

National Native Seed Conference

Event Schedule

Mon, Mar 27, 2023

7:30 AM

Registration

🕒 7:30 AM - 5:00 PM, Mar 27

📍 Hopkins Foyer

9:00 AM

Private Meeting: Regional Seed Banks

🕒 9:00 AM - 1:00 PM, Mar 27

📍 Whitney

Invite only. Session on Tuesday morning will provide a recap of this meeting.

To spearhead the creation of an association of regional and local seed banks, an organizational meeting is being held on Monday, March 27 at 9am. Over 45 non-profit, private sector and governmental seed banks have been invited to participate in this 4-hour meeting to define the principles, practices, and purposes for forming an association. In general terms, the purpose is to explore commonalities, address common concerns, and share expertise. In-person attendance is closed but remote participation is still possible. Participation is open to non-profit, private sector and governmental seed banking institutions. To attend remotely or to request to be included on future communications about the association, email Edward Toth at etoth@marsb.org.

10:00 AM

Preregistration Required: Workshop: Conservation in Prisons Program Startup

🕒 10:00 AM - 12:00 PM, Mar 27

📍 Bell

Preregistration required.

One of the limiting factors in restoration work is the lack of a consistent supply chain of native plant materials. Our Conservation in Prisons work focuses on the growth of plants in support of native habitats and organisms. This includes half a million sagebrush grown annually, the Mojave Desert Tortoise seed bulking project, and native plants grown in support of three endangered butterflies of the Pacific NW. Adults in custody in eleven prisons in five states make this possible by choosing to participate in these programs that provide horticultural and ecological education while growing plants in hoop houses and in prison yards. The value to the lives of incarcerated people has been well documented and we believe represents one model to improve human well-being in carceral systems while providing real world experiences that can be valuable on exit – both to the person and ecosystems. We encourage you to try, too. We will include a series of exercises designed to create a template you can use to start up a prisons'-based program in your area. Participants will also receive a manual on how to start up programs like these. Presented by Karen Hall, Annie Lamas and Frederick Livingston (Institute for Applied Ecology). Capacity: 40 participants.

🗣 Speakers



Karen Hall

Program Director, EcoEd
Institute for Applied Ecology



Annie Lamas

Ecological Education Coordinator
Institute for Applied Ecology



Frederick Livingston

Education Coordinator
Institute for Applied Ecology

Preregistration Required: Workshop: Part 1. Seed Planning: What's on the Seed Menu? Preliminary Seed Planning and Species Selection

🕒 10:00 AM - 12:00 PM, Mar 27

📍 Wright

Preregistration required.

With presenters from academic, private, and non-profit organizations, this workshop will cover considerations in species selection, an overview of available seed menu tools, and an opportunity to apply concepts and tools using scenario-based exercises. Although the featured tools are designed for specific geographic areas in the Central and Western U.S., each serves as a case study with broadly applicable, transferrable processes and approaches to any region. Presented by Dr. Elise Gornish (University of Arizona), Dr. Kevin Badik (The Nature Conservancy), Rob Cook (Bamert Seed), and Ashlee Wolf (Institute for Applied Ecology).

📣 Speakers



Kevin Badik

Rangeland Ecologist
The Nature Conservancy



Ashlee Wolf

Southwest Ecologist
Institute for Applied Ecology



Rob Cook

Director Of Business Development
Bamert Seed Company



Elise Gornish

Extension Specialist in Ecological Restoration
University of Arizona

Preregistration Required: Workshop: Two-Eyed Seeing: Basic Principles of TEK Ecological Restoration Partnerships with Tribal Nations for the National Seed Strategy COPY

🕒 10:00 AM - 12:00 PM, Mar 27

📍 Banneker

Preregistration required.

Dr. Cristina Eisenberg will present the basic principles for partnering with Tribal Nations in a manner that is equitable and socially just and that honors Tribal sovereignty and self-determination rights. She will discuss ecocultural restoration, which brings together TEK and best Western science to find equitable and socially just solutions to natural resources conservation and management issues—called Two-Eyed Seeing. Adaptive management and co-management of natural resources on Federal and Tribal lands will be discussed as an outcome of ecocultural restoration partnerships. While every Tribal Nation is different, with a unique culture, capacity, and shared environmental challenges, Dr. Eisenberg will present the basic principles shared when building partnerships. Through breakout group activities and reflective exercises in which they share their experiences, participants will identify barriers, gaps in their skills in partnering with Tribal Nations, and learn how to build such partnerships from the ground up. Capacity: 40 participants.

📣 Speaker



Cristina Eisenberg

Associate Dean for Inclusive Excellence and Maybelle Clark Macdonald Director of Tribal Initiatives in Natural Resources
Oregon State University, College of Forestry

11:00 AM

Preregistration Required: Field Trip: U.S. National Herbarium Tour

🕒 11:00 AM - 12:00 PM, Mar 27

Preregistration required.

Imagine cabinets upon cabinets filled with plants collected over the past few centuries from around the world. That is what you will find during a behind-the-scenes tour of the United States National Herbarium at Smithsonian's National Museum of Natural History. Learn about the history of the herbarium and witness some historic specimens. Explore ways in which herbarium specimens are used in taxonomy, ecology, and conservation research. The National Herbarium has 5 million specimens making the collections among the largest in the world. Tour led by Gary Krupnick, Head of the Plant Conservation Unit. Capacity: 15 participants. Transportation not provided. Registrants will receive information on getting to the herbarium after registration.

1:00 PM

Preregistration Required: Workshop: Two-Eyed Seeing: Basic Principles of TEK Ecological Restoration Partnerships with Tribal Nations for the National Seed Strategy

🕒 1:00 PM - 3:00 PM, Mar 27

📍 Banneker

Preregistration required.

Dr. Cristina Eisenberg will present the basic principles for partnering with Tribal Nations in a manner that is equitable and socially just and that honors Tribal sovereignty and self-determination rights. She will discuss ecocultural restoration, which brings together TEK and best Western science to find equitable and socially just solutions to natural resources conservation and management issues—called Two-Eyed Seeing. Adaptive management and co-management of natural resources on Federal and Tribal lands will be discussed as an outcome of ecocultural restoration partnerships. While every Tribal Nation is different, with a unique culture, capacity, and shared environmental challenges, Dr. Eisenberg will present the basic principles share when building partnerships. Through breakout group activities and reflective exercises in which they share their experiences, participants will identify barriers, gaps in their skills in partnering with Tribal Nations, and learn how to build such partnerships from the ground up. Capacity: 40 participants.

📣 Speaker



Cristina Eisenberg

Associate Dean for Inclusive Excellence and Maybelle Clark Macdonald Director of Tribal Initiatives in Natural Resources
Oregon State University, College of Forestry

Preregistration Required: Workshop: Part 2. Seed Planning: Seed Mix Design – Theory and Practice

🕒 1:00 PM - 3:00 PM, Mar 27

📍 Wright

Preregistration required.

Run by the International Network for Seed-based Restoration, the Seed Mix Design Workshop will highlight the critical elements to take into consideration when designing seed mixes for restoration. The workshop will include presentations by experts, providing case studies of seed mixes design for a range of plant communities and habitats. Workshop participants will then join groups facilitated by the experts where they will be given the opportunity to work on a seed mix “exercise”. Presented by Dr. Stephanie Frischie (Xerces Society), Dr. Marcello De Vitis (Southeastern Grasslands Initiative), and Dr. Karin Kettenring (Utah State University).

