

Final Report

Wildlife Wonders at the Park

Project Summary

Wildlife Wonders at the Park is a series of family-friendly education events developed by the Asombro Institute for Science Education and delivered in 2024 at Asombro's outdoor classroom, the Chihuahuan Desert Nature Park near Las Cruces. Hands-on, interactive activities increased participants' knowledge of New Mexico wildlife, including species monitoring techniques, population data, and conservation of wildlife, especially Species of Greatest Conservation Need. We had a total of 382 sign-ins at the events (average of 55 visitors per event), which included many people who came to more than one event in the series.

Accomplishments

1. Planned and advertised the event series. The Asombro staff set dates and times for the events:

- Mammal Madness on March 16
- Bird Bonanza Part 1 on April 20
- Radical Reptiles on May 18
- Going Batty on July 27
- Butterfly Flutterby (extra event added to the series and funded separately) on August 24
- Bird Bonanza Part 2 on September 28
- Dive into the Playa on October 19

All events (except Going Batty) ran from 9 AM – noon and included at least five common stations: (1) Meet the Expert, (2) Tools of the Trade, (3) Dive into the Data, (4) Endless Forms Trading Cards, and (5) Conservation Heroes. We advertised Wildlife Wonders at the Park in Asombro's publications and outlets (e.g., quarterly newsletter, website, social media) as well as on local community calendars. We submitted press releases before each event and distributed information in all classrooms we visited to deliver Asombro lessons in the weeks before each event.

2. Developed trading cards for distribution at each event – One of Asombro's 2nd-grade classroom lessons on desert wildlife features trading cards of several species. Students love these cards, so we decided to replicate this concept for the Wildlife Wonders at the Park event series. Asombro's Program Leader, Natalie Wells, and her partner Anthony Bailey began developing the trading cards and then developed **Endless**

Forms, a two-player strategy card game based on real organisms and ecological principles. At each Wildlife Wonders at the Park event, visitors received three to six complimentary species cards, and at least one at each event was a Species of Greatest Conservation Need.

Visitors could also learn to play the full game with Anthony and purchase starter decks of 50 additional cards at the pop-up gift shop.



Visitors at all Wildlife Wonders at the Park received three to six complimentary species cards with information about species featured at each event (including at least one SGCN). Cards can also be used to play Endless Forms, a strategy game that teaches about real organisms and ecological principles.

More information at <https://asombro.org/endlessformsgame/>

3. **Wildlife Wonders at the Park: Mammal Madness** – On March 16, we hosted the first Wildlife Wonders event at the Chihuahuan Desert Nature Park. Fifty-three visitors attended the event and participated in six hands-on stations run by 7 Asombro staff and 12 volunteers. Stations were described in detail in the interim report. Trading cards: Organ Mountains Colorado Chipmunk (SGCN), Banner-Tailed Kangaroo Rat, Coyote, American Badger
4. **Wildlife Wonders at the Park: Bird Bonanza Part 1** - On April 20, we hosted the second Wildlife Wonders event at the Chihuahuan Desert Nature Park. Thirty-eight visitors attended the event and participated in seven hands-on stations run by 7 Asombro staff and 10 volunteers. Stations were described in detail in the interim report. Trading cards: Gray Vireo (SGCN), Greater Roadrunner, Black-Chinned Hummingbird
5. **Wildlife Wonders at the Park: Radical Reptiles** – On May 18, we hosted the third Wildlife Wonders event at the Chihuahuan Desert Nature Park. One hundred and five visitors attended the event and participated in five hands-on stations run by 5 Asombro staff and 9 volunteers. Stations were described in detail in the interim report. Trading cards: Western Massasauga (SGCN), Roundtail Horned Lizard, New Mexico Whiptail, Lesser Earless Lizard (two cards: one blanched type from White Sands and one non-blanched)
6. **Wildlife Wonders at the Park: Going Batty** – On July 27, we hosted our only evening Wildlife Wonders event from 7 PM to 9 PM. Seventy-four visitors attended the event and participated in six hands-on stations run by 6 Asombro staff and 14 volunteers. Trading cards: Spotted Bat (SGCN), Mexican Free-Tailed Bat, Lesser Long-Nosed Bat (SGCN). Stations included:

