



NATIONAL CONSERVATION LANDS

Utah
2022: Annual Manager's Report

Beaver Dam Wash

National Conservation Area



Map

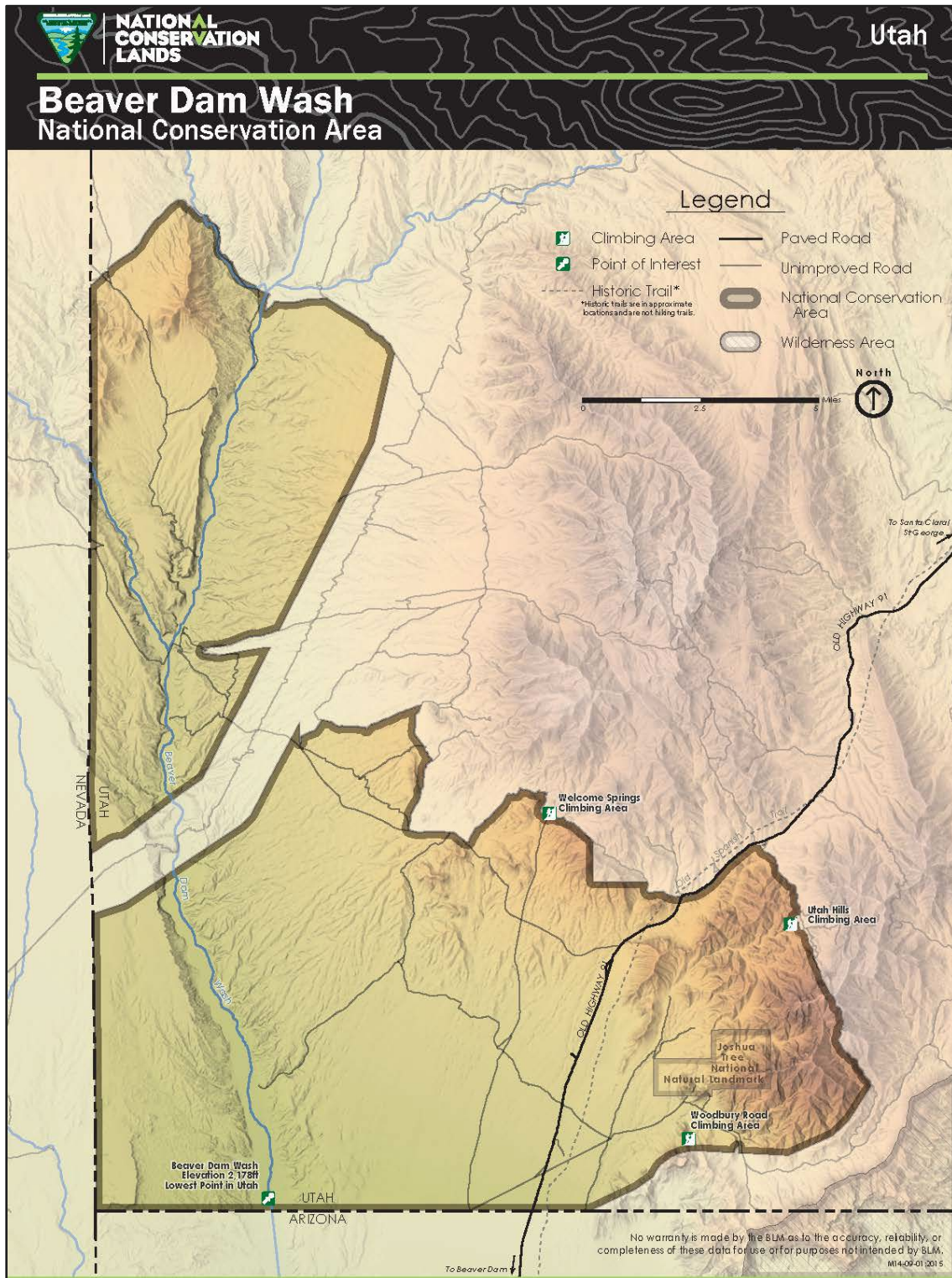


Figure 1: Map of Beaver Dam Wash National Conservation Area.

Accomplishments

In FY22, the BLM completed the first Five-year Evaluation Report for the Beaver Dam Wash National Conservation Area (NCA) 2016 Resource Management Plan (RMP). The Report concluded that the RMP management decisions remain valid, the EIS supports the decisions, and that minor text edits needed for clarification could be made through plan maintenance.