📣 Speakers



Stephanie Frischie

Agronomist / Native Plant Materials Specialist
The Xerces Society for Invertebrate Conservation



Marcello De Vitis

Program Director, Southeast Native Seed
Southeastern Grasslands Institute



Karin Kettenring

Professor
Utah State University

Preregistration Required: Field Trip: Bull Run Mountain Preserve Hike

🕒 1:00 PM - 5:00 PM, Mar 27

Preregistration required.

Take a trip through the past and present of Virginia Outdoors Foundation's [Preserve at Bull Run Mountains](#) where one will witness spring foliage emergence along Catlett's branch and compare this current landscape to its past. From the flora and fauna present during the Jurassic-Triassic boundary (thanks to clues uncovered from the Preserve's fossil deposits) to the 1700s and 1800s (homesteads and cemeteries dot the landscape).

This walk through time should have something to offer for naturalists, history buffs, and paleo fanatics alike.

Hike is roughly 2 miles and should take a max of 2 hours. Some parts off-trail. Bring water and snacks. No bathroom on-site but there will be a Porta-Potty. Transportation to and from the Westin Alexandria Old Town will be provided. Capacity: 25 participants.

3:15 PM

Preregistration Required: Workshop: Part 3. Seed Planning: Improving the Use and Development of Native Plant Materials Using Data-Driven Approaches

🕒 3:15 PM - 5:15 PM, Mar 27

📍 Wright

Preregistration required.

The availability of plant materials for restoration is limited; even in regions where diverse seed sources are available, it is rare to find multiple, desirable plant materials that are considered genetically appropriate for a site with management needs. As a result, efforts to increase the availability and diversity of plant materials are underway, including the development of generalized (i.e., provisional) and species-specific (i.e., empirical) seed transfer tools to guide decision-making in present and future climates. Participants in this workshop will use publicly available, web-based tools to learn about seed transfer zone concepts and how to use geospatial environmental data to guide the deployment of existing native plant materials and the development of new materials under current and future climate scenarios. Presented by Dr. Rob Massatti (U.S. Geological Survey), Dr. Francis Kilkenny (U.S. Forest Service), Dr. Bryce Richardson (U.S. Forest Service), and Dr. Elizabeth Milano (U.S. Forest Service).

🗣️ Speakers



Rob Massatti

Research Ecologist
U.S. Geological Survey



Francis Kilkenny

Research Biologist
USDA Forest Service, Rocky Mountain Research Station



Bryce Richardson

Research Geneticist
USDA Forest Service - Rocky Mountain Research Station



Elizabeth Milano

USDA FS Rocky Mountain Research Station

Tue, Mar 28, 2023

7:30 AM

Registration

🕒 7:30 AM - 4:30 PM, Mar 28

📍 Hopkins Foyer

8:00 AM

Welcome and Opening Plenary

🕒 8:00 AM - 9:40 AM, Mar 28

📍 Edison

🚩 Speakers



Alexis Larsen

Plant Materials Program Director
Institute for Applied Ecology



Tom Kaye

Executive Director, Senior Ecologist
Institute for Applied Ecology



Tracy Stone-Manning

Director
Bureau of Land Management



Lisa Smith

Executive Director
Natural Areas Association

9:40 AM

BREAK

🕒 9:40 AM - 10:00 AM, Mar 28

10:00 AM

Texas Native Seeds, Regional Partnerships Developing Native Seed Sources for Texas Symposium

🕒 10:00 AM - 12:00 PM, Mar 28

📍 Edison

The Texas Native Seeds Program (TNS) is a unique statewide collaborative seed development program under the Caesar Kleberg Wildlife Research Institute (CKWRI) at Texas A&M-Kingsville (TAMUK). The CKWRI and the TNS program are privately funded research entities housed within the Texas A&M University system and headquartered at the Kingsville campus. This program structure has enabled substantial impact across the state and allows for the continued focus toward the mission of TNS. The mission of TNS is to develop and promote native plants for the restoration and reclamation of habitats on private and public lands across the state. To complete this mission, TNS has established 6 regionally focused project regions. Each region has its own unique partnerships, constituents, challenges to overcome, and problems to solve. Our session would begin with an overview of TNS, how we interface with the University, and our central management structure. Following the overview portion, each of the 5 regional project managers would give presentations on their specific region explaining how we all follow a similar model, but also demonstrate the distinctiveness of their project region. We feel that our development model could be utilized by other native seed development programs throughout the country, including federal programs at the Bureau of Land Management and the U.S. Forest Service.

🚩 Speaker



Tony Falk

Director
Texas Native Seeds

8 Subsessions

● Texas Native Seeds

🕒 10:00 AM - 10:15 AM, Mar 28

📍 Edison

● The West Texas Native Seeds Project: Evaluation and Development of Native Seed Sources for West Texas

🕒 10:15 AM - 10:30 AM, Mar 28

📍 Edison

● The Permian-Basin Panhandle Native Seeds Project

🕒 10:30 AM - 10:45 AM, Mar 28

📍 Edison

● The Complex Workings of South Texas Natives

🕒 10:45 AM - 11:00 AM, Mar 28

📍 Edison

● The Central Texas Native Seeds Project Partnerships in Evaluation and Development of Native Seed Sources for Central Texas

🕒 11:00 AM - 11:15 AM, Mar 28

📍 Edison

● The Coastal Prairies Native Seeds Project: Development of Regionally Adapted Native Seed Sources for the Coastal Prairies Region of Texas

🕒 11:15 AM - 11:30 AM, Mar 28

📍 Edison

● The East Texas Natives Project - Native Seed Source Development in East Texas

🕒 11:30 AM - 11:45 AM, Mar 28

📍 Edison

● Texas Native Seed Discussion

🕒 11:45 AM - 12:00 PM, Mar 28

📍 Edison

Genetic approaches to inform forb restoration

🕒 10:00 AM - 12:00 PM, Mar 28

📍 Bell

6 Subsessions

● Population structure and climate associations in *Crepis acuminata*: Lessons learned from a messy plant genome

🕒 10:00 AM - 10:20 AM, Mar 28

📍 Bell

● A climate analog approach to seed transfer strategies and assisted migration

🕒 10:20 AM - 10:40 AM, Mar 28

📍 Bell

● Exploring the roles of evolutionary history, environment, and introgression in shaping landscape genomic variation of arrowleaf balsamroot (*Balsamorhiza sagittata*)

🕒 10:40 AM - 11:00 AM, Mar 28

📍 Bell

● Can priority effects improve native diversity in restoration of weed-infested sites?

