traits Influence Survival and Bloom the Year after Burning
Byron Love, M.S. Student, Utah State University, Logan, UT

2:00-2:20 BREAK

2:20-2:40 Herbicide Impacts on Forb Performance in Degraded Sagebrush Steppe Ecosystems
Marie-Anne de Graaff, Assistant Professor, Department of Biological Sciences, Boise State University, Boise, ID

2:40-3:00 Factors Influencing the Presence or Absence of Native Plants in Crested Wheatgrass Stands: An Observation Study
Kirk W. Davies, Rangeland Scientist, USDA-ARS Range and Meadow Forage Management Research, Burns, OR
Co-author: A. M. Nafus

3:00-3:20 BREAK

Moderator: Beth Corbin, District Botanist, USDI-BLM Owyhee Field Office, Marsing, ID

- 3:20-3:40 Native Lupine Cultivation and Ecological Niche Modeling**
Kevin Gunnell, Range Trend Project Leader, Utah Division of Wildlife Resources, Ephraim, UT and Jason Stettler, M.S. Student, Utah State University, Logan, UT (formerly of the Utah Division of Wildlife Resources)
- 3:40-4:00 Seeding Native Species Following Wildfire in Wyoming Big Sagebrush (*Artemisia tridentata* subsp. *wyomingensis*)**
Jeff Ott, Postdoctoral Research Geneticist, USFS-Rocky Mountain Research Station, Boise, ID
Co-author: N. Shaw
- 4:00-4:20 Pre-inoculation of Wyoming Big Sagebrush Seedlings with Native Arbuscular Mycorrhizae: Effects on Mycorrhizal Colonization and Seedling Survival after Transplanting**
Marcelo Serpe, Professor, Department of Biological Sciences, Boise State University, Boise, ID
Co-author: B. Davidson

Posters—

Endophytic Fungi Linked to Invasion of *Ventenata dubia*

David Griffith, Ph.D. Student, University of Idaho, Moscow, ID
Sara Ashiglar, Ph.D. Student, University of Idaho, Moscow, ID
George Newcombe, Professor, University of Idaho, Moscow, ID

From BLM Seeds of Success Seed Collections to Field Increase - a Pilot Project from the Craters of the Moon National Conservation Area

Danelle Nance, Natural Resource Specialist, USDI-BLM Shoshone District Office, Shoshone, ID

Germination Ecology of Great Basin Forbs

Sarah Barga, Ph.D. Student, University of Nevada, Reno, NV
Elizabeth Leger, Associate Professor of Plant Ecology, University of Nevada, Reno, NV

Native Plant Production and Upland Habitat Enhancement in the BLM Morley Nelson Snake Birds of Prey National Conservation Area

Anne S. Halford, State Botanist, USDI-BLM Boise, ID
Ann DeBolt, Botanist, Idaho Botanical Gardens, Boise, ID
Mary Dudley, Volunteer Coordinator, Idaho Department of Fish and Game, Boise, ID

Sagebrush Seed Storage

Bob Karrfalt, Director, USFS National Seed Laboratory, USFS, Dry Branch, GA

Society for Ecological Restoration: Great Basin Chapter

Western Juniper Control to Benefit Sagebrush Steppe Native Fauna and Flora in the Owyhee Mountains

Arthur Talsma, Director of Restoration and Stewardship, The Nature Conservancy, Boise, ID
Nathan Welch, GIS Analyst, The Nature Conservancy, Boise, ID

Great Basin Native Plant Project Cooperators Unable to Attend

Rob Cox, Texas Tech University , Lubbock, TX

Revegetation Catalog and Revegetation Technology and Equipment Council Website
Maintenance
Smoke-induced Germination of Great Basin Native Forbs

Jeremy James, University of California - Sierra Foothill Research and Extension Center, Browns Valley, CA

The Ecology of Native Forb Establishment in the Great Basin: A Holistic Approach

Heidi Kratsch, University of Nevada Cooperative Extension, Reno, NV

Strategies to Increase Adoption of Native Plants by Nevada Retail Plant Nurseries

Krishna Mohan, University of Idaho - Southwest Idaho Research and Extension Center, Parma, ID

Etiology, Epidemiology, and Management of Diseases of Native Wildflower Seed Production

Keirith Snyder, USDA Agricultural Research Service, Reno, NV

Investigations of Seed and Seedling Ecology and Competitive Ability

Berta Youtie, Eastern Oregon Stewardship Services, Prineville, OR

Coordination of GBNPP Plant Materials Development and Use