UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FINDING OF NO SIGNFICANT IMPACT

San Rafael Desert
Travel Management Plan

DOI-BLM-UT-G020-2018-0004-EA

August 2020

Price Field Office
125 South 600 West
Price, Utah 84501
435-636-3600

BLM

San Rafael Desert
Travel Management Plan

DOI-BLM-UT-G020-2018-0004-EA

FINDING OF NO SIGNFICANT IMPACT

I have reviewed the San Rafael Desert Travel Management Plan Environmental Assessment (EA) DOI-BLM-UT-G020-2018-0004-EA. After considering the environmental effects as described in the EA, and incorporated herein, I have determined that Alternative D, as identified in the EA and modified in the Decision Record (Modified Alternative D), will not significantly affect the quality of the human environment and that an Environmental Impact Statement is not required to be prepared.

I have determined that the proposed action, which is to designate a comprehensive off-highway vehicle (OHV) travel management plan (TMP) for the San Rafael Desert Travel Management Area (TMA), is in conformance with the approved 2008 Price Field Office Record of Decision and Approved Resource Management Plan (2008 RMP) and is consistent with applicable plans and policies of county, state, Tribal and Federal agencies. This finding is based on my consideration of the Council on Environmental Quality's (CEQ) criteria for significance (40 CFR 1508.27) regarding the context and the intensity of impacts described in the EA.

Context

The TMA that forms the basis of the San Rafael Desert TMP contains 377,609 acres of Bureau of Land Management (BLM)-managed lands, and an existing road inventory containing 1,180.8 miles of roads. The TMP will establish a travel network of roads available for use by OHV users and recreationists and provide a TMP Implementation Guide detailing the long-term operation, monitoring, and maintenance of that network. The TMP process was completed by a BLM interdisciplinary team and Cooperating Agencies. The route inventory, proposed alternatives, and draft EA were reviewed by the public and refined based on public input. After reviewing the final EA and the public comments, I have determined that this project does not have international, national, regional, or state-wide importance.

Intensity

1. Impacts that may be both beneficial and adverse.
    a. Ongoing OHV use within the TMA may cause adverse effects on the local environment including recreation user conflicts, degradation of wildlife and plant habitat, degradation of water quality, loss of wilderness characteristics on lands with wilderness character, and exposure to public safety hazards. While OHV use of routes would continue within the TMA, Alternatives B-D, to varying degrees, would reduce adverse effects and beneficially impact the local human environment by clearly designating routes and communicating the extent of the network to the public,

monitoring potential of new or worsening adverse effects, responding to emergent adverse effects through active management, and reclaiming closed routes.

2. The degree to which the proposed action affects public health or safety.
    a. Modified Alternative D is designed to minimize impacts to health and public safety by establishing comprehensive travel network designations, thereby reducing user conflicts and providing route maintenance and signing for safer conditions.
3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.
    a. Impacts to unique characteristics of the area including historic or cultural resources, wetlands, and ecologically critical areas were disclosed in the EA.
4. The degree to which the effects on the quality of the human environment are likely to be controversial.
    a. There is no controversy over the effects of designating an OHV TMP on the quality of the human environment. Some members of the public disagree as to what level of OHV use is appropriate on BLM-managed lands. Issues that the BLM considered in the EA were based on internal and external input, including scoping and comment periods on the EA. Effects of OHV use on designated routes are known and disclosed in the EA.
5. The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.
    a. The effects on the human environment are known and do not involve unique or unknown risks. Modified Alternative D designates as OHV-open, -limited, or -closed existing routes that were evaluated in detail by the BLM's interdisciplinary team and for which the public was given opportunity for input.
6. The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
    a. Modified Alternative D will not establish a precedent for future actions with significant effects, nor does it represent a decision in principle about a future consideration. Development of the TMP has followed BLM policy as discussed in the EA and the Decision Record. In addition, Modified Alternative D complies with the 2017 Settlement Agreement which resulted from *Southern Utah Wilderness Alliance, et al. v. U.S. Department of the Interior, et al.*, Case No. 2:12-cv-257 (D. Utah), in which BLM agreed, among other things, to issue a new TMP for the San Rafael Desert TMA.
7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.
    a. Modified Alternative D is not related to other actions with individually insignificant but cumulatively significant impacts. Furthermore, the incremental impact of Modified Alternative D when added to other past, present, and reasonably foreseeable future actions is minimal.
8. The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places (NRHP) or may cause loss or destruction of significant scientific, cultural, or historical resources.
    a. Consultation has been completed in accordance with the National Historic Preservation Act section 106 and the *Programmatic Agreement among the Advisory*

Council of Historic Preservation, the Bureau of Land Management – Utah, and the Utah State Historic Preservation Office Regarding National Historic Preservation Act Responsibilities for Travel and Transportation Management Undertakings (Travel PA, signed November 28, 2018). This undertaking will not cause loss or destruction of any historic properties or the characteristics that qualify them for inclusion in the National Register of Historic Places. The BLM determined, after conducting all applicable consultations, this undertaking could potentially cause a minimal and limited degree of adverse effect on three historic properties (out of 71), if not managed. A Historic Properties Treatment Plan has been developed for adversely affected sites. Off-route travel is prohibited, along with artifact collection and disturbance of archaeological sites.

9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the ESA of 1973.
    a. Consultation has been completed in accordance with the Endangered Species Act section 7. A Biological Opinion for Alternative D has been received, and recommendations from the Fish and Wildlife Service are incorporated into the Decision (Decision Record Attachment 3). The Biological Opinion for Alternative D found the following species are likely to be adversely affected: Mexican spotted owl (*Strix occidentalis lucida*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), Jones cycladenia (*Cycladenia humilis var. jonesii*), Navajo sedge (*Carex specuicola*), Ute ladies'-tresses (*Spiranthes diluvialis*), Wright fishhook cactus (*Sclerocactus wrightiae*), San Rafael cactus (*Pediocactus despainii*), and Barneby reed mustard (*Schoenocrambe barnebyi*). However, Alternative D would not likely jeopardize the continued existence of those species. Modified Alternative D will have fewer OHV-open routes than Alternative D and fewer effects to the species consulted on, therefore it is also not likely to jeopardize the continued existence of the species.
10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.
    a. Alternative D is in conformance with the 2008 Price RMP. Alternative D does not violate any Federal, State, or local laws or requirements imposed for the protection of the environment. The various applicable laws are enumerated in the EA and the Decision Record.

Signed:

Chris Conrad	CHRISTOPHER	[Date] Digitally signed by CHRISTOPHER CONRAD
Price Field Manager	CONRAD	Date: 2020.08.21 10:16:48 -06'00'

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

DECISION RECORD

San Rafael Desert
Travel Management Plan

DOI-BLM-UT-G020-2018-0004-EA

August 2020

Price Field Office
125 South 600 West
Price, Utah 84501
435-636-3600

BLM

San Rafael Desert
Travel Management Plan

DOI-BLM-UT-G020-2018-0004-EA

DECISION

After evaluating the four alternative off-highway vehicle (OHV) route networks analyzed in the San Rafael Desert Travel Management Plan (TMP) and Environmental Assessment (DOI-BLM-UT-G020-2018-0004-EA); considering comments from the general public, user groups, Tribes, and government agencies; examining the potential effects of network designations to a host of natural resources; and applying the designation criteria at 43 CFR 8342.1; it is my decision, as the line-officer, to select Alternative D, with the exception of some routes (see Attachment 2) that public input during the planning process helped identify as reclaiming or without connectivity or purpose, or as not sufficiently minimizing damage to sensitive cultural, riparian, and biologic resources and user conflicts (hereafter referred to as Modified Alternative D).

Tables 1 and 2 provide a summary of Modified Alternative D route designations, a map illustrating the designations is included as Attachment 1, and a list of routes modified from Alternative D, is shown in Attachment 2. The project website also contains an interactive map of this decision.

Table 1: Miles of Routes and Percentages by Designation for the Modified Alternative D
(1,180.8 total evaluated miles)

	Selected Alternative	
Designation	Miles	Percent of total evaluated route miles
OHV-Open	701.6	59%
OHV-Limited	65.2	6%
OHV-Closed	414.0	35%

Table 2: Numbers of Routes and Percentages by Major Designation and Percent of Total Evaluated Routes
(1,142 total evaluated routes)

	Selected Alternative	
Designation	Routes	Percent of total evaluated routes
OHV-Open	533	47%
OHV-Limited	47	4%
OHV-Closed	562	49%

This decision only includes route-specific OHV designations for the Modified Alternative D travel route network on BLM-managed lands in the San Rafael Desert TMA portion of the Price Field Office. BLM will implement, operate, and maintain the Modified Alternative D travel route network according to the Implementation Guide for the San Rafael Desert Travel Management Plan (TMP Implementation Guide) (available on this project's website at http://go.usa.gov/xQ2vH). This decision supersedes the route-specific designations assigned in

the 2003 San Rafael Route Designation Plan (2003 SRRDP)[1] and the 2008 Price Field Office Record of Decision and Approved Resource Management Plan (2008 RMP)[2] which incorporated the 2003 SRRDP plan by reference. This decision also makes clear that roadside camping in the TMA will be allowed within 30 meters on either side of the centerline of designated routes that are open to public use where there is evidence the site has been used in the past, unless otherwise indicated.

a) This decision does not alter any OHV area designation decisions made in the 2008 RMP. This decision does not authorize the construction of new routes. This decision only designates existing routes that were thoroughly inventoried and evaluated by BLM resource specialists prior to inclusion in a route network alternative and for which the public was given opportunity to provide detailed input. Any decisions authorizing the construction of new routes would be addressed in future implementation-level decisions and be subject to appropriate NEPA review.

This TMP decision is not intended to provide evidence, bearing on, or address the validity of any R.S. 2477 assertions. R.S. 2477 rights are determined through a process that is entirely independent of the BLM's planning process. Consequently, in developing this TMP, the BLM did not consider any R.S. 2477-related evidence. The BLM bases travel management planning on purpose and need related to resource uses and associated access to public lands and resources. At such time as a decision is made on R.S. 2477 assertions, outside of any planning process, the BLM will adjust its travel routes accordingly (BLM Manual 1626).

ALTERNATIVES CONSIDERED

In making this Decision, the BLM analyzed four alternatives in detail, which are described in the EA in Chapter 2 and summarized below:

- Alternative A represents no action/continuation of current conditions within the TMA. as described in the 2008 RMP and TMP. I did not select Alternative A because it would not conform with the 2017 Settlement Agreement[3] or address the ongoing compliance and implementation issues that have developed under the 2008 Price RMP travel plan.
- Alternative B proposes a route network designed to emphasize wildlife habitats, natural resources, ecosystems, and landscapes. It is designed to enhance wilderness characteristics by designating evaluated routes within Lands with Wilderness characteristics (LWC) as closed, and represents the alternative from the 2017 Settlement Agreement that would most enhance BLM-inventoried wilderness characteristics. Alternative B was not selected because I elected to provide more access for public land users.

[1] 2003. BLM. San Rafael Route Designation Plan Environmental Assessment, Finding of No Significant Impact and Decision Record. EA Number: BLM/UT-067-94-010. Price Field Office, Price, UT.
[2] 2008. BLM. Price Field Office Record of Decision and Approved Resource Management Plan. Price Field Office, Price, UT. https://eplanning.blm.gov/epl-front-office/projects/lup/67041/83197/99802/Price_Final_Plan.pdf
[3] *Southern Utah Wilderness Alliance, et al. v. U.S. Department of the Interior, et al*., Case No. 2:12-cv-257 (D. Utah) The 2017 Settlement Agreement can be accessed online at https://www.doi.gov/sites/doi.gov/files/agreements-settlements/document/suwa-ex-1-settlement-agreement-101718.pdf

- Alternative C proposes a route network designed to represent a variety of route designations which resolve resource and access needs in a blended manner while accommodating a wider variety of BLM programs and priorities. Alternative C was not selected because I elected to provide more access for public land users.
- Alternative D proposes a route network which emphasizes maximum mileage available for OHV recreation. Alternative D was modified because public input during the planning process helped identify several routes proposed as open in Alternative D as reclaiming or without connectivity or purpose, or that did not sufficiently minimize damage and impacts to sensitive cultural, riparian, and biologic resources.

In addition, seven other alternatives were considered but not in detail and are described in the EA at Section 2.8.

RATIONALE

This Decision responds to the purpose and need, as stated in the San Rafael Desert TMP EA, by clearly and comprehensively designating the existing, evaluated routes within the TMA as open, limited, or closed to OHV use and by adopting a TMP Implementation Guide, thus creating an OHV travel network that provides predictability and clarity for users, minimizes user conflicts and damage to natural and cultural resources, meets access needs, increases public safety, and addresses enforceability issues. Additionally, this decision complies with BLM's commitment in the 2017 Settlement Agreement to issue a new TMP for the San Rafael Desert TMA pursuant to applicable statutes, regulations, policies, and the terms identified in the 2017 Settlement Agreement.

Moreover, the development of this TMP and my selection of Modified Alternative D responds to the need of the BLM to comply with Presidential Executive Orders 11644 and 11989 and regulations at 43 CFR 8342.1 which direct BLM to base OHV designations on the protection of the resources of the public lands, the promotion of the safety of all the users of the public lands, and the minimization of conflicts among various uses of the public lands in accordance with the criteria at 43 CFR 8342.1(a)-(d).

The proposed route designations reflected in the networks presented in Alternatives B-D were influenced by both route-specific and overall travel network application of the minimization criteria outlined in 43 CFR 8342.1. The BLM policy states that the minimization of the damage, harassment, disruption, and conflict with various resources required by the designation criteria "means to limit the degree or magnitude of the action and its implementation (40 CFR 1508.20(b) – CEQ Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act)" (Section 4.1 of Manual MS-1626 – Travel and Transportation Management).

The first application of minimization criteria occurred during initial route-by-route evaluation sessions. During this process, the BLM considered how designating each route as OHV-open, OHV-limited, or OHV-closed would limit the degree or magnitude of impacts to the natural and human environment. An example is route SD 119, which was found to be in habitat for sensitive wildlife species when it was evaluated. This route was designated closed in Alternative D to

minimize effects to the habitat. The second application of minimization criteria occurred at the travel network level, as analyzed in the San Rafael Desert TMP EA. In the EA, the BLM considered how the amalgamation of the individual route designations (the travel networks proposed in the different alternatives) would interact with one another and impact the natural and human environment. The BLM also considered the application of minimization criteria multiple times throughout the travel planning process, resulting in updates to individual route evaluations and proposed designations. These updates resulted from to public, stakeholder, and cooperating agency input through initial route evaluation sessions, preliminary information releases, draft EA public comments, etc. (For example, route SD 1346b was designated OHV-limited to single track vehicles in Alternative D. However public input revealed that there are user conflicts on the route, and the designation was changed to OHV-closed in this Decision Record.)

Through the application of minimization criteria throughout the evaluation, planning, and NEPA analysis, the BLM has endeavored to limit the degree and magnitude of potential impacts associated with OHV use in the SRD TMA in all action alternatives. Furthermore, the FONSI explains that there are no significant impacts associated with any of the action alternatives. Therefore, the application of the minimization criteria and FONSI has led to my decision to adopt Modified Alternative D.

This Decision Record reflects my consideration of what degree or magnitude the different alternatives travel networks limit impacts to the natural and human environment and weighing that against other factors, in this case the need for appropriate OHV access to preferred recreation locations and for other recreational OHV uses. When compared to Alternative A, Alternatives B-D each represent a reduction in the degree or magnitude of the impacts of current OHV use in the TMA. My selection of Modified Alternative D balances the BLM's need to minimize resource damage and user conflicts while allowing for important and appropriate public access to and across BLM managed lands. A continuation of current conditions in the TMA though the selection of Alternative A would leave the BLM and public land users with an incomplete travel network that does not conform with the travel management goals identified in the 2008 RMP or meet the commitments made in the 2017 Settlement Agreement. Modified Alternative D, along with its clearly and comprehensively designated travel network and detailed TMP Implementation Guide, provides the BLM with the necessary tools to fully implement and enforce a travel network that protects resources and meets access needs.

Travel and transportation management by the BLM requires an interdisciplinary approach that addresses resources, resource uses, and associated access to public lands and waters. Travel and transportation management is a dynamic process. Travel decisions and route designations can be, and in fact must be, reassessed and updated over time to accurately meet the needs of resources and public land users. Route designations and decisions within the San Rafael Desert TMA can be added, modified, or removed as appropriate following appropriate NEPA documentation. The BLM will periodically consider the status of routes and potential routes, especially when new projects emerge or when monitoring or other data suggests that the BLM should manage routes and resources in a different manner. The BLM is committed to implementing this TMP in a manner consistent with the TMP Implementation Guide to the greatest extent possible. The BLM is also committed to ensuring that monitoring, information, and data concerning the travel network designated in this TMP remains comprehensive and up to date.

COMPLIANCE AND MONITORING

Closures
Where OHVs are causing or will cause considerable adverse effects upon soil, vegetation, wildlife, wildlife and fisheries habitat, cultural resources, historical resources, threatened or endangered species, wilderness suitability, other authorized uses, or other resources, the affected areas will be immediately closed to the type(s) of vehicle causing the adverse effect until the adverse effects are eliminated and measures are implemented to prevent their recurrence. (43 CFR 8341.2).

Use Monitoring for Designation Changes
Regulations addressing changes to route designation at 43 CFR 8342.3 require that the BLM monitor the effects of using off-road vehicles to determine if/when route designations may need to be revised. Use monitoring as a part of TMP implementation will occur to determine if resource and resource use objectives are being met, evaluate user satisfaction, and document use patterns and volumes, conditions of routes and public use areas, and effectiveness of enforcement. Monitoring details can be found in the TMP Implementation Guide, Section 4.

OHV Effects Monitoring During Planning and Long-Term Monitoring
In Paragraph 20.a of the 2017 Settlement Agreement, the BLM agreed to create a baseline monitoring report documenting visually apparent unauthorized surface disturbances off routes as well as visually apparent damage to public lands resources caused by motorized vehicle use within Wilderness Study Areas (WSA), Natural Areas, and/or lands with BLM-inventoried wilderness characteristics in the TMA. The BLM released this baseline monitoring report in June 2019.

In Paragraph 20.b of the 2017 Settlement Agreement, the BLM agreed to, during the development of this TMP, inspect all sites where the BLM's baseline monitoring report previously identified disturbance and damage at least one time per year, as well as any other areas where the BLM has received credible information for new disturbances or damage. The BLM conducted annual site inspections according to the 2017 Settlement Agreement.

In Paragraph 23 of the 2017 Settlement Agreement, the BLM agreed to develop a long-term monitoring plan for the TMA to be implemented after the TMP is issued. The BLM will monitor the implementation of the TMP pursuant to the Implementation Guide and applicable BLM policy.

Historic Property Treatment Plan
The BLM will implement the measures written, consulted on, and concurred with in the Historic Properties Treatment Plan for the San Rafael Desert TMP, as per the *Programmatic Agreement among the Advisory Council of Historic Preservation, the Bureau of Land Management – Utah, and the Utah State Historic Preservation Office Regarding National Historic Preservation Act Responsibilities for Travel and Transportation Management Undertakings*, (Travel PA, signed November 28, 2018), Section 106 of the National Historic Preservation Act (NHPA), and the

NHPA implementing regulations at 36 CFR Part 800, as discussed in EA, Section 4.3.1 and Appendix G.