🕒 11:00 AM - 11:20 AM, Mar 28

📍 Bell

● Developing a common garden array to test adaptive genetic variation in priority restoration forb species in the Great Basin of the United States

🕒 11:20 AM - 11:40 AM, Mar 28

📍 Bell

● Population-level variation in germination characteristics and relationships to source climate

🕒 11:40 AM - 12:00 PM, Mar 28

📍 Bell

Wildfire and Seed-Based Restoration

🕒 10:00 AM - 12:00 PM, Mar 28

📍 Whitney

3 Subsessions

● Seed-Based Approaches to Wildland Fire Management Panel

🕒 10:00 AM - 11:00 AM, Mar 28

📍 Whitney

● Resilience through restoration

🕒 11:00 AM - 11:20 AM, Mar 28

📍 Whitney

● Fuel Reduction and an Indigenous Native Plant Landscape of the Sierra Nevada east slope

🕒 11:20 AM - 11:40 AM, Mar 28

📍 Whitney

Regional Native Plant Seed Production (general Sessions 1-3)

🕒 10:00 AM - 12:00 PM, Mar 28

📍 Banneker

4 Subsessions

● Introducing Heritage Growers – A New Restoration Seed and Nursery Supply Venture of River Partners

🕒 10:00 AM - 10:20 AM, Mar 28

📍 Banneker

● Hedgerow Farms: Scaling up while staying local

🕒 10:20 AM - 10:40 AM, Mar 28

📍 Banneker

● Great Valley Seed Company providing local ecotypes for California's Central Valley and Beyond

🕒 10:40 AM - 11:00 AM, Mar 28

📍 Banneker

● Averting a supply crisis of native plant materials: a California Case Study. Addressing market failures that threaten the viability of restoration projects and resilient agriculture

🕒 11:00 AM - 12:00 PM, Mar 28

📍 Banneker

Seed Based Restoration

🕒 10:00 AM - 12:00 PM, Mar 28

📍 Wright

5 Subsessions

● Investigating alternative seed mix species and sources for roadside revegetation in New Mexico

🕒 10:00 AM - 10:20 AM, Mar 28

📍 Wright

● Tri-State Perspective on Seed Based Restoration

🕒 10:20 AM - 10:40 AM, Mar 28

📍 Wright

● Plant Species Corridors: landscape-scale restoration of native plant species

🕒 10:40 AM - 11:00 AM, Mar 28

📍 Wright

● Priority effects and competitive exclusion between C4 grasses and forbs in restored longleaf pine savannas: implications for restoration seed mix design

🕒 11:00 AM - 11:20 AM, Mar 28

📍 Wright

● Regional Seed Bank Organization

🕒 11:20 AM - 11:40 AM, Mar 28

📍 Wright

12:00 PM

LUNCH

🕒 12:00 PM - 1:40 PM, Mar 28

📍 Edison

1:40 PM

Oregon Native Seed Partnerships: Lessons Learned & Next Steps Symposium

🕒 1:40 PM - 3:00 PM, Mar 28

📍 Wright

Native plants are a foundational element of ecosystems, both supporting and defining natural habitats. As such, native plant materials are the currency of ecological restoration, governing the trajectory of our work to mitigate human-caused ecological disturbance. Despite this, many restoration projects in Oregon have been and continue to be limited by a lack of genetically appropriate native plant materials. Even in cases where appropriate plant materials are available, they are often cost-prohibitive. For the past decade, various regional Native Plant Partnerships in Oregon have been working to address the root causes of these supply-chain bottlenecks to restoration. The goal of this session is to share some of the lessons learned from each of these partnerships and outline and discuss our shared vision for an inclusive Oregon-wide native seed strategy and business plan.

🗣️ Speakers



Kathryn Prive

Executive Director
The Understory Initiative



Kate Wellons

NW Native Seed Partnerships Coordinator
Institute for Applied Ecology



CalLee Davenport

Oregon State Coordinator Partners for Fish and Wildlife Program
US Fish and Wildlife Service



Tuula Rebhahn

Program Director
The Understory Initiative

Dryland restoration research, application, and plant materials production & development with the Colorado Plateau Native Plant Program Symposium

🕒 1:40 PM - 2:40 PM, Mar 28

📍 Whitney

Dryland restoration in a climate change context is an enormous challenge. The Colorado Plateau Native Plant Program (CPNPP) was established 2009 by BLM and partners to improve restoration and reclamation success in portions of the Four Corners states by supporting and stimulating native plant materials use, production, research & development and outreach. We'll introduce the CPNPP and share example accomplishments in line with the National Seed Strategy. Two research efforts will highlight regional priorities: a synthesis of native seed importance and demand driven by oil and gas well pad reclamation, and an integrative approach (using genetics and adaptation) to defining provenances (seed transfer zones) when determining how to source seed for restoration. A production-oriented presentation showcases multi-region multi-stakeholder work by Utah Division of Wildlife's Great Basin Research Center on small-lot seed cultivation and increase. Results from an applied field study indicate whether seeding underneath typical Colorado Plateau shrub islands vs. interspaces can improve native plant establishment in degraded dryland systems. Work expanding the EcoRestore Portal seed menu tool from Arizona into Utah concludes formal presentations. We'll have time for any late-breaking news before we end with a brief discussion spurred by questions and thoughts about regional priorities & collaboration, as well as recommendations from the National Academies Report.

3 Subsessions

● **BLM's Colorado Plateau Native Plant Program: Past, Present, and Future**

🕒 1:40 PM - 2:00 PM, Mar 28

📍 Whitney

● **The importance of native seeds for reclamation of energy-impacted landscapes on the Colorado Plateau**

🕒 2:00 PM - 2:20 PM, Mar 28

📍 Whitney

● **An integrative approach to defining provenance in support of ecosystem restoration using genetically appropriate plant materials**

🕒 2:20 PM - 2:40 PM, Mar 28

📍 Whitney

Finding Common Ground: TEK Ecological Restoration Partnerships with Tribal Nations and the National Seed Strategy

🕒 1:40 PM - 3:00 PM, Mar 28

📍 Edison

3 Subsessions

● **Two-Eyed Seeing, Traditional Ecological Knowledge, the National Native Seed Strategy, and Climate Resiliency**

🕒 1:40 PM - 2:00 PM, Mar 28

📍 Wright

● **More than Relations: A study of soil, native vegetation, pollinators, and insect diversity on Tribally and Federally managed lands**

🕒 2:00 PM - 2:20 PM, Mar 28

📍 Wright

● **Traditional Ecological Knowledge and Seeds for Ecocultural Restoration**

🕒 2:20 PM - 2:40 PM, Mar 28

📍 Wright

Regional Native Plant Seed Production (general sessions)

🕒 1:40 PM - 3:00 PM, Mar 28

📍 Bell

4 Subsessions

● **Increasing Seeds for Restoration Needs in North Carolina**

🕒 1:40 PM - 2:00 PM, Mar 28

📍 Banneker

● **A Case for Expanded Production of Farmed Native Seed to Fill Growing Regional Seed Needs for Landscape Scale Restoration**

🕒 2:00 PM - 2:20 PM, Mar 28

📍 Banneker

● **Practical Experimentation for Growers**

🕒 2:20 PM - 2:40 PM, Mar 28

📍 Banneker

● **Shared Resources Brings Shares Success**

🕒 2:40 PM - 3:00 PM, Mar 28

📍 Banneker

Seed Based Restoration

🕒 1:40 PM - 3:00 PM, Mar 28

📍 Banneker

4 Subsessions

● Delaware Watergap National Recreation Area Wetlands Restoration Project

🕒 1:40 PM - 2:00 PM, Mar 28

📍 Bell

● Lay of the (wet)land: manager perspectives of wetland revegetation in the Intermountain West

🕒 2:00 PM - 2:20 PM, Mar 28

📍 Bell

● Not all seed transfer zones are created equal: Using fire history to identify seed needs in the Cold Deserts of the Western US

🕒 2:20 PM - 2:40 PM, Mar 28

📍 Bell

● History, ploidy, and environment shape landscape genomic structure of big sagebrush (*Artemisia tridentata*)

🕒 2:40 PM - 3:00 PM, Mar 28

📍 Bell

3:00 PM

BREAK

🕒 3:00 PM - 3:20 PM, Mar 28

3:20 PM

Regional Native Seed Partnerships (general session)

🕒 3:20 PM - 5:00 PM, Mar 28

📍 Edison

5 Subsessions

● The East Cascades Native Plant Hub: A unique partnership

🕒 3:20 PM - 3:40 PM, Mar 28

📍 Edison

● The Northwest Oregon Restoration Partnership Program: The Evolution of a Successful Partnership Model.

