

Article

Springs of Life: Exploring Dinosaur National Monument's Wetland Plant Inventory

[Dinosaur National Monument](#)

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Dinosaur National Monument (NM) is famous for its fossils and rugged landscapes. But hidden among the rocks and dry land are springs and wetlands that are incredibly important for life in this semiarid region. These water sources are critical for the ecosystem, but understanding and protecting them is no simple task. The park faces major challenges: gathering the data needed to address complex water-rights issues and keeping these habitats healthy in a changing environment. Recently, the [Inventory and Monitoring Division](#) funded a project to study these habitats, looking at their locations, conditions, and ecological roles.



Researcher documenting wetland plant species along a transect line.

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Understanding Water Rights in a Changing Landscape

[Livestock grazing](#) has been a part of Dinosaur NM's history for nearly a century. While livestock still use some of the park's water sources, many grazing operations have been retired in the last 40 years. The problem? As water use shifts from livestock use to wildlife use, the park's legal water rights must also be updated.

[Water rights](#) are legal rules that determine who can use water, when, and for what purpose. These rights are based on specific uses—like farming, livestock, drinking water, or wildlife—to ensure resources are shared fairly. Most water rights at Dinosaur NM were originally for livestock. With less grazing, some water sources can now be re-designated for wildlife use.

To make this change, the park's biologist reviewed historical records, including a 1960s document listing 67 water sources in the park. However, these documents didn't explain how their data were collected, and the environment has changed a lot since then. Springs may have dried up, new ones may have emerged, and others have changed, making the old records unreliable.

The 1960s records also showed that most water rights were for livestock. Updating these rights requires proof that wildlife, such as elk, bighorn sheep, mule deer, and mountain lions, are actively using these water sources. This evidence is needed to reclassify the water rights to reflect their current use.

Surveying Springs

The park needed a new survey of its springs to:

- collect scientific data for any future updates to water rights and
- guide decisions that support the park's conservation goals.

To meet these needs, a research team from Ironwood Consulting mapped and surveyed springs, seeps, and wetlands on the Utah side of the monument. The team documented locations, conditions, and ecological roles of water sources. Key tasks included identifying plant species that depend on groundwater, recording signs of wildlife like tracks and scat, and assessing human impacts.



Researchers preparing to survey a wetland.

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The research team visited 58 sites and confirmed that 26 are groundwater-dependent ecosystems, meaning they rely on springs to sustain life. The water at these sites ranged from small seeps to robust springs that support diverse plant and animal life. Common native plants included smooth scouring-rush (*Equisetum laevigatum*), broad-leaved cattail (*Typha latifolia*), and scratchgrass (*Muhlenbergia asperifolia*), which help stabilize wetland habitats and provide resources for wildlife. However, invasive species, such as common reed (*Phragmites australis*), tamarisk (*Tamarix chinensis*), and Canada thistle (*Cirsium arvense*) were also common. Invasive plants are concerning because they can outcompete native plants, decrease biodiversity, and reduce wildlife habitat.



Mountain lion track showing evidence of wildlife presence.

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The team found signs of wildlife, including elk, deer, rabbits, bears, and mountain lions, that further highlighted the importance of these water sources. This information may help update water rights from livestock use to wildlife use.

The study also produced detailed maps that provide a baseline for tracking environmental changes. These maps will help park managers monitor ecosystem health, spot problems like reduced water flow or invasive species, and implement measures to protect and restore these ecosystems.

Looking Ahead

Park managers now have a better understanding of Dinosaur NM's water resources, from their number and location to their ecological value. This work aims to protect the park's springs and wetlands as vital oases in a desert landscape, sustaining life for generations to come. By

documenting current wildlife use and ecological conditions, this project also sets the stage for future updates to water rights in the park.

Whether you're drawn to the park's fossil history or its diverse ecosystems, Dinosaur NM shows the intricate connections between water, life, and conservation.

Want to learn more?

Visit the [final report](#) from this [project](#), discover more about [Dinosaur NM's plant communities](#), and check out six other parks' [spring wetland plant inventories](#) funded by the Inventory and Monitoring Division.