

Recommendations to Expand the Use of Citizen Science for State Agencies in New Mexico

*Presentation to the Interim Water and
Natural Resources Committee*

House Memorial 34 Citizen Science Working Group



*Presentation Prepared by
Wild Friends Program, UNM School of Law*

House Memorial 34 Citizen Science Working

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WILD FRIENDS

Background

Working Group Definition of Citizen Science

The involvement of New Mexican* volunteers in scientific monitoring and data collection to inform resource management.

**Includes New Mexicans at heart*



Image Credit: [secretsofuniverse.in](https://www.instagram.com/secretsofuniverse.in/) /citizen - science - astronomy/

Background

Origins of House Memorial 34 (HM 34)*

- HM 34 originated from hundreds of Wild Friends students who voted to work on citizen science legislation in fall 2023
- Wild Friends students worked with sponsor, Representative Kristina Ortez, and advocated for their legislation to expand the use of citizen science in NM
- HM 34 passed the House with unanimous support on February 15, 2024

**An identical Senate memorial (SM 1/Steinborn) was not heard.*



Background

Goals of HM 34

HM 34 requested that NMSP, NMED, the NMSLO, NMDGF, and other interested agencies/divisions:

- Participate in a Working Group convened by Wild Friends;
- Collaborate with Wild Friends on a citizen science pilot project;
- Recommend actions to establish and expand the use of citizen science by state agencies/divisions; and
- Submit a report to an interim committee by October 31, 2024 that details the Working Group's recommendations, including infrastructure, funding needs, and strategies to advance the use of citizen science.



Working Group Meetings

Facilitation and Participation

- The Working Group met almost monthly from February through September of 2024 via Zoom or in - person at NMSP in the Wendell Chino Building
- Working Group Membership:
 - New Mexico Environment Department
 - New Mexico Department of Game and Fish
 - New Mexico Forestry Division
 - New Mexico State Land Office
 - New Mexico State Parks
 - Natural Heritage New Mexico
 - Wild Friends Program



Working Group Meetings

Summary of Meetings

- The Working Group utilized the Environmental Law Institute's [Citizen Science Programs at Environmental Agencies: Best Practices](#) to guide their discussions.
 - Data Needs
 - Program Design
 - Data Management Tools
 - Volunteer Communication
 - Training and Technical Resources
 - Strategic Partnerships
 - Quantified Outcomes
 - Continuity

Working Group Meetings

Key Takeaways

- Data Needs - For the wildlife - focused agencies/divisions, more information is needed to add to baseline data that is used to help make decisions about how to best manage and conserve nongame species.
- Program Design - A strong need exists to formalize ways to coordinate citizen science projects across state agencies/divisions to assist in monitoring and documenting trends in species, habitats, and other environmental markers.
- Data Management Tools - Additional data management platforms are not necessary since numerous already exist; what is critically missing are the data themselves.
- Volunteer Communication - The agencies/divisions do not currently have the staff or resources needed to conduct the outreach and volunteer recruitment required to successfully implement a diversity of citizen science projects.

Working Group Meetings

Key Takeaways Continued

- Training and Technical Resources - As with Volunteer Communication, the agencies/divisions do not currently have the staff or resources needed to conduct training or provide technical resources for volunteers for a diversity of citizen science projects.
- Strategic Partnerships - Strategic partners are vital and could include city/county governments, master naturalist programs, non-governmental organizations, community colleges, and universities.
- Quantified Outcomes - Each agency/division will develop separate metrics for success based on their mission, such as using data to inform publicly accessible databases or management decisions, engaging volunteers over time, and expanding tourism.
- Continuity - The development of program coordinator positions within each member agency/division would support continuity of citizen science projects within and across state agencies/divisions.

Citizen Science Pilot Project

- HM 34 called for a citizen science pilot project about birds to help the state agencies/divisions identify the challenges and opportunities for future projects.
- The pilot project consisted of 5 field trips with state agency participation on various state lands across NM from Carlsbad to Peñasco.
- Results from the pilot project and insight regarding the feasibility of citizen science opportunities on state lands were shared with the Working Group.



Recommendations

1. Establish a team of Program Coordinators consisting of one coordinator at each of the member agencies/divisions.

To support this programming, funding is needed for the following:

- Four permanent FTEs to be housed in NMDGF, NMSLO, NMSP within EMNRD, and NMED (\$550,000)
- Program expenses for joint web design, data management, contracting (e.g., for in-person training sessions), and other citizen science program needs (\$200,000)



Recommendations

2. Leverage opportunities to expand and integrate citizen science related efforts through partnerships. -

- Coordinators will discuss disseminating this report and establishing partnerships with additional state agencies.
- Other partnerships that could be developed include those with educational institutions, such as the Public Education Department, the Higher Education Department, local universities, and community colleges.
- A partnership focusing on the confluence between citizen science and outdoor careers for youth is a natural fit with the Outdoor Recreation Division of the New Mexico Economic Development Department.



Image Credit: Renata Harrison; nps.gov

Recommendations

3. Develop metrics of success and share outcomes from citizen science projects.

- Each member state agency/division will determine how to incorporate metrics of success into extant reporting methods and timeframes.
- Sharing of reports and outcomes on the citizen science website, including case studies that educate the public about how citizen science contributes to natural resource management.



Examples of Citizen Science Needs



New Mexico Department of Game and Fish

A citizen science project focused on the Mediterranean House Gecko (*Hemidactylus turcicus*), which is found in Albuquerque, Las Cruces, Rio Rancho, and possibly other urban areas in New Mexico, would help the NMDGF answer fundamental questions about the species' origin and distribution in New Mexico.

Image Credit: reptifiles.com

New Mexico State Land Office

The NMSLO has been working to develop a biological baseline in the state's bootheel. This area has potential for renewable energy development and hosts a unique ecosystem.

Image Credit: Laurence Parent; newmexicomagazine.org



New Mexico Environment Department

The NMED needs assistance protecting the health of students and staff at schools and daycare centers through volunteers collecting, documenting, and submitting drinking water samples to test for lead.

Image Credit: Anna Padilla/Source New Mexico; kunm.org

New Mexico State Parks

Citizen science projects are needed to help protect and restore populations of sensitive species such as the endangered Southwestern Willow Flycatcher (*Empidonax traillii extimus*), which nests in dense riparian vegetation like that found at the Rio Grande Nature Center State Park and many other state parks across the state.

Image Credit: Kelly Colgan; southwest.audubon.org



Why is Citizen Science Needed in New Mexico

Citizen science:

- Helps agencies/divisions fill a critical need to obtain more data about species beyond what their current biologists and contractors can gather
- Creates a cost - effective solution that can help fill data collection needs for agencies/divisions
- Develops new STEM - based learning opportunities for K - 12 and post - secondary students
- Supports public engagement with science and the natural world
- Offers more outdoor recreation opportunities for New Mexicans and tourists



Thank You!

