MONDAY (afternoon)

1:00   Kickoff
      Adrienne Pilmanis, BLM Utah State Office

1:05   Welcome to the 2018 CPNPP Regional Annual Meeting
      Bruce Rittenhouse, BLM Colorado State Office

1:10   CPNPP Overview and Update; Meeting Objectives
      Adrienne Pilmanis, BLM Utah State Office

1:25   Retrospective on Plant Materials Development
      Scott Jensen, USFS Rocky Mountain Research Center

1:40   Climate and Drought Projections to Inform Dryland Reclamation & Restoration on the Colorado Plateau
      John Bradford, USGS Southwest Biological Science Center (SBSC)

RECLAMATION & RESTORATION DRIVE THE DEMAND

2:00   Seeding Big Sagebrush (Artemisia tridentata) in Utah: A Review of Methods
      Kevin Gunnell, Utah Division of Wildlife Resources

2:10   Chevron Reclamation of F.V. Larson B3 and B6 Locations and Bank Stabilization
      Ryan Snyder, BLM White River Field Office

2:20   Plant Materials Demand, Development & Use Examples from Wyoming Energy Production Areas
      Brad Jost, BLM Wyoming State Office

2:30   Missing Players: The Role of Soil Biota in Facilitating Native Plant Establishment and Survival
      Matt Bowker for Michael Remke, Northern Arizona University
How Seed Bank Perspective Can Inform Management Options
Sasha Reed, USGS SBSC

NatureServe Tools for Ecological Restoration and Seed Sourcing
Patrick McIntyre, NatureServe

BREAK

Surveyor in the Sky: Using Very High-Resolution Drone-Collected Data to Monitor Reclamation
Grayson Kroenemann, Colorado Mesa University

Database Management and Suggestions for Improving Monitoring to Improve Reclamation
Michael Curran, Wyoming Reclamation & Restoration Center, University of Wyoming

Beyond Traditional Ecological Restoration and Reclamation on the Colorado Plateau
Daniel Winkler, USGS SBSC

All Q & A and Discussion

SOURCING, PRODUCTION & SUPPLY

Seed Industry Successes and Challenges of Wildland Seed Collections at Regional and Local Levels
Daryle Bennett, Granite Seed Company

The Value of Seed Certification and Seed Analysis
Rick Novak, Colorado Seed Programs

Cultivar Persistence and Ecological Restoration: What Do We Know?
Kristina Hufford, University of Wyoming

Understanding the Role of Genetics in Native Plant Materials Development
Rob Massatti, USGS SBSC
5:05  All Q & A and Discussion

5:25  Field Trip Information; initiate carpool coordination
Danielle Johnson, CO P&W, & Nikki Grant-Hoffman, BLM GJFO

Wrap-up & Poster Session Directions
Adrienne Pilmanis, BLM Utah State Office

MONDAY (evening)
6-8 p.m.  Reception and posters

Bonderman Field Station at Rio Mesa: Outdoor Laboratory for Research & Education
Zachary Lundeen, University of Utah

Accomplishments and 2018 Goals of the Native Plant Program at the Canyon Country Discovery Center
Jasmine Anenburg, Canyon Country Discovery Center/ Four Corners School of Outdoor Education

Trends in Vegetation Recovery After Land treatments in the Southwestern US
John Bradford for Stella Copeland, USGS SBSC

Insect Community Response to Reclaimed Well Pads in a Semi-arid Natural Gas Field
Michael Curran, Wyoming Reclamation & Restoration Center, University of Wyoming

Useable Science for Restoring Drylands: Synthesizing What is Already Known to Facilitate Applied Research on the Colorado Plateau
Daniel Winkler, USGS SBSC

Corbicula fluminea Invasion as a Secondary Effect of Invasive Hydrilla verticillata Management via Grass Carp (Ctenopharyngodon idella)
David Holbrook, Department of Energy; prev. Army Corps of Engineers
Seed Dispersal Exhibit at the Eureka Science Museum!
Alicia Langton, EcoloGIS

Plant and Microbial Facilitation in Sagebrush Restoration
John Bradford, USGS SBSC

Preliminary Plant Trait Database Poster
Grayson Kroenemann, Colorado Mesa University

Database Management and Suggestions for Improving Monitoring to Improve Reclamation
Jessica DaBell, Northern Arizona University

TUESDAY (morning)
8:00 Greeting
Adrienne Pilmanis, BLM Utah State Office

SOURCING, PRODUCTION AND SUPPLY (continued)
8:05 USFS Region 2 Native Plant Materials Program
Tyler D. Johnson, US Forest Service Rocky Mountain Region

8:10 National BLM Policy & Perspective
Peggy Olwell, BLM National Office

8:20 Developing Pollinator-Dependent Plant Materials For Use In A Growing Restoration Economy
Kevin Grady, Northern Arizona University