An Integrated Weed Management Plan (IWMP) for the control and eradication of noxious and invasive species for the Beaver Dam Wash NCA and the Red Cliffs NCA, supported by a programmatic environmental assessment, were released for public review and approved by the NCA Manager. The IWMP incorporates education, prevention measures, and best management practices to reduce the introduction and spread of noxious weeds and invasive species. It also allows treatment methods that will achieve the best possible combination of control and cost effectiveness, while minimizing risks to public health and NCA resource values.

New signs were installed along specific roadways in the NCA to alert motorists to drive slowly to avoid harming Mojave desert tortoise, a threatened species. Companion signs request that visitors become “Citizen Scientists” by reporting tortoise sightings to the BLM, to assist with the management and protection of this iconic species.



Figure 2: Left, adult Mojave desert tortoise; right, new warning signs for visitors.

Challenges

The need to protect and restore critical habitats for at-risk wildlife species, including the threatened Mojave desert tortoise, continues to be a major challenge in the face of prolonged droughts, higher temperatures, and catastrophic wildfires. The NCA is primarily within the Mojave Desert ecoregion where wildfires were formerly a rare occurrence. Some desert shrubs, like creosote bush, are naturally fire-resistant and widely spaced apart, impeding fire spread. Invasive annual brome grasses today fill in the gaps between individual plants, creating a highly flammable fine fuel source that is increasing the size, intensity, and frequency of wildfires. The Joshua tree community has been so reduced by wildfires across its range in the Mojave Desert that it is being evaluated for listing under the Endangered Species Act. Critical habitat loss is complicating recovery efforts for the desert tortoise and other native species. Working with multiple federal and non-federal partners, the BLM continues to conduct research to evaluate the most successful and cost-effective ways to rehabilitate fire-damaged desert vegetation communities in the NCA.



Figure 3: Left, Joshua trees in bloom; right, wildfire-damaged Joshua trees in Beaver Dam Wash NCA.

Visitors

In FY22, over 77,500 visits were recorded within the NCA, an increase of 20% compared to FY21 levels. The warm, dry climate of the NCA allows for enjoyable outdoor activities during all but the hot summer months. It is an increasingly popular destination for camping, hiking, hunting, bird watching, mountain biking, and off-highway vehicle riding on a network of unpaved roads. Tent and RV campers enjoy 38 designated dispersed campsites with fire-rings, all located along maintained backcountry routes. The NCA provides opportunities for world class rock climbing at Welcome Springs, Bulldog Knolls, and Woodbury Crag. Over 70 climbs, ranging in difficulty from 5.7 to 5.14, are easily accessible via short hikes from the Mojave Desert Joshua Tree Road Scenic Backway in the NCA. Many of the 40 Special Recreation Permit (SRP) holders who operate in the NCA offer commercial guiding services for rock climbing, mountain biking, and hunting for desert bighorn sheep and mule deer.



Figure 4: Winter camping in early evening, Beaver Dam Wash NCA.

Partnerships

Two new Cooperative Assistance Agreements were established with partners to conduct studies designed to increase our understanding of current population trends and improve habitat management for the Mojave desert tortoise and other BLM sensitive species in the NCA. Under the first agreement, the BLM and the Utah Division of Wildlife Resources (UDWR) will jointly fund a three-year study to assess the relative abundance of desert tortoise populations in the NCA. This study will synthesize historical tortoise distribution data, prior research findings, and new population data from monitoring transects in 2024. It will also collect data on the distribution and abundance of many BLM sensitive species, using existing databases and observations during the field studies.

Through the second agreement, Conserve Southwest Utah (CSU) will collect data on desert tortoise and BLM sensitive species occurrence and spatial distribution within a 21-mile-long motorized route corridor and a 200-acre study area, where no prior field studies have been conducted. Under the direction of the NCA Biologist, trained CSU staff and volunteers will walk belt transects spaced at 10-meter intervals to identify, collect geospatial data, and photograph tortoise burrows, scat, and any live tortoise encountered. They will also install infra-red trail cameras at the entrances to active tortoise burrows and along ephemeral washes that are being used by tortoise and BLM sensitive species, like kit fox and Gila monster.

