

CHAT

00:39:05 Alison Agneray, BLM: Will this meeting be recorded to share with folks who couldn't attend today?

00:39:29 Nancy Shaw: yes

00:39:46 Julia Michaels: Good afternoon, we are looking forward to this briefing!

00:39:48 Robin Schoen (she/her): Yes and posted in a few days.

00:39:56 Alison Agneray, BLM: Thank you!

00:42:38 Robin Schoen (she/her): Get the report at <https://nap.nationalacademies.org/catalog/26618/an-assessment-of-native-seed-needs-and-the-capacity-for-their-supply>

00:43:38 Jackeline Salazar: Hello. Jackeline Salazar from the Dominican Republic

00:45:04 Scott Swinton: Study committee membership list omitted Rachael Goodhue

00:45:12 Naomi Edelson: Hi Robin, Naomi Edelson, Natl Wildlife Fed.

00:45:57 Alisha: Alisha Conde here in Western North Carolina. We grow lots of native azaleas from seed.

00:47:02 Elizabeth Falk: Elizabeth Falk, Connecticut, growing local native plants.

00:47:13 Michael Butts MT DNRC Seedling Nursery: Hello!! Michael Butts here. Montana Native Seed Network/ DNRC Seedling Nursery Michael.butts@mt.gov

00:48:02 Naomi Edelson: Naomi Edelson, National Wildlife Federation. We work with restoration biologists on climate change and land management as well as gardeners to replace their lawn with native plants.

00:48:10 Eric Geisler: Eric Geisler. BLM Retired. McCall ID

00:48:11 Monica Goldberg: Monica Goldberg, VP Landscape Conservation, Defenders of Wildlife, based in DC

00:48:14 CNPS Ann-Marie Benz (she/her): Hello. Ann-Marie Benz, Horticulture Programs Manager, California Native Plant Society.

00:48:15 Alexis Larsen: Hi from Oregon! Alexis Larsen, Plant Materials Program Director at Institute for Applied Ecology

00:48:33 Keren Giovengo: Hello! Keren Giovengo from UGA. Interested in initiation of a southern coastal plain native seed partnership for GA, SC, and north FL.

00:48:53 Evelyn Merz: Evelyn Merz, University of Houston Coastal Center in La Marque, TX

00:49:07 Lois Johann: Hello! Lois Johann NJ Dept. Transportation Pollinators Program

00:49:12 Bailey.Hallwachs: Hello, Bailey Hallwachs with USDA ARS NPGS, Seeds of Success Program, conserving the genetic resources of native plant germplasm.

00:49:24 Brenna Shuttleworth: Hello! Brenna Shuttleworth from Denver Parks and Recreation Education and Wildlife Management team. We're hoping to start our own native seed collection program for small restoration projects in our urban and mountain parks.

00:49:25 David: elmore roots nursery in snowy northern vermont

00:49:39 Troy Behnke (he/him): Hi all. Troy Behnke, State Grange of Minnesota, among other things.

00:49:39 Stefan: Good afternoon- my name is Stefan Weber, I'm a Botanist with the Canadian Wildlife Federation, working on a national native seed strategy for Canada!

00:49:44 john vickery: n0.4, seed production, should not exclude public growers

00:49:46 Ina Rommeck: Hello! Ina Rommeck with Putah Creek Council's Native Plant Nursery in Winters, California.

00:49:47 Megan Davenport: Megan Davenport, Wildlife Biologist for InterTribal Buffalo Council. We're contracted by Wind Cave National Park to run a Native seed collection crew this summer to collective native grass and forb seeds and contribute to a seed library available to Tribal buffalo programs, among others. megan@itbcbuffalonation.org

00:49:53 lunnevehr: Hello, Laurian from Colorado West Land Trust, which carries our restoration and resilience activities on privately conserved lands in Western Colorado.

00:49:55 Julie Slater: Hello from Cleveland, OH! Julie Slater at Meadow City Native Plant Nursery - we grow local ecotype plants and are working to initiate a native seed network here in northeast Ohio.

00:49:59 Chris Kiratzis: Hello from Chris Kiratzis, owner Better Forest Tree Seeds

00:50:01 Moses Palmer: 2020 Seed Labs, Alberta Canada working as a seed analyst

00:50:10 Geri Unger: Geri Unger, Society for Ecological Restoration, Grants and Education Program Specialist.