🕒 3:40 PM - 4:00 PM, Mar 28

📍 Edison

● The Wyoming Native Seed Strategy Partnership

🕒 4:00 PM - 4:20 PM, Mar 28

📍 Edison

● The Nevada Native Seed Partnership: Steps taken to create the first state-specific seed strategy to address native seed shortages in Nevada

🕒 4:20 PM - 4:40 PM, Mar 28

📍 Edison

● Meeting our Restoration Needs for Native Seed: Hawaii's Endemic Plant Supply Chain

🕒 4:40 PM - 5:00 PM, Mar 28

📍 Edison

Dryland restoration research, application, and plant materials production & development with the Colorado Plateau Native Plant Program Symposium

🕒 3:20 PM - 4:20 PM, Mar 28

📍 Whitney

3 Subsessions

● **Small-Scale Seed Increase: Augmenting Seed Stock while Developing Cultural Practices of Native Forbs**

🕒 3:20 PM - 3:40 PM, Mar 28

📍 Whitney

● **Shrub Islands of Opportunity for Western Dryland Restoration**

🕒 3:40 PM - 4:00 PM, Mar 28

📍 Whitney

● **EcoRestore Portal: Providing stakeholders with native plant species lists to improve restoration outcomes**

🕒 4:00 PM - 4:20 PM, Mar 28

📍 Whitney

Tribal Partnerships in Restoration

🕒 3:20 PM - 5:00 PM, Mar 28

📍 Banneker

5 Subsessions

● **Bistate Tribal Natural Resource Committee**

🕒 3:20 PM - 3:40 PM, Mar 28

📍 Banneker

● **Approaches to working together for a seed strategy rooted in ethical space**

🕒 3:40 PM - 4:00 PM, Mar 28

📍 Banneker

● **Brown ash and Emerald Ash Borer: Saving seed stock of cultural keystone species against invasive forest pest**

🕒 4:00 PM - 4:20 PM, Mar 28

📍 Banneker

● **Pyramid Lake Paiute Tribe Museum: New Ethnobotanical Garden**

🕒 4:20 PM - 4:40 PM, Mar 28

📍 Banneker

● **Restoring crops and cultures: Caring for Manomin (wild rice) in Anishinaabe-Aki**

🕒 4:40 PM - 5:00 PM, Mar 28

📍 Banneker

Grower perspective on the Native Seed Supply Chain and Economics Panel

🕒 3:20 PM - 5:00 PM, Mar 28

📍 Wright

Growers are a fundamental link in the native seed supply chain. Many restoration practitioners want to be able to buy seed for a diversity of species, from sources local to project sites and genetically diverse accessions. Ideally these seeds would also be readily available in commercial marketplaces at reasonable costs. However, a disconnect between what seed users want, and what is actually feasible for growers, can impact the supply chain and result in a lack of preferred plant materials. There are a variety of challenges to growers in producing genetically diverse germplasm, including variable flowering and seed set, strategic isolation of cogeners within fields, and limited marketability for some highly local ecotypes. This panel provides the grower perspective and dovetails with the seed user panel “Addressing the Challenges and Opportunities in the Native Seed Supply Chain.” In this panel, eight seed producers across the U.S. will each give a brief presentation highlighting a specific challenge in growing premium native seed crops, while also offering novel approaches to making native seed production profitable and sustainable for a healthy seed supply chain.

🚩 Speakers



Melanie Gisler

Southwest Branch Director
Institute for Applied Ecology



Mara Friddle

Farm manager
Institute for Applied Ecology



John Seymour

Owner/President
Roundstone Native Seed



Brett Bamert

President
Bamert Seed Company



Mark Fiely

Horticulturist
Ernst Conservation Seeds



Tom Knezick

Pinelands Nursery



Chad Allen

VP Production
Allendan Seed Company, Inc.



Tren Hagman

Vice President
Granite Seed



Julia Michaels

Restoration Ecologist & Designer
Hedgerow Farms

Seed Collection Methods and Characteristics

🕒 3:20 PM - 5:00 PM, Mar 28

📍 Bell

5 Subsessions

● **Building a native seed collection program to support a complex, long-term restoration project in San Diego County, CA**

🕒 3:20 PM - 3:40 PM, Mar 28

📍 Bell

● **Large scale wild collection project management - a tale of two parks**

🕒 3:40 PM - 4:00 PM, Mar 28

📍 Bell

● **Environmental influence on seed mass across 105 native plant species of the western US**

🕒 4:00 PM - 4:20 PM, Mar 28

📍 Bell

● **Examining the genetic characteristics of Seed of Success seed accessions**

🕒 4:20 PM - 4:40 PM, Mar 28

📍 Bell

● **Solar Farms: An Unexpected Addition to the Restoration Supply Chain**

🕒 4:40 PM - 5:00 PM, Mar 28

📍 Bell

5:00 PM

Poster Presentation and Social

🕒 5:00 PM - 7:00 PM, Mar 28

Please join us for an evening social and poster presentation. There will be snacks and a no host bar.

🗣️ Speakers



Aaron Tjelmeland
Restoration Program Manager
The Nature Conservancy



Amber Johnson
Graduate research assistant
Brigham Young University



Anne Frances
Botanist
USDA Agricultural Research Service



Ashlee Wolf
Southwest Ecologist
Institute for Applied Ecology



Brandon Clark
Master's Graduate Student
South Dakota State University



Bret Lang
Student
South Dakota State University



Cathy Silliman
Graduate Student
University of Nevada, Reno



Emily Baisden
Seed Program Manager
Wild Seed Project



Erin Snyder
Graduate Student
Northwestern University & Chicago Botanic Garden



Ethan Ostraff
Undergraduate Research Assistant
Brigham Young University



Eve Allen
Program Director
Ecological Health Network



Ezra Kottler
Postdoctoral Researcher
University of Colorado Boulder



Gabrielle Bolwerk
Graduate Research Assistant
South Dakota State University



Gillian Di Petta
Coordinator, Mitigomin Native Plant Nursery
Alderville Black Oak Savanna



Grace Villmow



Graduate Research Assistant
South Dakota State University



Greg Cooper
Graduate Research Assistant
South Dakota State University



Gwen Wion
Southwest Seed Partnership Coordinator
Institute for Applied Ecology



Jessica Irwin
Botanist
USDA Forest Service, Rocky Mt. Research Station



Joelle Acton
Wildlife Biologist
Bureau of Land Management



Justin Meissen
Research and Restoration Program Manager
Tallgrass Prairie Center, University of Northern Iowa



Katie Pittman
Seed Bank Specialist
Missouri Botanical Garden



Katie Sperry
PhD Candidate
Northeastern University



Laura Fischer Walter
Plant Materials Program Manager
Tallgrass Prairie Center, University of Northern Iowa