Wildlife Conservation Measures
The conservation measures from the 2003 SRRDP and the 2008 Price RMP will apply to routes designated under this TMP. The Price RMP conservation measures were amended in the Biological Assessment to include TMP-specific measures for each ESA-listed species occurring within the TMA and referenced in the Biological Opinion. Details of these measures can be found in Appendix 9 of the TMP Implementation Guide. If occupancy of ESA-listed species is determined, the BLM will monitor all routes, including routes designated as closed within occupied habitat to ensure compliance with the designation in the TMP. If monitoring indicates that disturbance or use is occurring outside the designated OHV open routes, the BLM will implement appropriate corrective actions as identified in the Implementation Plan or developed in consultation with the U.S. Fish and Wildlife Service (USFWS).

AUTHORITIES AND POLICIES

In addition to the 2008 RMP, authorities and policies guiding this decision include, but are not limited to, the following:

- The 2017 Settlement Agreement. In the 2017 Settlement Agreement, the BLM agreed, among other things, to issue a new TMP for the San Rafael Desert TMA.
- Presidential Executive Orders 11644 and 11989, which require federal land management agencies to "establish policies and provide for procedures that will ensure that the use of off-road vehicles on public lands will be controlled and directed so as to protect the resources of those lands, to promote the safety of all users of those lands, and to minimize conflicts among the various uses of those lands" (Order 11644) and "whenever he [agency head] determines that the use of off-road vehicles will cause or is causing considerable adverse effects on the soil, vegetation, wildlife, wildlife habitat or cultural or historic resources of particular areas or trails of the public lands, immediately close such areas or trails to the type of off-road vehicle causing such effects…" (Order 11989)
- 43 CFR Part 8340: Off-Road Vehicles including 43 CFR 8342.1, Designation Criteria, Subparts 8340-8342.3, which states:
    - The authorized officer shall designate all public lands as either open, limited, or closed to off-road vehicles. All designations shall be based on the protection of the resources of the public lands, the promotion of the safety of all the users of the public lands, and the minimization of conflicts among various uses of the public lands; and in accordance with the following criteria:
        - (a) Areas and trails shall be located to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability.
        - (b) Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats. Special attention will be given to protect endangered or threatened species and their habitats.
        - (c) Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or

neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors.

    - (d) Areas and trails shall not be located in officially designated wilderness areas or primitive areas. Areas and trails shall be located in natural areas only if the authorized officer determines that off-road vehicle use in such locations will not adversely affect their natural, esthetic, scenic, or other values for which such areas are established.

- BLM's *Travel and Transportation Management Manual* MS-1626
- The BLM's 2001 *National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands*
- 43 CFR 8364.1: Closures and Restrictions
- BLM's 2008 *National Environmental Policy Act Handbook* (H-1790-1)
- BLM's 2012 *Travel and Transportation Handbook* (H-8342)
- Federal Land Policy and Management Act (FLPMA)
- 2019 John D. Dingell, Jr. Conservation, Management, and Recreation Act

PLAN CONFORMANCE AND CONSISTENCY

Modified Alternative D is in conformance with applicable management decisions reflected in the 2008 RMP, which provides overarching management requirements and guidance for this travel planning effort. Some 2008 RMP decisions and goals to which this project conforms are listed in Section 1.5 of the EA. Modified Alternative D complies with the transportation (TRV) decisions listed in that section because it ensures: access, appropriate reclamation, sign placement, connectivity maintenance, and minimized habitat fragmentation. Modified Alternative D supports public OHV access while reducing user conflicts and retaining healthy ecosystems. The evaluation criteria used to reach Modified Alternative D are tied to RMP decisions and goals and are documented in route reports (see EA Appendix N for route report details).

PUBLIC INVOLVEMENT

Public involvement and input occurred extensively throughout this TMP process in accord with the requirements of NEPA and the commitments made in the 2017 Settlement Agreement. Public scoping occurred from January 21 to February 21, 2015 to solicit input from the public on the issues, impacts, and potential alternatives that could be addressed in this EA. Public meetings were held at the John Wesley Powell Museum in Green River, Utah on January 21, 2015 and at the Emery County Courthouse in Castle Dale, Utah on January 22, 2015. Scoping comments were considered during the preparation of this EA. See the Scoping Report for a summary of the findings.

The preliminary route evaluations including the Scoping Report, preliminary alternatives maps, draft route reports, and the baseline monitoring report were made available to the public on June 25, 2019. GIS data and an interactive webmap were also made available to the public. Feedback

received from the public on the preliminary route evaluations was incorporated to the extent appropriate into route reports, and the alternatives and analysis of the draft EA.

The updated route reports and the draft EA were posted on the BLM website and made available for public review and comment from December 13, 2019, through January 13, 2020. GIS data and an interactive webmap were also made available to the public. Public open houses were held December 16, 17, and 18, 2019. The BLM received 185 public comment letters. All comments received were considered in detail by BLM, and summaries of the substantive comments and responses can be found in Appendix P of the Final EA. The Final EA and route reports were updated to address issues raised in the public comments.

CONSULTATION

National Historic Preservation Act (NHPA) Section 106

The BLM conducted NHPA consultation in accordance with the 2018 Travel PA. These consultation efforts included seeking input and agreement with Indian tribes and consulting parties regarding the BLM's Class I Inventory, cultural resource potential models, the Area of Potential Effect, the need to conduct additional cultural resource surveys, and the BLM's finding of effect. The BLM's consultation efforts are documented in Appendix G. Conformance To Section 106 Of The National Historic Preservation Act Through The Travel And Transportation Programmatic Agreement.

Endangered Species Act Section 7

The BLM has had ongoing coordination and communication with the U.S. Fish and Wildlife Service (USFWS) throughout the development of this TMP. On March 5, 2019, the BLM contacted the USFWS about Travel Management Planning in Utah and discussed the process for consultation. As part of this exchange, the USFWS requested to receive information as soon as possible. As a Cooperating Agency on the development of this TMP, the USFWS received the administrative draft of the EA on July 27, 2019. The BLM contacted the USFWS on November 14, 2019, to provide a progress update on the TMP.

On January 8, 2020, the BLM submitted a draft biological assessment and a request for informal consultation to the USFWS. On January 9, 2020, the USFWS advised the BLM that formal consultation pursuant to section 7 of the Endangered Species Act is necessary to ensure that the development of this TMP does not jeopardize listed species or destroy or adversely modify critical habitat. The BLM submitted a revised biological assessment for consultation on Alternative D on February 13, 2020 and received a Biological Opinion on May 14, 2020. USFWS determined that several species would not be adversely affected by Alternative D. However, the following species were likely to be adversely affected: Mexican spotted owl (*Strix occidentalis lucida*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), Jones cycladenia (*Cycladenia humilis* var. *jonesii*), Navajo sedge (*Carex specuicola*), Ute ladies'-tresses (*Spiranthes diluvialis*), Wright fishhook cactus (*Sclerocactus wrightiae*), San Rafael cactus (*Pediocactus despainii*), and Barneby reed mustard (*Schoenocrambe barnebyi*). Alternative D would not likely jeopardize the continued existence of those species. Modified

Alternative D will have fewer OHV-open routes than Alternative D and fewer effects to the species consulted on, therefore it is also not likely to jeopardize the continued existence of the species.

Signed:

Chris Conrad	CHRISTOPHER CONRAD	Digitally signed by CHRISTOPHER CONRAD Date: 2020.08.21 10:17:42 -06'00'
Price Field Manager		

APPEAL

This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR Part 4. If an appeal is taken, your notice of appeal must be filed in the authorizing office within 30 days from receipt of this decision. The appellant has the burden of showing that the decision appealed from is in error.

If you wish to file a petition pursuant to regulation 43 CFR 4.21 for a stay of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice or appeal. A petition for a stay is required to show sufficient justification based on the standards listed below.

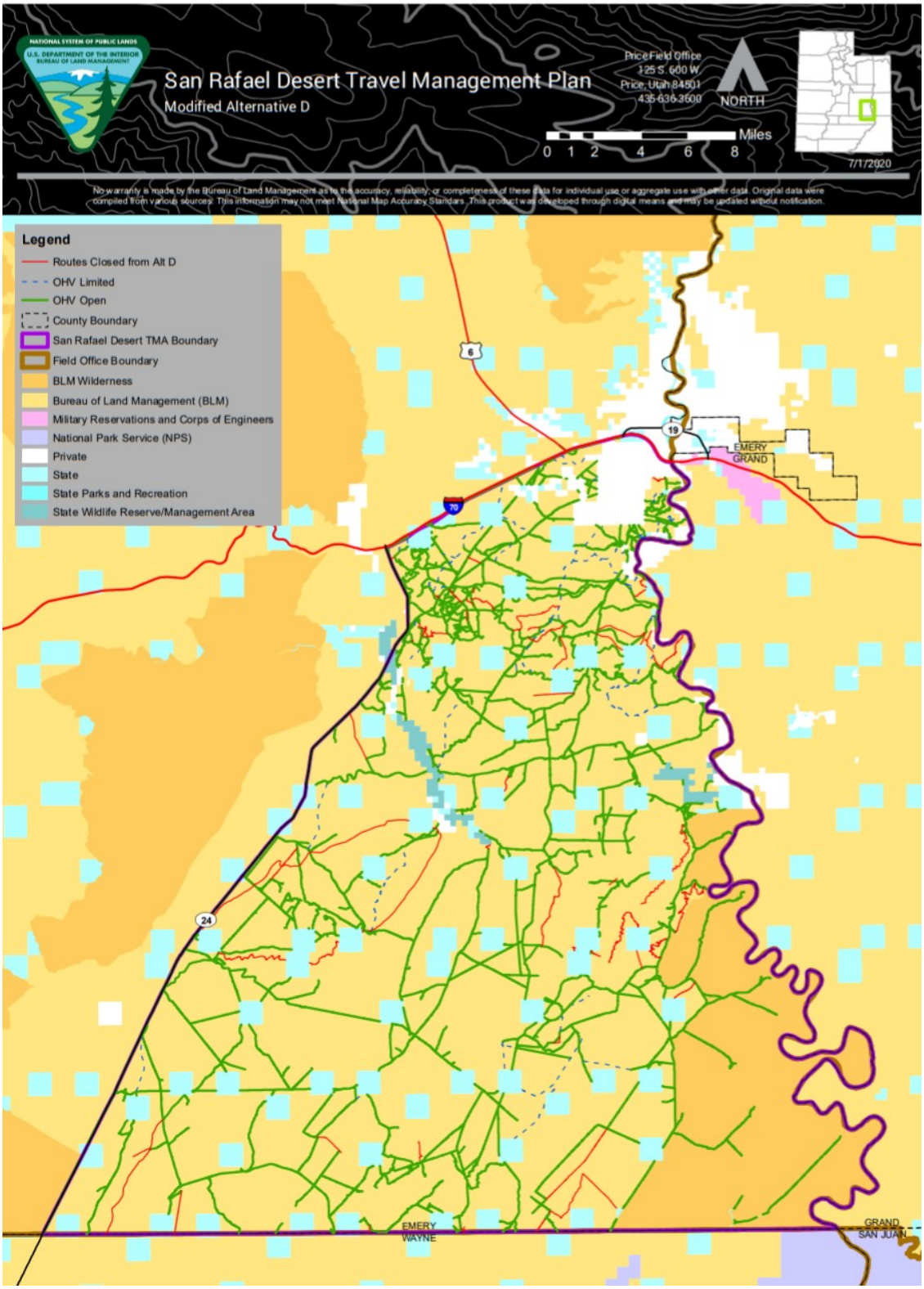
Copies of the notice of appeal and petition for a stay must also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (see CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

Standards for Obtaining a Stay
Except as otherwise provided by law or other pertinent regulation, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards:

(1) The relative harm to the parties if the stay is granted or denied
(2) The likelihood of the appellant's success on the merits
(3) The likelihood of immediate and irreparable harm if the stay is not granted, and
(4) Whether the public interest favors granting the stay

If you appeal this decision please provide this office with a copy of your Statement of Reasons.

ATTACHMENT 1. MODIFIED ALTERNATIVE D MAP



ATTACHMENT 2. ROUTES MODIFIED FROM ALT. D

Routes with Changes to Designation in Alternative D in the Decision Record

Route Number	Miles	Alternative D Proposed Route Designation in the EA	Route Designation in the Decision Record	Rationale for Changing the Proposed Route Designation
SD024	0.8	OHV Limited to Single Track	OHV Closed	Route does not exist on the ground.
SD026a SD026b	0.6 1.9	OHV Open	OHV Open OHV Closed	SD026 was split into two separate routes. SD026b ends at the PFO boundary and it is not currently open in the Richfield Field Office side, so it will be closed in the DR. SD026a is receiving use and will remain open in Modified Alternative D.
SD045	0.3	OHV Open	OHV Closed	Upon re-evaluation following public input, BLM confirmed route is reclaiming.
SD055	1.3	OHV Limited to Single Track	OHV Closed	Upon re-evaluation following public input, BLM confirmed route is reclaiming.
SD068	5.7	OHV Limited to Single Track	OHV Closed	SD068 ends at the PFO boundary and it is not open on Richfield Field Office's side. It is also not visible on the ground or in aerial imagery. It was a historic motorcycle trail for SRP races between 1986-1987.
SD1010	1.9	OHV Open	OHV Closed	Route is redundant and reclaiming.
SD1013	3.1	OHV Limited to 64 inch or Less	OHV Closed	Route is reclaiming.
SD1015	0.6	OHV Open	OHV Closed	Route is reclaiming.
SD1023	1.8	OHV Limited to 64 inch or Less	OHV Closed	Upon re-evaluation following public input, BLM confirmed route is reclaiming.
SD1028	4.1	OHV Limited to Single Track	OHV Closed	Route is redundant with another route.
SD1032	1.0	OHV Open	OHV Closed	Route is reclaiming.

Route Number	Miles	Alternative D Proposed Route Designation in the EA	Route Designation in the Decision Record	Rationale for Changing the Proposed Route Designation
SD1033	0.9	OHV Open	OHV Closed	Route is reclaiming.
SD1034	2.0	OHV Open	OHV Closed	Route is reclaiming.
SD1070	0.5	OHV Open	OHV Closed	Route is reclaiming.
SD1071	0.7	OHV Open	OHV Closed	Route is reclaiming.
SD1076	0.2	OHV Open	OHV Closed	Route is reclaiming.
SD1082	0.8	OHV Open	OHV Closed	Route is reclaiming.
SD1103	0.1	OHV Open	OHV Closed	Route is reclaiming.
SD1106a SD1106b	0.4 0.2	OHV Limited to 64 inch or Less	1106a-Limited to Vehicles 64” or Less 1106b-OHV Closed	Route was split into two pieces. 1106b is reclaiming but 1106a is not.
SD1108	0.2	OHV Open	OHV Closed	Route is reclaiming.
SD1109	0.1	OHV Open	OHV Closed	Route is reclaiming.
SD1110	0.5	OHV Open	OHV Closed	Route is reclaiming.
SD1111	0.2	OHV Limited to 64 inch or Less	OHV Closed	Route is reclaiming.
SD1112	0.1	OHV Open	OHV Closed	Route is reclaiming.
SD1115	0.2	OHV Limited to 64 inch or Less	OHV Closed	Route is reclaiming.
SD1116	1.2	OHV Open	OHV Closed	Route is reclaiming.
SD1117	0.1	OHV Open	OHV Closed	Route is reclaiming
SD1130	0.4	OHV Limited to Single Track	OHV Closed	Lack of route connectivity, route is reclaiming.
SD1170	0.4	OHV Open	OHV Closed	Route is reclaiming.
SD1187	0.3	OHV Open	OHV Closed	Route is reclaiming.
SD1210	0.3	OHV Open	OHV Closed	Route is reclaiming.
SD1248	0.6	OHV Open	OHV Closed	Route is reclaiming.
SD1301	1.3	OHV Open	OHV Closed	Route is reclaiming.
SD1334	0.7	OHV Limited to 64 inch or Less	OHV Closed	Route is reclaiming.

Route Number	Miles	Alternative D Proposed Route Designation in the EA	Route Designation in the Decision Record	Rationale for Changing the Proposed Route Designation
SD1346a	4.6	OHV Limited to Single Track	OHV Closed	Lack of route connectivity, user conflicts.
SD1346b	3.1	OHV Limited to Single Track	OHV Closed	User conflicts.
SD1348a	4.9	OHV Limited to Single Track	OHV Closed	User conflicts.
SD174	0.9	OHV Open	OHV Closed	Lack of route connectivity.
SD222	0.5	OHV Open	OHV Closed	Route is reclaiming.
SD321	0.2	OHV Open	OHV Closed	Route is reclaiming, redundant with another route.
SD322	0.2	OHV Open	OHV Closed	Lack of route connectivity, route is reclaiming.
SD336a SD336b	0.5 0.6	OHV Open	OHV Open OHV Closed	SD336 was split into two separate routes. SD336b ends at the PFO boundary and it is not currently open on Richfield Field Office's side, so it will be closed in the DR. SD336a accesses a range fence and will remain open in Modified Alternative D.
SD344	5.0	OHV Limited to Single Track	OHV Closed	Sensitive resources.
SD350	4.0	OHV Open	OHV Closed	Route is redundant to another route.
SD420	0.6	OHV Limited to Single Track	OHV Closed	User conflict.
SD548	0.8	OHV Limited to Single Track	OHV Closed	Route has reclaimed.
SD648	1.1	OHV Limited to Single Track	OHV Closed	Route is reclaiming.
SD678	5.0	OHV Open	OHV Closed	User conflict, sensitive resources.
SD714	0.4	OHV Open	OHV Closed	Route is reclaiming.
SD734	0.3	OHV Open	OHV Closed	Route is reclaiming.
SD735	1.9	OHV Open	OHV Closed	Route is reclaiming.
SD764a SD764b	0.1 0.4	OHV Open	OHV Open OHV Closed	The southern portion of the route (SD764b) is reclaiming and that portion will be closed. The northern portion

Route Number	Miles	Alternative D Proposed Route Designation in the EA	Route Designation in the Decision Record	Rationale for Changing the Proposed Route Designation
				(SD764a) is not reclaiming and accesses state land. It will remain open.
SD767	0.7	OHV Open	OHV Closed	Route is reclaiming.
SD827	1.7	OHV Open	OHV Closed	Route is reclaiming.
SD922	1.8	OHV Open	OHV Closed	Route is reclaiming.
SD941	10.3	OHV Limited to Single Track	OHV Closed	Route cannot be found on the ground.
SD942	6.4	OHV Limited to Single Track	OHV Closed	Route is reclaiming.
SD948a SD948b	0.7 2.1	OHV Open	OHV Open OHV Closed	SD948 was split into two separate routes. SD948b is visible in aerial imagery, but it is not visible on the ground and will be closed in Modified Alternative D. SD948a accesses a fence and SITLA land, and will remain open in Modified Alternative D.
SD083	6.2	OHV Open	OHV Closed	Sensitive resources (including riparian) in the wash.
SD737a SD737b	0.6 2.1	OHV Open	OHV Open OHV Closed	SD737 was split into two separate routes. SD737b is reclaiming and will be closed in Modified Alternative D. SD737a is not reclaiming, receives use, and will remain open in Modified Alternative D.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
2369 West Orton Circle Suite 50
West Valley City, Utah 84119

In Reply Refer to:
FWS/R6
ES/UT
06E23000-2020-F-0559

May 14, 2020

Memorandum

To: Field Manager, Price Field Office, Bureau of Land Management, Price, Utah

From: Acting Utah Field Supervisor, Ecological Services, U.S. Fish and Wildlife Service, West Valley City, Utah

LAURA ROMIN Digitally signed by LAURA ROMIN Date: 2020.05.14 13:55:57 -06'00'

Subject: Final Biological Opinion for the San Rafael Desert Travel Management Plan

In accordance with section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 et seq.), and the Interagency Cooperation Regulations (50 CFR 402), this transmits our final biological opinion (BO) for consultation on the proposed San Rafael Desert Travel Management Plan (TMP or Project). Our BO is based on information provided in your February 12, 2020, biological assessment (BA) and the final revised version dated May 7, 2020, correspondence between our offices, and other sources of information.