00:50:11 Morgan Franke: Hi all! Morgan Franke, Plant Materials Coordinator at Institute for Applied Ecology in OR

00:50:13 Jackie Anderson: Hello, Jackie Anderson from the Ecological Health Network's Northeast Seed and Plant Supply Chain Program.

00:50:17 Melissa Spearing - NTSC-CFS: Hello from Fredericton, National Tree Seed Centre

00:50:19 Julia Michaels: Hello from Hedgerow Farms in Winters, CA!

00:50:23 Marcello De Vitis: Hello! Marcello De Vitis, Southeast Native Seed Program at the Southeastern Grasslands Institute, TN. We are developing a native seed program/network for supply of ecotype native seeds across the Southeast

00:50:25 Melissa Spearing - NTSC-CFS: New Brunswick, Canada

00:50:29 Justin Luong (He/Him): Hi All,

00:50:34 Andrew Petitdemange, NPS: Hi! Andrew Petitdemange from the National Park Service, Partnership Wild & Scenic River Program in the northeast. We support local communities to manage and restore plant communities in riparian zones and uplands within Wild & Scenic River watersheds. Thanks for this great webinar.

00:50:36 ZOOM CPC: Hi! Katie Heineman, VP Science and Conservation, Center for Plant Conservation.

00:50:39 dmcphoe: Donnie McPhee, National Tree (and shrub) Seed Centre of Canada, located in snowy/rainy New Brunswick Canada

00:50:39 Stimpson, David C: Hello. David Stimpson, Oregon State University Seed Lab Manager

00:50:41 Alaina (she/her) UMaine Agroecology Lab: Hello! Alaina Ring from the Agroecology Lab at UMaine, my master's project is a mixed-methods (short survey and interviews) national evaluation of private nursery capacity in the United States, with plant supply for agroforestry specifically in mind.

00:50:45 Justin Luong (He/Him): Justin Luong - Looking to start a restoration network and seed exchange program for California Grasslands

00:50:49 Casey Reese: Greetings from Shepherdstown, WV. Casey Reese, Regional IPM Coordinator with the National Park Service.

00:50:53 Sean Asselin - AAFC: Sean Asselin, native forage breeder here with Agriculture and Agri-Food Canada (Swift Current, Sask.).

00:50:59 ANRPO Oahu: Tim Chambers. US Army Natural Resource Program on Oahu, University of Hawaii

00:51:04 Laura Walter: Hello from the University of Northern Iowa's Tallgrass Prairie Center, where we produce source-ID stock seed for Iowa native seed growers

00:51:05 Stacy LaMastra: Hi! Stacy LaMastra

00:51:05 Marian Chau: Aloha! Marian Chau, Head of Seed Science & Ecology at Terraformation, based in Hawai'i

00:51:11 Soledad Diaz - IAE: Soledad Diaz, Institute for Applied Ecology, Oregon.

00:51:20 Christian Torres: Christian Torres, Forestry Science Lead at Terraformation in Puerto Rico. We develop solar seed banks as alternatives for seed banking, training, and software to assist in the documentation process. <https://www.terraformation.com/solutions/seed-bank?>

00:51:20 PEER: Hi there, Chandra Rosenthal, Rocky Mountain Director, Public Employees for Environmental Responsibility. We are concerned about the gathering native seeds on public lands during a mega drought.

00:51:20 Ian Silvernail: Howdy all, Ian Silvernail here from Oregon with the NRCS Plant Materials Center in Corvallis. We do a lot of native plant development work.

00:51:33 Dean.Houchen-NRCS Alaska: Good Morning All. Dean Houchen (State Biologist) with Natural Resource Conservation Service Alaska

00:51:40 Vera Smith, Defenders of Wildlife: Hello from Defenders of Wildlife! Several Defenders' staff spread around the country are watching today.

00:51:41 TJ: Hi! TJ Savereno with Clemson Cooperative Extension. Worked on common garden study with Joan Walker to glean information for establishing seed transfer zones.

00:51:42 Rūta Sniedze: Hi from Latvia, Europe!

