

2025 New Mexico Rare Plant Technical Council Meeting Notes

February 5th, 2025

Invited Presentations/Coordination

9:30 – 10:00 AM: Dylan Cohen, Ph.D. (Postdoc Researcher, Chicago Botanic Garden)

Conservation genomics of Amsonia tharpii: spatial distribution influences gene flow, genetic diversity, and seed viability

Summary:

- *A. tharpii* consists of unique lineages.
- Ben East population shows extreme genetic drift.
- Red Lake population has low reproductive contributors.
- Monitoring should occur twice a year due to biannual flowering.
- Ex situ conservation efforts (seed banking) recommended.
- Support for robust pollinator communities needed; 1–5 km buffers suggested.
- *A. fugatei* identified as a potential new population with fewer individuals than *A. tharpii*.
- Possible new *A. fugatei* population SW of Albuquerque found on iNaturalist.

Additional Discussion:

- Presentation slides and a forthcoming publication will include details.
- Seed movement vs. pollinator movement analyzed: nuclear and chloroplast genome data collected.
- REU poster results suggest *A. kearneyana* transfers pollen across subpopulations.
- Ben East and West likely one population; recommends seed transfer to increase genetic diversity and evolutionary potential.

10:00 – 10:30 AM: Dan Hughes (Ecologist, Institute for Applied Ecology)

Insights from Several Years of Rare Plant Monitoring by the Rare Plant Crew

Monitoring & Analysis Methods:

- Demographic Monitoring & Transition Matrix Modeling used to predict population trends.
- BLM species prioritization:
 - Most monitored species are projected to decline based on model outputs.

Future Directions:

- Analysis Improvements:
 - Conduct spatial analysis at plot and population levels.
 - Expand to advanced climatic analysis.

- **Collaboration & Standardization:**
 - Encourage partnerships between land management agencies.
 - Expand standardized monitoring protocols beyond BLM lands.
 - Address land management complexity, especially in areas with tribal lands (e.g., Farmington Field Office) and checkerboard land ownership.
 - Increase data sharing between agencies and research groups.
- **New Species & Regional Focus:**
 - Focus on plant populations concentrated in four BLM land offices.
 - Expansion into areas like the Bootheel, with significant BLM land.
 - Prioritize early-blooming species to increase monitoring efforts in the Las Cruces District.
- **Additional Discussion:**
 - IAE annual reports available upon request.
 - Addressing small monitoring plots: place in high-density areas, extend slightly beyond known ranges.
 - New species scouting documented in BLM Flora.
 - Collaboration opportunities for *Pediomelum* monitoring with The Arboretum at Flagstaff (Sheila Murray).
 - *Pediomelum pentaphyllum* linked to cultural occurrences (Jony Cockman)—complementary methods needed.
 - Herbarium and SEINet data used for species mapping and scouting.
 - If there are only a couple monitoring plots, how do you compensate for random events that can affect only a portion of the population?
 - Try to set up plots in areas with higher plant densities
 - Plots extended slightly beyond range to accommodate
 - Scout general area and note in BLM Flora if we discover new species or locations

10:30 – 11:00 AM: Mit McGloughlin, Ph.D. (University of Northern Colorado)

New Conservation Genetics Data for Sclerocactus mesae-verdae, S. cloverae, and S. parviflorus

Role of Genetics in Species Identification:

- Traditionally, species identification has relied on morphology, ecology, and geography.
- Genetic data is increasingly used to clarify species distinctions, raising the question: but *what defines a species?*

When Genetics is Useful:

- Taxonomically ambiguous groups.

- Species with minimal or highly variable morphological traits (phenotypic plasticity)
- Populations experiencing significant decline.
- Defining key conservation areas for land management.

Recent Research Focus:

- Extensive genetic studies on *Sclerocactus* species, including *S. brackii*, *S. cloverae*, *S. mesae-verdae*, *S. glaucus*, *S. wetlandicus*, *S. brevispinus* and others.
- Findings reveal distinctions in species diversity, lineages, and populations.