You determined that the Project may affect, but is not likely to adversely affect the Colorado pikeminnow (*Ptychocheilus lucius*), razorback sucker (*Xyrauchen texanus*), bonytail chub (*Gila elegans*), humpback chub (*Gila cypha*) (collectively referred to as Colorado River fishes), and the species' respective critical habitat. You also determined that the Project may affect, but is not likely to adversely affect the southwestern willow flycatcher (*Empidonax traillii extimus*).

We concur with your not likely to adversely affect determinations for the Colorado River fishes. Colorado River fishes occupy the San Rafael River seasonally and in low abundance. The Project contains one route along the San Rafael River that crosses these fish species' occupied habitat and therefore the potential for impacts to these fish species by motorized vehicles is low and discountable. Additionally, the habitat at the stream crossing is not conducive for the fish to remain at the crossing and we expect the fish would only transit through the crossing to reach more suitable habitat. We also concur with your not likely to adversely affect determination for the Colorado River fishes' critical habitat due to the low mileage of designated routes (fewer than 2 miles) within the designated 100-year floodplain and the fact that those routes currently exist on the landscape. Finally, we concur with your not likely to adversely affect determination for the Southwestern willow flycatcher as the action area is north of the expected breeding range of the species (U.S. Fish and Wildlife Service [USFWS] 2002 Figure 3, Paxton et al. 2008 Figure

4). The Project also occurs outside of designated critical habitat for the flycatcher, as well as recovery and management areas for the species (USFWS 2002). No further analysis for any of these aforementioned species is provided in this BO.

We acknowledge your no effect determinations for the following species' designated critical habitat: southwestern willow flycatcher, Mexican spotted owl, western yellow-billed cuckoo, and Navajo sedge. Neither proposed nor designated critical habitat occurs within the project area for these species.

Our BO evaluates the impacts to the Mexican spotted owl (*Strix occidentalis lucida*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis)*, Jones cycladenia (*Cycladenia humilis var. jonesii*), Navajo sedge (*Carex specuicola*), Ute ladies'-tresses (*Spiranthes diluvialis*), Wright fishhook cactus (*Sclerocactus wrightiae*), San Rafael cactus (*Pediocactus despainii*), and Barneby reed mustard (*Schoenocrambe barnebyi*) from the Project.

Consultation History

This section summarizes significant steps in the consultation process:

January 8, 2020: We received a draft BA from your office.

January 9, 2020: We spoke with your office on the phone about the draft BA and the proposed effect determinations.

February 5, 2020: We received a revised draft BA from your office.

February 12, 2020: We provided comments to your office on the draft BA.

February 12, 2020: We received the final BA from your office and the request to initiate formal consultation.

April 15, 2020: We emailed your office requesting the inclusion of two additional plants in the BA.

April 16, 2020: We received a revised BA from your office containing the requested changes.

April 29, 2020: We spoke with your office on the phone about changes to effect determinations and conservation measures to be included in the BA.

May 5, 2020: We received a revised BA from your office containing the requested changes.

May 6, 2020: We spoke with your office on the phone about conservation measures to be included in the BA.

May 7, 2020: We received a revised final BA from your office containing the requested changes.

BIOLOGICAL OPINION

1. DESCRIPTION OF THE PROPOSED ACTION

The Bureau of Land Management (BLM) Price Field Office (PFO) is proposing to designate an off-highway vehicle (OHV) travel route network on an estimated 377,609 acres of BLM lands (439,735 acres including all land ownerships; Figures 1 and 2) within the San Rafael Desert Travel Management Area (TMA). According to the BLM travel management manual, in the context of BLM planning, an OHV is "any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain …" (BLM 2016). Though the term "OHV" is associated with off-road vehicles, in BLM planning, OHVs include full-size cars and trucks as well as all-terrain vehicles (ATVs), motorcycles, etc. A travel route network is a network of routes occurring on public lands—or within easements granted to the BLM—that are recognized, designated, decided upon, or otherwise authorized for use.

The designated network will be implemented, operated, and maintained according to the network's route designations and the *San Rafael Desert TMP Implementation Guide* (BLM 2019). The chosen travel network route designations for this Project will replace the route designations assigned in the TMA by the 2003 *San Rafael Route Designation Plan* and the 2008 *Price Field Office Record of Decision and Approved Resource Management Plan* (Price RMP), which incorporated the 2003 plan by reference. The 2008 Price RMP route designations represented the routes available for general public motorized vehicle (OHV) uses and included 308.6 miles (mi) of routes designated as open and 40.9 mi of routes designated as closed. The BLM has since inventoried 1,183 mi of routes existing within the TMA which includes 833.5 mi of unofficial (i.e. undesignated) routes.

The proposed travel route network would designate approximately 668.1 mi of routes as OHV open (open year-round to all motorized vehicle travel), 222.7 mi as OHV limited (public motorized vehicle use limited to specified vehicle type, width, etc.), and 311.9 mi of routes as OHV closed (route not available for public motorized vehicle use). Additional routes would not be constructed under this travel management plan. The TMP also includes maintenance activities associated with the upkeep of routes in accordance with their designations. Thus, the proposed action is limited to the designation and maintenance of routes already existing on the landscape and their use by OHVs. This BO analyzes the effects of the existence and continued OHV use of the proposed travel route network on ESA-listed species, and includes analysis of activities that are reasonably certain to occur as a result of the proposed action. Any subsequent route designation(s) will be completed in compliance with NEPA and other legal requirements, including the ESA. Additional future section 7 consultation may be required for site-specific actions that may impact listed species or their critical habitats.

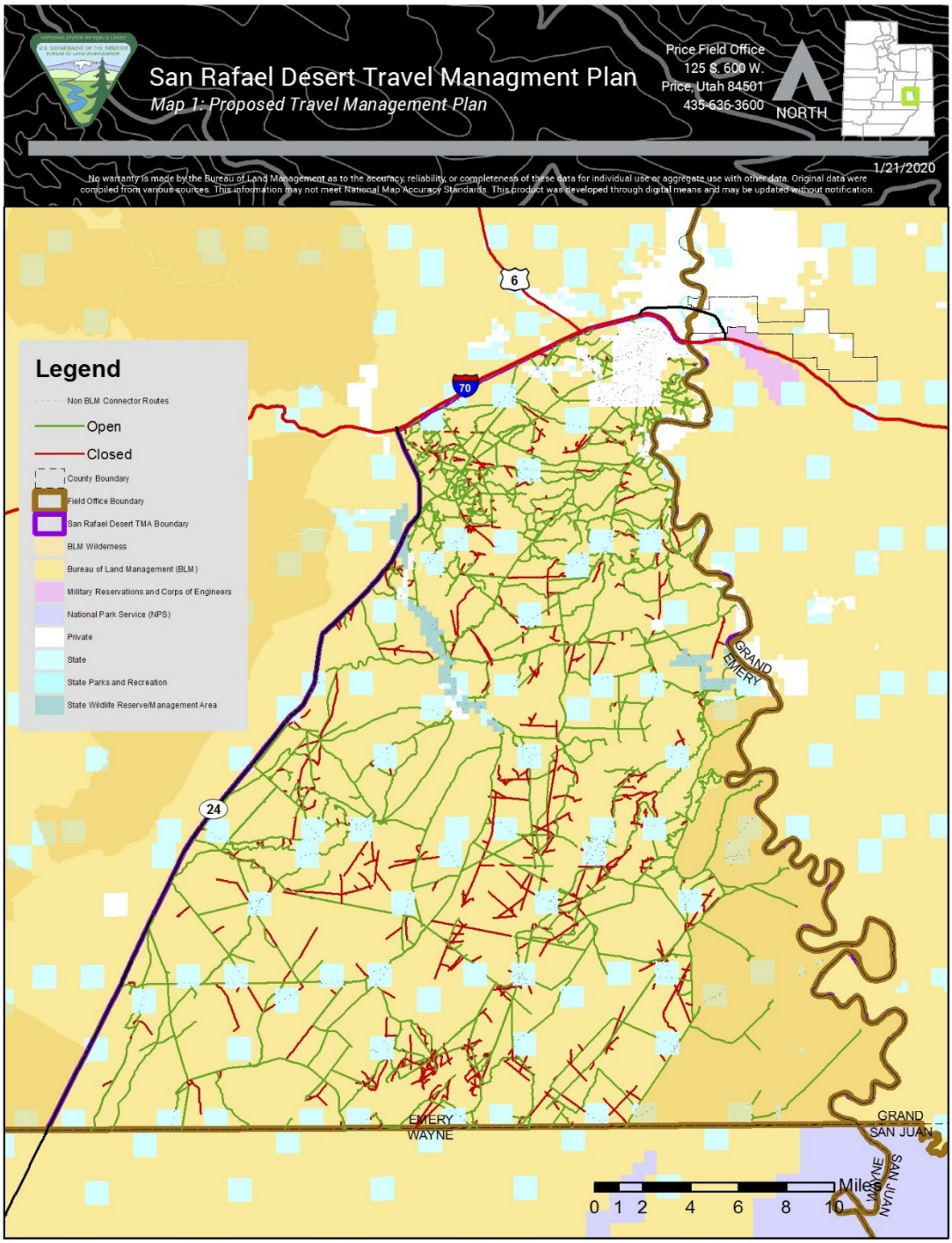


Figure 1. The proposed travel management plan for the San Rafael Desert. Figure provided by Bureau of Land Management Price Field Office (Biological Assessment).

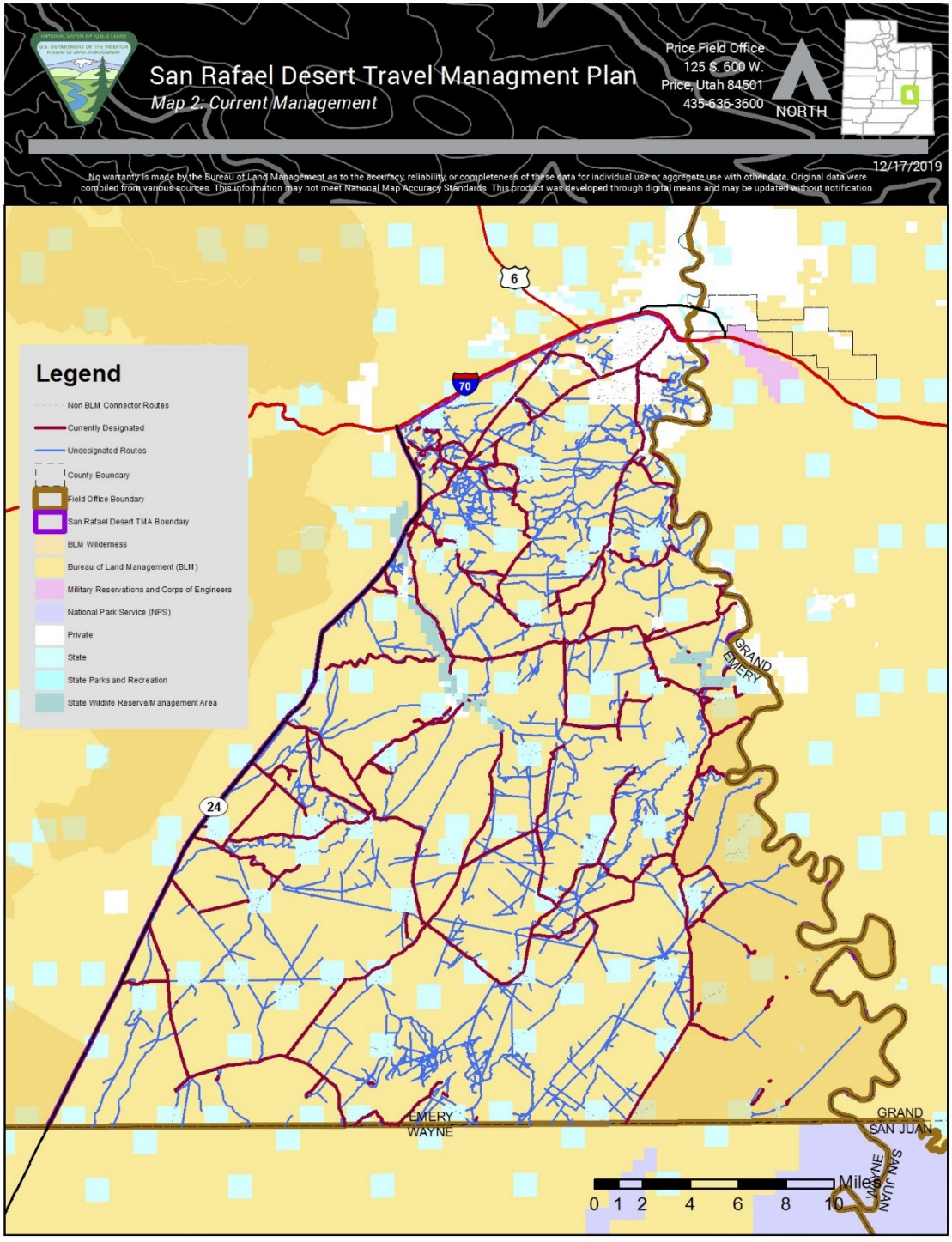


Figure 2. The status of travel routes within the San Rafael Desert as they currently exist. Figure provided by the Bureau of Land Management Price Field Office (Biological Assessment).

1.1 Action Area

We define the action area as the BLM identified it in the BA. The action area occurs in southeastern Emery County, Utah, and is bounded by I-70 to the north, Utah State Route 24 to the west, the Wayne County border to the south, and the Green River (also the Grand County border) to the east (Figure 1).

1.2 Committed Conservation Measures

The applicant committed conservation measures from the 2003 *San Rafael Route Designation Plan* and the *Price RMP* still apply to routes designated under this Travel Management Plan. The *Price RMP* conservation measures were amended in the BA to include TMP specific measures for each ESA-listed species occurring within the TMA (Appendix E. Relevant Conservation Measures). If occupancy of ESA-listed species is determined, BLM will monitor all routes, including routes designated as closed, within occupied habitat to ensure compliance with the designation in the TMP. If monitoring indicates that disturbance or use is occurring outside the designated OHV open routes, BLM will implement appropriate corrective actions as identified in the Implementation Plan or developed in consultation with our office.

2. SPECIES ACCOUNTS, EFFECTS, AND CONCLUSIONS

The following section includes species-specific accounts that describe the status and distribution of each species, the environmental baseline, and effects of the proposed action, as well as our conclusions (determinations) based on the analytical framework described above. We have grouped the species into two groups (terrestrial animals and plants) to maintain consistency with the BA and to reduce redundancy.

2.1 Terrestrial Animals

The ESA-listed terrestrial animals evaluated in this biological opinion include Mexican spotted owl and Western yellow-billed cuckoo.

Status of the Species and Critical Habitat

Mexican Spotted Owl

Species and Critical Habitat Description

A detailed account of the taxonomy, biology, and reproductive characteristics of the Mexican spotted owl (hereafter, referred to as Mexican spotted owl, spotted owl, and owl) is found in the final rule listing the owl as a threatened species (58 FR 14248, March 16, 1993), the original Recovery Plan (USFWS 1995), and in the revised Recovery Plan (USFWS 2012). The information provided in those documents is included herein by reference.

The Mexican spotted owl is one of three subspecies of spotted owl recognized by the American Ornithologists' Union (AOU 1957). The other two subspecies are the northern (*S. o. caurina*) and the California spotted owl (*S. o. occidentalis*). The Mexican spotted owl occurs in forested

mountains and canyon lands in Utah, Colorado, Arizona, New Mexico, and the western portions of Texas south into several States of Mexico.

Life History and Population Dynamics

Mexican spotted owls breed sporadically and do not nest every year (Ganey 1988). Courtship begins in March and eggs are laid in late March or, more typically, early April. Incubation begins shortly after the first egg is laid, and is performed entirely by the female. Female spotted owls generally incubate for approximately 30 days. The eggs usually hatch in early May (Ganey 1988). Females brood their young almost constantly, leaving their nests for only brief periods during the night (Forsman et al. 1984, Delaney et al. 1999).

Spotted owls have one of the lowest clutch sizes among North American owls (Johnsgard 1988); females lay one to three eggs, two being the most common. Nestling owls fledge from four to five weeks after hatching, from early to mid-June in most cases (Ganey 1988). Three weeks after leaving the nest owlets can feed on their own (Forsman et al. 1984).

Spotted owls are "perch and pounce" predators (Forsman et al. 1976). Their prey items include: woodrats, mice, voles, rabbits, gophers, bats, birds, reptiles, and arthropods. Spotted owls dwelling in canyons of the Colorado Plateau take more woodrats and fewer birds than do spotted owls from other areas (Ward and Block 1995, Willey and Willey 2010).

The Mexican spotted owl's life history is characterized by high and reasonably constant adult survival rates, low juvenile survival rates, and relatively low and highly variable reproductive rates (USFWS 2012). These life history characteristics allow owls to reproduce when conditions are favorable and to survive unfavorable periods with little or no reproduction, a strategy that has been coined "bet-hedging" (e.g., Boyce 1986, Franklin et al. 2000). In the rocky-canyon habitats in southern Utah, mesic sites (e.g., Cedar Breaks and Zion) exhibit higher occupancy and recolonization rates and lower extirpation rates than xeric sites (e.g., Grand Staircase - Escalante or Capitol Reef), suggesting mesic sites are more stable (i.e. constant occupancy) than xeric sites (Willey and Willey 2010, Hockenbary 2011). Mesic habitats may have more favorable microclimates and habitat structure, roost and nest sites, and diverse habitats for the owl's prey.

Status and Distribution

In 1993, we listed Mexican spotted owls as threatened under the ESA (58 FR 14248, March 16, 1993). We developed the first recovery plan in 1995, and revised it in 2012 (USFWS 1995, USFWS 2012).

The 2012 Mexican Spotted Owl Recovery Plan identifies five Ecological Management Units (EMUs) in the United States, based on: physiographic provinces, biotic regimes, perceived threats to habitat or individual birds, administrative boundaries, and owl distribution (USFWS 2012). These EMUs are: Colorado Plateau, Southern Rocky Mountains, Upper Gila Mountains, Basin and Range-West, and Basin and Range-East. In the U.S., the majority of owls are found on National Forest System lands; however, in some areas of the Colorado Plateau EMU, owls are found only in rocky-canyon habitats, which primarily occur on National Park Service (NPS) and BLM administered lands (USFWS 2012).

Mexican spotted owl population estimates included 758 owl sites from 1990 to 1993, and 1,222 owl sites from 1990 to 2004 in the United States. The revised Recovery Plan (USFWS 2012) identifies 1,324 known owl sites in the United States. An owl site is an area used by a single or a pair of adult or subadult owls for nesting, roosting, or foraging. The increase in number of known owl sites is mainly a product of new owl surveys being completed within previously unsurveyed areas. Thus, an increase in abundance in the species range-wide cannot be inferred from these data.

The primary threats to the Mexican spotted owl at the time of listing in 1993 were identified as even-aged timber harvest and catastrophic wildfire (58 FR 14248, March 16, 1993). Grazing, recreation, and other land uses were also mentioned as possible factors influencing the Mexican spotted owl population. Since publication of the original Recovery Plan, we acquired new information on the biology, threats, and habitat needs of the species. The primary threat to the species is now large, severe wildfires (USFWS 2012). Historical and current anthropogenic uses of Mexican spotted owl habitat include domestic and wild ungulate grazing, recreation, fuels reduction treatments, resource extraction (e.g., timber, oil, gas), and development (USFWS 2012). These activities have the potential to reduce the quality of owl nesting, roosting, and foraging habitat, and may cause disturbance during the breeding season (USFWS 2012).

