

# Red Cliffs Desert Reserve Habitat Management Plan

(Revised April 2019)

## Background

The 1995 Washington County Habitat Conservation Plan (HCP) set aside 62,000 acres of Mojave desert tortoise (*Gopherus agassizii*; hereafter tortoise) critical and buffer habitat as the Red Cliffs Desert Reserve (RCDR) to assist the recovery of the tortoise in the Upper Virgin River Recovery Unit (Washington County 1995, as amended 2009). In response to large destructive wildfires that burned ~25% of the RCDR in 2005, the Habitat Conservation Technical Committee (TC) created a Habitat Management Plan (HMP) for the RCDR in 2009. In February 2018, the Washington County Habitat Conservation Advisory Committee (HCAC) asked the TC to evaluate the current RCDR fire management plans and provide updates for the HCP renewal process. During the June 2018 TC meeting, TC members met with fire experts from the Bureau of Land Management (BLM) and the Utah Division of Forestry, Fire & State Lands to assess the 2009 RCDR HMP. This revised HMP incorporates new and ongoing fire/habitat management priorities, strategies, and actions within the RCDR.

## RCDR HMP

The proliferation of nonnative annual grasses and resulting wildfires has raised concerns about long-term management of the habitat and recovery of tortoises within the RCDR. In 2018, wildfire continues to be one of the greatest threats to tortoise habitat. The two primary goals of the RCDR HMP are: (1) protect remaining unburned tortoise habitat; and (2) restore burned tortoise habitat (see Sections 1.1–2.2 below). The TC has identified action items to achieve each of these goals. Table 1 identifies the priority and status of the TC-ranked seven highest priority RCDR HMP action items.

The intent of the HMP is to integrate HMP priorities and action items with those found in the Red Cliffs National Conservation Area (NCA) Record of Decision and Resource Management Plan (BLM 2016a), Southern Utah Support Area Fire Management Plan (BLM 2004), BLM St. George Field Office (SGFO) Programmatic Wildland Fire Emergency Stabilization and Rehabilitation Plan (BLM 2008), Southwest Utah Regional Wildfire Protection Plan (FCAG 2007), and other Federal, State, and local fire management plans.

**Table 1: Seven Priority RCDR HMP Action Items**

Priority	Action Item	Current Status
1	Treat roadsides (paved), maintain firebreaks along ROWs	Efforts are ongoing to treat non-native plants along select right-of-ways (see strategy 1-1-1). The BLM is working on getting Indaziflam/Esplanade approved for ROW application. The BLM SGFO is working on new permitting stipulations regarding ROW maintenance and exotic nonnative plant control/effectiveness monitoring within existing ROWs. Continue to research (and plan to implement) outplanting or reseeding of warm season fire-resistant grasses (e.g., side oats grama [ <i>Bouteloua curtipendula</i> ], Purple threeawn [ <i>Aristida purpurea</i> ]) and other perennials along Cottonwood Road and ROWs. Writing grants, acquiring funds, acquiring herbicide, and treating exotic nonnative plants is an annual long-term BLM goal/effort.

2	Control nonnative species	There are ongoing plans to manually remove invasive species, including silverleaf “Purple” nightshade ( <i>Solanum elaeagnifolium</i> ), Scotch thistle ( <i>Onopordum acanthium</i> ), Russian thistle ( <i>Salsola</i> spp.), Sahara mustard, and other invasive species. The TC and RCDR stakeholders are planning to create two or more Esplanade herbicide study plots in different vegetation types within the RCDR. Research native specific species to compete with exotic nonnatives. The TC and RCDR stakeholders are planning to create two or more Esplanade herbicide study plots in different tortoise habitat types within the RCDR. The BLM SGFO plans to conduct an environmental assessment (EA) for the targeted use of herbicides to control invasive-nonnative plant species within the Red Cliffs NCA that follows best available science, and complies with management decisions in the Red Cliffs NCA RMP (BLM2016a) and BLM herbicide use EAs and programmatic environmental impact statements (EIS; BLM 2007; 2016b,c). Writing grants, acquiring funds, acquiring herbicide, and working with partner stakeholders to control nonnative plants, is an annual long-term goal/effort.
3	Create islands of vegetation	From 2016–2018, collaborative teams (by the BLM-UDWR-UNLV-TNC-HCP-USFWS) planted about 5500 plants comprised of six native species. Writing grants, acquiring funds, growing plants (e.g., BLM-NPS Song Dog Nursery agreement), and restoring burned habitat is an annual long-term goal/effort. Management stakeholders will continue to work collaboratively to identify priority restoration areas.
4	Maintain communication between fire agencies and with the public	The HCP Administration, BLM, UDWR and other partnering agencies will continue to coordinate public outreach. Continue to acquire/update geographic information system (GIS) fire perimeter-area and fire risk data/databases/maps, and distribute them to interagency-management stakeholders. Maps will be utilized for project prioritization.
5	Monitor treated areas	During 2017–2018, the BLM SGFO monitored the herbicide treatment area along Cottonwood Road, manual plant removal sites, and the location of exotic nonnative plant infestations targeted for future treatments. Monitoring treated areas, infestation sites, and study plots is an annual long-term goal/effort.
6	Research/Monitor Methodology (reduce fuel)	Continue to conduct literature reviews of new fuel reduction/fire management techniques. Coordinate with the U.S. Forest Service (USFS) for fuel monitoring and reduction projects on USFS lands adjacent to the RCDR, where fires often originate.