8:30 Assessing changes to plant performance and genetic composition throughout the seed increase process: A proposal
Brad Butterfield, Merriam-Powell Center for Environmental Research, Northern Arizona University
8:40  BLM Contracting for Plant Materials Increase  
     April Blodgett, BLM National Operations Center

8:50  All Q & A and Discussion

**BIOLOGICAL SOIL CRUST MATERIALS IN RESTORATION & RECLAMATION**

9:10  Restoration of Biocrusts: Why Bother?? Because They Matter!!!  
     Jayne Belnap, USGS SBSC

9:20  Biological Soil Crust Restoration on the Colorado Plateau in a Warming Climate  
     Colin Tucker, USGS SBSC

9:30  Development of Biocrust Restoration Materials: a Strategy to Transition from Research  
     Object to Shovel-Ready  
     Matthew Bowker, School of Forestry, Northern Arizona University

9:40  All Q & A and Discussion

Break

**PARTNER PROGRAMS - PROGRESS, HIGHLIGHTS & PLANS**

10:10 Research and Education Partnerships Spurred by the Colorado Plateau Native Plant  
     Program and Southern Utah University  
     Jackie Grant, Southern Utah University

10:20 Update on the Western Colorado Landscape Collaborative  
     Kathy See, Uncompahgre Partnership

10:30 Museum of Northern Arizona Colton Research Garden Seed Fields 2017 Accomplishments  
     Jan Busco, Museum of Northern Arizona

10:35 The Southwest Seed Partnership  
     Ella Samuel, Southwest Seed Partnership
10:45  Sagebrush in Prisons Project Update  
Stacy Moore, Institute for Applied Ecology

10:55  Milkweed for Monarchs: Monarch Butterfly Habitat Restoration and Local Seed Source  
Sheila Murray, The Arboretum at Flagstaff / Transitional Zone Horticultural Institute

11:00  Integrating the Native Plant Program at the Country Discovery Center with Education Programs, Volunteer Stewardship Activities, and Citizen Science  
Mark Grover, Canyon Country Discovery Center/ Four Corners School of Outdoor Education

11:10  Verde Native Seed Cooperative 2017 Accomplishments  
Kate Watters, Friends of Verde River Greenway

11:20  RAMPS: The Restoration Assessment and Monitoring Program for the Southwest  
Molly McCormick, USGS SBSC

11:35  All Q & A and Discussion  
Specific Discussion Topic: How can new & current partners engage with CPNPP and Partner Programs?

LUNCH

1:15  Ecological and Biological Factors Influencing Presence and Distribution of Sagebrush Taxa in the Uncompahgre Plateau - Implications for Restoration  
Steve Monsen, Retired (Rocky Mountain Research Station)

1:30  UCEPC Update and Goals in Relation to CO Plateau Seed Increases  
Brandon Sanders, Upper Colorado Environmental Plant Center

1:40  Update of UDWR Native Plant Material Development Project  
Melissa Landeen, Utah Division of Wildlife Resources
### 1:45
A Novel, Landscape Approach to Constructing Plant-Pollinator Networks Important for Greater Sage Grouse Conservation and Habitat Restoration
Bruce Pavlik, *Conservation Department, Red Butte Garden, University of Utah*

### 1:55
Status and Development of the Colorado Plateau Native Plant Program’s Online Resources in the LandScope Web Portal
Nicholas Moy, *NatureServe*

### 2:05
CPNPP Ecoregional Seed Collection Summary & 2018 Planning
Jenny Shostrand, *Great Basin Institute*

### 2:15
Using Genetic Results to Inform Seeds of Success Collecting
Rob Massatti, USGS SBSC

### 2:25
*Erigeron speciosa* seed transfer zone development progress & collection needs; *Ericameria nauseosa* project update
Bryce Richardson, *USFS Rocky Mountain Research Station*

### 2:30
All Q & A and Discussion
Specific Discussion Topic: 2018 Collection Plans & Coordination

Break

### TRAITS IN NATIVE PLANT MATERIALS DEVELOPMENT

### 3:10
Trait Session Introduction: What is a “Functional Trait” and Why Do We Care?
Brad Butterfield, *Merriam-Powell Center Northern Arizona University*

### 3:20
Sources of Variation and Climatic Drivers of Grass Functional Traits
Carla Roybal, *Northern Arizona University*

### 3:30
A Trait Assessment of Commonly Used Species in Restoration on the Colorado Plateau
Kathleen Balazs, *Northern Arizona University*
3:40  Functional Traits of Promising Species for Restoration in the Colorado Plateau
      Magda Garbowski, Colorado State University

3:50  Population Divergence and Plasticity of Pleuraphis jamesii Across a Monsoon Gradient
      Alix Pfennigwerth, USGS SBSC