Overall, the status of the owl and its designated critical habitat has not changed significantly range-wide in the U.S. since the time of listing (which includes Utah, Colorado, Arizona, New Mexico, and extreme southwestern Texas). The distribution of owls continues to cover the same general area, and critical habitat continues to provide for the life history needs of the Mexican spotted owl throughout all of the EMUs located in the United States.

Critical Habitat Description

In 2004, we designated approximately 8.6 million acres of critical habitat across 52 units for the Mexican spotted owl on Federal lands in Arizona, Colorado, New Mexico, and Utah. The final critical habitat rule (69 FR 53181, August 31, 2004) identified the physical and biological features (PBF) of critical habitat for forested habitats, canyon habitats, and prey species. The features for forested habitats include a range of tree species, a shade canopy, and large dead trees. The features related to canyon habitat include:

- Presence of water (often providing cooler and often higher humidity than the surrounding areas)
- Clumps or stringers of mixed-conifer, pine-oak, piñon-juniper, and or riparian vegetation
- Canyon walls containing crevices, ledges, or caves
- High percent of ground litter and woody debris

Western Yellow-Billed Cuckoo

Species Description

The western distinct population segment (DPS) of the yellow-billed cuckoo was listed as threatened on October 3, 2014 (79 FR 59992). The cuckoo is a medium-sized bird (12 inches)

and a member of the avian family Cuculidae. Morphologically, western yellow-billed cuckoos throughout the western continental United States and Mexico are generally larger than those which make up the eastern population segment, with significantly longer wings, longer tails, and longer and deeper bills (Franzreb and Laymon 1993).

There is no recovery plan for the western yellow-billed cuckoo. Additional details on the status of this species may be found in our final rule to list the species as threatened (79 FR 59992, October 3, 2014). The discussions of the status of this species in these documents are incorporated herein by reference, and summarized below.

Life History and Population Dynamics

The cuckoo is a neotropical migrant that arrives in North America in mid-May through early-July (most arriving in June) with a primary breeding season between late June and July (Halterman 2002). In southeastern Arizona (and possibly in other parts of the southwest), nesting may regularly continue into September, with some birds occasionally noted feeding older fledglings into early October (Corman and Magill 2000, Halterman 2002). Eggs take 9 to 11 days to hatch, and the birds fledge within 5 to 8 days. Fledglings continue to be dependent on adults for approximately 14 to 32 days (Halterman 2002). Western yellow-billed cuckoos typically have one brood a year, but can have up to three broods in one year (78 FR 61622, October 3, 2013).

Status and Distribution

Based on historical accounts, the western yellow-billed cuckoo was formerly widespread and locally common in California and Arizona, more narrowly distributed but locally common in New Mexico, Oregon, and Washington, and uncommon along the western front of the Rocky Mountains north to British Columbia (AOU 1998, Hughes 1999). The species may be extirpated from British Colombia, Washington, and Oregon (Hughes 1999). The western yellow-billed cuckoo is now very rare, occurring primarily in scattered drainages in western Colorado, Idaho, Nevada, and Utah.

At the time of listing in 2014, the largest remaining breeding areas in the U.S. were in southern and central California, Arizona, and New Mexico (79 FR 59991, October 3, 2014). The largest remaining breeding areas are in southern and central California, Arizona, along the Rio Grande in New Mexico, and in northwestern Mexico (USFWS 2014b). At the time of listing, estimates of the breeding population in the U.S. ranged from 350 to 495 pairs (78 FR 61622, October 3, 2013). We do not have more current population numbers.

The primary threat to the western yellow-billed cuckoo is loss or fragmentation of high-quality riparian habitat suitable for nesting (Corman and Wise-Gervais 2005). Actions such as dam building, groundwater pumping, stream channelization and stabilization, diversion of surface and ground water for agricultural and municipal purposes, livestock grazing, wildfire, drought, and establishment of nonnative vegetation have changed surface and subsurface stream flows and altered the quality, distribution, abundance, and longevity of riparian vegetation (USFWS 2002). Pesticide use and resulting prey scarcity (especially the loss of sphinx moth caterpillars in the West) also have played a role in the decline of cuckoos in the DPS (Ehrlich et al. 1992). Other

threats to riparian habitat include long-term drought and climate change (78 FR 61622, October 3, 2013).

Critical Habitat Description

In 2020, we proposed approximately 493,665 acres of critical habitat across 72 units for the western yellow-billed cuckoo on Federal (168,095 acres), State (48,615 acres), and Tribal (68,414 acres) lands in California, Arizona, Colorado, New Mexico, Idaho, Texas, and Utah. The proposed critical habitat rule (85 FR 11458, February 27, 2020) identified the PBF of critical habitat to include:

- Riparian woodlands; mesquite woodlands (mesquite-thorn-forest), and Madrean evergreen woodland drainages:
    - This physical or biological feature includes breeding habitat found throughout the DPS range as well as additional breeding habitat characteristics unique to the Southwest.
- Adequate prey base:
    - Presence of prey base consisting of large insect fauna (for example, cicadas, caterpillars, katydids, grasshoppers, large beetles, dragonflies, moth larvae, spiders), lizards, and frogs for adults and young in breeding areas during the nesting season and in post breeding dispersal areas.
- Hydrologic processes, in natural or altered systems, that provide for maintaining and regenerating breeding habitat:
    - This physical or biological feature includes hydrologic processes found in rangewide breeding habitat as well as additional hydrologic processes unique to the Southwest in southwestern breeding habitat.

Environmental Baseline

Mexican Spotted Owl

Status of the Species within the Action Area

We presently lack population information for Mexican spotted owls within the action area (Truman, pers. comm., 2020). The nearest recorded nest site is approximately 1.4 mi. to the east of the TMA.

The action area occurs within the Utah portion of the Colorado Plateau EMU. Approximately 15 percent of all known owl sites recorded since 1989 occur in the Colorado Plateau EMU (USFWS 2012). Of the 206 owl sites documented in this EMU, most have been located on NPS administered lands (64 percent), followed by BLM administered lands (22 percent), and then Forest Service (FS) administered lands (13.5 percent; USFWS 2012 Appendix B, Table B.1). These numbers are best interpreted as minimum cumulative numbers of locations where at least one owl was recorded during at least one breeding season since 1989. We do not have information on how many of these sites are currently occupied. Incidental take has not previously been issued within the action area.

Steep-walled rocky canyon lands provide typical owl habitat in the Colorado Plateau EMU. Canyon habitat is used by owls for nesting, roosting, and foraging and includes landscapes dominated by vertical walled rocky cliffs within complex watersheds, including many tributary side canyons (USFWS 2012). Rock walls must include caves, ledges, and fracture zones that provide protection for nesting and roosting sites. Breeding sites are located below canyon rims; however, it is known that owls use areas outside of canyons (i.e., rims and mesa tops). Owls nest and roost primarily on cliff faces using protected caves and ledges, and forage in canyon bottoms, on cliff faces and benches, and along canyon rims and adjacent lands. These areas frequently contain small clumps or stringers of mixed-conifer, ponderosa pine, pine-oak, pinyon-juniper, and or riparian vegetation (USFWS 2012).

In Utah, owls have been documented using canyon bottoms and adjacent rims for foraging (Willey 1998). Mexican spotted owls typically occur in metapopulations (USFWS 2012), and most populations in Utah occupy large canyon complexes. The suitable habitat areas most likely to be occupied within the TMA are those contained in the canyon's emerging from the Green River. Canyons directly across the Green River outside the TMA are known to contain one nesting pair of Mexican spotted owls (BLM Moab Field Office). Canyons on both sides of the Green River are similar in structure, and appear to harbor similar nesting habitat based on satellite imagery and therefore we expect this area may similarly contain one nesting pair of owls.

Status of Critical Habitat within the Action Area

Critical habitat for the Mexican spotted owl does not occur within the action area. The nearest designated critical habitat for the species occurs approximately 0.5 mi from the southeastern part of the TMA's outer boundaries (Unit CP-14, 69 FR 53182). Critical habitat is a regulatory delineation of habitat meeting primary constituent elements (physical and biological features), and was defined based largely on known localities of nest sites and the Protected Activity Centers (PACs) established around them at the time of designation. PACs are areas (at least 600 acres in size) around a known nest or roost site intended to protect and maintain occupied owl habitat in which minimal management is recommended. The nearest PAC is outside the TMA on the east side of the Green River; this PAC is approximately 3 mi from the nearest route designated as 'open' travel-status.

Factors Affecting Species within the Action Area

Threats to Mexican spotted owls in Utah and in the action area include recreation, grazing, road improvement and development in canyons, and increased predation associated with habitat fragmentation (USFWS 2012). Unlike in other portions of its range, fire is not a landscape-scale threat to Mexican spotted owl habitat in the Colorado Plateau Ecological Management Unit (or this action area) because the incidence and extent of stand-replacing fires in cliff and canyon habitat is very low (USFWS 2012).

Recreation and roads are likely the most important factors affecting the species within the action area. Recreation ranks as a primary land use within the Colorado Plateau EMU because of high recreation pressure on public lands. The potential for recreation to affect owl presence and recovery is compounded by the terrain, with owls established in narrow canyons having less

opportunity to move away from human activity. Activities such as hiking, camping, hunting, rock climbing, mountain biking, and OHV use occur in owl habitat within the EMU (USFWS 2012). The largest known populations of Mexican spotted owls in Utah occur within National Parks, where some PACs occur within close proximity to heavily used hiking trails. However, a broader range of recreational activities are allowed to occur on BLM lands and often with less oversight. For example, dispersed camping would likely result in increased gathering of fire wood (reducing prey habitat), while target shooting and OHV use may generate louder and more disruptive noises than typically encountered in a national park environment.

Within the TMA there are 252.9 mi of routes that occur in or within 0.5 mi of Mexican spotted owl modeled habitat greater than 2.5 acres in size based on the 2014 Lewis model (BA; Lewis 2014). Modeled habitat primarily occurs in the southeastern portion of the TMA and covers 18,502 acres (BA Appendix C. Map 6). The majority of these routes (186 mi) presently exist on the landscape without official travel status designations; 175.3 mi would be designated as open travel status and 77.6 mi would be designated as closed status under the TMP. None of the proposed routes travel into canyons along the Green River where we expect owls may be present. However, designated open routes within 0.5 mi of modeled habitat may facilitate recreation access to potentially occupied habitat where conflict could occur between nesting owls and visitors accessing the canyons for canyoneering, rock climbing, or camping. Because, we presently lack information on the volume of recreation that occurs within the action area, as well as where or when activities occur, it is unknown whether these additional types of activities are presently affecting owl habitat within the action area or whether an increase in these activities would have negative effects on Mexican spotted owl habitat

Western Yellow-Billed Cuckoo

Status of the Species within the Action Area

Yellow-billed cuckoos were historically uncommon in Utah. Scattered records exist for the State, mainly from the Salt Lake Valley, the Virgin River, and the southeastern part of Utah (Hayward et al. 1976). More recent survey results and the available literature indicate a small breeding population of western yellow-billed cuckoos occurs in Utah, within the Green, Colorado, and Virgin River drainages. At the time of our proposed listing for the species (2013), we concluded that the number of breeding pairs in Utah was fewer than 10 and not likely more than 20 pairs (78 FR 61621, October 3, 2013). Since 2013, surveyors have detected birds in the Uinta basin along the Green and Duchesne Rivers, and on the Green River north of its confluence with the Colorado River.

Neither habitat evaluations nor protocol surveys have occurred across most of the potential habitat for the species within the TMA. Possible breeding was identified on the Green River within 5 mi of the TMA and at least one vocalization was recorded along the San Rafael River within the TMA (UDWR 2014). The areas that are most likely occupied within the TMA are the riparian habitats (specifically, cottonwood galleries) along the San Rafael River and the Green River.

Status of Critical Habitat within the Action Area

Proposed critical habitat for the yellowed-billed cuckoo does not occur within the action area (85 FR 11458, February 27, 2020). The nearest proposed critical habitat for the yellow-billed cuckoo occurs approximately 1.75 mi north of the TMA, on the north side of I-70 and the town of Green River. The nearest designated travel route within the TMA is located 2.6 mi outside of proposed critical habitat.

Factors Affecting Species within the Action Area

Threats to western yellow-billed cuckoos in Utah and in the action area are similar to those across the species range. They include water depletions, recreation, livestock grazing, road improvement and development in riparian areas. These activities may negatively affect habitat by eliminating and fragmenting habitat, increasing anthropogenic noise, and eliminating prey base for the species. The factors most likely to affect the species within the action are roads and recreation. In the warm, arid southwest, recreation is often concentrated in riparian areas because of the shade, water, aesthetic values, and opportunities for fishing, boating, swimming, and other activities.

Potential habitat covers 4,354 acres within 0.5 mi of the TMA and is found primarily along the perennial streams within the analysis area (BA Appendix C. Map 5). Within the TMA there are 78 mi of routes that occur in or within 0.5 mi of yellow-billed cuckoo potential habitat, which coincides with riparian regions in the TMA that are at least 12 acres in size and a minimum of 100 feet (ft) by 100 ft in dimension (USFWS 2015). The majority of these routes (51.3 mi) presently exist on the landscape without official travel status designations; 69.8 mi would be designated as open travel status and 7.8 mi would be designated as closed status under the TMP. Less than 2 mi of proposed open travel routes directly intersect riparian habitats along the Green and San Rafael rivers.

Factors Affecting Mexican Spotted Owls and Western Yellow-Billed Cuckoos within the Action Area

Additional activities affecting Mexican spotted owls and western yellow-billed cuckoos within the action area include livestock grazing; oil, gas, and mineral exploration and extraction; and climate change. The extent to which these factors are affecting ESA-listed species within the action area is presently unknown.

Livestock grazing is often associated with livestock and human presence, motorized vehicle and equipment use, increased noise, surface disturbance, and changes in vegetation. Changes in vegetation can include alteration of vegetation structure, composition, an increase or decrease in productivity of selected plant species, and an increase or decrease in the nutritive quality of available forage (Taylor 1986). In addition, there may be an increase or decrease in habitat diversity as habitat structure is altered. Livestock grazing may subsequently negatively or positively affect foraging success and initiation of nesting birds where otherwise suitable habitat exists.

Energy and mineral exploration and extraction activities are also associated with increased human presence, motorized vehicle and equipment use, increased noise, and surface disturbance. These stressors could similarly impact foraging success and nesting of Mexican spotted owls and western yellow-billed cuckoos, while also resulting in habitat loss. In addition, the unintentional introduction of petroleum products or other contaminants could result in detrimental impacts to Mexican spotted owls and western yellow-billed cuckoos directly (e.g., toxicity) or indirectly by impacting the riparian ecosystems these species depend upon (e.g., prey species die-offs, etc.).

Both the Intergovernmental Panel on Climate Change and the U.S. Global Climate Change Program conclude that changes to climatic conditions, such as temperature and precipitation regimes, are occurring and are expected to continue in western North America over the next 100 years (Smith et al. 2000; Solomon et al. 2007; Trenberth et al. 2007). Down-scaled climate projections for the Colorado Plateau predict a 10 °F (5 °C) increase in mean annual temperature by 2100 (Munson et al. 2011). A consensus of 22 models predict annual temperatures to exceed the 1950-1999 range of variability by the 2030s, with spring precipitation declining by 11-45 percent by the end of the century. (Garfin et al. 2010; Krause 2014). These changes are likely to increase drought frequency, and severe droughts in the Colorado Plateau in the future could exceed any recently experienced (Seager et al. 2007). These climatic changes are expected to adversely impact ESA-listed species and their habitats (Gonzalez et al. 2018; 78 FR 61622, October 3, 2013).

Effects of the Action

The TMP would expand the authorized travel route network, allowing the use of OHVs, motorized vehicles, and mechanized travel on designated routes in the TMA. Use and maintenance of the designated travel network would increase disturbance to terrestrial animals from increased human presence, noise, surface disturbances, and vegetation removal or alteration. We also expect the increase in designated routes will facilitate, and thereby increase, recreational usage of the action area. The anticipated effects to each species are described hereafter, followed by a more comprehensive discussion of the potential effects and their mechanisms.

Mexican Spotted Owl

The proposed action would expand the designated travel route network, facilitating access to areas within 0.5 mi of Mexican spotted owl suitable habitat. We anticipate that this increase in travel access could affect owls through increased noise from OHV travel and other forms of recreation. Canyoneering, and rock climbing may especially impact Mexican spotted owls as these activities could be focused in potential nesting habitat areas. Camping within foraging territories could result in reductions in woody debris collected for campfires (woody debris is a critical habitat feature that supports prey populations). Disturbances associated with human presence and noise could result in sub-lethal effects including elevated stress levels and reduced foraging time. If persistent, noise harassment and human presence could deter owls from nesting or result in territory and nest abandonment, thereby reducing reproductive success or increasing juvenile mortality. For a more detailed review of recreation impacts to owls, see the *Mexican Spotted Owl Recovery Plan* (USFWS 2012).

Yellow-Billed Cuckoo

The proposed action would facilitate travel to areas within 0.5 mi of yellow-billed cuckoo suitable habitat. We anticipate that this access would affect cuckoos through increased noise from OHV travel and other forms of recreation. Riparian habitats are often popular sites for camping and OHV travel, which could focus impacts in potential nesting habitat areas (USFWS 2002). Disturbances associated with human presence and noise could result in sub-lethal effects including elevated stress levels and reduced foraging time. If persistent, noise harassment and human presence could deter cuckoos from nesting or result in territory and nest abandonment, thereby reducing reproductive success or increasing juvenile mortality.

OHV Use and Other Recreation Impacts

We anticipate that the primary impacts of the proposed action to Mexican spotted owls and western yellow-billed cuckoos would occur through OHV use and increased recreation access. Recreation activities in the action area include hiking, camping, hunting, fishing, target shooting, biking, swimming, rafting, canyoneering, and rock climbing. Off-highway vehicle use and these other forms of recreation would consequently result in increased human presence and noise within the action area.

Many animal species respond to human presence in the same ways they respond to predators (Blumstein and Fernández-Juricic 2010; Suraci et al. 2019). These responses include increased stress and expenditures of time and energy towards vigilance and avoidance behaviors, and consequently decreased expenditures of time and energy towards beneficial activities like foraging, breeding, nesting, roosting or caring for young (Steven et al. 2011, Ortega 2012, Shannon et al. 2016). Noise, like that produced by OHVs, can affect nest-site selection and mask biologically important sounds, such as mating call behavior and predator and prey sounds. Disturbance duration can vary from abrupt and brief (e.g., a single vehicle passing by) to extended disturbance (e.g., high traffic volumes on a busy holiday, or dispersed camping taking place within nesting or foraging habitat, etc.). Accordingly, species' response durations may also range from brief, immediate behavioral responses, such as alerting or flushing, to long-term responses, such as abandoning preferred habitat. When these stressors result in territory displacement, failure to initiate nesting, nest failure, or increased physiological stress, they negatively impact reproductive success of individuals and populations (Steven et al. 2011).

Recreation activities may also result in habitat degradation as a consequence of surface disturbance, vegetation removal, and vegetation alteration. These impacts could occur through trampling of vegetation, clearing vegetation, woodcutting and prevention of seedling germination due to soil compaction; bank erosion; increased incidence of fire; promoting invasion by exotic plant species (which can displace native vegetation utilized for foraging, security and thermal cover, nesting, etc.); promoting increases in predators and scavengers due to food scraps and garbage (ravens, jays, grackles, skunks, squirrels, domestic cats, etc.); promoting increases in brood parasitic cowbirds; loss of hydrologic function in riparian areas from travel route compaction; and noise disturbance. Effects of these activities may be species- and action-specific, but reductions in density and diversity of bird communities have been associated with recreational activities (Aitchison 1977, Blakesley and Reese 1988, Szaro 1980, Taylor 1986, Riffell et al. 1996). The range of potential impacts could also include direct mortality either

from collisions with OHVs, recreational shooting that results in deliberate targeting of animals, and off-trail travel (by foot, OHV, or other means) that results in alteration or destruction of foraging or nesting habitats. Because of these potential stressors, travel routes that traverse or travel adjacent to canyons or riparian habitats are of concern.