00:51:56 Stacy LaMastra: Stacy LaMastra from the Idaho State Seed Lab

00:51:58 Francisca Acevedo, CONABIO (México): Good afternoon! Thank you for this weinar! Francisca Acevedo, National Commission for the Knowledge and Use of Biodiversity (CONABIO) in México. we am working on native crops and their wild relatives.

00:52:07 Heather.Liljengren: Hello from NYC! Heather Liljengren, Seed Bank Manager and Seed Collector at the Greenbelt Native Plant Center, NYC Parks

00:52:08 Susannah Abbey: Hello from Albuquerque, New Mexico!

00:52:10 Andrea Dorman: Hello, Andrea Dorman with Idaho Firewise (nonprofit), Horticulturist & Southwest Idaho Program Manager.

00:52:14 rutherfd: Hello all from New York State Parks Plant Material Program

00:52:18 Holly Prendeville USDA NW Climate Hub: Holly Prendeville with the USDA Northwest Climate Hub.

00:52:18 Scottie Pouliot: HI! Scottie Pouliot from the Indiana State Seed Lab

00:52:19 Val Perez: Hello All,

00:52:21 Sabrina Stanwood NH NHB she/her: Hi, Sabrina Stanwood, NH Natural Heritage Bureau.

00:52:24 Laura Jones: Greetings from Grand Teton National Park, WY! Laura Jones, Vegetation Ecology and Management Branch Lead.

00:52:35 Anita Brilliana Thompson: Hello from Arizona. Extension and outreach on native plant use in Agriculture.

00:52:38 dmartinez: Hi to all.

00:52:41 David.Ianson: Good morning from Dave Ianson PhD, NRCS Alaska State Agronomist

00:52:51 Kim Shay: Hi, Kim Shay, Laukahi: The Hawaii Plant Conservation Network

00:52:53 Jess Parks - Alaska DOT&PF: Hello! Alaska Department of Transportation & Public Facilities. Statewide IPM coordinator and storm water specialist

00:52:54 kathyk:Hello from the Confederated Tribes of Siletz Indians in Oregon

00:52:54 Christian Torres: Christian Torres, Forestry Science Lead at Terraformation in Puerto Rico. We develop restoration solar seed banks as alternatives for seed banking, training, and software to assist in the SD and nursery documentation process.
<https://www.terraformation.com/solutions/seed-bank?>

00:52:55 Mary O'Brien, Project Eleven Hundred: Hello from Project Eleven Hundred in Utah

00:52:59 Jill Wagner: Good morning from Hawaii

00:53:07 Bart Johnsen-Harris (Defenders of Wildlife):Bart Johnsen-Harris, Senior Government Relations Representative with Defenders of Wildlife, based in Washington, D.C.

00:53:07 amy.bartow: Hello! Amy Bartow from the NRCS Corvallis Oregon Plant Materials Center.

00:53:15 Antonio C S ANDRADE: Hi All! Antônio Andrade from the Seed Bank of Rio de Janeiro Botanical Garden. Brazil

00:53:20 dorothy geyer: Hello all, Dorothy Geyer, Natural Resource Manager, Colonial National Historical Park

00:53:24 Kelly: Kelly Evans with USFS Region 6 Restoration Services Team out of Cle Elum WA.

00:53:26 Isaac Matlock:Hello everyone! here from the Clifton Institute in Virginia. Native Seed Project Coordinator for the Virginia Native Seed Pilot Project.

00:53:30 mboyter: Hello from Bureau of Land Management lands in Central Washington State!

00:53:31 Sylvie Childress: Sylvie Childress, Greenhouse Director at University of California Santa Cruz. Interested in increasing seed availability and seed banking of local rare plants.

00:53:34 Laura Swain: Hi all, Laura Swain, Horticulturist at Denver Botanic Gardens

00:53:46 Val Perez: Hi, Val Perez Cristina.perez@maryland.gov with the Maryland Forest Service. The John S Ayton Nursery ran by the Maryland Forest Service is in need of native seeds throughout all of Maryland.

00:53:50 Nancy Bissett: Hello from Florida. We need robust seed industry

00:53:53 Russ Cohen: Russ Cohen - Arlington, MA - independent native seed gatherer and sharer, native plant propagator and planter, specializing in the native edible plants of the Northeast US - see my compilation at https://www.ecolandscaping.org/wp-content/uploads/2020/02/Cohen_Edible-Native-Plants-of-NE-for-ELA-Conference-2020.pdf

00:53:55 Iris: Iris Garthwaite, Pacific Southwest Region, USFWS

00:53:59 CBehn: Hi from New York State Seed Laboratory

00:54:02 Rachel Werling: Rachel Werling Oregon state University Extension Land Steward program and Siskiyou chapter Native plant society of Oregon pres. Thank you for this!