4:05  A Trait-Based Approach to Using Biological Soil Crusts in Colorado Plateau Restoration Efforts
      Sasha Reed, USGS SBSC

4:15  Data Synthesis for Restoration Practitioners and Ecologists: Preliminary Plant Trait Database
      Jessica DaBell, Northern Arizona University

4:25  All Q & A and Discussion

4:55  Meeting wrap-up & Thanks
      Adrienne Pilmanis, BLM Utah State Office

TUESDAY (evening)

Optional Traits Focus Happy Hour/ Dinner
Location TBD

WEDNESDAY AM (optional)

8:00  Field Trip: Colorado Parks & Wildlife “Pothole” Seeding Restoration trial
      Danielle Johnston, Colorado Parks and Wildlife Department

      McInnis Canyon National Conservation Area
      Nikki Grant-Hoffman, BLM Grand Junction Field Office

WEDNESDAY PM (invitational)

1:00  BLM & UCEPC Focus Meeting
Field Trip Wednesday, February 7th after the CPNPP 2018 Annual Meeting

This half-day field trip is an optional portion of the 2018 CPNPP meeting, led by Danielle Johnson (CP&W) and Nikki Grant-Hoffman (BLM). Participants will meet Wednesday morning and carpool to a Colorado Parks & Wildlife habitat restoration trial and a short hike in BLM’s McInnis Canyon National Conservation Area. Information and links below.

Interested participants should use their registration form to sign up. Questions and late registration inquiries can be directed to Nikki Grant-Hoffman (nhoffman@blm.gov; 970-244-3020) and Danielle Johnson (Danielle.biyeu@state.co.us; 970-255-6177).

Field Trip Wednesday, February 7th after the CPNPP 2018 Annual Meeting

8:00am: Meet at Doubletree parking lot (or use Directions below and meet group at site)
8:30am: Meet at first site (CP&W research plots)
8:30am - 9:45 am: Chat at CP&W site
10:00am: Meet at Devil’s Canyon trailhead
10am - 12pm: Hike in Devil’s Canyon and chat about ongoing salt desert studies involving this area and others (see restoration reference site)
12pm: End field trip so folks can get lunch and head back to the Double Tree for afternoon focal group meeting or travel home

Directions: From the Fruita exit on 1-70, head south on Hwy 340. Pass the Dinosaur Museum, James M Robb State Park, and Colorado River. After the river, take the first Right onto Kingsview Rd. From here it is 2.9 miles to the site: set your odometer. Wind through a neighborhood, keep going as road becomes gravel, then go left at the fork where you will see a sign for Horsethief SWA. Continue to the field site (unsigned) where there is a vehicle gate and a 2-track road on the left side of the road. We’ll try to have a colleague from CPW waiting by the gate, with a CPW truck. The best place to park is a river overview about 60m past the site on the right hand side of the road.

This photo from May 2017 shows the treated area to the right of the fence, untreated to the left. Most of the yarrow in the treatment area died in the hot dry summer of 2017, but native grasses and shrubs have survived.
**Restoration site visit information**

1. Colorado Parks & Wildlife Pothole seeding restoration site at Horsethief State Wildlife Area:

   Pothole seeding is a method of creating large mounds and holes in order to create favorable microsites for seeding and to control cheatgrass. Cheatgrass has been shown to be hindered by pothole seeding, likely due to altered competitive dynamics and reduced seed dispersal. A degraded rangeland at the Horsethief State Wildlife Area, which had been dominated by cheatgrass and greasewood, was pothole-seeded in fall 2012. Imazapic herbicide was applied prior to treatment at 4 oz/acre and the greasewood was grubbed off. Half of the 7-acre treatment area was also treated with a super-absorbent polymer in order to increase soil moisture retention, and a mixture of native grasses, forbs, and shrubs was applied to the entire site. By three years post-treatment a diverse native plant community had developed in treated areas, while control areas remained dominated by cheatgrass. Effects of the polymer have been minimal. By five years post-treatment, cheatgrass had reinvaded the site, but native grasses and shrubs were well-established and have survived. More information at: [http://cpw.state.co.us/learn/Pages/Rangeland-Restoration.aspx](http://cpw.state.co.us/learn/Pages/Rangeland-Restoration.aspx)

2. McInnis Canyons NCA Information: McInnis Canyons National Conservation Area (MCNCA) is located just outside of Fruita, CO. MCNCA includes over 120,000 acres of high desert country and is home to the Black Ridge Canyon Wilderness Area. There are many hiking options near Fruita including the Pollock Bench Trail, Flume/Devil’s Canyon, and the Fruita Paleo Area.


   See separate Devils Canyon & Pollock Bench Trail System Brochure.


Photos: A. Pilmanis, unless otherwise indicated

Program layout: Ryan Sutherland, BLM