TMP Implementation Activities

TMP implementation activities that could affect special status animals and their habitats include installing new signs, road maintenance (grading, installing water control structures, etc.), route decommissioning or reclamation (including ripping the ground and planting seed, grading, recontouring), or installing fencing or barriers. Ground disturbance and loss of habitat from sign installations would be temporary, as these areas are likely to revegetate. Seeding and planting on closed routes could accelerate reclamation and help to reestablish habitat. Installation of signs, barriers, and other permanent structures outside of existing roadway prisms would result in a minor (discountable) loss of habitat.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA.

Cumulative effects to the endangered terrestrial animals under the TMP would include, but are not limited to, the following broad types of impacts:

- Increased recreational and economic use of the TMA as a result of increased travel access.
- Changes in land use patterns or practices that adversely affect a species' critical, suitable, or potential habitat, including encroachment of human development into those habitats.
- Management actions by some, or all, of the following groups, on lands adjoining or upstream of BLM administered lands:

    - State of Utah
    - County governments in Utah
    - Local governments in Utah
    - Private landholders in Utah

Potential habitat for the Mexican spotted owl exists in the action area in several canyons along the Green River, and potential habitat for the western yellow-billed cuckoos exists in the action area along riparian areas found primarily along the San Rafael River (*San Rafael Desert TMP* BA, May 7, 2020). The TMA is surrounded by a checkerboard pattern of land ownership including Federal, State, and private landowners. These two species are susceptible to effects from activities on State and private lands. Many of these activities, such as livestock grazing, oil and gas exploration and development, human population expansion and associated infrastructure (increased trails and roads) development, research, and recreation activities (including OHV use and any activities that increase human presence), are expected to continue on State and private

lands within the these species' ranges. These activities will continue to affect productivity with disturbances to breeding, nesting, and foraging behaviors and further fragmenting habitat of prey populations.

Conclusion

After reviewing the description of the proposed action, the current status of the species, the environmental baseline for the action area, the effects of the proposed Project, and the cumulative effects, it is our biological opinion that the proposed action is not likely to jeopardize the continued existence of the Mexican spotted owl or the Western yellow-billed cuckoo. We reached our conclusions based on the following:

Mexican Spotted Owl and Western Yellow-Billed Cuckoo:

a. The applicant committed conservation measures from the 2003 *San Rafael Route Designation Plan* and the *Price RMP* still apply to routes designated under this Travel Management Plan. The Price RMP conservation measures were amended in the BA to include TMP specific measures for each ESA-listed species occurring within the TMA (Appendix E. Relevant Conservation Measures). The TMP implementation guide describes adaptive management and mitigation strategies that could be applied to address disturbance and continued use of designated closed routes. If monitoring of occupied habitat indicates that disturbance or use is occurring outside the designated OHV open routes, BLM will implement appropriate corrective actions as identified in the Implementation Plan or developed in consultation with our office.

b. All site-specific projects designed under the TMP would be subject to consultation requirements under section 7 of the ESA. Projects or activities not covered in this BO will be evaluated for effects to Mexican spotted owl and Western yellow-billed cuckoo.

c. The TMP will be closing a subset of the existing routes, some of which occur near or within potential habitat, and will thus reduce impacts in some regions of the TMA.

Mexican Spotted Owl:

a. Mexican spotted owl densities within the TMA, if the owls occur here, are expected to be low (one pair of owls) based on survey data from neighboring canyons on the east side of the Green River.

b. Based on the data found in the Mexican Spotted Owl Recovery Plan, there are a total of 206 documented owl sites (one or more individuals) within the Colorado Plateau EMU (USFWS 2012); however, the EMU population size is now expected to exceed this number as new sites have continued to be discovered since 2012 with increasing survey coverage. The proposed action would impact less than 0.5 percent of the EMU population, which is a subset of the rangewide Mexican spotted owl population (more than 1300 sites).

c. No proposed travel routes enter the canyons along the Green River where Mexican spotted owl occupancy is most likely to occur.

d. Within the Mexican spotted owl modeled habitat, BLM will complete habitat evaluations to determine the suitability of the habitat within the next 4 years. The focus will be to complete the evaluation within the modeled habitat located nearest to designated critical habitat in Labyrinth Canyon Wilderness Area and then work outward from this area. Annual reports of the evaluation progress will be submitted to our office until completion. Based on the results of the evaluation, surveys and monitoring will be completed in areas determined appropriate in consultation with our office. Factors to be considered for prioritizing habitat evaluations include distance to a motorized routes, habitat quality, and proximity to critical habitat.

e. In areas determined to be suitable habitat, BLM will monitor all routes including routes designated as closed within 0.5 mi of the suitable habitat to ensure compliance with the designation in the TMP. If monitoring indicates that disturbance or use is occurring outside the designated OHV open routes, BLM will implement appropriate corrective actions as identified in the Implementation Plan or developed in consultation with our office.

Western Yellow-Billed cuckoo:

a. Western yellow-billed cuckoo occupancy within the TMA is likely limited to the San Rafael River and Green River riparian corridors (approximately 80 river mi within the TMA). Only four designated travel routes would directly traverse these riparian habitats, with less than 2 mi of designated routes occurring directly within those riparian habitats. While these areas are within modelled suitable habitat, it is unclear whether all of these locations have habitat features that support typical nesting habitat (cottonwood galleries). Therefore impacts to potential cuckoo habitat is minimal.

b. The TMA represents a small portion of the species range and breeding within this area is unconfirmed. Based on available information from known nesting areas, the western DPS is estimated to contain a total of 680 to 1,025 breeding pairs, with 350 to 495 pairs occurring north of the Mexico border (78 FR 61621). We do not know of any nesting pairs in this area.

c. Within the potential habitat identified in this BA, BLM will complete habitat evaluations to determine the suitability of the habitat within the next 4 years. The focus will be to complete the evaluation within the modeled habitat located within a 0.5 mi from designated routes. Annual reports of the evaluation progress will be submitted to our office until completion. Based on the results of the evaluation, protocol surveys would be completed in suitable habitat within 0.5 mi of designated routes. County B Road (e.g. Lower San Rafael River Road) or HWY 24 would not be considered for surveys because actions through BLM Travel Management would not affect the use on those roads. The surveys and monitoring will be completed in areas determined appropriate in consultation

with our office. Factors to be considered for surveys and monitoring will include distance to a motorized route, habitat quality, and proximity to critical habitat.

d. In areas determined to be suitable habitat, BLM will monitor all routes including routes designated as closed within 0.5 mi of the suitable habitat to ensure compliance with the designation in the TMP. If monitoring indicates that disturbance or use is occurring outside the designated OHV open routes, BLM will implement appropriate corrective actions as identified in the Implementation Plan or developed in consultation with our office.

2.2 Plants

The ESA-listed plants evaluated in this biological opinion include Jones cycladenia, Navajo sedge, Ute-ladies tresses, Wright fishhook cactus, Barneby reed-mustard, and San Rafael cactus.

Status of the Species and Critical Habitat

Jones Cycladenia

Species Description

Jones cycladenia is a long-lived herbaceous perennial in the dogbane family (Apocynaceae). Plants are 4.3 to 14.2 in. tall with hairless stems and leaves that are covered by a whitish or bluish waxy coating (bloom) (Welsh et al. 2008). The lowermost leaves are reduced to rudimentary bracts (small, leaf like structure positioned beneath the flower), enlarging and becoming green and leafy upwards. The main leaves are oval to circular or broadly egg-shaped with rounded to acute leaf tips. Flower petals are rose purple and dimorphic (of two kinds). They are either broadly or narrowly lobed. The large seed pods, 1.8 to 3.7 in. long with brown seeds, each containing a tuft of hair (coma) that is ca. 0.8 in. long. Flowering occurs from mid-April to early June (Welsh and Atwood 1975; Welsh et al. 2008).

Life History and Population Dynamics

Jones cycladenia is a clonal plant. Each genet (genetic individual) sends up numerous ramets (aboveground stems) from rhizomes (horizontal stems that are typically underground) (Wolf et al. 1992). Several to a hundred above-ground stems could originate from a single genet, with the average number of ramets per genet being 22.2 for this taxon (Sipes et al. 1994; Wolf et al. 1992). Genets generally do not exceed 32.8 ft in any one direction but may overlap with other genets, making the distinction of individual plants difficult (Sipes and Wolf 1997; Wolf et al. 1992). Therefore, in population surveys the number of ramets, rather than individuals (genets), is typically counted.

Plant survivorship and mortality are difficult to estimate because the loss of a ramet does not imply that the genet has died (Wolf et al. 1992; Spence and Palmquist 2007). In some years, such as during times of severe drought, plants enter dormancy and may not emerge at all, but will emerge the next year or under favorable conditions (Hughes 2014; Spence and Palmquist 2007).

Jones cycladenia flowers have an extremely low visitation rate by potential pollinators. Infrequent flower visitors include a variety of diurnal insects, including butterflies and bees (Sipes et al. 1994; Sipes and Tepedino 1996). We are uncertain which floral visitors are the primary pollinators for the species. Members of the Apocynaceae family are generally pollinated by butterflies (Sipes et al. 1994).

Status and Distribution

Jones cycladenia was listed as threatened under the ESA on May 5, 1986 (51 FR 16526). Threats to Jones cycladenia include oil, gas, and mineral exploration and development; OHV use; and livestock grazing. Pollinator availability, small populations, and low levels of sexual reproduction, although not considered threats in and of themselves, are factors that may exacerbate the impacts of existing threats (51 FR 16526, May 5, 1986; Sipes et al. 1994).

Jones cycladenia occurs in 20 populations, comprising 60 sites, across its range in central and southern Utah in Grand, Emery, San Juan, Garfield and Kane Counties, and northern Arizona in Mohave County. Sites are defined as occurrence locations recorded by one or more researcher over time within an individual population. These sites have been grouped into 20 populations based on NatureServe criteria (occurrences more than 1.2 mi apart over suitable habitat or more than 0.6 mi apart over unsuitable habitat are considered to be separate populations) (NatureServe 2004). The species occurs on Ute Tribal land as well as State of Utah, NPS, and BLM land.

Jones cycladenia occurs within desert shrub and scattered pinyon-juniper and wild buckwheat - Mormon tea communities at elevations ranging from 4,400 to 6,000 ft. The species is known to occur on shallow soils developed from shale substrates from the Wasatch, Summerville, Cutler, and Chinle formations of the Colorado Plateau (Sipes and Boettinger 1997; JGMS 2014). Populations are found on all aspects and on slopes that range from moderate to steep. Associated plant species include juniper (*Juniperus* sp.), wild buckwheat (*Eriogonum* sp.), and Mormon tea (*Ephedra* sp.).

Critical Habitat Description

Critical habitat has not been proposed or designated for Jones cycladenia.

Navajo Sedge

Species and Critical Habitat Description

Navajo sedge is a slender, rhizomatous perennial plant 10 to 18 inches high. The triangular stem extends from an elongate, slender rhizome. The leaves are pale green and clustered near the base of the plant. This species is unusual in having both two-branched styles with lenticular (lentil shaped) achenes (small, dry, one-seeded fruit that does not open to release the seed), and three-branched styles with trigonous (three corners or angles) achenes. Flowers are concentrated in 2 to 4 groups or spikes. The terminal spike has both male and female flowers, with the female flowers situated above the male. The flowers are reduced and inconspicuous; they consist of small green-brown, scale-like parts 2 to 3 mm long and 1 to 1.5 mm wide (USFWS 1987).

Life History and Population Dynamics

Flowering and fruit set occur from spring through summer. Flowers are likely wind pollinated, but most reproduction appears to be vegetative (USFWS 1987).

Status and Distribution

The Navajo sedge was listed as a threatened species on May 8, 1985 (50 FR 19370). Existing threats to this species include grazing and groundwater pumping (USFWS 1987). Navajo sedge occurs in 64 populations, comprising 160 sites, across its range in Coconino, Navajo, and Apache counties, Arizona, and San Juan County, Utah (Rink and Hazelton 2014; USFWS 2019). Sites are defined as occurrence locations recorded by one or more researcher over time within an individual population. These sites are grouped into 64 populations based on NatureServe criteria (occurrences more than 1.2 mi apart over suitable habitat or more than 0.6 mi apart over unsuitable habitat are considered to be separate populations) (NatureServe 2004). The species occurs primarily on Navajo Nation land, but also occurs on Hopi Tribe, NPS, and BLM land.

Navajo sedge occurs in wet seeps, springs, and hanging gardens on vertical cliffs, alcoves and rarely along streams of sandstone formations at elevations from 4,200 to 7,600 ft (Rink and Hazelton 2014). The species occurs in Navajo sandstone, Cedar Mesa, De Chelly, Kayenta and Wingate sandstone formations (Rink and Hazelton 2014). Plants grow in the moist sand to silty soils of shady seep-spring pockets or alcoves with somewhat limited soil development. Associated plant species include Bluff City columbine (*Aquilegia micrantha*), giant helleborine (*Epipactis gigantea*), Eastwood monkeyflower (*Mimulus eastwoodiae*), and Alcove bog-orchid (*Platanthera zothecina*) (Rink and Hazelton 2014).

Critical Habitat Description

Critical habitat for Navajo sedge was designated across three small plots (0.15 acres total), concurrent with listing, to include the plant's known range at the time, in Coconino County, AZ (50 FR 19370, May 8, 1985). Constituent elements (PBF) are moist sandy to silty soils at shady seep-springs within the Navajo Sandstone Formation.

Ute Ladies'-Tresses

Species and Critical Habitat Description

Ute ladies'-tresses was first described as a species in 1984 by Dr. Charles J. Sheviak from a population discovered near Golden, Colorado (Sheviak 1984). The species is a perennial orchid (member of the plant family Orchidaceae) that first emerges above ground as a rosette of thickened leaves, and is very difficult to distinguish from other vegetation given the dense herbaceous vegetation where the species often grows. Its leaves are up to 0.6 inches wide and 11 inches long; the longest leaves are near the base. The usually solitary flowering stem is 20 to 8 to 20 inches tall, terminating in a spike of 3 to 15 white or ivory flowers. Flowering generally occurs from mid-July through August. However, in some locations the species may bloom in early July, or may still be in flower as late as early October, depending on elevation and timing of high water flows.

Ute ladies'-tresses looks most similar to hooded ladies'-tresses (*Spiranthes romanzoffina*), but differs in the detailed characteristics of the individual flowers. In hooded ladies'-tresses (which is more common), each individual flower has petals and sepals that are fused to form a covering,

or "hood." In Ute ladies'-tresses, these floral parts are not fused, appearing instead to be widely spread, or "gaping" open.

Life History and Population Dynamics

Ute ladies'-tresses is a long-lived perennial herb that is thought to reproduce exclusively by seed (Fertig et al. 2005). Bees are the primary pollinators; however, because Ute ladies'-tresses provides only nectar as a food reward, other pollen-providing plant species must be present to attract and maintain pollinators (Sipes and Tepedino 1995, Sipes et al. 1995, Pierson and Tepedino 2000).

The life cycle of Ute ladies'-tresses consists of four main stages including seedling, dormant, vegetative, and reproductive (flowering or fruiting) (Fertig et al. 2005). Ute ladies'-tresses seedlings may develop slowly into larger, dormant mycorrhizal roots or grow directly into above-ground vegetative shoots (Wells 1981), but neither has been confirmed in the wild. The Cincinnati Zoo and Botanical Garden has grown plants from seed under laboratory and greenhouse conditions; germination took 6 to 8 months and development from a protocorm into a plant was slow (Pence 2009). Long-term demographic monitoring studies indicate that vegetative or reproductive Ute ladies'-tresses plants can revert to a below-ground existence for as many as four consecutive growing seasons before reemerging above ground (Arft 1995, Allison 2001, Heidel 2001).

Flowering individuals are necessary to reliably distinguish Ute ladies'-tresses from other similar-looking plant species (esp. other *Spiranthes* species), and surveys during flowering season also maximize the likelihood of detecting Ute ladies'-tresses among dense stands of other herbaceous plant species. However, surveys in which only flowering stems are tallied are of limited value for assessing population trends, given that individual Ute ladies'-tresses plants do not flower consistently from one year to the next, and the relative proportion of individual Ute ladies'-tresses plants in each of the four life stages (seedling, dormant, vegetative, reproductive) can vary widely within and among years and between different colonies (Arft 1995, Pierson and Tepedino 2000, Allison 2001, Heidel 2001, Fertig et al. 2005).

Population trends are less variable when inferred from datasets where all life stages are counted (Arft 1995, Heidel 2001). However, because non-reproductive individuals are inherently difficult and laborious to detect, most surveys tend to focus on the detection (and counting) of flowering individuals (Fertig et al. 2005). As a result, knowledge of Ute ladies'-tresses population trends is severely hindered. This also suggests that available estimates (derived solely from flowering stem counts) are likely to represent conservative estimates of total population size.

When Ute ladies'-tresses was listed under the ESA in 1992, the rangewide population was estimated to contain fewer than 6,000 individuals (USFWS 1992, Fertig et al. 2005). In 1995, the draft recovery plan increased this estimate to 20,500 individuals, primarily the result of 21 new populations discovered over the previous 3 years (USFWS 1995). As of 2005, 53 populations were estimated to collectively contain more than 80,000 (83,316) individuals (Fertig et al. 2005). For these populations, available population estimates ranged in size from 1 to more

than 28,000 plants. More than 80 percent of these populations contained fewer than 1,000 individuals, and 38 percent contained fewer than 100 individuals.

Status and Distribution

We listed Ute ladies'-tresses as threatened in its entire range under the ESA on January 17, 1992 (USFWS 1992a). A draft recovery plan was prepared, but not finalized (USFWS 1995). The descriptions that follow are derived from a draft recovery plan, a range-wide status review (Fertig et al. 2005), and additional sources as necessary. When it was listed under the ESA in 1992, Ute ladies'-tresses was known from 10 extant populations within portions of only two states (Colorado and Utah, USFWS 1992a). At that time, these 10 populations were estimated to encompass approximately 170 acres of occupied habitat. At listing, the species was presumed extirpated in Nevada.

Since listing, Ute ladies'-tresses was rediscovered in Nevada, and new populations were discovered in southern Idaho, southwestern Montana, western Nebraska, central and northern Washington, southeastern Wyoming (Fertig et al. 2005), and south central British Columbia (Bjork 2007). In 2005, 53 populations (encompassing 674 to 784 acres of habitat) were considered extant across the range of the species (Fertig et al. 2005); the British Columbia locations were discovered the following year (Björk 2007). Utah had the most populations (23), the largest amount of occupied habitat (234-308 acres), and the highest number of reported plants (47,859 individuals) of any state (Fertig et al. 2005). The Spanish Fork watershed in Utah was assessed as having the highest recorded population estimate (28,825 plants), whereas the Upper Green-Flaming Gorge Reservoir population (which spans the Colorado-Utah border) spanned the most extensive area (117 to 126 acres). The majority of known populations (66 percent) occupied between 0.1 and 10 acres, whereas relatively few (4.9 percent) occupied more than 50 acres.