00:54:02 Chris Hitsman: Morning. Hello from Boise BLM.

00:54:03 Sophie Linden: Sophie Linden, Institute for Applied Ecology, Corvallis, Oregon

00:54:04 Melanie Gisler Southwest Office, she/her: Hello! Melanie Gisler, from Santa Fe NM, Institute for Applied Ecology and Southwest Seed Partnership

00:54:15 Miller: Hello, Miller Putnam with the SC Native Plant Society, Upstate Nursery

00:54:19 Felicity Davis: Hello from the State Maintenance Office of GDOT. We manage the Wildflower Program for the State of Georgia.

00:54:21 Madena: Hi! Madena Asbell from Mojave Desert Land Trust

00:54:44 Kate Wellons (she/her), IAE: Kate Wellons, Northwest Native Seed Partnerships Coordinator for Institute for Applied Ecology, Oregon

00:54:46 Adrienne Pilmanis BLM: Hello from BLM & Partners' Colorado Plateau Native Plant Program <https://cpnpp-natureserve.hub.arcgis.com/>

00:54:54 Isaac Sandlin: Hello! Isaac Sandlin from the Oregon Dept. of Agriculture's Native Plant Conservation Program

00:55:18 Daniel R. Blodgett: Hi Dan R Blodgett, from Aphaea Gaea Holdings Corporation,

00:55:20 Brian Irish: Brian M. Irish, USDA ARS Plant Germplasm Introductions and Testing Research Unit, Prosser, WA

00:55:24 McKay Burley: Shé:kon/Greetings from Akwesasne, McKay Burley with the Saint Regis Mohawk Tribe

00:55:37 Tom Kaye: Hello from Oregon -- Tom Kaye (he/him), Institute for Applied Ecology (www.appliedeco.org).

00:55:45 Kay: Where is your division between east and west?

00:56:00 rmackie: Hi Robin Mackie, Botanist, USDA-FS

00:56:00 hdubas: Will this be recorded to watch later?

00:56:01 jackie turner: Washington State requires certified seed by law

00:56:18 Elizabeth Leger: East includes AL, AR, CT, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV; West includes AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY.

00:58:02 Robin Schoen (she/her): It will be recorded and posted in a few days on the project website <https://www.nationalacademies.org/our-work/an-assessment-of-native-seed-needs-and-capacities>

00:58:06 Tom Kaye: The national native Seed Conference is coming up in March, 2023 in Washington DC. More details here:

00:58:07 Tom Kaye: <https://appliedeco.org/native-seed-conference/>

00:58:28 verickson: Vicky Erickson, USFS Regional Geneticist & Native Plant Program Manager, PNW Region

00:58:51 Christian Torres: Was Puerto Rico and US Virgin Islands included? Or just US mainland + HI.

00:59:18 Dan Gluesenkamp, CA Inst. por Biodiversidad: Daniel Gluesenkamp from California Institute for Biodiversity. 🌈 Susan et al thank you for all your YEARS! of hard work on this! The report is great and recommendations look doable, for California at least. 🙌 Our coalition is making great progress on moving big solutions forward here, and this legislative session may see major progress. 🍀 Happy to connect with any California stakeholders info@calalife.org 📧

00:59:23 Robin Schoen (she/her): Just the 50 states

00:59:44 Peggy Olwell: Peggy Olwell, BLM Plant Conservation & Restoration Program, polwell@blm.gov

01:00:42 Robin Schoen (she/her): Hello Peggy!

01:00:55 Justin Luong (He/Him): Hi Everyone, I'm Justin Luong from the California Native Grassland Association and I'm interested in starting a grassland restoration network in California which includes starting a seed exchange program - I would love to connect with anyone interested in participating or help set up this network - you can reach me at Justin.Luong@humboldt.edu

01:01:09 kathyk: Thank you for recording this! Thank you Susan for your work and valuable knowledge and advocacy! I have another meeting conflicting with timing of this presentation so I am unfortunately only here briefly. Please send out the recording, much appreciated!

