United States Department of Agriculture

San Bernardino National Forest

Deep Creek Wild and Scenic River Comprehensive River Management Plan

Environmental Assessment

Forest Service San Bernardino National Forest Pacific Southwest Region
November 2024

For More Information Contact:

Jihadda Govan, Monument Manager
San Bernardino National Forest
Sand to Snow National Monument
Pacific Southwest Region
602 S. Tippecanoe Avenue
San Bernardino, CA 92408
(909) 693-0778
jihadda.govan@usda.gov

In accordance with Federal civil rights law and US Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at http://www.ascr.usda.gov/complaint_filing_cust.html and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by mail: US Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov. USDA is an equal opportunity provider, employer, and lender.

We make every effort to create documents that are accessible to individuals of all abilities; however, limitations with our word processing programs may prevent some parts of this document from being readable by computer-assisted reading devices. If you need assistance with this document, please contact the San Bernardino National Forest at (909) 382-2682.

El USDA es un proveedor, empleador y prestamista que ofrece igualdad de oportunidad.

CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1. PURPOSE AND NEED

INTRODUCTION

The San Bernardino National Forest (the Forest) is proposing to adopt a comprehensive river management plan (CRMP) for the designated sections of Deep Creek Wild and Scenic River (the river). The CRMP is administrative in nature; the actions proposed here include establishing a final boundary, establishing maximum user capacity levels, and providing programmatic management direction. The CRMP outlines the desired conditions in the river corridor (the area within the proposed final boundary) and proposes management actions to aid in achieving these conditions. However, it does not directly implement any ground-disturbing actions. All future projects in the river corridor would require site-specific National Environmental Policy Act (NEPA) analysis.

The river corridor has been managed as a designated wild and scenic river (WSR) since the 2019 *John Dingell Jr. Conservation, Management, and Recreation Act* added 34.5 miles of Deep Creek (including Holcomb Creek) to the National Wild and Scenic Rivers System. The river is located within the Mountaintop Ranger District.

This environmental assessment (EA) has been prepared in compliance with NEPA and other relevant federal laws and regulations. This is not a decision document. The responsible official will document the decision regarding the CRMP in a decision notice after a 30-day public review of the EA. The full text of the CRMP, including the User Capacity Analysis and Resource Assessment (appended to the CRMP as Appendix A and Appendix B, respectively), is available to the public and can be accessed at the following link: San Bernardino National Forest - Home (usda.gov).

This EA discloses the direct, indirect, and cumulative environmental effects that would result from the Proposed Action and No-Action Alternative. The document is organized into three chapters, as described below:

- **Chapter 1 (Purpose and Need)** includes information on the history of the CRMP, the purpose and need for the CRMP, and how the FS informed the contents and management direction of the CRMP. Issues and concerns are identified in this chapter.
- **Chapter 2 (Alternatives)** provides a detailed description of the action and alternatives proposed by the FS. These alternatives were developed based on issues raised by the public or external agencies, concerns within FS, or some combination of these items.
- **Chapter 3 (Affected Environment and Environmental Consequences)** describes the environmental effects of implementing the Proposed Action or the No-Action Alternative. This analysis is organized by resource, such as scenery, botany, wildlife, etc. Each resource section begins with a description of the affected environment and current conditions. These provide a baseline for evaluating and comparing the alternatives.

BACKGROUND

The Wild and Scenic Rivers Act ("the Act" or WSRA) was signed into law in 1968. The Act protects free-flowing waters, water quality, and outstandingly remarkable values (ORVs) of many of our nation's most spectacular rivers. Some examples of ORVs that may distinguish wild and scenic rivers from others in the region include wildlife, recreation, cultural/historical resources, and geology. The Act safeguards the special character of these rivers, while also recognizing the potential for appropriate use and development. The Act purposefully strives to balance river development with permanent protection for the nation's most outstanding free-flowing rivers.

Towards these ends, the Act prohibits federal support for actions, such as the construction of dams or other instream activities, that would adversely affect the river's free flowing condition, water quality, or ORVs. Designation neither prohibits development nor gives the federal government control over private property.

For each river, the Act has the following effects:

- River values (free-flowing condition, water quality, and ORVs) are protected and enhanced.
- Dams and other federally assisted water resource projects that would adversely affect river values are prohibited (Section 7 of the Act).
- The creation of a CRMP that addresses resource protection, development of lands and facilities, user capacities, and other management practices necessary to achieve the purposes of the Act is required (Section 3(d)(1) of the Act).