Miranda Kersten
Program Manager
New Mexico State University



Nancy Shaw
Research Scientist (Emeritus)
USFS Rocky Mountain Research Station



Rafael Urbina
PhD student
Chicago Botanic Garden and Northwestern University



Ryan Hill
Alderville Black Oak Savanna



Sam Reiss
PCRP Specialist / Botanist
IAE (BLM Contractor)



Sefra Alexandra
seed huntress
The Ecotype Project



Sophia Heston
Graduate Student
UNR



Sophia Lasche
Graduate Student



University of Montana



Tia Tyler

Laboratory Supervisor
USDA, Forest Service



Yongho Lee

Research professor
Korea university



Iris Kennedy

Post-Baccalaureate Plant Ecology Intern
Archbold Biological Station



Dahyun Lee

Researcher
Baekdudagan National Aboretum



Derek Tilley

Plant Materials Team Leader
USDA- Natural Resources Conservation Service



Michael Way

Conservation Partnership Coordinator
Royal Botanic Gardens Kew

38 Subsessions

- **The Nature Conservancy's Texas Coastal Grasslands Restoration Program**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Breaking dormancy and increasing restoration success of native forbs with innovative seed coating and planting techniques**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Resources and Partnerships to Conserve Crop Wild Relatives in the United States**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Plant Materials Development for the Four Forest Restoration Initiative in Arizona, USA**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Using phylogenetic diversity to improve seed-based restoration of prairies**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Minding the Gap: Seed Availability in the Northern Great Plains**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Comparing seed emergence and seedling survival of *Krascheninnikovia lanata* (winterfat) across spatial and environmental gradients in the Great Basin and Mojave deserts**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Germination and storage characteristics of two *Ulmaceae* species**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Evaluation of seed harvesting methods for curlycup gumweed (*Grindelia squarrosa*)**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Wild Seed Project: Conservation Through Community**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Potential in pollution: Exploring a habitat analog restoration model for post-industrial sites in Chicago**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Novel coating technologies to break seed dormancy and improve the germination of mountain sandalwood (*Santalum paniculatum*)**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Building a Seed Network in the Northeast**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Germination Success of Vernal Pool Goldfield Seeds Sourced Through Space and Time**
⌚ 5:00 PM - 5:00 PM, Mar 28

- **Determining the effect of agricultural chemicals on native plants of the Dakotas**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Mitigomin (Seed from an Oak) Native Plant Nursery**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **The Effects of Fire on the Seeds of Four Species of Milkweed**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Examining Phenology to Promote Germination Success in Northern Great Plain Forbs**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **The Southwest Seed Partnership: Progress Toward a More Sustainable Native Seed Economy in New Mexico and Arizona**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Eryngium Cuneifolium Seed Banks in Natural and Disturbed Habitats: Do Roadsides Have Conservation Potential?**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Seed Collection for Reciprocal Transplant Studies on Great Basin Forbs.**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Need for Seed**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Biodiversity off the shelf: trade-offs when reconstructing highly diverse tallgrass prairies with commercial native seed**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Influence of passive versus active salt marsh restoration on Spartina alterniflora genetic diversity**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Testing Seed Viability in the Missouri Botanical Garden Seed Bank.**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **A 33-year old native seed system in the Upper Midwest: the evolving role of stock seed production and stakeholder communication**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Can seed traits be used to mitigate invasiveness risk of species in a novel prairie community in a UK botanic garden?**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Native habitat enhancement for pollinators in New Mexico vineyards**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **The International Network for Seed-based Restoration (INSR): A Thematic Section of the Society for Ecological Restoration**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Intraspecific genome size variation and outbreeding depression in Penstemon pachyphyllus**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Collection, Evaluation and Selection of Little Bluestem from the Midwest (Schizachyrium scoparium (Michx.) Nash))**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Pamitaashkodeyong (Lake of the Burning Plains)**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **The Need for Seed: Implementing the Native Seed Strategy in a Multiple-Use Setting**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **The Ecotype Project: Ecotypes, Ecoregions + Ecological Restoration**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Seed Predation Based on Origin**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Exploring the long-term outcomes of historical greenstrip seedings containing forage kochia (Bassia prostrata) on native plant communities in northern Nevada**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Native Seed Testing at the National Seed Laboratory**
⌚ 5:00 PM - 5:00 PM, Mar 28
- **Development of Native seed collection zone for South Korea**
⌚ 5:00 PM - 5:00 PM, Mar 28

Wed, Mar 29, 2023

7:30 AM

Registration

⌚ 7:30 AM - 4:30 PM, Mar 29

📍 Hopkins Foyer

8:00 AM

Welcome and Opening Plenary

🕒 8:00 AM - 9:40 AM, Mar 29

📍 Edison

📣 Speakers



Robert Bonnie

Under Secretary for Farm Production and Conservation
USDA



Deb Rocque

Assistant Director of Science Applications
U.S. Fish and Wildlife

9:40 AM

BREAK

🕒 9:40 AM - 10:00 AM, Mar 29

10:00 AM

Regional Native Seed Partnerships General Session

🕒 10:00 AM - 12:00 PM, Mar 29

📍 Wright

6 Subsessions

● The Southeast Native Seed Program: saving the forgotten grasslands of the Southeast one seed at a time

🕒 10:00 AM - 10:20 AM, Mar 29

📍 Wright

● Flora Fronteriza: Native Plant Program Partnerships Across Borders

🕒 10:20 AM - 10:40 AM, Mar 29

📍 Wright

● Growing a network of Seed Orchards in Southern Ontario, Canada

🕒 10:40 AM - 11:00 AM, Mar 29

📍 Wright

● Seeding Evaluation and Experimental Design Strategies (SEEDS): A partnership to increase learning from post-fire restoration in sagebrush shrublands

🕒 11:00 AM - 11:20 AM, Mar 29

📍 Wright

● Regional Seed Collections Initiatives in the CPC Network: Safeguarding Plants Together

🕒 11:20 AM - 11:40 AM, Mar 29

📍 Wright

● Building a Robust Seed Network for the National Park Service

🕒 11:40 AM - 12:00 PM, Mar 29

📍 Wright

Advancing through failure to success: Using lessons from direct seeding programs to improve outcomes

🕒 10:00 AM - 12:00 PM, Mar 29

📍 Edison

5 Subsessions

● **Unpacking recruitment failures and successes of seeds in Australian deserts impacted by mining**

🕒 10:00 AM - 10:20 AM, Mar 29

📍 Edison

● **The weather always wins? Management choices and weather impacts on seed-based restoration in the Great Basin**

🕒 10:20 AM - 10:40 AM, Mar 29

📍 Edison

● **Improving Establishment of Big Sagebrush (*Artemisia tridentata*) from Seeding in Utah**

🕒 10:40 AM - 11:00 AM, Mar 29

📍 Edison

● **Using space and time to hedge against failure while developing a seed technology for dryland restoration**

🕒 11:00 AM - 11:20 AM, Mar 29

📍 Edison

● **Native Plant Restoration and Water Availability in the Walker Basin: Lessons learned restoring abandoned agricultural fields in Nevada**

🕒 11:20 AM - 11:40 AM, Mar 29

📍 Edison

National Native Seed Strategy and Policy Initiatives General Sessions

🕒 10:00 AM - 12:00 PM, Mar 29

📍 Edison Foyer

6 Subsessions

● **A 33-year-old native seed system in the Upper Midwest: public policy and investment contribute to a diverse commercial native seed market**