01:01:43 Julie Slater: How exactly would Federal Interagency Leadership be different from the National Seed Strategy?

01:02:43 Iris: Iris Garthwaite, Pacific Southwest Region, USFWS

01:02:52 April Goebel (she/ her): Hi everyone! April Goebel, ecological restoration research at Denver Botanic Gardens, Colorado.

01:03:22 David.Ianson: Also shared subsurface ecosystems

01:03:43 David.Ianson: ecosystems

01:04:00 Kathy.Pendergrass: NRCS and Farm Services Admin - important to have involved - much interest in pollinator habitats and restoration (sage grouse) with private landowners - could help with commercial market demand.

01:04:01 Melissa Spearing - NTSC-CFS: Julie you should copy that into the Q&A

01:04:16 Anne Frances: Anne Frances, Botanist, USDA ARS Beltsville, MD

01:04:17 Ehren Moler, PhD _ DroneSeed Restoration Ecologist: Hello all! Ehren Moler -- Restoration Ecologist with DroneSeed (Seattle, WA). My group seeks collaborators from across western North America to aid our wild tree seed collection efforts. ehren.moler@droneseed.co

01:04:19 Susannah Abbey: Is there anyone else here from the Southwest? Southern CO, UT, or AZ or NM?

01:04:49 sschulthies: I am Sarah from the Utah Dept of Agriculture Seed Lab.

01:04:56 Ashlee Wolf, she/her,IAE: Hello from AZ! Ashlee Wolf, Institute for Applied Ecology

01:04:58 Lauren Axford: Hello from upstate New York! I coordinate the Farms and Forests Conservation Program for the Town of Bethlehem. Hoping to encourage our local municipality to play some role in regional native seed development efforts.

01:04:59 Dallin Carter: Dallin Carter Blue Meadow Seed Company. Native Seed harvesting/conditioning bluemeadowseed@gmail.com

01:05:03 Laura Swain: Likewise, Laura from Denver Botanic Gardens

01:05:37 Brittany Trimble: Hello! Brittany Trimble, Seed and Soil (Habitat) Biologist - NV Dept of Wildlife

01:05:47 David.Ianson: Alaska has very unique ecosystems

01:05:51 Gwen wion, IAE, she/her: Hello! Gwen Wion, Santa Fe, NM. Southwest Seed Partnership Coordinator at the Institute for Applied Ecology

01:06:01 Erik.Geyer: Hi April! Erik Geyer with Denver Botanic Gardens Chatfield Farms

01:06:22 Linda Rohleder: The Northeast is organizing. We'll presenting at the Natiional Native Seed Conference.

01:06:50 Alex: Hi All. I am Alex Mkandawire from California Crop Improvement Association at UC Davis, California.

01:06:55 Megan Davenport: Tribal buffalo programs are very interested in restoring native plants to their buffalo programs... Many Tribes work with NRCS to establish fencing and other infrastructure but are asked to seed non-native plants in their contracts. ITBC advocates for more programs tailored to Tribal needs and needs of Tribal buffalo programs, including utilization of native seed mixes

01:06:59 Paul Galewski: Good Morning! Paul Galewski, Geneticist with the USDA-ARS National Plant Germplasm System. I am working on the conservation, preservation and maintenance of the cool season grass collection. Paul.Galewski@usda.gov

01:07:23 Alison Agneray, BLM: Hello everyone! Alison Agneray, BLM's Great Basin Native Plants Coordinator in Reno, NV. Hope to meet some of you in DC at the conference

01:08:04 Beth Coyne: HI, We have a small organic native plant nursery south of Cleveland, Ohio

01:10:27 Tom Kaye: From Institute for Applied Ecology, here are some seed partnerships we help coordinate: <https://appliedeco.org/restoration/native-seed-partnership/>

01:10:59 Beth Coyne: HI, We have a small organic native plant nursery south of Cleveland, Ohio

01:11:00 Naomi Edelson: we are interested in the climate adaptation restoration aspects

01:11:38 Naomi Edelson: and will also be presenting at the seed conference in DC in March, with USGS

01:11:49 Naomi Edelson: love to connect there w others

01:12:09 David.Ianson: I think the USDA-ARS-NPGS could be very helpful. It is part of their mission statement

01:12:44 Christina Walters: Thank you for your comments on seed life spans, Kay. That topic is a big effort for us at USDA-ARS-NLGRP in FoCo, CO

01:13:16 Robin Schoen (she/her): Hi Naomi, I'll be there too. We have lots to talk about.