Key Takeaways:

- Conservation strategies should consider management units rather than broad species classifications.
- Further genetic research is needed to refine conservation priorities.
- Distinct geographic patterns for *S. parviflorus* vs. *S. cloverae*.
 - Uncertain assignment of southern *S. cloverae* populations (San Ysidro) - hybrids
 - Uncertain assignment of western *S. cloverae* populations (Hogback) – hybrids

11:45 – 12:15 PM Julie Crawford (Plant Ecologist, Allium Species Lead, USFWS - AZ)

Allium gooddingii Status Update

- History and Listing Decision Journey
- Biology and Habitat
- Distribution
- Threats
- Analysis and Results Overview
 - Data is showing significant loss of *A. gooddingii* across its range
 - 60-80% loss of individuals within last 20 years
 - Listing is discretionary on FWS work plan for 2025
 - Have information, funds, or want to collaborate - reach out to Julie Crawford at julie_crawford@fws.gov
- Questions/Comments Highlights
 - Outplanting work happening right now through Section 6 outside of Tucson
 - *A. gooddingii* is now eligible on NM's FWS list Section 6 application

11:15 – 11:45 AM: Adam McCullough (Botanist, Lincoln National Forest)

New Survey Results and Monitoring Methods for Two Sacramento Mountain Endemics: Argemone pinnatisecta and Cirsium vinaceum

- Adam was unable to attend so Erika Rowe provided an update of EMNRD work with the Lincoln National Forest for these two species:
 - *Cirsium vinaceum* - working on establishing monitoring, but has been challenging to standardize due to super steep wet slopes/cliffs and population densities.
 - *Argemone pinnatisecta* - mostly status survey updates, Adam does more work on this

Rare Plant Technical Council Coordinator Updates (Round Robin)

IAIA Pollinator Program Updates – Melanie Kirby

Program Overview

- Melanie Kirby (Pollinator Specialist) leads IAIA's pollinator & plant research land grant program (5th year).
- Davon Collins (Documentarian) focuses on science communication and conservation storytelling.
- Dr. Thomas Antonio (Ethnobotanist) collaborates on research.
- IAIA, a congressionally chartered Tribal college, is expanding programs, including a future PhD program.

Pollinator & Agricultural Initiatives

- Bee-Keeping & Mentorship Program integrates science & Indigenous ecological knowledge.
- Micro-apiaries reduce competition with native pollinators.
- Poeh Povi: The Flower Path—seed collection for pollinator stewardship.
- San Felipe Pueblo Collaboration: Black Mesa Farm produces Sonoran wheat & honey for Biscochitos.
- USDA Tribal Relations Agreement funded a greenhouse, planting beds, and an olla watering system.
- USDA NIFA Grant: Developed a bee atlas and analyzed nutritional values of culturally relevant pollens & honey.

Community Engagement & Research

- IAIA Garden Peaks in July—features Amaranth for cooking & pigments.
- Honey sold at IAIA bookstore (sells out quickly).
- Pollinator Policy Initiatives:
 - HM33 & NMDA Pollinator Protection Plan Working Group in the NM legislature.

- Kirby serves on USDA's Pollinator Subcommittee.
- Research available at nativesciencereport.org.

Collaboration & Outreach

- IAIA posts events on Instagram—open to all.
- Collins offers documentation support for conservation projects (e.g., rare plant monitoring) – please reach out if want help on projects.
 - IAIA student photographers & videographers available for collaborations.

BLM updates – Sam Reiss (NM Threatened and Endangered Species Program Lead (previously Marikay Ramsey's role))

New Agreements:

- University of Northern Colorado (UNC): Taxonomic review and genetic research on *Pediocactus knowltonii* and *Astragalus ripleyi*.
- EMNRD: New grant for botanists to coordinate BLM work, *Sclerocactus mesae-verdae* working group.
- Wichita State: Expanding genetic dataset for *Kuenzler's* species.
- Conservation Legacy (CCNM): Rare plant surveys (*Muilla lordsburgana*, *Pediomelum pentaphyllum*) in Las Cruces District.

Ongoing Agreements:

- Institute for Applied Ecology (IAE): Rare plant crew and conservation strategies.
- Mark Porter: Genetic research on *Coryphantha robustispina* complex, *Cylindropuntia viridiflora*, and *Eriogonum lachnogynum* complex
- USGS: Developing habitat suitability models.
- Natural Heritage New Mexico (NHNM): Rare plant scorecards and ongoing support.
- Olivia Carril: Five-year rare plant pollinator study (wraps up in fall 2025).