7	Soil stabilization (e.g., gully plugs, straw mats, erosion fabrics, biocrust, inoculation, and/or native plant species).	Continue to pursue, including literature reviews of new research and effective techniques/species.
---	--	--

**Goal 1: Protect unburned tortoise habitat**

**Objectives**

**1.1** Treat road edges to reduce the build-up of fuel sources and minimize the potential for human caused fires. Treatment may include mowing, grazing, herbicides, or other appropriate methods.

**Strategy 1.1.1:** Continue to identify and prioritize roadside areas suitable for treatment. Pursue the necessary city, county, or state partnerships for treating priority areas.

*Action Item 1.1.1. (A):* Continue treatment Cottonwood Road corridor.

*Action Item 1.1.1. (B):* Continue treatment of SR-18 corridor.

*Action Item 1.1.1. (C):* Continue treatment of I-15 corridor.

*Action Item 1.1.1. (D):* Continue treatment of Red Hills Parkway corridor.

*Action Item 1.1.1. (E):* Continue treatment of Tuacahn Drive corridor.

*Action Item 1.1.1. (F):* Continue treatment of Red Cliffs Recreation Area Road.

*Action Item 1.1.1 (G):* Continue treatment of other roads as identified.

**Strategy 1.1.2:** Research and monitor the effectiveness of different treatment methods on existing plant communities and tortoises.

*Action Item 1.1.2 (A):* Pursue research plots to assess the effectiveness of pre-emergent herbicides (e.g., Esplanade, Plateau) and other herbicide chemical/vegetation control methods.

*Action Item 1.1.2 (B):* Pursue roadside research plots to assess the effectiveness of focused grazing.

*Action Item 1.1.2 (C):* Pursue roadside test plots to assess the effectiveness of compaction, grading, or other mechanical methods.

**1.2** Establish and/or maintain firebreaks in priority areas.

**Strategy 1.2.1:** Establish firebreaks through use of native fire-resistant plant species.

*Action Item 1.2.1 (A):* Pursue outplanting or seeding of warm season fire-resistant grasses (e.g., side oats grama and Purple threeawn) and other suitable perennials in priority areas.

*Action Item 1.2.1 (B):* Continue prioritizing roads and ROW’s that can serve as firebreaks; establish research plots in priority areas.

**Strategy 1.2.2:** Maintain existing trails and roads to serve as strategic firebreaks. Require ROW holders to maintain ROWs/roads through stipulations.

*Action Item 1.2.2. (A):* Identify trails/roads where approved chemical methods can be applied.

*Action Item 1.2.2. (B):* BLM will work on effective ROW stipulations and ROW monitoring.

### **1.3** Improve the public’s understanding of fire impacts on the RCDR.

**Strategy 1.3.1:** Increase public education at trailheads, along roads, ROW areas, and any other area of community interface.

*Action Item 1.3.1. (A):* Install informational signs along priority corridors to convey current fire danger. Priority corridors include Cottonwood Road, Turkey Farm Road, SR-18, and Snow Canyon Drive.

*Action Item 1.3.1. (B):* Maintain and improve fire education information for trailheads and kiosks. Identify whether current fire education messaging is sufficient at trailheads.

*Action Item 1.3.1 (C):* Produce and distribute fire awareness publications relative to the RCDR.

**Strategy 1.3.2:** Maintain open communication and work cooperatively with other RCDR partners to effectively manage tortoises and fire management issues in the RCDR.