01:13:31 Lisa Dlugolecki: Hey Alaska contingent - Amy Tippery and Lisa Dlugolecki here from USFWS (northern region)- give us a shout if you'd like to work on cooperative native plant production projects. We have a few things in the works!

01:14:15 Anne Frances: David Lanson, appreciate your comment. I'm part of the NPGS. Do you have any specific examples?

01:14:49 Naomi Edelson: this is excellent work, thank you so much!

01:15:10 NKeefner: Will this recording be emailed to people who have registered? I had some computer issues and was unable to join until 30 minutes in.

01:15:40 Kathy.Pendergrass: We need the adaptive management - info that shows success (how, what, when - specific mixes) with native seeding projects - we have such high failure rates in the arid west! Many say "natives don't work" - that needs to be turned around. Good point about dead seed.

01:15:42 Felicity Davis: There should be some discussion/consideration of what is appropriate for restoration/preservation areas versus areas with novel ecosystems (such as public rights of way).

01:15:54 Naomi Edelson: is anyone here using Tallamy data on keystone spp for seed selection?

01:16:00 David.Ianson: There was a repository up here. I was the original curator. The NPGS collects ancestors to food crops and I think that acquisition of seeds specific for restoration is important.

01:16:26 Julia Michaels: The seed industry can also benefit from more narrow delineations of seed zones— special collections, IDIQ increases, etc! We are excited about the market for local ecotypes and ready to work with ecologists to define appropriate seed zones. We would like to move away from an industry vs. consumer narrative.

01:17:03 Alexis Doshas (she/her) Nursery Manager, Nasami Farm: Nasami Farm staff, nursery of Native Plant Trust in New England. We're expanding our seed storage facilities to increase bulk seed cleaning and storage for ecotypic (Northeast) seed.

01:17:04 David.Ianson: I think that the NPGS is already set up to characterize and maintain native seed for restoration

01:18:05 David.Ianson: New germplasm, AMEN

01:18:25 Bailey.Hallwachs: A portion of native seed transferred to the BLM is diverted to USDA ARS NPGS to the Western Regional Plant Introduction Station and offered for distribution through GRIN Global <https://npgsweb.ars-grin.gov/gringlobal/search> . This seed is distributed for research and other important purposes.

01:18:45 Ehren Moler, PhD _ DroneSeed Restoration Ecologist: +1 to Kathy Pendergrass's statement ^ re. adaptive mgmt.

01:18:53 dothmcgullam: What is BLM?

01:19:07 Monica Goldberg: Bureau of Land Management

01:19:17 dothmcgullam: Thank you

01:20:21 Kathy.Pendergrass: The closed contracting of BLM and FS (they have first option of buying all seed production - perhaps that could be opened up?) have maybe kept seed from moving into commercial markets. Our project work relies on private landowners having somewhere to go buy the native seed from commercial sources. Hard to require specific mixes and even native selections, if unknown success of plantings and seed not even available.

01:20:55 lunnevehr: Congratulations on a great report! Hope that the relevant agencies will have the capacity to take on your recommendations.

01:21:17 Roxy Olsson: Thank you, from the Rae Selling Berry Seed Bank at PSU, Oregon!

01:22:01 Elizabeth Leger: I'm excited to answer the questions about genetic change during seed production. 😊

01:24:37 Hannah Fuller (she/her): Thanks for jumping in Scott! If committee members want to introduce themselves as they begin speaking for the first time that may be helpful for attendees.

01:24:37 Katie Sandbom: The report download link is broken; it returns a service unavailable error.

01:24:54 McKay Burley: <https://nap.nationalacademies.org/download/26618#>

01:25:09 Naomi Edelson: I put a Q in the Q/A or should I put it here?

01:25:27 Hannah Fuller (she/her): Q&A is best. Thank you!

01:25:28 Tom Kaye: Shameless promotion of the upcoming National Native Seed Conference coming up in March: <https://appliedeco.org/native-seed-conference/>

01:25:38 McKay Burley: Questions go in Q&A box

01:25:39 Katie Sandbom: J/k; there'll be a popup window that needs to be populated before you can download the report.