Contracts & Accomplishments:

- Ground truthing habitat suitability models and updated surveys - Scheer's and Clover' cacti.
- 2024 Highlights:
 - IAE Rare Plant Crew progress.
 - Completion of *Amsonia tharpii* agreement (previously presented by Dylan Cohen).
 - Release of BLM Sensitive Species List (June 2024, not yet online).
 - New BLM Manual 6840 on Special Status Species Management (Nov 2024).

- What proactive work can we do now to prevent listing of sensitive and watch species onto the Endangered Species Act (ESA)? – now is the time to find where they exist on BLM lands
- promotes BLM emphasis on agency responsibility toward ESA Section 7(a)(1) "proactive conservation"
- species working groups and conservation strategies

Staffing:

- Species working groups and conservation strategies being prioritized.
- Staffing:
 - 4 full-time botanists (Taos, Carlsbad, Las Cruces, Farmington).
 - 5 full-time botany technicians.
- Challenges:
 - BLM hiring freeze.
 - BLM NOFO (Notice of Funding Opportunity) closed, pending new administration review.

Institute for Applied Ecology, Clay Meredith – CPC Seed Collection Priorities

CPC Members in NM:

- **Institute for Applied Ecology (IAE), ABQ BioPark, Santa Fe Botanical Garden**
- IAE began working with CPC in 2017, targeting 2-3 species per year. In 2023, they collected five species, aiming for 9-11 in 2024.
- Goal: Expand seed collection efforts across the state.

2024 Seed Collections

- **ABQ BioPark:**
 - *Abronia bigelovii*
 - *Heuchera pulchella*
 - *Astragalus altus*
 - *Phacelia cloudcroftensis*
- **IAE:**
 - *Ipomopsis sancti-spiritus*
 - *Scrophularia macrantha*
 - *Phemeranthus humillimus*
 - *Penstemon metcalfei*
 - *Allium gooddingii*
 - (Check with Dan about Gila species)

2025 Seed Collections

- **General Priorities:**
 - *Astragalus ripleyi*
 - *Cymopterus spellenbergii*
 - *Astragalus puniceus gertrudis* (linked to RPC monitoring)
- **Lincoln NF Species:**

- *Crataegus wootoniana*
- *Phacelia cloudcroftensis*
- *Cirsium vinaceum*
- *Ionactis elegans*
- (Fire-risk species; access challenges, some may require rock climbing)
- **Southwestern NM Species:**
 - *Pediomelum pentaphyllum*
 - *Atriplex griffithsii*
 - *Escobaria orcuttii*

Additional Notes & Support

- NM Native Plant Society (Silver City, Gila, and Taos chapters) assisting with phenology scouting.
- Nearby species of interest:
 - *Mentzelia springeri* (Check with Miles Campo at Bandelier)
 - *Delphinium sapellonis*
- **Volunteer Needs:**
 - Phenology monitoring in Sandia Peak (DESA larkspur north of radio towers), Tierra Amarilla, Questa, and Pilar.

Discussion & Comments:

- **Samantha Neibauer/BLM:**
 - *Phacelia* species show dramatic three-year cycles—expect variability but they will return.
 - Most listed species are in BLM Taos Field Office (TFO) jurisdiction—Sami has contacts and location info for Tierra Amarilla, Questa, and Pilar.
- **Jony Cockman - retired BLM:**
 - *Pediomelum* may have cultural significance—suggests noting lithic scatter presence during monitoring, especially in areas affected by the SunZia transmission line.