Ute ladies'-tresses occurs in a variety of human-modified and natural habitats, including, seasonally flooded river terraces, sub-irrigated or spring-fed abandoned stream channels and valleys, and lakeshores (Jennings 1989, USFWS 1992a, Fertig et al. 2005). Numerous populations also occur along irrigation canals, behind berms, within abandoned roadside borrow pits, along reservoir edges, and other human created or modified wetlands. Streamside populations of Ute ladies'-tresses typically occur on shallow alluvial soils overlying permeable cobbles, gravels, and sediments. Across the range of the species, populations occur at elevations ranging from 220 to 558 m (720 to 1,830 ft) in Washington and British Columbia to 2,134 m (7,000 ft) in northern Utah.

Most Ute ladies'-tresses sites have mid-successional vegetation (well-established grasses and forbs) communities that are maintained by human disturbances such as livestock grazing, mowing, ditch and irrigation maintenance, and prescribed fire (Allison 2001, Fertig et al. 2005). Ute ladies'-tresses may persist for some time in the grassy understory of woody riparian shrublands, but it does not appear to thrive under these conditions (Ward and Naumann 1998).

Nearly all streambank, floodplain, and abandoned ox-bow sites occupied by Ute ladies'-tresses have a high water table [usually within 5 to 18 inches of the surface] augmented by seasonal flooding, snowmelt, runoff, and often irrigation (Jennings 1989, Arft 1995, Black et al. 1999,

Riedel 2002). Soils must be sufficiently stable and moist in the summer flowering season to support the species (Ward and Naumann 1998). Sites located in springs or sub-irrigated meadows appear to be fed by groundwater rather than surface flows. Less is known about the average depths to groundwater in these locations, but it is reasonable to assume that (as with locations where groundwater depths have been quantified) groundwater must remain relatively close to the surface in order to sustain the moist soils consistently associated with Ute ladies'-tresses.

At the time of listing, we identified habitat loss and modification as the primary threat to the species, but also noted that small population sizes and low reproductive rates rendered Ute ladies'-tresses vulnerable to other threats (USFWS 1992a). Our listing rule identified several specific forms of habitat loss and modification as threats to Ute ladies'-tresses, including urbanization, water development and conversion of lands to agriculture, excessive livestock grazing, excessive or inappropriate use of herbicides or other chemicals, and the proliferation of invasive exotic plant species. In addition, we concluded that the species may be subject to over-collection, given its status as an orchid and inquiries from orchid enthusiasts and wildflower collectors.

Today, many of these same threats affect Ute ladies'-tresses at least at the site-specific level (Fertig et al. 2005), and some newer stressors have emerged. For example, whereas over-collection had not materialized as a specific threat to Ute ladies'-tresses, vegetation succession, losses or reductions in pollinators, and changes in hydrology appeared to be new stressors. Current threats that remain include habitat loss and modification due to urbanization, water development and conversion of lands to agriculture, excessive livestock grazing, excessive or inappropriate use of herbicides or other chemicals, and the proliferation of invasive exotic plant species.

Roadways and ground disturbance provide corridors and vectors for the introduction and spread of invasive and non-native species (Forman et al. 2003; Gelbard and Belnap 2003; Watkins et al. 2003; Flory and Clay 2006; Christen and Matlock 2009; Mortensen et al. 2009). Invasive species can affect individuals, populations, and ecosystems through competition, change in community composition, and changes in environmental conditions (Simberloff et al. 2013). The impacts of invasive species usually decline with increasing distance from disturbance (Gelbard and Belnap 2003; Forman et al. 2003).

The BLM Vernal field Office has identified infestations of six invasive weed species within Ute ladies'-tresses habitat including Russian knapweed (*Acroptilon repens*), teasel (*Dipsacusfullonum*), perennial pepperweed (*Lepidium latifolium*), Canada thistle (*Cirsium arvense*), Russian olive, and salt cedar (*Tamarix ramosissima*). Invasive weeds compete with Ute ladies'-tresses for resources via competition for sunlight and space which can then result in displacement of Ute ladies-tresses plants. Since Ute ladies'-tresses is a small stature plant, it requires open riparian patches with low growing herbaceous vegetation that will not block sunlight.

Conversion of irrigation water to municipal use, flood control (includes riverbank stabilization), water development or redevelopment, and restoration projects targeting stream and riparian corridors (includes in-stream and habitat alteration) contribute to altered hydrologic regimes

across the species' range. However, Ute ladies'-tresses has proliferated in areas with greatly altered, but stable and predictable hydrology (Fertig et al. 2005). Prominent examples include the Green River along the Colorado-Utah border (Ward and Naumann 1998), Diamond Fork Creek in the Spanish Fork watershed of Utah (Black and Gruwell 2004), the Columbia River in Washington (Cordell-Stine and Pope 2008), and the South Fork Snake River in Idaho (Idaho Conservation Data Center 2007). The species is also frequently encountered along streams and canals and in wet hay pastures in the Uinta Basin of eastern Utah, even though an extensive irrigation canal system was constructed in the early 1900s and natural streams are nearly dry all summer (Fertig et al. 2005, Kendrick 1989). Ute ladies'-tresses has also colonized wetlands left behind when peat was mined, and the species occurs in drainage ditches alongside roads and railroad tracks (Fertig et al. 2005). In the summer of 2012, the species was rediscovered in Salt Lake County, Utah, after decades of unsuccessful attempts to relocate a historical collection of the species the county dating from 1953. The County property where the orchid was recently found has been managed as a flood control basin with permitted horse grazing for the past 50 years.

In summary, Ute ladies'-tresses occurs in more than 50 populations distributed across eight U.S. states and one Canadian province. These populations collectively contain some 80,000 individuals. Approximately 80 percent of known populations are associated with lands managed for agriculture or recreation, rivers regulated by dams, or other human-modified habitats (Fertig et al. 2005). Research, monitoring and management activities have demonstrated that ongoing patterns of land use across the range of the species are capable of mimicking or providing the conditions required for the species' persistence.

Critical Habitat Description

Critical habitat has not been proposed or designated for Ute ladies'-tresses.

Wright Fishhook Cactus

Species Description

Wright fishhook cactus *(Sclerocactus wrightiae)* is named for Dorde Wright Woodruff who discovered Wright fishhook cactus (L. Benson) in Emery County in 1961 (Benson 1982). The species is endemic to south-central Utah occurring in scattered clusters in Wayne, Emery, and Sevier counties. Wright fishhook cactus is a small, perennial globose shaped cactus mainly 6 to 12 cm (2.4 to 4.8 in) long and 4 to 8 cm (1.6 to 3.2 in) in diameter growing as a single plant with a branched taproot (Welsh et al. 2008). If damaged, the cactus may form multiple stems. Spines, both lateral and central, emerge from warty protuberances called tubercles. The large, lower central spine is hooked, a noticeable character that gives the cactus its common name of "fishhook."

The flower is 3 to 4 cm (1.2 to 1.6 in) in diameter, 3 to 4 cm (1.2 to 1.6 in) long, white to cream or pink and fragrant. Sepaloids are green or green tinged with red or brown. Flowering occurs from late April through May and fruits are set in June. Fruits are barrel shaped and borne on the top of the cactus. Seeds are black, 2 mm long and 3.5 mm broad (Heil and Porter 1994). A distinguishing characteristic of the Wright fishhook cactus is the presence of magenta filaments

with yellow anthers. Short spine length, round spines, early flowering time, small flower size, and magenta filaments help distinguish this species from other similar cacti (Heil and Porter 1994, Benson 1982). A complete taxonomic description can be found in Haseltonia (Heil and Porter 1994).

Life History and Population Dynamics

Wright fishhook cactus is a long-lived species that is slow to reach reproductive maturity. Individual cacti begin flowering at approximately 4 to 5 years old, producing flowers generally less than 50 percent of the time (Kass 2001a, Clark and Clark 2007). The highest reproductive rates are associated with large adult plants (>2.6 inches in diameter), which flower between 75 and 100 percent of the time producing a disproportionately large amount of seeds (Kass 2001a, Clark and Clark 2007; Hornbeck 2017). Depending on environmental conditions, Wright fishhook cactus is estimated to grow an average of 0.2 ± 0.1 inches in diameter within one year (Clark and Clark 2007) with seedlings growing at a faster rate than adults (Kass 2001a). Because of slow growth rates, the individuals with the highest reproductive rates may be at least 18 years old. Survival of the large-sized individuals (larger than 2 inches) is the most important contributor to Wright fishhook cactus population growth rates when they are present in populations (Hornbeck 2017).

Flowering occurs from April through May with fruiting from May to June. The species reproduces sexually, is self-incompatible, and cross pollination is needed to produce viable seeds (Tepedino et al. 2010). Wright fishhook cactus is pollinated almost exclusively by native ground nesting bees (Tepedino et al. 2010). Eight species of bees from one family (Halictid bees) and two genera (*Dialictus* and *Agapostemon*) are known to visit Wright fishhook cactus (Tepedino 2000). Pollination is limited by the foraging distance of bees which is strongly correlated to body size (Greenleaf 2007). We do not have foraging distances for the bees that pollinate Wright fishhook cactus; however, the maximum distance reported for the two genera is approximately a quarter mi (400 m) (Tepedino 2000).

Recruitment appears to be low and sporadic based on evaluations of size class distribution of Wright fishhook cactus populations (Clark 2008a; Hornbeck 2017). Seedlings comprised ten percent of the inventoried population between 1999 and 2008. Although it is likely that some seedlings were missed during this inventory effort, the percentage of old adults is likely accurate (Clark 2008a).

Status and Distribution

We listed the Wright fishhook cactus as an endangered species under the ESA on October 11, 1979 (44FR 58868). The 1985 recovery plan for the species identified illegal collecting, potential energy development, expanding towns and associated recreational activities, and livestock grazing as threats to the species (USFWS 1985). We have not designated critical habitat for the species. We published a 90-day finding regarding a petition to delist and initiated a 5-Year Review for *Sclerocactus wrightiae* on August 3, 2005 (70 FR 44544). We determined there was not substantial information to delist Wright fishhook cactus based on population declines and increasing threats (70 FR 44544, August 3, 2005).

The overall range of the species has increased since the publication of the 1985 recovery plan (USFWS 1985). Survey and inventory efforts have also greatly expanded our knowledge of the distribution of the species across its range. We now know of more occupied sites and in some cases, more continuous populations than at the time of listing. The known range of Wright fishhook cactus extends across approximately 860,000 ac (348,029 ha) of Utah's western Emery County, south-eastern Sevier County, and central Wayne County.

Wright fishhook cactus occurs primarily on lands managed by the BLM's Price and Richfield Field Offices and NPS. More than 300 localities of Wright fishhook cactus have been documented from BLM and NPS lands. There are 22 localities on lands managed by the BLM's Price Field Office, 256 localities on lands managed by the Richfield Field Office, and 63 localities on NPS lands. The species is also documented on Utah School and Institutional Trust Lands Administration (SITLA), and private lands.

With the retirement of the Hartnet Allotment within the Capitol Reef National Park (Park) to grazing, approximately 90 percent of the Wright fishhook cactus range occurs within active grazing allotments. Areas where grazing is not permitted include the species' range within the Park, the BLM North Caineville Mesa (2,200 ac (890 ha)), a small section of the Factory Butte Special Recreation Management Area (SRMA) (approximately 1,300 acres (526 ha)), and Goblin Valley State Park. Portions of Goblin Valley State Park are not fenced and may receive livestock use from permitted areas adjacent to the State Park. Trailing has occurred within the Park's section of the Cathedral Allotment since it was retired from grazing in 1999.

The current total population of documented individuals for the species is 14,761 individuals on NPS and BLM lands and is comprised of nine meta-populations (Rooks 2017; USFWS 2011). Accordingly, we have updated our range-wide population estimate from the 4,500 to 21,000 estimate from 2008, to 14,761 to 21,000 individuals (USFWS 2008). Since our November 9, 2017 BO, six new localities were discovered containing 185 individuals in Capitol Reef National Park (Borthwick 2018a).

The 5-year review indicated that threats to Wright fishhook cactus are more numerous and more immediate than at the time of the listing (USFWS 2008). Threats include man-made impacts such as livestock grazing, OHV use, and illegal collection combined with natural impacts such as drought and predation.

The negative effects of livestock grazing and trampling to Wright fishhook cactus was recently evaluated in the Capitol Reef National Park (Hornbeck 2017). In habitat with low livestock use, the large-sized individuals contribute the most to population growth rates. In habitat disturbed by livestock, the large-sized individuals are largely absent and the population growth rate is reduced. The most recent study of cattle impacts in the Park found that Wright fishhook cactus survival, growth, and fecundity were reduced where cattle were present compared to areas where cattle were absent (Hornbeck 2017). Wright fishhook cactus' predicted population trend in the Park depends on whether the livestock disturbance is episodic or persistent. The species appears to be able to recover from drought combined with episodic disturbance during periods of favorable climate conditions. In habitat that experiences chronic livestock disturbance, Wright fishhook cactus is predicted to experience a negative population trend which has the potential to

lead to localized extirpation. Wright fishhook cactus population trends in the Park are predicted to be stable in areas that experience episodic use or low levels of livestock use (Hornbeck 2017).

OHV use is a threat that occurs on BLM lands and was recorded within 68 Wright fishhook localities between 1999 and 2003. On BLM lands, OHV impacts to the species have declined over time since the Richfield BLM Field Office restricted OHVs to designated routes in 2008 and implemented OHV closures at the Factory Butte SRMA (BLM 2008a; BLM 2017). One of the original four SRMA OHV play areas is open to use at Swing Arm City (BLM 2017). Since 2009, two cacti deaths were attributed to OHV use in unauthorized areas of the SRMA from a single incident (BLM 2017).

Insect and rodent predation can be a significant cause of Wright fishhook cactus mortality. Herbivores include the cactus borer beetle, Ord's kangaroo rat, white-tailed antelope ground squirrels, mice, and a recently described snout moth (genus *Rhagea*) (Kass 2001a and 2001b; Clark 2009; Borthwick and Livensperger 2017b). Predation impacts may increase under drought and grazed conditions (USFWS 2013), and were identified as the primary cause of cactus mortality and population declines at the Factory Butte SRMA (BLM 2017).

Illegal collection of Wright fishhook cactus is a range-wide stressor that likely continues although the current scale of this impact is unknown. Wright fishhook cactus is desired in cactus collections and NPS has documented signs of scouting and poaching for the species, and illegal advertisements online.

Climate change was not identified as a threat at the time of listing or in the recovery plan. Wright fishhook cactus appears to be highly vulnerable to future climate conditions based on one evaluation that predicted considerable range loss for the species after 2040 (Krause 2010). Wright fishhook cactus was also ranked as "extremely vulnerable" to climate change using a climate vulnerability index and an evaluation of current verses future suitable habitat locations (Still et al. 2015). The species predicted vulnerability to future climate conditions using predictive models and the index were based on factors that include the species' small current range, limited dispersal ability, and lack of overlap between current and future areas of suitable habitat (Krause 2010; Still et al. 2015).

Critical Habitat Description

Critical habitat has not been proposed or designated for Wright fishhook cactus.

San Rafael Cactus

Species Description

The San Rafael cactus (*Pediocactus despainii*) is a perennial small globose cactus in the cactus family. San Rafael cactus is described as a separate species in all taxonomic treatments involving the species in regional floras (eFloras 2014; Neese 1981; Welsh et al. 1987; Welsh *et. al.* 2003) and in monographs of the genus (Heil et al. 1981). At one point, the species was proposed as a subspecies of *Pediocactus bradyi*, a federally listed species from northern Arizona (Arp 1972; Hochstätter 1995). However, it was later demonstrated through conclusive genetic

analysis that San Rafael cactus is more closely related to *P. simpsonii*, but distinct from that species as well as from Winkler cactus (*P. winkleri*) (Porter et al. 1999). Populations identified as San Rafael cactus have distinct haplotypes (sets of DNA variations that tend to be inherited together) from other *Pediocacti* species (Porter et al. 1999). Thus, we support the designation of San Rafael cactus as a separate *Pediocactus* species. Demarcation of the range of the species is based largely on plant morphological characteristics and geographic location.

San Rafael cactus was first discovered by Kim Despain in 1978 in the San Rafael Swell in Emery County, Utah (Welsh and Goodrich 1980). This sub-globose species is usually solitary stemmed, 1.5 to 2.4 inches tall and 1.2 to 3.7 inches in diameter. The stem apex extends from the ground level to 2 inches above. Stems are ribbed with tubercles 0.2 to 0.4 inches long. Spine bearing areoles (small bumps) are borne at the apex of the tubercle. The areoles are elliptic with moderate spines partially obscuring the stem. Central spines are lacking. Radial spines commonly number 9 to 13, are white, and range from 0.08 to 0.24 inches long. Flowers are borne on the upper end of the tubercle near the apex of the stem. Flowers are 0.9 to 1.0 inches long and colored yellow bronze, peach bronze, or pink with a purple mid-stripe. Stamens are yellow and stigmas are green. Fruit is 0.3 to 0.4 inches long with a smooth surface, initially green, turning reddish-brown with age and dehiscing with a vertical slit along the ovary wall. Seeds are shiny black and kidney shaped with mounds that coalesce into large irregular ridges (Heil et al. 1981; Welsh et al. 2003; Welsh and Goodrich 1980).

Life History and Population Dynamics

San Rafael cactus is considered to be a long-lived perennial, although there are no long-term demography studies on this species. We infer much of our life-history information for the species from data collected on the threatened Winkler cactus that is similar in size and its range is located just south of San Rafael cactus. It is likely that both species behave similarly in terms of growth, reproduction, recruitment, and pollination. Winkler cacti lived at least 20 years (Clark et al. 2015). Based on recorded growth rates, Winkler cactus individuals of 0.8 inches in diameter are likely to be at least 15 years old, while those reaching 2.0 inches in diameter may be closer to 40 years old (Clark et al. 2015).

Overall fecundity is low, with 20 percent of demographic monitored cacti never flowering at all, and a very low flowering rate (10 percent) for small individuals. Size and age are positively correlated with reproductive effort, and the majority of reproduction is from a small cohort of larger [over 0.8 inches in diameter] individuals. Ten cacti in the study (out of 108 total monitored cacti) produced 31 percent of the total flowers (Clark et al. 2015). Large individuals tend to be sheltered under rocks or shrubs that provided protection from disturbance from cattle or other large ungulates and were not recorded to experience trampling events or damage during the study. This indicates that a lack of disturbance may be vital for the development of the large, reproductively active individuals necessary to maintain the population (Clark et al. 2015).

Recruitment is low and sporadic, and may be positively correlated with warmer temperatures in February and March; however, there may be a delay of several years between a recruitment event and the first time seedlings are visible aboveground. This makes determining the factors that lead to successful recruitment difficult (Clark et al. 2015).

The species reproduces sexually, is self-incompatible, and cross pollination is needed to produce viable seeds (Tepedino 2000). Pollinators visiting San Rafael cactus include many species of bees, from multiple families (Tepedino 2000). Pollinator visitation to plants is positively affected by plant population size (Goverde et al. 2002). Therefore, small population size may limit pollinator visits and reproductive success.

Flowering occurs from March to May with fruiting from May to June (Heil 1984). The specific timing of flowering and fruiting varies from year to year apparently due to temperature and moisture conditions of late winter and early spring (Clark et al. 2015; Truman 2014). The lower elevation occurrences usually flower at least 5 to 15 days earlier than the upper elevations (Heil 1984).

During most of the year, individual cacti shrink underground or retract down to ground surface as a defense against an annual cycle of extreme heat, drought and cold (Clark 1999). The time of year when the cacti retract underground and whether they retract fully under the surface of the soil or remain partially visible appears to vary by individual population and weather conditions for that year. However, retraction generally occurs during the summer and winter with stems resurfacing in spring and fall. Resurfacing in the spring appears to be dependent on winter and spring moisture (Clark et al. 2015). Some populations of San Rafael cactus do not fully retract underground at any time of year while others remain above the surface for only a brief period each year (Truman 2014).