In 2019, Congress passed the *John D. Dingell Jr. Conservation, Management, and Recreation Act* (Public Law 116-9 or "Dingell Act"). This added 34.5 miles of Deep Creek to the National Wild and Scenic Rivers System. Public Law 116-9 states that 22.5 miles of Deep and Holcomb Creeks will be administered as wild segments, two .5-mile segments as scenic segments, and 11 miles of Holcomb Creek as a recreational segment.

Based upon the review of public input, evaluation of river corridor conditions, and need for action (see Purpose and Need below), the CRMP focuses on the following items:

- Resource protection, land use, user capacity, and other management practices
- Protection and enhancement of river values, including free-flowing conditions, water quality, and ORVs
- Compliance with the requirements of the WSRA
- Consideration of tribal values and concerns

Classification

The Wild and Scenic Rivers Act requires that rivers or river segments are classified, designated, and administered as either wild, scenic, or recreational. The three classes represent a development scale and serve as a framework for future management; they are not synonymous with the river's ORVs. For example, a river segment may be designated as recreational even if recreation is not considered an ORV for the river.

A 2005 eligibility study conducted as part of the Forest's Land Management Plan development process found Deep Creek eligible for designation. This study initially recommended scenic and recreational segments. The 2019 Dingell Act then classified recreational, scenic, and wild segments on the river. Figure 1 shows the location of each segment.

A total of 34.5 miles of Deep Creek is designated as a wild, scenic, or recreational river (Figure 1). A total of 22.5 miles of the river is designated as wild, 1 mile is designated as scenic, and 11 miles are designated as recreational. There are four wild segments, two scenic segments, and one recreational segment of the river. All 34.5 miles of designated river are administered by the Forest Service.

The first wild segment, which is 6.5 miles long, extends from 0.125 miles downstream of the Rainbow Dam site in sec. 33, T. 2 N., R. 2 W., San Bernardino Meridian, to 0.25 miles upstream of the Road 3N34 crossing. The second, 2.5-mile-long wild segment spans the length of the river from 0.25 miles downstream of the Road 3N34 crossing to 0.25 miles upstream of the Trail 2W01 crossing. A third wild segment extends 10 miles, from 0.25 miles downstream of the Trail 2W01 crossing to the upper limit of the Mojave Dam flood zone in sec. 17, T. 3 N., R. 3 W., San Bernardino Meridian. The final wild segment consists of 3.5 miles of Holcomb Creek, a tributary of Deep Creek. It spans the area from 0.25 miles downstream of Holcomb Crossing to the Deep Creek confluence.[1]

There are two scenic segments of Deep Creek. Each are 0.5 miles long, for a total of 1 mile of scenic river. The first segment stretches from 0.25 miles upstream of the Road 3N34 crossing to 0.25 miles downstream of the Road 3N34 crossing. The second extends from 0.25 miles upstream of the Trail 2W01 crossing to 0.25 miles downstream of the Trail 2W01 crossing.

Finally, there is one segment of the river designated as recreational. This portion extends 11.0 miles total along Holcomb Creek, a tributary of Deep Creek. It consists of the area from 100 yards downstream of the Road 3N12 crossing to 0.25 miles downstream of Holcomb Crossing.

[1] Location descriptions in this section for each designated WSR segment are pulled from the 2019 Dingell Act.