USFWS, Katie Sandbom, Botanist

- **Sec 7 consultation**
 - In 2024 came out with resources for streamlining Section 7 Consultation Process - on their website: <https://www.fws.gov/library/collections/new-mexico-ecological-services-field-office-plant-consultation-resources>
- **Work plan items – species under review (SSA – Species Status Assessment)**
 - **Workplan updates**
 - *Eryngium sparganophyllum* - final recovery plan due on FY25
 - Historically known from NM but presumed extirpated from Bootheel
 - Listed as native critical habitat in 2022 and recovery plan draft 2024 and final in 2025

- *Cirsium wrightii* - final listing and CH in 2023, draft recovery due in FY26, and final in FY27
- *Castilleja ornata* - final listing no CH in 2024, final recovery plan FY28 (listed Endangered without critical habitat)
- *Amsonia tharpii* - 12mo finding in works; under review for listing
- *Allium gooddingii* - SSA in 2024, 12mo pending
- *Aliciella formosa* - 12mo finding due FY26
- *S. cloverae* - FY26 SSA, FY27 12mo finding
- *Pediomelum pentaphyllum* - keeping on radar
- Navajo Bladderpod
- Chihuahuan scurf pea
- **Species that have been listed for a while, but doing 5 year status reviews to decide if need reclassification**
 - Project 1 range – eco appropriated range
 - *Pediocactus knowltonii* - completed 2021, 1 range in 2022
 - *Cirsium vinaceum* - 2022
 - *Argemone pinnatisecta* - 2022
 - *Eriogonum gypsophila* - OneRange in 2024
 - *Astragalus humillimus* - 5 yr in 2023
 - *Helianthus* - one range coming soon, review in 2022
 - Kuenzler’s cactus– 2023
 - Mesa Verde Cactus – 2023
 - *Asplenium scolopendrium* – extremely disjunct – 2025
 - Holy ghost *Ipomopsis*– 2026
 - Zuni fleabane 2026 and 1 range coming soon

NM Native Plant Society, Sylvan Kaufman, Santa Fe Chapter President

- santafe@npsnm.org
- New NM state president: Margie Gibson, who’s also a graphic designer; they’ve been making website improvements.
- Carter Conservation Grants – research, education, conservation, restoration (apply Sept – Nov) – up to \$5,000
- Grants to local herbaria
- Science teacher awards
- Quarterly newsletter – welcome information from others to include in newsletter, as well as listserv: www.npsnm.org
- Facebook and Instagram @Native Plant Society of New Mexico
- **Chapter highlights**
 - ABQ: cactus rescue and planting, pollinator habitat
 - El Paso
 - Gila: agave planting with Bat Cons. Intl
 - Las Cruces: visitor center garden, NMSU student scholarships
 - Otero: native plant sale, occasional scholarships
 - Santa Fe: invasive species removal, small grants

- Taos: greenhouse and native plant sale
- **2025 conference**
 - Las Cruces, Oct 2-5, theme: Responsible Beauty
- **2026 will be their 50th Anniversary!**

ABQ BioPark– Maria Thomas, Curator of Plants, City of Albuquerque BioPark

- **Staffing & Ex Situ Collections**
 - **New Hires:**
 - Horticulturist from OSU with a strong genetics background—focused on rare seed germination protocols.
 - IUCN Species Survival Officer (Plants) from California Botanic Garden.
 - **New Grant:** Funding secured for a **seed banking facility**, which will also support entomology programming.

- **Seed Banking & Conservation Efforts**
 - **Implementing a seed banking facility** (integrated with the entomology program).
 - **Ex Situ Collections & Outplanting:**
 - *Tharp's bluestar* (*Amsonia tharpii*) from Desert Botanical Garden—planned for outplanting.
 - *Chihuahua scurfpea*—outplanted at the Garden (pending success before public announcement).
 - *Lordsburg noino*—currently in the nursery.
 - *Santa Fe cholla*—received seeds and plants from the Cactus Rescue Project.
 - *Aztec gilia*—growing in the scurfpea outplanting area.
 - *Cirsium wrightii*—Planning to establish the species in water runoff retention structures at the Garden.

Additional Notes:

- BioPark is available to help publish conservation stories—contact them if you have updates to share.
- Exploring new outplanting sites and ongoing monitoring efforts
- Exploring the acquisition of another seed refrigerator.

Navajo Nation– Shannon Lencioni, Botanist

- **Staffing Updates**
 - Shannon Lencioni started in July 2025 and is eager to connect, particularly with those involved in NNHP data sharing agreements and research permits.
 - Gloria Tom retired in 2024—her position is currently vacant.

- Brent Powers left their role to become Head Wildlife Lead—NNHP is now seeking a Wildlife Zoologist.
- **Current & Upcoming Projects**
 - Lencioni is updating species accounts and status information.
 - Preparing the Spring 2025 monitoring season fieldwork calendar (demography plots).
 - Fieldwork Assistance Needed—reach out if interested in helping.