- **Meet the Expert and Tools of the Trade** – Dr. Theresa Laverty and her students set up a booth to highlight their research on bats and some of the tools they use. Dr. Laverty also led a “bat walk” to the amphitheater at the Chihuahuan Desert Nature Park where visitors got to hear more about her research and participate in acoustic monitoring for bats.
- **Dive into Data** - Visitors learned how the North American Bat Monitoring Program collects data on bats to help monitor and protect bat species. They created a mask of four of the species monitored by the North American Bat Monitoring Program: hoary bat, lesser long-nosed bat, spotted bat, and Townsend big-eared bat (the last three are SGCN).
- **Conservation Heroes** - Rachel Burke from Bat Conservation International taught visitors about BCI’s agave restoration project, which aims to restore agave for nectar-feeding bats like the Mexican long-nosed bat and the lesser long-nosed bat.
- **Endless Forms Trading Card Game** - This station featured a display of various objects fluorescing under UV blacklights, including a live scorpion in a secure enclosure, samples of caliche, and household objects like honey and olive oil. Informational signs explained the basics of florescence and the possible adaptive advantages that it conveys to scorpions. Visitors also learned how to play the Endless Forms trading card game from creator Anthony Bailey.



Dr. Laverty (right) from NMSU discusses her research with visitors to Going Batty; some came dressed in bat ears for the event!

7. **Wildlife Wonders at the Park: Butterfly Flutterby** – This was a bonus event on August 24 that we advertised as part of the Wildlife Wonders at the Park series. It was funded by a grant to Asombro from the Carroll Petrie Foundation. Many visitors who had come to previous Wildlife Wonders at the Park events also attended this event, which was set up in the same format as the popular Wildlife Wonders events we had already hosted. We had a total of sixty-six visitors participate in 8 hands-on activity stations run by 7 Asombro staff members and 25 volunteers. Trading cards: Desert Orangetip Butterfly, New Mexico Hairstreak Butterfly, Valley Carpenter Bee, White-Lined Sphinx Moth, Tarantula Hawk Wasp (New Mexico’s state insect)
8. **Wildlife Wonders at the Park: Bird Bonanza (Part 2)** – On September 28, we hosted another Wildlife Wonders event focused on birds. Twenty-nine visitors attended the event and participated in 8 hands-on stations run by 6 Asombro staff and 14 volunteers. Trading cards: Burrowing Owl (SGCN), Gambel’s Quail, Chihuahuan Raven, Black-Throated Sparrow. Stations included:
- **Meet the Expert (table 1)**– Visitors met and learned from members of Mesilla Valley Audubon, a conservation and natural history nonprofit organization with a mission of promoting the appreciation and conservation of birds and other wildlife in Doña Ana County, Otero County, and Sierra County, New Mexico. At 9:30 AM, expert birder and MVAS member CJ Goin led a bird walk on the trails at the Chihuahuan Desert Nature Park.
 - **Meet the Expert (table 2)** – Curators from the NMSU wildlife museum brought preserved bird specimens to show visitors. Visitors learned about the work of the museum and about Chihuahuan desert birds.
 - **Meet the Expert (table 3)** – Graduate and undergraduate students from the NMSU Avian Migration project answered visitors’ questions on their work monitoring migration patterns in migratory birds.
 - **Tools of the Trade** - Visitors learned how scientists use mist nets to catch birds to study migration and populations and got the chance to model bird banding. They talked with Dr. Aaron Young from NMSU about his research on songbirds on the Jornada Experimental Range.
 - **Dive into Data** - Visitors dissected owl pellets and identified the bones they discovered. The bones were counted to see which animal is most often consumed (Rodent, Shrew, Mole, Bird). All visitors’ data were combined in jars with a bead for each bone found. Visuals and samples of the potential bones found were on display for those who wanted to look but not participate in the dissection.
 - **Conservation Heroes** - Visitors learned how community science efforts support bird conservation by providing scientists access to data on biodiversity, migration, and changes in population and distribution. Visitors learned how to contribute to biodiversity data through iNaturalist, and practiced using apps like iNaturalist, Seek, and Merlin to identify birds and other organisms.
 - **Bird Rockets** – Visitors of all ages created foam “birds” with wings of different shapes and sizes and then tested them for accuracy and distance. Each visitor went home with their own bird “rocket” creation.
 - **Endless Forms Trading Card Game** - At the Trading Card Game station, visitors had the opportunity to learn the game rules and play the game. Ready-to-play starter decks and instruction manuals were available for sale at



foam “bird” creation, learning how wing shape and size affect flight.