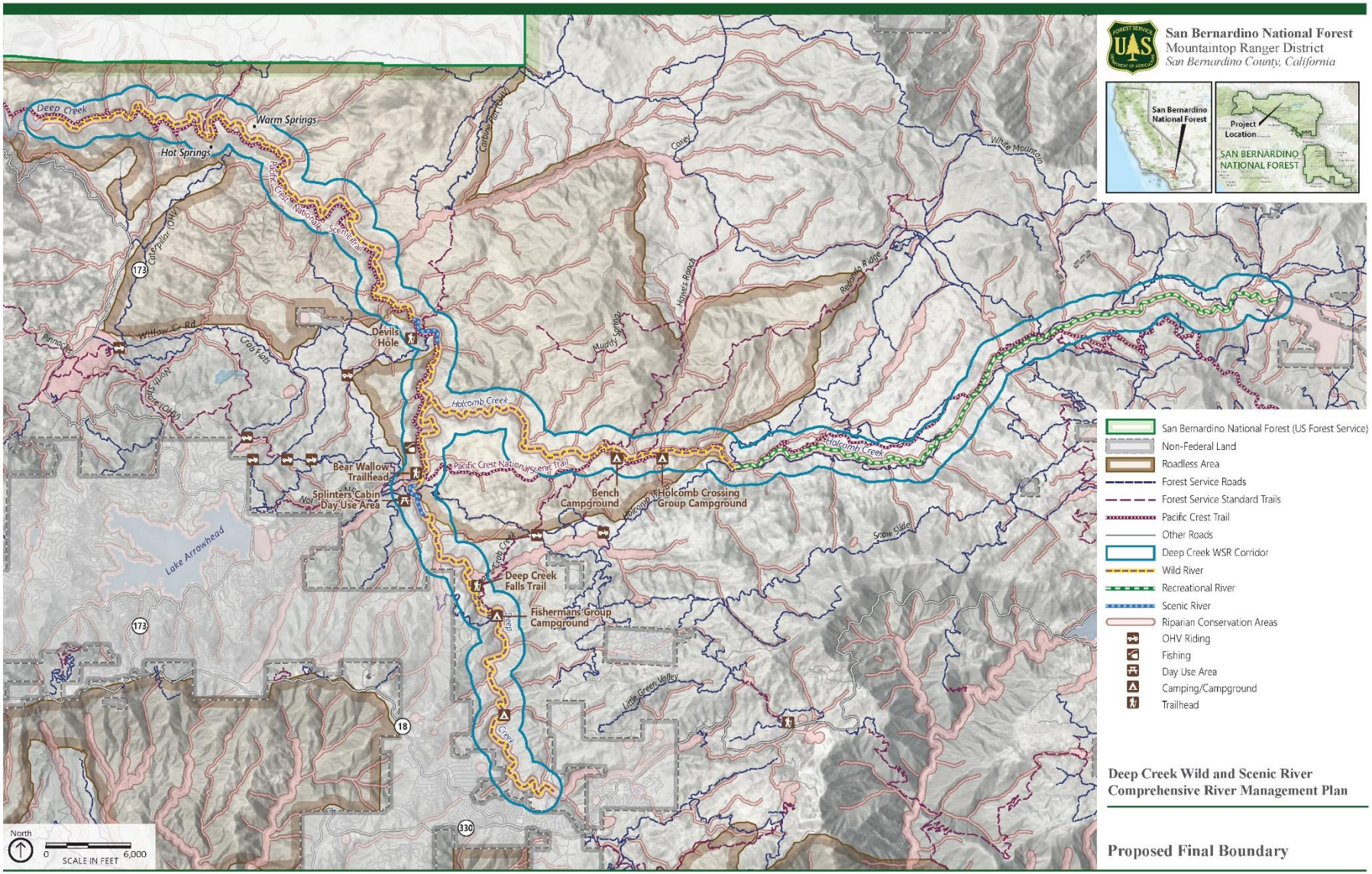

Figure 1. Proposed Final Boundary

Outstandingly Remarkable Values

The Act requires that each river possess one or more ORVs to qualify for WSR designation. To be described as outstandingly remarkable, a value must be river-related and a unique, rare, or exemplary feature that is significant at a comparative regional or national scale. While the spectrum of resources that may be considered is broad, all ORVs must be directly river related.

In 2005, prior to Deep Creek's designation as a WSR, the Forest initiated an eligibility study of all rivers on the Forest as part of its Land Management Plan development process. This eligibility assessment considered which resources would qualify as ORVs. Following Deep Creek's designation as a WSR, a virtual workshop was then held on the Forest in March 2021 for the purpose of developing CRMPs for Deep Creek as well as for Whitewater River. During that workshop, the resource experts on the CRMP team—comprising representatives from the Forest Service and contractors—reviewed each potential outstandingly remarkable value for the river.

Deep Creek's ORVs were next evaluated and confirmed in a Resource Assessment (RA), which was completed in 2022. The RA process consisted of reviewing potential ORVs and determining ORV status, based on the river-related values that contribute to the river's overall character and significance. The RA can be viewed as Appendix B of the CRMP.

The identified ORVs for the river are identified below in Table 1 and further described in the following section. Certain values did not qualify as ORVs because they did not meet the required criteria. To be considered river related, a value should be located in the river or its immediate environment (generally within ¼ mile on either side), contribute substantially to the functioning of the river ecosystem, owe its existence to the presence of the river, or some combination of these things. See the Resource Assessment (Appendix B to the CRMP) for additional detail about ORV findings and rationales, as well as the criteria used to define each ORV.