Santa Fe National Forest– Jess Lloyd, Forest Botanist

- **Staffing:**
 - **Jess Lloyd** hired as Forest Botanist, working with Andre Silva (Wildlife, Fish & Rare Plants), Devon Black (Research Coordinator)
 - Jess' Background is in forestry, silviculture, public policy, botanical illustration, and restoration ecology with experience at NYC natural areas, NY Botanical Garden, and Yale Forest.
 - Previously worked in Washington, D.C. on grant administration and urban forestry policy.
- **Current Work & 2025 Priorities:**
 - Reforestation after Hermit's Peak/Calf Canyon fires.
 - Rare plant surveys & monitoring (including Holy Ghost ipomopsis with EMNRD).
 - Forest restoration projects.
 - Digitizing the herbarium and seeking a research partner.
 - Developing a program vision for 2026 while coordinating with other Forest botanists.

Santa Fe Botanical Garden– Cristina Salvador, Director of Science and Conservation

- **Staffing & Operations:**
 - Cristina Salvador – she is 10 months as Conservation Program Director, focused on fundraising and partnerships.
 - SFBG spans 19 acres, maintaining 8 acres, open nearly year-round.
 - Staff: 6 full-time, 16 part-time, 150 volunteers.
 - Monthly newsletter & active on social media.
 - Vision: Connecting people to nature through horticulture, gardening, and conservation.

- **Programs & Opportunities:**
 - Jankowski Science & Conservation Internship (8 weeks, for undergrad/grad students) – Applications open until March 1.
 - Speaker Series –Don Falk speaking Next event Feb 28, 11 AM – 12 PM. Open to speaker suggestions;
 - New CPC & Botanic Gardens Conservation International member.
- **Herbarium:**
 - Roger Peterson Herbarium donated to SFBG (2,500-3,000 specimens, 95% from NM, collected since 1940/50s).
 - Goal: Accession & digitize specimens in SEINet (volunteer opportunities available).
- **Conservation and Partnership goals include:**
 - Herbarium fully accessioned & digitized.
 - Seed banking expansion.
 - Three-year strategic plan.
 - 1,000+ public engagements.
 - Active partnership in conservation networks.

University of New Mexico Herbarium– Harpo Faust, Collections Manager

- **Staffing Updates**
 - Curator Search: Hannah Marx left for Cornell Herbarium; UNM is interviewing four candidates for her replacement. Joseph Kleinkopf (grad student) also moving to Cornell.
 - Bryana is also departing (destination TBD).
- Interim Slowdown: Herbarium activities (e.g., ID nights, collection forays) are paused, but small forays are still possible.
- Limited Budget: \$4.5K/year without fundraising—future uncertain until a new curator is hired.
- Volunteers and research associates are welcome!
- **Collection Updates**
 - **Growth:** Herbarium expanded from ~128K to 143,870 specimens over the past few years.
 - **Specimen Submissions:**
 - Quality specimens only.
 - Include label data skeleton spreadsheet available.
 - Ideally, add silica tissue samples.
 - Coordinate with Harpo for drop-off.
 - Legacy specimens accepted.

- \$8/specimen donation encouraged (factor into grants for funding student time/supplies).
- **2024 Collection Foray in Brokeoff Mountains:**
 - Found third known occurrence of *Hexalectris nitida*.
 - Collected *Ostrya*, *Lobelia*, and *Escobaria sneedii* var. *sneedii*.
- **Research & Projects**
 - **Recent Publications:**
 - [Ecosphere Journal](#)
 - [American Journal of Botany](#)
- **New Mexico Plant List:**
 - Currently on SEINet, but will be moved to the UNM website.
 - 37 new species added since 2020, thanks to contributions from Andrew Tree (Silver City) and specimen entries.
- **Future Plans & Needs**
 - Curator decision expected within a month.
 - Continuing small collection forays & fern project this summer.
 - Seeking funding opportunities & private land access to support future collection efforts.