Status and Distribution

The species occurs in Emery County, Utah. This narrowly distributed perennial was proposed for federally listing as endangered in 1986 (51 FR 10560, March 27) following a final rulemaking published on September 16, 1987 (52 FR 34914). At the time of listing, the species was known only from two populations, approximately 25 mi apart and were estimated to contain 2,000-3,000 individuals each (52 FR 34914, September 16, 1987). In 1995, an additional population was discovered and the total population of the species was estimated to comprise 20,000 individuals (USFWS 1995). Since that time, many additional occurrences of San Rafael cactus have been documented. Based on re-inventory efforts over between 2011 and 2016, and recent discoveries of additional populations and occurrences, we now know of 21 populations of San Rafael cactus consisting of a total of 8,553 documented individuals (BLM 2012, 2012a, 2013; Ivory 2016; Robinson 2011; Truman 2014, 2015). This may represent a decline for the species from levels at the time of the previous population estimate, but this count is not directly comparable to previous population estimates or data collected over a longer time period.

Two populations (the Wedge, and Millsite/Clawson) contain over 1,000 individuals and are considered large in size; the remaining populations are small and more than half of the populations are under 100 recorded individuals. There is the potential to locate new populations; one new population was discovered in 2014 (Dripping Spring, the farthest north of the range) and another new population was discovered in 2016, over 3.7 mi distant from the nearest other population. Long-term monitoring has not been performed for this species, and it is not possible to determine an accurate population trend for this species with the available data.

Critical Habitat Description

Critical habitat has not been proposed or designated for San Rafael cactus.

Barneby Reed-Mustard

Species Description

Barneby reed-mustard (*Schoenocrambe barnebyi*) is a perennial herbaceous plant with sparsely leafed stems 9 to 15 inches tall arising from a woody root crown (57 FR 1396). The leaves are entire with a smooth margin, 0.6 to 3 inches long and 0.2 to 1 inches wide (57 FR 1396). The leaf blades are alternately arranged on the stem and are attached to the stem by a petiole (a smaller stem that supports the leaf). The flowers of Barneby reed-mustard have petals that are light purple with prominent darker purple veins and measure about 0.4 inches long and 0.1 inches wide (57 FR 1396). The entire flowers are about 0.4 inches across in full anthesis and are displayed in a raceme of, commonly, 2 to 8 flowers at the end of the plant's leafy stems (57 FR 1396).

Barneby reed-mustard grows on red clay soils rich in selenium and gypsum, overlain with sandstone talus, derived from the Moenkopi and Chicle geologic formations (57 FR 1396). Plant species normally associated with Barneby reed-mustard include *Abronia fragrans, Amelanchier utahensis, Artemisia dracunculus, Astragalus brandegei, Atriplex confertifolia, Chrysothamnus nauseousus, Ephedra torreyana*, *Ephedra viridis, Eriogonum corymbosum*, *Erioneuron pulchellum, Erioneuron pilosum, Hilaria jamesii, Monolepis nuttalliana, Opuntia polyacantha, Phacelia rafaelensis, Sporobolus* spp.*, Stanleya pinnata,* and *Townsendia incana* (57 FR 1396, Service 1994).

Life History and Population Dynamics

We have little information on the biology and life history of Barneby reed-mustard. The species is a perennial herb in the mustard family (Brassicaceae). Plants reproduce sexually and flower from late April to mid or late May (Welsh and Neese 1984). Most Barneby reed-mustard begin to bloom after two or three years of age (Heil 1992). Reproduction is sexual (USFWS 1994). Flowering occurs from April to May and fruiting occurs May to June (Service 1994). The fruit matures and splits in mid-June with the seeds falling to the base of the plants (Heil 1992). Gravity, wind and rain (running water) are thought to be the dispersal agent of seeds (Welsh and Neese 1984; Heil 1992). At the time the recovery plan was written, there wasn't much known about the life history of Barneby reed-mustard including the factors that govern the distribution the long-term population dynamics, and the effects of natural factors (such as disease, parasitism, grazing by native species, natural erosion, and vegetative competition) on the viability of the species population. The total population is estimated to be approximately 2,251 individuals within 4 Barneby reed-mustard populations across a total of 15 sites (Clark 2005).

Status and Distribution

Barneby reed-mustard was listed as an endangered species under the ESA on January 14, 1992 (57 FR 1396). *Schoenocrabme barnebyi*'s range is restricted to BLM and Capitol Reef lands in

northern Wayne and southern Emery counties in central Utah, but we presently lack a clear understanding of the total distribution and the potential available habitat for this species. For example, we know of approximately 2,100 acres of suitable habitat on north facing, steep talus slopes of the Moenkopi Shale and Kaibab Limestone formations in the northern parts of Capitol Reef (Clark 1997). However, we do not know how much habitat exists within Capitol Reef on the Carmel Formation because these areas have not been assessed (Clark 2005). In addition, habitat suitability across the species range on BLM land has not been assessed, and we do not have comprehensive surveys in these areas. The majority of individuals (approximately 75 percent) are thought to occur within Capitol Reef. One population with 2 sites is known to occur on BLM lands: the Sy's Butte/Hidden Splendor Mine) population. The Sy's Butte/Hidden Splendor Mine population is the only known population in Emery County and occurs on BLM lands.

Assessment work in connection with mining claims for uranium poses a significant ongoing threat to one population of Barneby reed-mustard located on lands managed by the BLM (57 FR 1396). In addition, at least one site in Capitol Reef National Park containing Barneby reed-mustard is vulnerable to trampling by park visitors (57 FR 1396). Barneby reed-mustard's extremely small species population size and restricted habitat make the species inherently vulnerable to man-caused and natural environmental disturbances (Welsh and Neese 1984).

Critical Habitat Description

Critical habitat has not been proposed or designated for Barneby reed-mustard.

Environmental Baseline

Jones Cycladenia

Status of the Species within the Action Area

No populations of Jones cycladenia have been located within the TMA, but modeled habitat is extensive throughout the TMA, the majority of which has not been surveyed for the species. The nearest occupied habitat is the Hatt Ranch/Greasewood Draw population, located approximately 1.4 mi to the west of the TMA.

Status of Critical Habitat within the Action Area

Critical habitat has not been proposed or designated for Jones cycladenia.

Factors Affecting Species within the Action Area

Factors that could affect Jones cycladenia include natural or human-directed disturbances, such as increased recreation and OHV use, introduction or proliferation of invasive species, vegetation clearing activities, rights of way maintenance, and livestock grazing. Approximately 686 mi of routes occur in or within 300 ft (USFWS 2020) of Jones cycladenia modeled habitat, which was derived from areas within the Chinle and Summerville geologic formations at elevations between 4,000 ft and 6,000 ft. Modelled habitat covers approximately 260,119 acres throughout the

central and southern portions of the TMA (BA Appendix C. Map 10). The majority of these routes (502.1 mi) presently exist on the landscape without official travel status designations; 469.3 mi would be designated as open travel status and 216.5 mi would be designated as closed status under the TMP.

Navajo Sedge

Status of the Species within the Action Area

The nearest known population of the Navajo sedge is approximately 80 mi to the south of the Project area. For this Project, the "Glen Canyon Group" (Jg) geological unit represents potential Navajo sedge habitat. Within the TMA this potential habitat has not been extensively surveyed. This potential habitat covers approximately 32,963 acres throughout the central and southern portions of the TMA (BA Appendix C. Map 7).

Status of Critical Habitat within the Action Area

Designated critical habitat exists for Navajo sedge only in Arizona, and is thus outside the action area (approximately 125 mi away).

Factors Affecting Species within the Action Area

Factors that could affect Navajo sedge include natural or human-directed disturbances, such as the modification of hydrology, increased recreation and OHV use, introduction or proliferation of invasive species, vegetation clearing activities, rights of way maintenance, and livestock grazing. Approximately 28 mi of routes occur in or within 300 ft (USFWS 2020) of potential habitat. The majority of these routes (24.5 mi) presently exist on the landscape without official travel status designations; 25.9 mi would be designated as open travel status and 2.1 mi would be designated as closed status under the TMP.

Ute Ladies'-Tresses

Status of the Species within the Action Area

The closest previously identified population is approximately 30 mi to the southeast of the Project area. For this Project, riparian areas that maintain moisture until July and August represent Ute ladies'-tresses habitat. This habitat was identified from the normalized difference vegetation index calculated from the average mosaic of LandSat 8 images captured in in July and August between 2013 and 2019. This remotely identified habitat has not had surveys performed during the appropriate period for identification. The identified habitat covers approximately 4,192 acres within the TMA (BA Appendix C. Map 8).

Status of Critical Habitat within the Action Area

Critical habitat has not been proposed or designated for Ute Ladies'-tresses.

Factors Affecting the Species within the Action Area

Factors that could affect Ute ladies-tresses include natural or human-directed disturbances, such as the modification of hydrology, increased recreation and OHV use, introduction or proliferation of invasive species, vegetation clearing activities, rights of way maintenance, and livestock grazing. Approximately 3.6 mi of routes occur within 300 ft (USFWS 2020) of modeled habitat. The majority of these routes (2.5 mi) presently exist on the landscape without official travel status designations; 3.3 mi would be designated as open travel status and 0.3 mi would be designated as closed status under the TMP.

Wright Fishhook Cactus

Status of the Species within the Action Area

No occupied habitat has been identified within the Project area. However, known populations occur approximately 2.5 mi from the southwest corner of the Project area. For this Project, the "Summerville, Entrada, Carmel, Arapien, Twin Creek and other Formations" (J1) geological unit represents Wright fishhook cactus habitat and covers 106,183 acres throughout the central and southern portions of the TMA (BA Appendix C. Map 9). This habitat has not had surveys performed during the appropriate period for identification. There is also occupied habitat within Wayne and Emery Counties just outside the TMA; thus, there is high potential for Wright fishhook cactus to be in the TMA.

Status of Critical Habitat within the Action Area

Critical habitat has not been proposed or designated for Wright fishhook cactus.

Factors Affecting the Species within the Action Area

Factors that could affect Wright fishhook cactus include natural or human-directed disturbances, such as increased recreation and OHV use, introduction or proliferation of invasive species, vegetation clearing activities, rights of way maintenance, and livestock grazing. Approximately 340 mi of routes occur in or within 300 ft (USFWS 2020) of potential habitat. The majority of these routes (252.2 mi) presently exist on the landscape without official travel status designations; 224.7 mi would be designated as open travel status and 115.6 mi would be designated as closed status under the TMP.

San Rafael Cactus

Status of the Species within the Action Area

No occupied habitat has been identified within the Project area. The closest known populations occur approximately 13.7 mi to the west of Project area. For this Project, the USFWS defined area of influence (AOI) represents San Rafael cactus potential habitat and covers 242,855 acres throughout the northern and central portions of the TMA (BA Appendix C. Map 12). This habitat has not had surveys performed during the appropriate period for identification.

Status of Critical Habitat within the Action Area

Critical habitat has not been proposed or designated for San Rafael cactus.

Factors Affecting the Species within the Action Area

Factors that could affect San Rafael cactus include natural or human-directed disturbances, such as increased recreation and OHV use, introduction or proliferation of invasive species, vegetation clearing activities, rights of way maintenance, and livestock grazing. Approximately 811 mi of routes occur in or within 300 ft (USFWS 2020) of potential habitat. The majority of these routes (585.9 mi) presently exist on the landscape without official travel status designations; 610.8 mi would be designated as open travel status and 200.0 mi would be designated as closed status under the TMP.

Barneby Reed-Mustard

Status of the Species within the Action Area

No occupied habitat has been identified within the Project area. The closest known populations occur approximately 15.9 mi to the west of Project area. For this Project, the USFWS defined AOI represents Barneby reed-mustard potential habitat and covers 30,842 acres throughout the far western portions of the TMA (BA Appendix C. Map 13). This habitat has not had surveys performed during the appropriate period for identification.

Status of Critical Habitat within the Action Area

Critical habitat has not been proposed or designated for Barneby reed-mustard.

Factors Affecting the Species within the Action Area

Factors that could affect Barneby reed-mustard include natural or human-directed disturbances, such as increased recreation and OHV use, introduction or proliferation of invasive species, vegetation clearing activities, rights of way maintenance, and livestock grazing. Approximately 94 mi of routes occur in or within 300 ft (USFWS 2020) of potential habitat. Roughly half of these routes (48.9 mi) presently exist on the landscape without official travel status designations; 81.6 mi would be designated as open travel status and 12.0 mi would be designated as closed status under the TMP.

Factors Affecting All Plants within the Action Area

Additional activities affecting plant species within the action area include livestock grazing; oil, gas, and mineral exploration and extraction; and climate change. The extent to which these factors are impacting ESA-listed plants within the action area is presently unknown.

Livestock grazing can have detrimental impacts on native plants and plant communities. Impacts include changes in vegetation composition and abundance, increased soil erosion and compaction, a reduction in water infiltration rates, and an increase in runoff (Gifford and

Hawkins 1978; Robinson and Bolen 1989; Waser and Price 1981; Holechek et al. 1998; Loftin et al. 2000), leaving less water available for plant production (Dadkah and Gifford 1980). The ecological impacts of grazing include: (1) alteration of species composition of communities, including decreases in density and biomass of individual species, reduction of species richness, and changing community organization; (2) disruption of ecosystem functioning, including interference in nutrient cycling and ecological succession; and (3) alteration of ecosystem structure, including changing vegetation stratification, contributing to soil erosion, and decreasing availability of water to biotic communities (Fleischner 1994). Livestock may also increase the spread of cheatgrass and red brome (DiTomaso 2000). As a result, there may be decreased recruitment and reproductive output, and increased plant damage or individual mortality. In certain cases, livestock grazing may positively affect ESA-listed plants where grazing is used to improve certain vegetation species productivity.

Energy and mineral exploration and extraction activities would likely result in similar human- and equipment-related surface disturbances, including mortality of individuals, habitat loss, degradation and fragmentation, increased soil erosion, increased dust generation, reductions in pollinator populations, reductions in plant reproductive potential, reductions in seed bank quantity and quality, and increasing invasive plant occurrences (Brock and Green 2003). Changes in land use can directly alter plant habitats by reducing occupied area, stability, connectivity, and quality, thus negatively affecting the viability of plant populations (Brigham and Schwartz 2003). In addition, the unintentional introduction of petroleum products or other contaminants could result in detrimental impacts to ESA-listed plants (e.g., toxicity) or indirectly (e.g., mortality of pollinators).

Both the Intergovernmental Panel on Climate Change and the U.S. Global Climate Change Program conclude that changes to climatic conditions, such as temperature and precipitation regimes, are occurring and are expected to continue in western North America over the next 100 years (Smith et al. 2000; Solomon et al. 2007; Trenberth et al. 2007). Down-scaled climate projections for the Colorado Plateau predict a 10 °F (5 °C) increase in mean annual temperature by 2100 (Munson et al. 2011). A consensus of 22 models predict annual temperatures to exceed the 1950-1999 range of variability by the 2030s, with spring precipitation declining by 11-45 percent by the end of the century. (Garfin et al. 2010; Krause 2014). These changes are likely to increase drought frequency, and severe droughts in the Colorado Plateau in the future could exceed any recently experienced (Seager et al. 2007). Many endemic plants of the Colorado Plateau are predicted to experience range reductions because of dispersal limitations and unsuitable climate conditions in currently occupied habitat (Krause et al. 2014).

Effects of the Action

All Plants

The TMP would expand the authorized travel route network, allowing the use of OHVs, motorized vehicles, and mechanized travel on designated routes in the TMA. Use and maintenance of the designated travel network may adversely affect the ESA-listed plants covered in this BO (Jones cycladenia, Navajo sedge, Ute ladies'-tresses, Wright fishhook cactus, San Rafael cactus, and Barneby reed-mustard) through a range of mechanisms related to human- and equipment-related soil disturbance. We expect that all of the six plant species would be similarly

impacted by these disturbances, but that Ute ladies'-tresses and Navajo sedge may be vulnerable to additional disturbances affecting streams and seeps. We also expect that the increased designated routes will facilitate, and thereby increase, recreational usage of the action area. These stressors and their mechanisms are described below:

OHV Use and Other Recreation Impacts

OHV use of the travel route network is likely to impact ESA-listed plants through multiple pathways. OHV use may directly impact individuals through the crushing of plant individuals, causing injury or mortality. OHV use of the travel route network is expected to mobilize and spread dust (Farmer 1993; Trombulak and Frissell 2000). Dust accumulation within nearby habitat can negatively affect plant growth and physiology (Eller 1977; Spatt and Miller 1981; Thompson et al. 1984; Farmer 1993; Sharifi et al 1997; Trombulak and Frissell 2000; Hobbs 2001). The distance from a road at which dust can affect vegetation varies (Everett 1980; Spatt and Miller 1981; McCrea 1984; Walker and Everett 1987; Santelmann and Gorham 1988; Myers-Smith et al. 2006), but negative impacts to plant growth and reproduction may occur up to 300 ft away from dust sources during the growing and flowering season (Environmental Protection Agency 1995; Veranth et al. 2003; Etyemezian et al. 2004; Padgett et al. 2007; Wijayratne et al. 2009; Lewis 2013; Waser 2017).

The mortality of plants within and adjacent to travel routes may result in the effective fragmentation of populations and habitats. Negative effects of habitat fragmentation to plants and pollinators have been well documented (Aizen et al. 2002; Debinski and Holt 2000; Moody-Weis and Heywood 2001; Gathmann and Tscharntke 2002; Lennartsson 2002; Kolb 2008). Fragmented plant populations appear to be less attractive to insect pollinators, which spend more time in larger, unfragmented plant habitats (Aizen et al. 2002; Goverde et al 2002; Lennartsson 2002; Kolb 2008). Lower pollinator visitation rates are associated with reduced reproductive success in fragmented sites compared to intact sites (Jennersten 1988). Furthermore, insect pollinator diversity increases in larger plant populations with larger habitat areas (Mustajarvi et al. 2001) and decreases in isolated habitats with smaller plant populations (Steffan-Dewenter and Tscharntke 1999).

On- and off-trail travel may degrade suitable habitat through soil compaction, erosion, spread of noxious weeds, hydrologic changes (from headcuts), and destruction of biocrusts. Compaction changes soil characteristics by reducing pore spaces and increasing soil density, which results in reduced water infiltration, reduced seedling establishment, and increased competition with roadside weeds more adapted to disturbed conditions. The travel route network may contribute to nonnative plant invasions via introduced vehicle transport of plant parts and soil disturbances caused by OHV use and road maintenance activities (Forman and Alexander 1998 Gelbard and Belnap 2003). Establishment and spread of noxious and invasive weeds can increase competition for water, space, and nutrients, resulting in decreased reproductive success for ESA-listed plants. Many of these invasive species are not limited to roadsides, but also encroach into surrounding habitats (Forman and Alexander 1998; Forman 2000; Gelbard and Belnap 2003).

Other recreation activities in the TMA may include hiking, camping, hunting, fishing, target shooting, biking, swimming, rafting, canyoneering, and rock climbing. These recreational activities may similarly result in trampling or crushing of individuals; increased soil disturbance,

erosion, and fugitive dust generation; removal, degradation, or alteration of suitable and occupied habitat; reduced seed banks; reduced pollinator visitation; and increased occurrence of invasive plant species (Harper et al. 1998; Ouren et al. 2007; Roth 2012; Adams et al. 1982; Goeft and Alder 2001; White et al. 2006). As a result, there may be decreased recruitment and reproductive output, and increased plant damage or individual mortality.