🕒 10:00 AM - 10:20 AM, Mar 29

📍 Edison Foyer

● **Investigating the Supply and Demand Factors Influencing Native Seed Price and Availability**

🕒 10:20 AM - 10:40 AM, Mar 29

📍 Edison Foyer

● **System shock: how native seed mix composition and price changed during the rapid implementation of a popular agricultural lands conservation program**

🕒 10:40 AM - 11:00 AM, Mar 29

📍 Edison Foyer

● **Germinating a California Native Seed Strategy**

🕒 11:00 AM - 11:20 AM, Mar 29

📍 Edison Foyer

● **U.S. National Seed Strategy: Progress and Future Vision**

🕒 11:20 AM - 11:40 AM, Mar 29

📍 Edison Foyer

● **Developing a Collaborative Framework for a National Native Seed Strategy (NNSS)**

🕒 11:40 AM - 12:00 PM, Mar 29

📍 Edison Foyer

Native Plant Seed Industry General Sessions & Panel

🕒 10:00 AM - 12:00 PM, Mar 29

📍 Banneker

4 Subsessions

● The influence of ecological characteristics and phylogeny on native plant species' representation in the commercial species pool

🕒 10:00 AM - 10:20 AM, Mar 29

📍 Banneker

● Is There a Market for Native Seed Agriculture in the Rural Southwestern United States: the Pros and Cons of Building a Novel Market in Rural Arizona Counties

🕒 10:20 AM - 10:40 AM, Mar 29

📍 Banneker

● Native Seed Production in the Columbia Basin of Washington State

🕒 10:40 AM - 11:00 AM, Mar 29

📍 Banneker

● A Practical Look at Native Seed Production and Distribution Panel

🕒 11:00 AM - 12:00 PM, Mar 29

📍 Banneker

Seed Banks and Conservation General Sessions

🕒 10:00 AM - 12:00 PM, Mar 29

📍 Bell

6 Subsessions

● Seed banks are needed globally to address key bottlenecks in restoration supply chain

🕒 10:00 AM - 10:20 AM, Mar 29

📍 Bell

● Conserving the flora of Missouri and Beyond

🕒 10:20 AM - 10:40 AM, Mar 29

📍 Bell

● Seed-based strategies for rare plant conservation and recovery - seed banking and bulking at Santa Barbara Botanic Garden

🕒 10:40 AM - 11:00 AM, Mar 29

📍 Bell

● Digitizing the Seeds of Hawai'i

🕒 11:00 AM - 11:20 AM, Mar 29

📍 Bell

● Can alpine species "bank" on conservation?

🕒 11:20 AM - 11:40 AM, Mar 29

📍 Bell

● How long do native seeds live in the freezer?

🕒 11:40 AM - 12:00 PM, Mar 29

📍 Bell

12:00 PM

LUNCH

🕒 12:00 PM - 1:40 PM, Mar 29

1:40 PM

Emerging efforts in the US Northeast to address native seed and plant material needs

🕒 1:40 PM - 3:00 PM, Mar 29

📍 Bell

4 Subsessions

● Survey of Seed Needs in the Eastern U.S.

🕒 1:40 PM - 2:00 PM, Mar 29

📍 Bell

● Restoration seed and plant material supply chains are complex social networks

🕒 2:00 PM - 2:20 PM, Mar 29

📍 Bell

● Building a Seed Network in the Northeast

🕒 2:20 PM - 2:40 PM, Mar 29

📍 Bell

● Hilltop Hanover Farm and Environmental Center Forming a Hyper Local County-based Plant Materials Network rooted in Community Education

🕒 2:40 PM - 3:00 PM, Mar 29

📍 Bell

The Bureau of Land Management Plant Conservation & Restoration Program: Ecoregional Programs and Seed Production Symposium

🕒 1:40 PM - 3:00 PM, Mar 29

📍 Edison Foyer

3 Subsessions

● The Bureau of Land Management Plant Conservation & Restoration Program: Conserving Our True Green Infrastructure

🕒 1:40 PM - 2:05 PM, Mar 29

📍 Edison Foyer

● Sharing seed knowledge using ArcGIS Dashboards and Story Maps – Seeds of Success (SOS) as a case study

🕒 2:05 PM - 2:30 PM, Mar 29

📍 Edison Foyer

● Contracting for Seed Production

🕒 2:30 PM - 2:55 PM, Mar 29

📍 Edison Foyer

Restoration for Pollinators General Sessions

🕒 1:40 PM - 3:00 PM, Mar 29

📍 Edison

4 Subsessions

● A novel approach to developing pollinator rights-of-way habitat in Ontario, Canada

🕒 1:40 PM - 2:00 PM, Mar 29

📍 Edison

● Ecological Restoration Practices for Insect Conservation within Natural Gas Fields

🕒 2:00 PM - 2:20 PM, Mar 29

📍 Edison

● Seeds for monarchs and pollinators at Desert Botanical Garden

🕒 2:20 PM - 2:40 PM, Mar 29

📍 Edison

● Dietary Needs of Pollinators and Other Beneficial Insects

🕒 2:40 PM - 3:00 PM, Mar 29

📍 Edison

Rare Species Conservation General Sessions

🕒 1:40 PM - 3:00 PM, Mar 29

📍 Banneker

4 Subsessions

● The Importance of Taxonomy to Conservation and Land Management Decisions

🕒 1:40 PM - 2:00 PM, Mar 29

📍 Banneker

● Globally Threatened Trees – Assessment, Conservation, Restoration and Partnerships

🕒 2:00 PM - 2:20 PM, Mar 29

📍 Banneker

● Go big and delist: Recovery of listed species through strategic and widescale use of native plant materials

🕒 2:20 PM - 2:40 PM, Mar 29

📍 Banneker

● Clover's cactus (*Sclerocactus cloverae*) conservation and the benefits of ensemble habitat modeling

🕒 2:40 PM - 3:00 PM, Mar 29

📍 Banneker

Seed Viability and Quality General Sessions

🕒 1:40 PM - 3:00 PM, Mar 29

📍 Wright

4 Subsessions

● Up from the ashes - a less destructive approach to seed viability testing

🕒 1:40 PM - 2:00 PM, Mar 29

📍 Wright

● The SOS collection at NLGRP: Evolving methods and information to increase the utility of genebanked seed

🕒 2:00 PM - 2:20 PM, Mar 29

📍 Wright

● Application of RNA integrity assays to characterize seed health for wild plant species

🕒 2:20 PM - 2:40 PM, Mar 29

📍 Wright

● Optimizing regeneration protocols for USDA ARS National Plant Germplasm System native SOS-collected *Astragalus* spp. genetic resources

🕒 2:40 PM - 3:00 PM, Mar 29

📍 Wright

3:00 PM

BREAK

🕒 3:00 PM - 3:20 PM, Mar 29

3:20 PM

Emerging efforts in the US Northeast to address native seed and plant material needs

🕒 3:20 PM - 5:00 PM, Mar 29

📍 Bell

4 Subsessions

● Mentoring Smallholder Organic Farmers in the Production of Ecoregionally Provenanced {Ecotypic} Restoration Seed