State Trust Lands, Katrina Adamczyk, Wildlife Biologist

- **Mission & Land Management**
- Several million acres managed for beneficiaries (e.g., schools, hospitals).
- Revenue generation through:
 - Land leases, commercial ventures, mining/minerals, renewable energy leasing, outdoor recreation permits.
 - Sustainable stewardship is a priority,
- **Access Permits:**
 - lands are not public—access requires permits. Recreation permit for plant observation.
 - Natural Resource Authorization Agreement for collections/research (fees waived).
- **Conservation Efforts & Rare Plant Work**
 - **Tharp's Bluestar Conservation Easement:**
 - Red Lakes development concerns—existing grazing & oil/gas leases prompted review.
 - First-ever conservation lease (2024) established—business lease with monitoring & management stipulations to protect cultural sites & rare plants (*Tharp's Bluestar*, *Scheer's Beehive Cactus*).

- EMNRD assisting with monitoring.
- **Other Conservation Initiatives:**
 - Stewardship leasing program in development.
 - Rare plant survey contracts (e.g., comprehensive surveys in Eddy County).
 - Lordsburg noino surveys in collaboration with BLM & EMNRD.
 - Creating natural resource protection standards
 - Guidelines for renewable energy project applicants, regarding what they should expect in terms of resource protections, also including wildlife, sensitive soils, special areas, etc.
- **Staffing Updates**
- Arthur (Art) Anaya (formerly NMDGF) is the new Landscape Scale Planner.

Cactus and Succulent Society of America, Dave Ferguson, Board of Directors

- The focus of the Society is shifting from collecting, etc. to conservation. The Society offers research and conservation grants of up to \$3K. The requirements aren't that strict, and the guidelines are on the Society's website

Endangered Plant Program (EMNRD)– Erika Rowe, State Botanist

- **Staffing Updates**
 - Current Team: Erika, Marty, Ash, and a new hire (TBD).
 - Hiring new botanist Position: Funded by a 2-year BLM grant (extendable up to 5 years) to support BLM-focused activities, website updates, and NMRPTC meeting coordination. received about 70 applications, and interviews are starting soon.

Projects & Conservation Efforts

- **Blue Hole Cienega Preserve:**
 - Prescribed burn (11/15/2023) successfully rejuvenated Pecos sunflower population here. Wright's marsh thistle came back just fine. Would like to follow Bitter Lake NWR – they are on an 8-year burn cycle; there, Pecos sunflower is doing great, and Wright's marsh thistle isn't adversely impacted.
 - 10 groundwater wells cleaned & updated with new data loggers.
- **Rare Plant Monitoring:**
 - Zuni Fleabane – New occurrence near Quemado; expanded surveys found additional populations in Gila NF.
 - Lordsburg Noino – Tiny plant emerging in mid-March; originally described/discovered by Cecelia Alexander; expanding surveys and monitoring plans being reviewed on BLM & SLO lands (2025).

- Cirsium Weevil Predation – Native *Lixus* weevil damaging Sacramento Mountains thistle and found to be using basal rosettes as well; high impact at Silver Springs site.
- **Regulatory Updates**
 - NM Endangered Plant Rule Revisions:
 - Rule change went into effect May 2023; Incidental take -permits now required to “take” a state endangered species (valid up to 5 years).
 - Scheer’s cactus in Carlsbad FO driving most permit requests.
 - No appeals process for denied permits—applicants should contact Rowe before applying.
 - Forestry cannot require surveys, so rely on land managers to enforce them as the rule applies to all ownerships.
- **Upcoming Section 6 & BLM Work**
 - Section 6 Projects: *Lee’s pincushion cactus*, *Tharp’s bluestar*, *Sacramento Mountains thistle*, *Sacramento prickly-poppy*, *Pecos sunflower*, *conservation seed collections*, *website updates*.
 - BLM Projects: *Lordsburg noino*, *Allred’s flax*, *Carlton’s sand verbena*, *Mesa Verde cactus*, *Knowlton’s cactus*.

Natural Heritage New Mexico (NHNM)– Esteban Muldavin, Director

Staffing & Roles

- NHNM operates within the Southwest Museum of Biology and is part of the NatureServe Network.
- Botany Team: Yvonne (32 years), Grace (2.5 years), and Sarah (1st year).
- Manages the rare species Biotics database, which powers the NM Rare Plant website (hosted by UNM).