Both partnerships will support the strategic goals of the BLM's threatened and endangered species and sensitive species programs by providing current, complete, and accurate information on the relative abundance of the desert tortoise and other species' populations in the NCA. They will also facilitate proactive conservation actions for these at-risk species, based on updated data on occurrences and habitat use.



Figure 5: left, trail camera at an active tortoise burrow; right, Conserve Southwest Utah tortoise survey crew in Beaver Dam Wash NCA.

Science

Four new Science Research Permits were issued for studies in the NCA. These included:

- Bryophyte (mosses and liverworts) documentation in areas with no previous documentation. Sarah De Grout, Citizen Scientist.
- Banking Fraxinus Seed to Prevent Future Loss of Western Species. Dr. Brian Dorsey, Chief Botanical Researcher, The Huntington Library, Art Museum, and Botanic Gardens.
- *The Cacti of Utah*. Kipp Lee, Utah Native Plant Society.
- Using genomics to evaluate subspecies range boundaries of the Bell's vireo (*Vireo bellii pusillus* and *V. b. arizonae*). Dr. Barbara E. Kus, Research Ecologist, USGS Western Ecological Research Center.

During this fiscal year, faculty and graduate students from the University of Nevada, Las Vegas continued to assess the role that mature desert shrubs (aka “mother plants”) play in the survival of seedlings and in the successful re-establishment of native vegetation in a fire-damaged area of the NCA. Nursery grown native shrubs (creosote bush, white bursage, and globe mallow) were transplanted into 12 research plots in the Woodbury Desert Study Area and provided different fencing and supplemental water treatments. Plants in control plots were not fenced and did not receive supplemental water during the summer months. Seed production, seedling establishment and survivorship are being monitored within a 50-meter radius around each “mother plant”.

This study is evaluating whether seedlings from seeds produced by the “mother plants” have higher survival rates than those in control plots, where few mature desert shrubs remained after wildfires to provide shade or protection from wind and small herbivores. Using the data collected on seedling establishment, survival, seed production, and costs during this 3-year study, the BLM will be better able to determine the most effective methods to rehabilitate fire-damaged vegetation communities that provide critical habitat for the Mojave desert tortoise and other at-risk species.

Climate Impacts

Elevated annual temperatures, droughts, erratic precipitation events, and more frequent wildfires are altering the native vegetation communities of the NCA. Invasive annual brome grasses have proliferated after fires, outcompeting native species, and are contributing to increases in wildfire frequency, extent, and intensity. Climate impacts are threatening ecosystem integrity and resiliency in the NCA and across the Mojave Desert.



Figure 6: Heavy ground cover of invasive, non-native brome grasses in Beaver Dam Wash NCA.

Climate Resiliency

NCA staff collect climate data using a solar powered HOB0 weather station and precipitation measurement gauges set up at various locations in the NCA. On-going efforts to create more climate resilient landscapes include large and small-scale habitat rehabilitation research projects that focus on hand planting mature, nursery-grown native species to create “fertile islands” in fire-damaged areas. Plant survivorship is measured during these projects, as it is critical to determine which native species can be successfully and cost-effectively used in fire-damaged vegetation communities.

Social and Environmental Justice

American Conservation Experience (ACE) work crews assist NCA staff with habitat rehabilitation projects in the NCA. ACE Emerging Professional's in Conservation (EPIC) resource associates complete internships with the NCA Biologist, gaining field and office experience in wildlife and threatened and endangered species population monitoring. Both ACE programs provide young professionals with 'on the ground/in the field' experiences that support their development as future conservation leaders and potential federal agency employees. Exceptionally qualified, ethnically and socially diverse candidates are recruited by ACE for its programs, helping to meet BLM's objectives of providing meaningful project and internship experiences for youth corps members, and fostering a sense of public land stewardship in future generations.



Figure 7: top, ACE work crew and BLM biologist; bottom left and right, ACE crews hand planting mature native plants.

Events

In April, the 2022 Red Cliffs Bird Fest offered three days of guided field trips to various birding habitats in southwest Utah, including riparian and Mojave Desert destinations. One of the guided field trips included stops in the Beaver Dam Wash NCA, where participants could observe the diversity of bird species that utilize the Joshua tree-blackbrush community and the riparian zone along the perennial stream that flows through the Beaver Dam Wash. The exceptional biodiversity of this area of the NCA makes it one of the most popular and productive birding areas in the state.



Figure 8: top left, Gambel's quail; top right, Cactus wren; bottom, bird watchers in Beaver Dam Wash NCA.



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