01:25:53 Dan Harmon: You seem to have little emphasis on “successful” establishment of plants, only focus is on producing, buying and putting seed out, but if you don’t establish plants it’s a fruitless effort. Do you have any specific (not just “there’s lots out there”) examples you could share of applied on-the-ground successful establishment of the “appropriate” seed?

01:26:35 Brian Irish: Dry and cool is ideal, generally.

01:27:02 Melissa Spearing - NTSC-CFS: I'm interested to hear from those in the Chat with specific standards right now, what humidity and temperature ranges do you consider safe?

01:27:12 Melissa Spearing - NTSC-CFS: And for what species

01:27:53 Kelly: I am also having issues downloading the report (book form) as a guest. I get the same error message as reported earlier.

01:28:18 David.Ianson: The NSSL has seeds in liquid nitrogen (very cold)

01:29:01 Melissa Spearing - NTSC-CFS: Our seed centre is using -20C and 25-30% equilibrium relative humidity for our orthodox tree and shrub species, for example.

01:29:11 Melissa Spearing - NTSC-CFS: Celcius!

01:29:16 Alexis Doshas (she/her) Nursery Manager, Nasami Farm: 15% RH and 15 degrees C for short-mid range storage for our production seed- some species are intolerant of dry storage and we keep in the fridge for no more than a few years

01:29:21 Melissa Spearing - NTSC-CFS: And we have cryogenic storage for exceptional species as well

01:29:37 Tom Kaye: The Willamette Valley Native Seed partnership is already considering augmenting sources from future climate analogs into local seed production fields.

01:29:49 Chris Kiratzis: Conifer seeds should be dried down to 5%-8% and stored in sealed containers between 0-10 F

01:30:06 Scott Swinton: I'll have to exit now--great webinar!

01:30:47 Francisca Acevedo, CONABIO (México): unable to download the report, marks error

01:31:32 Ina Rommeck: What are good ways to reduce/manage humidity in storage?

01:31:36 ronallarson: Can panelists comment on coating seeds with biochar to achieve better germination success?

01:31:59 Paul Jurena Air Force Civil Engineer Center: Thank for the great presentation and report.

01:32:26 David.Ianson: Dehumidifier

01:32:35 Melissa Spearing - NTSC-CFS: Ina - a dedicated drying room and sufficient time to equilibrate the entire seedlot is good practice. Then choosing containers or storage bags that exclude moisture as much as possible. Then you can freeze them.

01:33:07 Melissa Spearing - NTSC-CFS: Again, for orthodox species (check the Seed Information Database first! <https://ser-sid.org/>)

01:33:32 Ina Rommeck: Thank you! Is there a good book/resource about seed storage?

01:33:38 Nancy Buley: Hello from Nancy Buley - J. Frank Schmidt & Son Co., Boring, Oregon. We are tree growers and so have particular interest in native deciduous tree seed for growing native trees for urban/green infrastructure markets. We are not wild land restoration growers, but most of the challenges discussed here are the same as those we face in supplying municipal/private markets. (Growing native trees to landscape-ready size requires an even longer timeline - a decade or more.) Risk sharing, assistance in obtaining stock material, advance contracting, assured market - growers need support in all of these areas. Thank you.

01:33:56 Brian Irish: The question had to do with the tag and trusting it, I think?

01:34:07 McKay Burley: Seed Storage data base:
<https://data.kew.org/sid/sidsearch.html>

01:34:40 Melissa Spearing - NTSC-CFS: McKay - the Society for Ecological Restoration updated that database since it broke last year

01:34:40 David.Ianson: You need to get a hold of someone in the NPGS system

01:34:53 Ina Rommeck: Thank you!

01:35:13 Kathy.Pendergrass: The SID should include seed counts - per gram, pound or whatever but some info on seed counts for species. just in case there is someone here connected with SID

01:35:42 Melissa Spearing - NTSC-CFS: There are Thousand Seed Weights (in grams) in the SID.

01:35:43 Rachel Werling: Could you make setting so we can copy the chat? copy from the chat?

01:36:03 Naomi Edelson: yes I would like to save the chat too please.