NM Rare Plant Scorecard & Strategy Species

- 236 plant species on the Strategy List (separate from the RPTC rare plant list);
- Scorecard associated with Strategy Species list assesses conservation status based on biodiversity, protection, threats, and confidence, which is important to know.

Recent Updates:

- 2023: 29 species updated with state ranks (NatureServe) (Yvonne).
- 2024: 21 species updated state ranks (Grace).
- Sivinski reviews ranks; a third species expert for review is needed.

- NatureServe Rank calculator to be added to the NM Rare Plants website.

Funding Needed:

- Advocates for a Strategy Partnership (related to the Conservation Strategy)—agencies should collaborate on sustainable funding rather than piecemeal grants.
- Suggests forming a Rare Plant Advisory Council.

Discussion Highlights:

- Colorado’s model has a separate Heritage List & RPTC peripheral list.
- EMNRD prefers a single list—suggests merging the Strategy & Rare Plant lists.
- Scorecard should be simplified, but still defensible & transparent.

Important Plant Areas (IPAs)

- EMNRD-funded update—IPAs are biodiversity hotspots with rare plants.
- New approach aligns with ecological boundaries (or political if appropriate).
- Submit rare plant data to NHHM to support this effort.

Additional Notes

- NHHM will track some of NM Rare Watchlist species, can’t do all.
- Marty Purdy notes that California Heritage only tracks Rare List 1 & 2 species.

3:10 – 4:15 PM – Simultaneous workshop discussions, (Pick One Group)

Workgroup 1: Coordination and Development of Ex Situ Conservation Needs

Discussion Leaders:

Clay Meredith (IAE)

Marty Purdy (EMNRD)

Maria Mullins (BLM)

Current Challenges & Needs

- BioPark is in transition, adjusting to staffing changes, which affects ex situ conservation efforts.
- EMNRD (Marty Purdy) has a limited role in direct seed collection (only permitted to collect Section 6 or state-endangered species) but are planning on a small collection effort this summer.
- Small staff size at EMNRD makes large-scale seed collection infeasible, but they can support coordination and facilitation of efforts.

Data Management & Access Issues

- No centralized repository for rare plant collections data—creating inefficiencies in tracking, monitoring, and coordinating efforts.
- Need for standardized collection forms across institutions to ensure consistency in data recording.
- BLM & EMNRD currently lack access to CPC seed collection data, limiting their ability to coordinate effectively.
- Potential solutions:
 - California & Nevada have CPC collection platforms—could New Mexico adopt a similar approach?
 - BGCI is developing a pedigree tool for collections—need to determine whether non-botanical garden users can access it.

Seed Collection & Banking Strategy Gaps

- CPC seed collection list isn't always ideal, indicating a need for closer collaboration in species selection.
- Living collections need better integration into repositories and overarching conservation strategies.
- Denver Botanical Gardens reported discrepancies between seeds from long-term storage and historic records, highlighting the need for improved seed viability testing & taxonomic verification.
- Maria emphasized the importance of testing rare species' growth in gardens as a tool for:
 - Assessing climate change resilience.
 - Informing restoration potential before reintroduction efforts.

Coordination & Communication Needs

- EMNRD permits apply only to state-endangered plants and do not include broader coordination of rare plant collections.
- California Plant Rescue & Florida's similar institution provide models for coordinating efforts—New Mexico lacks a central coordinating entity.
- Need a dedicated working group to facilitate rare plant seed collection, banking, and usage strategies.
- Clay to coordinate with Wes (CPC) on improving access to data (involving Maria Mullins (BLM), USFS botanists, EMNRD, Katie Sandbom, Katie Vin Zandt).

Workgroup 2: Increasing Collaboration, Education, and Outreach (including tribal outreach)

Discussion Leaders:

- Tanner Johnson (IAE)

- Sylvan Kaufman (NPSNM)

State Botanical Certification Program Proposal

- Proposed by Sophia Towson (BLM CFO), modeled after the CA NPS program.
- Certification would target individuals working in botanical programs, covering plant ID, laws, regulations, ethics, and dichotomous key skills.
- Tiers of certification with low fees and online resources; possibly open access database rather than exams.
- Discussion around few certification programs in NM, with a comparison to the NM Bar Association certified paralegal program.
- Next steps: Sophia to work on initial development, consider adding info to the Rare Plant web pages.