🕒 3:20 PM - 3:40 PM, Mar 29

📍 Bell

● Making Connections in the mid-Atlantic to Address the Need for Seed

🕒 3:40 PM - 4:00 PM, Mar 29

📍 Bell

● A Software Platform for managing seed supply chains from the field through production to the end-user

🕒 4:00 PM - 4:20 PM, Mar 29

📍 Bell

● Panel: Emerging efforts in the US Northeast to address native seed and plant material needs

🕒 4:20 PM - 5:00 PM, Mar 29

📍 Bell

The Bureau of Land Management Plant Conservation & Restoration Program: Ecoregional Programs and Seed Production Symposium

🕒 3:20 PM - 5:00 PM, Mar 29

📍 Edison Foyer

4 Subsessions

● Supporting Native Plant Restoration through Partnerships in the Mojave Desert

🕒 3:20 PM - 3:45 PM, Mar 29

📍 Edison Foyer

● BLM's Colorado Plateau Native Plant Program partnership supports National Seed Strategy Goals & Objectives

🕒 3:45 PM - 4:20 PM, Mar 29

📍 Edison Foyer

● Building a restoration network and overcoming obstacles to native seed use in the Great Basin Desert

🕒 4:20 PM - 4:45 PM, Mar 29

📍 Edison Foyer

● Questions & Discussion with BLM

🕒 4:45 PM - 5:00 PM, Mar 29

📍 Edison Foyer

Rare Species Conservation General Sessions

🕒 3:20 PM - 5:00 PM, Mar 29

📍 Whitney

3 Subsessions

● Growing pains: nursery factors drive the success and failure of Puget balsamroot out-plantings

🕒 3:20 PM - 3:40 PM, Mar 29

📍 Whitney

● Simulated small-mammal herbivory adversely affects the growth and reproduction of endangered clay phacelia (*Phacelia argillacea*)

🕒 3:40 PM - 4:00 PM, Mar 29

📍 Whitney

● Genetic investigation and seed bank study of *Phacelia formosula* Osterhout (Hydrophyllaceae), North Park Phacelia, and disjunct Phacelia groups in Northern Colorado

🕒 4:00 PM - 4:20 PM, Mar 29

📍 Whitney

Seed Dormancy and Quality General Sessions

🕒 3:20 PM - 5:00 PM, Mar 29

📍 Wright

5 Subsessions

● Seed and seedling functional traits as a foundation for seed mix design and restoration

🕒 3:20 PM - 3:40 PM, Mar 29

📍 Wright

● Understanding seed dormancy to improve forb establishment in Wyoming

🕒 3:40 PM - 4:00 PM, Mar 29

📍 Wright

● One strategy does not fit all: dormancy-break of widespread native wetland plant species

🕒 4:00 PM - 4:20 PM, Mar 29

📍 Wright

● Using seed coatings to improve restoration success of winterfat

🕒 4:20 PM - 4:40 PM, Mar 29

📍 Wright

● Seed-based restoration as a strategy to prevent plant pathogen introductions

🕒 4:40 PM - 5:00 PM, Mar 29

📍 Wright

Restoration for Pollinators General Sessions

🕒 3:20 PM - 4:00 PM, Mar 29

📍 Banneker

2 Subsessions

● Pollinator Protectors - Endangered Species Coalition

🕒 3:20 PM - 3:40 PM, Mar 29

📍 Banneker

● Improving the supply of pollinator-friendly native plant materials: Examples from the Xerces Society

🕒 3:40 PM - 4:00 PM, Mar 29

📍 Banneker

Film: Native Seeds - Supplying Restoration

🕒 3:20 PM - 5:00 PM, Mar 29

📍 Edison

Join us for a movie matinee!

Native Seeds - Supplying restoration

Filmed over four seasons, 'Native Seeds' is a documentary that presents the stories and people behind the supply of native seeds and explores the innovations that will help in meeting the growing restoration demand, weaving together experiences of seed collectors, farmers, researchers, and land managers across the western United States. This film shines a light on the challenges and celebrates the hard work of restoration - that many of you are tirelessly engaged in.

"Native Seeds" is brought to you by the International Network for Seed-based Restoration (INSR), a thematic Section of the Society for Ecological Restoration and Holden Films, with support from the USDI Bureau of Land Management and other partners.

For INSR: Nancy Shaw, USFS Rocky Mountain Research Station; Simone Pedrini, Curtin University; Olga Kildisheva, The Nature Conservancy.

For Holden Films: Brady Holden and McKenna Asakawa

🚩 Speakers



Nancy Shaw

Research Scientist (Emeritus)
USFS Rocky Mountain Research Station



Simone Pedrini

Research associate and lecturer
Curtin University, Australia



Olga Kildisheva

Project Manager
The Nature Conservancy



Holden Films

4:00 PM

Panel: Pollinator Restoration in a Changing Climate

🕒 4:00 PM - 5:00 PM, Mar 29

📍 Banneker

Ecological restoration is becoming an increasingly important process to assist native ecosystem and species recovery in the face of climate change. As the foundation of these ecosystems, native plants are often key to the success of ecosystem restoration. Many native plants depend on close associations with wildlife pollinators to mutually persist, and also support a diversity of insect herbivores, which in turn support wildlife at higher trophic levels. Climate change is transforming these critical biological interactions, leading to phenological mismatch and reduced fitness of both plants and insects. A key challenge for restoration practitioners then, is making decisions about which native species to plant in order to adapt to future climate conditions while simultaneously supporting pollinator and insect wildlife and their numerous ecological benefits. This panel will discuss needs related to pollinator restoration in a changing climate through examples of collaborative projects.

- Mia Wavrek, ORISE USGS Research Participant in Native Plants and Urban Ecology (moderator / lead facilitator)
- Naomi Edelson, Senior Director, Wildlife Partnerships, National Wildlife Federation (panelist)
- Sam Droege, Wildlife Biologist, USGS Eastern Ecological Science Center (panelist)
- Meredith 'Meri' Holm, Wildlife Biologist and Great Lakes Restoration Initiative Pollinator Coordinator, U.S. Fish & Wildlife Service (panelist)

🚩 Speakers



Mia Wavrek

ORISE USGS Research Participant
USGS National Climate Adaptation Science Center



Meredith Holm

Wildlife Biologist
U.S. Fish & Wildlife Service



Naomi Edelson

Senior Director, Wildlife Partnerships
National Wildlife Federation



Sam Droege

Biologist
USGS

5:30 PM

Transportation to U.S. Botanic Garden

🕒 5:30 PM - 6:30 PM, Mar 29

There will be 4 buses leaving the Westin every 15 minutes beginning at 5:30pm for the U.S. Botanic Garden Reception. Buses will return to the Westin from the Botanic Garden between 7:30-8:30pm.