01:36:04 David.Ianson: The NPGS has the Germplasm Resources Information Network (GRIN) system online

01:36:07 Elisa Lauritzen (she/her/hers): YES! Would love a copy of this chat! Please???

01:36:09 Melissa Spearing - NTSC-CFS: I'm not connected with the programming but planning to upload some of our Canadian data there.

01:36:51 Bailey.Hallwachs: What study did she just say, please?

01:36:52 Julia Michaels: Can you please repeat this researcher's name? Anna out of Germany? Thank you!

01:37:03 Jean Linsky: The Seed Information Database (SID) is now hosted by the Society for Ecological Restoration (SER): <https://ser-sid.org/about>

01:37:09 Kayri Havens: Anna Bucharova

01:37:27 Ruth Shaw: Another relevant ref: Evolutionary applications 14 (7), 1816-1829
13 2021

01:37:32 Holly Prendeville USDA NW Climate Hub: Anna Bucharova's google scholar page: https://scholar.google.com/citations?user=sYd_i_gAAAAJ&hl=en&oi=ao

01:37:38 Melissa Spearing - NTSC-CFS: Kathy Pendergrass - this might also be a good read (and everyone else): <https://onlinelibrary.wiley.com/doi/10.1111/rec.13638>

01:37:56 Christian Torres: Global Seed Bank Index white paper, <https://www.terraformation.com/blog/seed-bank-index#:~:text=The%20Global%20Seed%20Bank%20Index%20analyzed%20the%20number%20of%20seed,size%20of%20India%20%E2%80%94%20it's%20enormous.>

01:38:00 Kayri Havens: See also a paper by Basey, Kramer et al (2016 I think) on 10 rules to avoid genetic change in seed materials

01:38:05 Robin Schoen (she/her): Once we get the recording I can send out the chat transcript. (will look into that)

01:38:18 Anita Brilliant Thompson: That is one of my research interests here in Arizona in extension and as a native plant farmer. Also, hi Beth. Former student at UNR here.

01:38:46 Elizabeth Leger: Yay! Hi Anita! :)

01:39:07 Stimpson, David C: Association of Seed Certifying Agencies (AOSCA)

01:39:16 Laura Walter: <https://www.aosca.org/programs-and-services/native-plant-restoration/>

01:40:43 Ehren Moler, PhD _ DroneSeed Restoration Ecologist: Adding to the current question regarding plant material modification associated with cultivation environment. From the summary of the following paper link: "Adaptive traits in *Picea abies* (Norway spruce) progenies are influenced by the maternal temperatures during seed production." - <https://nph.onlinelibrary.wiley.com/doi/full/10.1111/j.1469-8137.2005.01538.x> -- From this, it's reasonable to be concerned that seed increase environment can effectively influence seed source attributes

01:41:02 Bernadette Dunham, George Washington University: Thank you all for an excellent presentation and discussion of this important issue - native seed needs!!

01:41:14 Rachel Werling: Thank you for this!

01:41:25 Geri Unger: Thank you all!

01:41:30 Mary Beth Bennett: Thank you. very interesting.

01:41:31 Melissa Spearing - NTSC-CFS: Here is another Wild Seed Testing initiative:
<https://wild-seeds.net/about/>

01:41:33 Gordon Card- Sunshine Seeds Ltd.: Thank you all for an excellent and interesting webinar.

01:41:47 Elisa Lauritzen (she/her/hers): Thank you! What incredible resource!

01:41:47 Nathan Young: Was the presentation recorded? can you provide a link?

01:41:50 Alexis Larsen: Thanks all! See many of you at the NNSC!
<https://appliedeco.org/native-seed-conference/>

01:42:28 lora.perkins: Thank you for your terrific work from South Dakota State University Native Plant Initiative

01:42:32 Peggy Olwell: Thank you for all your work on this study.

01:42:35 Julia Michaels: Thank you for this report— looking forward to continuing this discussion at the NNSC!

01:42:36 Stimpson, David C: Seed Storage--see Harrington's Rules of Thumb

01:42:44 Anna Lindquist, she/her: Thank you all, wonderful work and presentation!

01:42:46 Lee Davis: Beauty work, thanks all!

01:42:47 Marian Chau: Thank you so much for sharing this study!

01:42:49 Tom Kaye: So great to hear this summary. Thank you to all who participated!