*Action Item 1.3.2. (A):* Add a fire awareness component into RCDR tortoise awareness training.

*Action Item 1.3.2 (B):* Review the fire information maps on an annual basis; update fire information and maps as needed and distribute to the appropriate agencies.

*Action Item 1.3.2 (C):* Work with local media outlets to provide pre-fire season public service announcements or other appropriate public information.

*Action Item 1.3.2 (D):* Coordinate with the USFS to implement fuel monitoring/reduction projects, and strategies to reduce fires spreading from USFS lands onto the RCDR.

### **1.4** Control nonnative and invasive plant species in areas other than roads, ROWs, or trails.

**Strategy 1.4.1:** Reduce the role of nonnative plants in the fire cycle.

*Action Item 1.4.1. (A):* Inventory and map nonnative/invasive plant species present in the RCDR. Examples of species to target include Russian thistle, silverleaf “Purple” nightshade, and Sahara mustard. Use inventory maps to determine priority treatment areas for tortoise, including USGS cheatgrass mapping and TNC’s Landscape Conservation Forecasting (LCF) mapping.

*Action Item 1.4.1. (B):* Develop and implement a plan for controlling nonnative/invasive species identified as fire hazards in the RCDR. Assess and use different control methods as appropriate.

*Action Item 1.4.1. (C):* Outplant or reseed control areas with native species that will out-compete nonnatives.

## **Goal 2: Restore burned habitat**

### **Objectives:**

#### **2.1 Restore vegetation within burned areas.**

**Strategy 2.1.1:** Assess and prioritize fire units for habitat restoration work.

*Action Item 2.1.1. (A):* Create a GIS/working map of the RCDR that includes land ownership/management boundaries, ROWs, restoration areas, recreation trails, roads, vegetation (including unburned islands), sensitive species, and soil types.

**Strategy 2.1.2:** Reestablish native plant species (especially ones that benefit tortoise).

*Action Item 2.1.2. (A):* Create restoration plots (i.e., islands of vegetation) within burned areas using native plant species.

*Action Item 2.1.2. (B):* Monitor restoration plots to determine the efficacy of outplanting or reseeded techniques and help refine methods.

*Action Item 2.1.2. (C):* Outplant or reseed priority restoration sites based on monitoring results, as determined by inventory maps created by USGS and TNC.

#### **2.2 Monitor human impacts in burned areas.**

**Strategy 2.2.1:** Continue monitoring recreation impacts in burned areas

*Action Item 2.2.1. (A):* Identify, repair and restore damaged trails, signs, fences, and other infrastructure.

*Action Item 2.2.1. (B):* Improve trail markings to prevent trail proliferation and off-trail use.

*Action Item 2.2.1. (C):* Increase or improve public education regarding fire impacts and/or restoration efforts at trailheads and along trails.

*Action Item 2.2.1. (D):* Stabilize soils in problem areas using gully plugs, straw mats, erosion fabrics, biocrusts, and/or native plant species.

*Action Item 2.2.1. (E):* Close trails as necessary to protect tortoises and habitat.

## Literature Cited

- Bureau of Land Management (BLM). 2004. Southern Utah Support Area Fire Management Plan. Environmental Assessment UT-040-04-054. Bureau of Land Management, Cedar City Field Office.
- BLM. 2007. Vegetation Treatments using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement.
- BLM. 2008. Programmatic Wildland Fire Emergency Stabilization and Rehabilitation Plan. Environmental Assessment UT-100-05-EA-06. Bureau of Land Management, St. George Field Office.
- BLM. 2016a. Red Cliffs National Conservation Area Record of Decision and Approved Resource Management Plan. Bureau of Land Management, St. George Field Office. December 2016.
- BLM. 2016b. Programmatic Environmental Analysis of Herbicide Applications to Control Noxious Weeds and Exotic Invasive Species on Certain Public Lands. Environmental Assessment DOI-BLM-UT-C030-2016-0005-EA. Bureau of Land Management, St. George Field Office.
- BLM. 2016c. 2016 Vegetation Treatments Using Aminopyralid, Fluroxypyr, and Rimsulfuron on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement.
- Five County Association of Governments (FCAG). 2007. Southwest Utah Regional Wildfire Protection Plan. Five County Association of Governments. In cooperation with the Color Country Interagency Fire Center, Cedar City, Utah.
- Washington County. 1995. Habitat Conservation Plan, Washington County, Utah. December 1995, amended 2009.