TMP Implementation Activities

All of the routes in the TMP already exist in the landscape. "OHV Closed" designations will close a subset of the existing travel routes, directing OHV use to less sensitive environments. This Project's TMP implementation activities also provide structured opportunities for habitat management that could improve conditions for special status plants. Such activities include installing new signs, road maintenance (grading, installing water control structures, surfacing, etc.), route decommissioning or reclamation (including ripping the ground and planting seed, grading, recontouring), installing fencing or barriers, or mulching on closed routes. Some of these activities may extend into nearby previously undisturbed areas. As with vehicular use, new ground disturbance may result in dust on plants, which would affect plant health and vigor. Disturbed areas may revegetate with invasive plants that would compete with existing plants attempting to recolonize those areas. Installation of signs, barriers, and other permanent structures outside of existing roadway prisms would result in a minor (discountable) loss of plant habitat.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA.

Cumulative effects to the ESA-listed plants under the TMP would include, but are not limited to, the following broad types of impacts:

- Increased recreational and economic use of the TMA as a result of increased travel access.
- Changes in land use patterns or practices that adversely affect a species' occupied and suitable habitat, including encroachment of human development into those habitats.
- Management actions by some, or all, of the following groups, on lands adjoining or upstream of BLM administered lands:
    - State of Utah
    - County governments in Utah
    - Local governments in Utah
    - Private landholders in Utah

For the six ESA-listed plants species covered in this BO, potential suitable habitat (cumulatively across all six species) spans most of the TMA. The TMA is surrounded by a checkerboard pattern of land ownership including Federal, State, and private landowners. These six species

are susceptible to effects from activities on State and private lands. Many of these activities, such as livestock grazing, oil and gas exploration and development, human population expansion and associated infrastructure (increased trails and roads) development, research, and recreation activities (including OHV use and any activities that increase human presence), are expected to continue on State and private lands within the these species' ranges. All of these activities have the potential to affect the ESA-listed plant species by increasing mortalities, injuring plants, and further adversely impacting occupied and suitable habitat.

Conclusion

After reviewing the current status of the six ESA-listed plants covered in this BO, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the TMP, as proposed, is not likely to jeopardize the continued existence of Jones cycladenia, Navajo sedge, Ute ladies'-tresses, Wright fishhook cactus, San Rafael cactus, or Barneby reed-mustard. We base our conclusion on the following:

1. The applicant committed conservation measures from the 2003 *San Rafael Route Designation Plan* and the *Price RMP* still apply to routes designated under this Travel Management Plan.

2. If occupancy is determined, BLM will monitor all routes including routes designated as closed within occupied habitat to ensure compliance with the designation in the TMP. If monitoring indicates that disturbance or use is occurring outside the designated OHV open routes, BLM will implement appropriate corrective actions as identified in the Implementation Plan or developed in consultation with our office.

3. The project area does not contain known populations of these ESA-listed plants, and therefore would not impact ongoing recovery efforts.

4. All site-specific projects designed under the TMP would be subject to consultation requirements under section 7 of the ESA. Projects or activities not covered in this BO will be evaluated for effects to ESA-listed plants, including Jones cycladenia, Navajo sedge, Ute ladies'-tresses, Wright fishhook cactus, San Rafael cactus and Barneby reed-mustard.

5. All of the routes in the TMP already exist in the landscape. "OHV Closed" designations will close a subset of the existing travel routes, some of which occur near or within potential habitat, and will thus reduce impacts in some regions of the TMA.

3. INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and Federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. We further defined harm to include significant habitat modification or degradation that results in death or injury of listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. We define harass as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7 (o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the ESA provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

3.1 Endangered Terrestrial Animals

Mexican Spotted Owl

Amount or Extent of Take Anticipated

We consider areas within 0.5 mi of designated open OHV routes to be the noise harassment effect zone for Mexican spotted owls. The BLM identified 252.9 mi of routes that occur in or within 0.5 mi of Mexican spotted owl modeled habitat within the TMA (habitat model based on Lewis 2014; BA Appendix C. Map 3), affecting a total of 6,851 acres of potential habitat. As described in the environmental baseline, there is an occupied owl site directly across the Green River (outside the action area), and we are reasonably certain that owls could occupy nearby canyons that extend into the Project area. We expect that the canyon complexes within the TMA could support one pair of owls based on densities observed across the river. These potentially occupied canyons occur within 0.5 mi of routes designated as open status by the proposed action. Presently, these routes exist on the ground, but were not part of the 2003 or 2008 designated travel network.

We presently lack information on the level of recreation impacts occurring near these canyons within the action area, but expect that newly authorized routes would increase the volume of recreation usage over time. We anticipate that noise and increased recreation activity resulting from the proposed action could thereby lead to the harm and harassment of owls occupying the TMA. This level of harm and harassment could deter nesting, displace territories, or lead to nest abandonment (which could result in juvenile mortality). We anticipate the proposed action would result in the incidental take of one pair of Mexican spotted owls and their young that we expect may be present in the action area.

Effect of the Take

In the accompanying BO, we determined that the level of anticipated take is not likely to jeopardize the continued existence of the Mexican spotted owl. Incidental take has not been

issued within the action area prior to this consultation. Ongoing take within the Colorado Plateau EMU may occur within Capitol Reef National Park, and it includes one pair of owls and their young, per year (one PAC) for a total of five years (September 2018 through December 2023). Neither the TMP nor the Capitol Reef National Park trailing agreement are expected to result in the mortality of adult nesting owls, and because of this, we do not expect the combined effects of the take to have long-term impacts on the recovery or continued existence of the Mexican spotted owl.

Western Yellow-Billed Cuckoo

Amount or Extent of Take Anticipated

We consider areas within 0.5 mi of designated open OHV routes to be the noise harassment effect zone for yellow-billed cuckoo. Potential habitat for the yellow-billed cuckoo covers 1,660.3 acres within 0.5 mi of TMA travel routes and is found primarily along the perennial streams within the analysis area (BA Appendix C. Map 5). Though breeding has not been confirmed within the TMA, the proximity of the action area to proposed critical habitat (a suspected breeding population) and a documented cuckoo call along the San Rafael River (within the TMA) suggest that cuckoos are reasonably certain to occur within the action area.

Within the TMA there are 78 mi of routes that occur in or within 0.5 mi of yellow-billed cuckoo potential habitat, which coincides with riparian regions in the TMA that are at least 12 acres in size and a minimum of 100 ft by 100 ft in dimension (USFWS 2015). Across those 78 mi of routes, we expect cuckoos may be affected by periodic noise, but do not anticipate that periodic noise alone will generate enough disturbance to arise to the level of take. Most of the designated open routes within 0.5 miles of potential cuckoo habitat occur outside of the riparian corridors. However, there are four designated travel routes that directly traverse the riparian corridors (two crossings of the San Rafael River, one route that travels parallel to the San Rafael River, and one route that enters the 100 year flood plain of the Green River) for a total of less than 2 mi. Activity along the travel routes within riparian habitats would pose more intense disturbances in the forms of louder noise and human presence (travel and recreation activity within riparian habitats), which could deter nesting, displace territories, or lead to nest abandonment (i.e. juvenile mortality). We presently lack sufficient information to estimate densities of western-yellow billed cuckoos within the action area, but we expect that territories would be distributed linearly along the rivers and have little overlap due to the patchiness of suitable nesting habitat within the TMA (as inferred through satellite imagery and GIS analysis). We estimate that one pair of cuckoos and their young could be impacted at each of the four locations where designated travel routes directly traverse riparian habitats. In total, we estimate that up to four pairs of yellow-billed cuckoo and their young may be taken as a result of the TMP.

Effect of the Take

In the accompanying BO, we determined that the level of anticipated take is not likely to jeopardize the continued existence of the yellow-billed cuckoo. Incidental take for yellow-billed cuckoo has not been issued within the action area prior to this consultation.

3.2 Endangered Plants

Sections 7(b)(4) and 7(o)(2) of the ESA generally do not apply to listed plant species. However, limited protection of listed plants from take is provided to the extent that the ESA prohibits the removal and reduction to possession of federally listed plants or the malicious damage of such plants on areas under Federal jurisdiction, or the destruction of endangered plants on non-Federal areas in violation of State law or regulation or in the course of any violation of a State criminal trespass law.

3.3 Reporting Requirements

Upon locating a dead or injured Mexican spotted owl, western yellow-billed cuckoo, or other ESA-listed animal, initial notification must be made within one business day to our Office of Law Enforcement in Littleton, Colorado at telephone (720) 981-2777, our Ecological Services Office at telephone (801) 975-3330, and the Southeastern Regional office of the Utah Division of Wildlife Resources at telephone (435)-613-3700. This reporting requirement will allow our field office or the UDWR to collect and process dead individual if necessary to determine cause of death.

Instructions for proper handling and disposition of such specimens will be issued by our Division of Law Enforcement consistent with the provisions of the Incidental Take Statement.

4. REASONABLE AND PRUDENT MEASURES AND TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the Act, BLM must ensure that any activities associated with the proposed action comply with all of the applicant committed conservation measures from the 2003 *San Rafael Route Designation Plan* and the *Price RMP*). Those measures were amended in the BA (Appendix E. Relevant Conservation Measures, 7 May 2020).

No additional reasonable and prudent measures or terms and conditions are necessary for this consultation. However, it is possible that additional reasonable and prudent measures and terms and conditions may be required on a project-specific level, in a tiered consultation to this programmatic opinion.

4.1 Recommended Conservation Measures

Section 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

We recommend incorporating the following guidance into the TMP to assist with management, protection, and recovery of listed species and their habitats at the landscape and site-specific levels. Available recovery plans, conservation agreements and strategies, scientific literature, and other available information should consistently be applied to occupied, suitable, and

potentially suitable habitats of listed species. The following recommendations should be used in conjunction with available species-specific plans and literature and appropriately applied at the landscape and site-specific planning levels in a manner that ensures conservation and recovery of listed and sensitive species. In general, these guidelines should apply to listed and sensitive species habitats in areas of known and likely occurrence, particularly where recovery and conservation objectives have been identified by available species-specific plans.

Endangered Plants

- Plan and implement surveys for each ESA-listed plant species in all areas of where potentially suitable habitat occurs within 300 ft of travel routes.
- Protect occupied habitat from recreational access and use.

Endangered Fishes

- The Green River and its tributaries are home to three conservation agreement species: the bluehead sucker (*Catostomus discobolus*), roundtail chub (*Gila robusta*) and the flannelmouth sucker (*Catostomus latipinnis*). The Terms and Conditions of the Applicant Committed Conservation Measures should be applied in a manner that also minimizes effects to these and other native aquatic and riparian species.

Mexican Spotted Owl

The following guidelines provide recommended conservation measures to reduce the impacts of recreation and noise disturbances to Mexican spotted owls.

1. Recreation Disturbance:

    a. The following guidelines apply to PACs during the breeding season, (1 Mar - 31 Aug). If non-breeding is inferred or confirmed that year per the accepted survey protocol, restrictions on noise disturbances can be relaxed depending on the nature and extent of the proposed disturbance (Swarthout and Steidl 2001, 2003). Guidelines for noise management related to recreation are provided below in the noise management recommendations.
        i. No construction of new facilities (e.g., trailheads, OHV trails) or expansion of existing facilities should take place in PACs during the breeding season. Any construction within PACs should be considered on a case-specific basis. Modifications to existing facilities pertaining to public health, safety, and routine maintenance are excepted (e.g., removal of dangerous trees in a campground; replacement of road culverts within campgrounds, etc.). However, when implementing such activities, those conducting the work should use all measures possible to avoid potential effects on owls (e.g., use least disruptive machinery; timing of the project to minimize disturbance).
        ii. Managers should, on a case-specific basis, assess the presence and intensity of currently allowed (permitted and non-permitted) recreational activities. The assessment should include distance, frequency, duration,

and source of the disturbance. If recreation is determined to be a problem (e.g., increased OHV or hiking use), limit human activities during the breeding season in areas occupied by owls (timing may vary depending on local nest chronology). Disturbance here is defined as the presence of 1 to12 people; group sizes exceeding 12 people should not be allowed. In areas where nest and roost sites are not identified, human disturbance should be limited to ≤ 2 disturbances per hour (averaged over a 24 hour period) throughout the PAC. Where nest and roost sites are known, disturbance should be limited to ≤ 2 disturbances per hour (averaged over a 24 hour period) within line of sight of the nest/roost sites. In some cases, disturbances may be avoided by routing trails and recreational uses (e.g., OHV use) outside of PACs through signing in order to designate zones free from human disturbances during critical periods.

iii. Seasonal closures of specifically designated recreational activities (e.g., OHV use, rock climbing, or biking) should be considered where disturbance to breeding owls seems likely.

iv. Conduct education through signing, interpretation events, access permitting, or other information sources to inform the public of proper and legal behaviors when encountering owls. For example, land managers in some areas are maintaining permanent, all-weather signs that inform the public that the area is home to a sensitive species; visitors should stay on the trail and be as quiet and unobtrusive as possible.

v. If owls are not detected in a PAC during the breeding season, restrictions on non-habitat-altering recreation can be relaxed depending on the nature and extent of the proposed disturbance.

2. Noise Disturbance:

a. The following guideline applies to areas within PACs during the breeding season (1 Mar - 31 Aug). If non-breeding is inferred or confirmed that year per the accepted survey protocol, restrictions on noise disturbances can be relaxed depending on the nature and extent of the proposed disturbance.

i. Managers should, on a case-specific basis, assess the potential for noise disturbance to nesting owls.

ii. Breeding-season restrictions should be considered if noise levels are estimated to exceed 69 dBA (A-weighted noise level) (~80 dBO [owl-weighted noise level, Delaney et al. 1999a,b, Delaney and Grubb 2003, and Pater et al. 2009]) consistently (i.e., >twice/hour) or for an extended period of time (>1 hr) within 50 m (165 ft) of nesting sites (if known) or within entire PAC if nesting sites are not known.

Western Yellow-Billed Cuckoo

In order to protect western yellow-billed cuckoo habitat and avoid negative impacts to the species, actions should be avoided or restricted that may cause stress and disturbance during nesting and rearing of their young (between June 1 to August 31). The following

recommendations have been adapted from the *Southwestern Willow Flycatcher Recovery Plan Appendix M. Potential Recreation Impacts on Southwestern Willow Flycatchers and Their Habitat.* To determine where these recommendations may be appropriate, habitat suitability should be determined in accordance with *Guidelines for the identification of suitable habitat for Western Yellow-Billed Cuckoo in Utah,* and Protocol Breeding Season Surveys should be implemented in suitable habitats to determine occupancy. All Surveys should be conducted by permitted individual(s), and be conducted according to protocol.

1. Provide protected areas:
   Keep campsites and heavily used day use areas away from areas to be developed or maintained for yellow-billed cuckoos. Ensure protected areas are large enough to encompass breeding, foraging, and post-fledging habitat. Discourage unauthorized off-road vehicle use in riparian habitat with fencing or physical barriers. Direct vehicles, boating, swimming, tubing, and fishing away from unoccupied and occupied suitable habitat, especially during the breeding season, where impacts are likely to negatively impact habitat or cuckoo behavior. Where potentially suitable habitat has been identified as future cuckoo habitat, these activities should be minimized to allow habitat to develop.
2. Reduce impacts from recreationists by promoting stewardship, educating users and maintenance workers, reducing unpredictable activities, reducing motorboat impacts, providing visual barriers, and reducing noise disturbance.
   Examples of how this can be accomplished are provided below:
   a. Promote stewardship:
      Encourage individual recreationists and user groups to support riparian conservation, review management plans, and generate funds. Support their efforts to sponsor riparian clean-up, trail maintenance, field trips, on-site monitors, and development and distribution of interpretive materials.
   b. Educate users and maintenance workers:
      Sponsor programs and post signs that educate users about the value of riparian habitat to sensitive species. Clearly mark trails, campgrounds, and revegetation areas. Educate equestrians, boaters, and tubers about the value of overhanging branches to nesting birds. Encourage them to avoid trimming overhanging branches. Discourage campers and day users from feeding birds, to prevent increases in jays, ravens, and cowbirds.
   c. Reduce negative impacts of annual or periodic maintenance:
      Ensure all facilities and grounds workers conduct activities compatible with protecting riparian habitat and species. Conduct annual or periodic maintenance outside the breeding season.
   d. Reduce unpredictable activities:
      Design wildlife recreation activities that are predictable for wildlife. For example, provide well-marked trails or boardwalks to a) encourage controlled and predictable use, and b) discourage off-trail hiking and creation of alternate routes.
   e. Provide visual barriers:
      Increase distance between disturbance and wildlife or provide visual barriers. Provide a natural vegetation buffer in day use areas and along trails.
   f. Reduce noise disturbance:
      Minimize noise disturbance near breeding habitat. Ensure noise levels at 0.25 mi from suitable habitat do not exceed baseline conditions. Birds are sensitive to

vibration, which occurs with low-frequency noise (Bowles 1995). Such efforts include rerouting trails and day use areas away from occupied habitat, controlling the number of visitors, relocating designated shooting areas, and discouraging the use of electronic equipment (radios, "boom boxes") and off-road vehicles near breeding locations.

3. Confine camping areas:
   Evaluate whether confining camping to a small concentrated number of campsites is less detrimental to wildlife and habitat than dispersal over a wide area. Institute fire bans when danger is high or where habitat is vulnerable, e.g., areas dominated by tamarisk (Tamarix spp.). If campfires are authorized, confine them to fire boxes. Limit or prohibit fuel wood collecting in riparian areas.
4. Ensure fire plans are current, operable, and enforced:
   Ensure fire-fighting equipment and personnel are available. 5.

Restore habitat impacted by recreation:

Re-vegetate with native species all areas of surface disturbance within riparian areas and/or adjacent uplands. Where needed, post signs that explain the importance of habitat restoration, fence habitat, and/or temporarily close trails and use areas (Craig 1977). Because restoration of recovering habitat can be impeded by recreation, it is important to evaluate its potential for success before forging ahead with a project. For example, in a study of 27 riparian restoration projects, recreation was at least partly responsible for ecological deterioration of two sites and impeding recovery efforts at two other sites (Briggs 1992, Briggs 1996).

6. Place designated recreation shooting areas away from riparian areas:
   Designated shooting areas used for target practice should be located away from riparian areas to minimize physical destruction of habitat and noise disturbance.
7. Minimize attractants to scavengers, predators, and brown-headed cowbirds:
   Where recreation users congregate, provide adequate waste facilities (covered trash receptacles, restrooms) and regular collection service. Place horse stables away from suitable and occupied habitat. Avoid use of bird seed feeders that use cowbird preferred seeds such as millet.
8. Provide on-site monitors and enforcement where recreation conflicts exist:
   Where potential recreation conflicts exist and total closure is not practical, provide on-site monitors to educate users and control use. Increase surveillance and/or impose fines for habitat disturbance or damage.

5. RE-INITIATION STATEMENT

This concludes formal consultation on your Project. As provided in 50 CFR §402.16, re-initiation of formal consultation is required where discretionary Federal agency involvement or control over the action is retained (or is authorized by law) and if: 1) the amount or extent of incidental take is exceeded; 2) new information reveals effects of the agency action that may impact listed species in a manner or to an extent not considered in this opinion, 3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion, or 4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded or if the terms and conditions of this biological opinion are not fully implemented, any activities causing such take must cease immediately pending re-initiation. To re-initiate section 7 consultation, BLM should immediately notify our office by phone or email.

We appreciate your commitment in the conservation of endangered and threatened species. If you require further assistance or have any questions, please contact Garrett Sisson at (385) 285-7927 or garrett_sisson@fws.gov.

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