Public Information & Signs

- Katy Silber (IAE) proposed signs for public lands to highlight conservation efforts, plant identification, and tracking plants via iNaturalist.
- Emphasis on increasing public appreciation for plants, including soil crusts and conservation efforts.

Workshops and Trainings

- Guided hikes and community programs, including K-12 programs at Biopark and City Nature Challenge in Santa Fe.
- BLM partners with early start college students for plant surveys and GIS shadowing.
- Navajo Nation: Community college programs, Carrizo Herbarium, and collaboration with the Santa Clara Plant Materials Center (USFWS).
- Other Outreach Programs:
 - NYBG monthly scavenger hunts.
 - Botanical Society of America partnerships.
 - Santa Fe Indian School cultural plant program with Bandelier NP and Pueblo collaboration.

Barriers to Communication & Collaboration

- Geographic Barriers: Hard-to-access areas like the Rio Grande Phenology Trail.
- Partnership Challenges: Trusting new partners and sustaining funding.
- Time Constraints: Coordinating schedules between job demands, volunteer availability, and program attendance.

Workgroup 3: Inventory, Monitoring and Survey Needs/Priorities, and Developing a RPWG

Discussion leaders:

Erika Rowe (EMNRD)

Rare Plant Working Group (RPWG) Development

- RPWG will meet to help list species, but can also work on refining a priority species to help identify survey needs/gaps
- Interested participants should sign up or contact Erika Rowe.
- NM's approach can be unique but should leverage existing models.
- There should be 2 WGs: a technical group (working on listing) and a coordination/survey group (connected with the Native Plant Society). Hailey Booth would like to be on the Coordination WG.

Priority Planning:

- EMNRD aims to resurvey 1-3 rare species per summer based on a prioritized list (depends on location, access, rarity, data needs, etc), that have unknown status or old data,
- Consider forming a Native Plant Society partnership or funding graduate students for research.

Adopting Successful Models for citizen science programs:

- **Rare Care (WA):** Volunteers adopt species, collect monitoring data.
- **University of South Carolina:** Funds citizen science grants.
- **California:** Conducts rare plant treasure hunts.
- **Idaho BLM:** Field offices monitor rare species, fill out EO forms.
- **Minnesota PlantWatch:** Has a dedicated coordinator.

Local Implementation Ideas

- Dvlp "adopt a plant" style approach, however, Daniela Roth attempted but it didn't go anywhere. Loss of interest, motivation?
- coordination/survey group potentially linked with the Native Plant Society
- Use BLM Taos Field Office as a test site (many retired biologists).
- Coordinate volunteers regionally to adopt species locally.
- (UNM) Encourage informal "invite-along" forays for surveys & data collection.
- Consider funding for BLM/USFS floristics students or organized forays.
- Reggie Fletcher used to organize successful weekend camp outs/collecting forays, reimbursing volunteers for their gas money out of the Forest Service's budget. There

- were also Base Camp Botany events over the weekend where Bob would pick a site undercollected and a few botanist would gather and botanize/collect.
- Utilize iNaturalist more.

Long-term collection urgency:

- ~8 good collecting years left before climate change impacts.
- Gila Forest is a key future collection site that is under surveyed (Jim McGrath/Erika).
- Bryophytes are underrepresented in NM; Bryophyte Beginnings new monthly zoom learning opportunity is now available (reach out to Erika Rowe for info).

Other discussion:

- SLO could waive recreation permit fees for citizen scientists.
- Target rare plants on private land “blind spots.”
- Assess species on BLM watch lists.
- Host NMRPTC meeting in conjunction with the Native Plant Society’s annual meeting?

Next Steps & Communications

- **Data submission to NH:**
 - Standardized data collection form developed by Erika Rowe & Richard Norwood to be posted online.
- **Improving Communication:**
 - Explore moving NM Rare plant listserv to Google Groups for better archiving & accessibility.
 - UNM IT working on archiving existing listserv emails (~200 active users).
- **Administrative Updates:**
 - Jack Williams will manage Forest Service Southwest Region permitting during position vacancy.