6:00 PM

Preregistration Required: U.S. Botanic Garden Reception

🕒 6:00 PM - 8:00 PM, Mar 29

Thu, Mar 30, 2023

8:00 AM

Welcome and Opening Plenary

🕒 8:00 AM - 9:40 AM, Mar 30

📍 Edison

📣 Speakers



Beth Leger

Professor
University Of Nevada, Reno



Kayri Havens

Senior Director, Ecology and Conservation
Chicago Botanic Garden

2 Subsessions

● The importance of being wrong: learning the surprising ways plants establish and function in ecological restoration

🕒 8:05 AM - 8:50 AM, Mar 30

● An Assessment of Native Seed Needs and the Capacity for Their Supply

🕒 8:55 AM - 9:40 AM, Mar 30

Registration

🕒 8:00 AM - 11:00 AM, Mar 30

📍 Hopkins Foyer

9:40 AM

BREAK

🕒 9:40 AM - 10:00 AM, Mar 30

10:00 AM

Addressing the challenges and opportunities in the native seed supply chain Panel

🕒 10:00 AM - 12:00 PM, Mar 30

📍 Wright

The success of restoration efforts relies on the availability of diverse and genetically appropriate native seeds as well as a robust and scalable native seed supply chain. A native seed supply chain is composed of several elements, including 1) planning and sourcing, 2) wildland collection or seed production and procurement, 3) cleaning, 4) quality testing and certification, 5) storage, 6) seed treatments and technologies, and 7) seeding. There are many different approaches to ensuring the availability of genetically appropriate and diverse native plant seeds. Funding, training, availability of skilled labor, as well as communication and collaboration across the seed supply chain, contribute to its functionality - with networks, partnerships, and government programs playing an important role. In this interactive panel discussion, we will bring together stakeholders from across the US to explore the bottlenecks in the native seed supply chain and consider pathways to address these challenges.

Moderator:

Leah Prescott (Doctoral Student, University of Nevada, Reno, NV, USA)

Panel kick-off presentation:

Olga Kildisheva (Project Manager, The Nature Conservancy, Bend, OR)

Panelists:

1. Kevin Badik (Rangeland Ecologist, The Nature Conservancy, Reno, NV)
2. Marcello De Vitis (Director, Southeast Native Seed Program, Southeastern Grasslands Institute, Clarksville, TN)
3. Alison Agneray (Great Basin Ecoregional Coordinator, Bureau of Land Management, Reno, NV)
4. Tony Falk (Dan L Duncan Endowed Director, Texas Native Seeds at Caesar Kleberg Wildlife Research Institute, Kingsville, TX)
5. Michael Bouck (Certified Seed Program Manager, Utah Crop Improvement Association, Utah State University, Logan, UT)
6. Ed Toth (Director, Mid-Atlantic Regional Seed Bank, Staten Island, NY)
7. Owen Baughman (Restoration Scientist, The Nature Conservancy, Burns, OR)
8. Katie VinZant (Restoration Ecologist, National Park Service, Denver, CO)

📣 Speakers



Kevin Badik

Rangeland Ecologist
The Nature Conservancy



Owen Baughman

Restoration Scientist
The Nature Conservancy



Katie VinZant

Restoration Biologist
National Park Service



Alison Agneray

BLM



Tony Falk

Director
Texas Native Seeds



Leah Prescott

Graduate Student
University of Nevada, Reno



Michael Bouck

Manager
Utah Crop Improvement Association



Nancy Shaw

Research Scientist (Emeritus)
USFS Rocky Mountain Research Station



Edward Toth

Director
Mid Atlantic Regional Seed Bank



Marcello De Vitis

Program Director, Southeast Native Seed
Southeastern Grasslands Institute

Seeds of Success Symposium

🕒 10:00 AM - 12:00 PM, Mar 30

📍 Bell

Seeds of Success is the national native seed collection program, led by the Bureau of Land Management (BLM) in partnership with a variety of federal agencies and non-federal organizations. SOS's mission is to collect wildland native seed for research, development, germplasm conservation, and ecosystem restoration. Since its inception in 2001, SOS has made more than 27,000 collections, trained thousands of seed collectors, and contributed to increasing the quantity and quality of locally adapted seeds. This symposium will provide a history and overview of the SOS program, from collection to storage, to research and restoration, and how the program is growing to meet the increased need for native seeds in the future.

📣 Sponsored By:



Bureau of Land Management

6 Subsessions

● **Seeds of Success and the National Seed Strategy: Partnering Across Borders**

🕒 10:00 AM - 10:20 AM, Mar 30

📍 Bell

● **Seeds of Success: Meeting the Needs of a Changing Conservation Landscape**

🕒 10:20 AM - 10:40 AM, Mar 30

📍 Bell

● **Seeds of Success in California: A case study**

🕒 10:40 AM - 11:00 AM, Mar 30

📍 Bell

● **Successes implementing a long-term collaborative US native seed germplasm conservation approach**

🕒 11:00 AM - 11:20 AM, Mar 30

📍 Bell

● **Genebanking seeds from wild populations in the US**

🕒 11:20 AM - 11:40 AM, Mar 30

📍 Bell

● **Seeds of Success: A conservation and restoration investment in the future of US lands**

🕒 11:40 AM - 12:00 PM, Mar 30

📍 Bell

Native Seed Production General Sessions

🕒 10:00 AM - 12:00 PM, Mar 30

📍 Edison Foyer

5 Subsessions

● **Taking Native Seeds from Remnants to restoration**

🕒 10:00 AM - 10:20 AM, Mar 30

📍 Edison Foyer

● **Evaluating native plant characteristics and production requirements to support coastal dune restoration in the Pacific NW**

🕒 10:20 AM - 10:40 AM, Mar 30

📍 Edison Foyer

● **USDA NRCS East Texas Plant Materials Center Native plant development in the southeastern US**

🕒 10:40 AM - 11:00 AM, Mar 30

📍 Edison Foyer

● **Western Forbs: Biology, Ecology, and Use in Restoration**

🕒 11:00 AM - 11:20 AM, Mar 30

📍 Edison Foyer

● **Expanding the Native Seed Supply for Pollinator Habitat and Ecological Restoration in the Prairie Provinces of Canada**

🕒 11:20 AM - 11:40 AM, Mar 30

📍 Edison Foyer

Community Restoration and Native Plant Production General Sessions

🕒 10:00 AM - 12:00 PM, Mar 30

📍 Banneker

4 Subsessions

● **Healing through stewardship within the incarceration system**

🕒 10:00 AM - 10:20 AM, Mar 30

📍 Banneker

● **Effect of Root and Shoot Manipulation on the Morphology and Physiology of Oregon White Oak (*Quercus garryana*) seedlings in the nursery and following outplanting**

🕒 10:20 AM - 10:40 AM, Mar 30

📍 Banneker

● **Enhancing the Edibility of New England's Landscapes with Native Species**

🕒 10:40 AM - 11:20 AM, Mar 30

📍 Banneker

● **Evaluating Site Conditions for Smart Species Selection**

🕒 11:20 AM - 12:00 PM, Mar 30

📍 Banneker

Climate Change and Restoration General Sessions

🕒 10:00 AM - 12:00 PM, Mar 30

📍 Edison

5 Subsessions

● **Seed Sourcing Strategies for Restoration under climate change - literature review, practioner tools, and actionable steps**

🕒 10:00 AM - 10:20 AM, Mar 30

📍 Edison

● **Wildland seed collections (seed Transfer zones, permits, and partnerships**

🕒 10:20 AM - 10:40 AM, Mar 30

📍 Edison

● **Climate change impacts and mediation techniques for a sustainable seed supply in Central American countries**

🕒 10:40 AM - 11:00 AM, Mar 30

📍 Edison

● **Climate Adapted Plant Materials - Practical innovation for an uncertain future**

🕒 11:00 AM - 11:20 AM, Mar 30

📍 Edison

● **Common garden experiments of grassland species to inform seed sourcing decisions for ecological restoration**

🕒 11:20 AM - 11:40 AM, Mar 30

📍 Edison