each event, and visitors were encouraged to attend future Wildlife Wonders events in order to collect more free, event-exclusive cards.

9. **Wildlife Wonders at the Park: Dive into the Playa** – On October 19, we hosted the final Wildlife Wonders event for 2024. Unfortunately, the weather was windy and rainy, which kept attendance very

low. Nonetheless, seventeen visitors attended the event and participated in five hands-on stations run by 5 Asombro staff and 13 volunteers. Trading cards: New Mexico Spadefoot Toad, Longtail Tadpole Shrimp (SGCN), Roseate Skimmer Dragonfly, Striped Bark Scorpion
Stations included:



Wind and rain on October 19 kept attendance very low at the Dive into the Playa event, but it created beautiful scenery for volunteers, visitors, and staff at the event.

- **Meet the Expert** - Visitors learned from Dr. Steve Loring (retired professor from NMSU) about his work on playas. The station featured tadpole shrimp and clam shrimp. Asombro staff members hatched out of playa soil.
- **Conservation Heroes** - Dr. Obed Hernandez-Gomez from NMSU brought his live amphibians and reptiles to engage visitors as he talked about his current research.
- **Playa Importance** - Dr. Shawn Salley, a soil scientist from the USDA, described the role of playas in the basin and range province of New Mexico. He shared historic information about playa flooding and the role of playas in recharging groundwater supplies.
- **Dive into the Data** - Visitors of all ages examined data on the perimeter and catchment area of local playas and then used these data to create “rain sticks” with different amounts of material inside to represent the variety of playa sizes in this region.
- **Endless Forms** - At four stations, visitors received free trading cards featuring organisms that live in and around playas. They learned how to use these cards and others in the Endless Forms trading card game developed for the Wildlife Wonders series.



Dr. Steve Loring shows visitors some live tadpole shrimp at the Dive into the Data event.

Additional Benefits

We are incredibly grateful to the New Mexico Game and Fish Department’s Share with Wildlife program for the grant to support the Wildlife Wonders at the Park event series. In addition to more than 300 visitors learning about New Mexico wildlife at the events in 2024, the events resulted in at least three additional benefits:

- 1) Relationships with scientists and other experts - Asombro staff developed excellent working relationships with many regional scientists and organizations through these events. We were overwhelmed by the willingness to participate in Wildlife Wonders events by many scientists and other experts from organizations such as NMSU, Mesilla Valley Audubon, and Bat Conservation International. Most have expressed enthusiastic interest in participating in future Asombro programs, which will continue to help educate the public about New Mexico wildlife.
- 2) New and continuing volunteers - More than 80 volunteers participated in one or more Wildlife Wonders in the Park events, and many came back for multiple events. Five of these volunteers have already signed up to participate in other volunteer opportunities with Asombro, including assisting staff in classroom lessons and helping maintain the Nature Park trails.
- 3) Enthusiasm and momentum for future public education events – Asombro stopped doing public education events at the Chihuahuan Desert Nature Park during the pandemic, and we had done very few in the intervening years. Wildlife Wonders at the Park showed us the great enthusiasm there was for these types of events; even during events with inclement weather and low turnout, the visitors who attended were extremely complimentary and asked about future events. Last week, we received notification that we have been awarded a grant from a private foundation to support the Butterfly Flutterby and one other public education event in 2025. Based on the success of the 2024 series, our staff is also enthusiastic about adding more events next year. We are delighted to continue Wildlife Wonders and continue to educate the public about New Mexico wildlife.

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