Table 1. Outstandingly Remarkable Values for Deep Creek

Scenery	Wildlife	Fisheries	Heritage Resources (cultural)	Recreation	Geology	Botany
Yes	Yes	Yes	Yes	Yes	Yes	Yes

PURPOSE OF AND NEED FOR THE PROPOSAL

The purpose is to adopt a CRMP to protect and enhance the values for which the river was designated, including free-flowing water, water quality, and the ORVs identified; Section 3 of the Wild and Scenic Rivers Act (16 USC 1274, as amended) states that a CRMP will be developed for the designated river corridor. By designating Deep Creek as a WSR, Congress directed the FS to develop a CRMP for the river, which lies under their jurisdiction. The CRMP also identifies potential management actions needed to protect these values within the river corridor.

The need is to develop a plan to integrate management of multiple resources, resource designations, and activities in the river corridor. Management of uses on public lands is necessary in this congressionally designated area to address private, public, and administrative access needs; protect resources; promote public safety; and minimize conflicts related to the uses of public lands.

PROJECT AREA

Deep Creek is located approximately 60 miles east of Los Angeles, California and flows through the San Bernardino National Forest. The national forest comprises 665,753 acres and is located within San Bernardino and Riverside counties. The upper third of the Deep Creek canyon lies within the Upper San Gorgonio Mountains ecological subunit, while the lower two-thirds fall within the San Gorgonio Mountains to the East Mojave River. The Proposed Action includes adopting the interim boundary as the final boundary, which is 1/4-mile from the ordinary high-water mark (OHWM) on both sides of the river, referred to as the river corridor.

The Deep Creek River corridor is characterized by deep, steeply sloping canyon walls that occasionally broaden out. Riparian forests of cottonwood, white alder, and willow flank the river. Hillsides above the river are dominated by conifer, mixed oak, and pinyon-juniper woodlands, chaparral, grassland, and desert-scrub. Deep Creek is also renowned for the unique thermal hot springs that occur in two areas within the river corridor. The river supports a diverse array of terrestrial and aquatic wildlife, and is a state-designated Wild Trout Stream, meaning it meets Wild Trout Policy criteria established by the California Department of Fish and Wildlife[2].

PUBLIC INVOLVEMENT AND TRIBAL CONSULTATION

Public Involvement

The proposal has been listed in the San Bernardino National Forest's Schedule of Proposed Actions (SOPA) since February 2022. A public scoping notice for the availability of the Resource Assessment was posted on the Forest website and was provided to the public and other agencies for comment during the scoping period from February 15, 2022, to March 15, 2022. Public notice was also posted on the San Bernardino National Forest project page and social media channels in addition to being distributed to the newspaper of record, the Idyllwild Town Crier, in a press release on March 3, 2022. Scoping comments on the *Deep Creek and Whitewater River Resource Assessment* were received from 9 commenters and included concerns about off-highway vehicle (OHV) access, expanded ORVs, fire suppression jurisdiction and user capacity in popular areas within the corridor.

The EA was posted on the Forest website and was provided to the public and other agencies for a 30-day comment period on November 3, 2023. Comments on the *Deep Creek Wild and Scenic River Comprehensive River Management Plan, Deep Creek Wild and Scenic River Comprehensive River Management Plan Environmental Assessment, Whitewater River Wild and Scenic River Comprehensive River Management Plan,* and the *Whitewater River Wild and Scenic River Comprehensive River Management Plan Environmental Assessment* were received from one commenter and included concerns

[2] https://wildlife.ca.gov/Fishing/Inland/Trout-Waters/Definitions

about minor editorial revisions and utilizing updated data in the User Capacity Analysis, as well as including clarifications around thru-hike permits. Correspondence was reviewed by the interdisciplinary team in order to address the comments. Table 1 in Appendix A lists the comments received and responses. The interdisciplinary team considered these comments while completing the Final EA.

Tribal Consultation

Tribal consultation for the Deep Creek Wild and Scenic River CRMP was initiated by e-mail in March of 2021 to the San Manuel and Morongo Band of Mission Indians. This initial notification and invitation to consult asked for input to inform the resource assessment phase of the CRMP. Additional input was sought during regularly scheduled agency and tribal-specific consultation meetings throughout 2021-2022. Letters and electronic correspondence were sent to the tribes in June of 2021. Advance copies of the draft CRMP were shared with tribes prior to releasing it for public review and comment.

Tribal concerns focused on ensuring protections for bighorn sheep and recorded cultural sites. The CRMP provides an additional level of protection to tribal and cultural resources within the river corridors. Monitoring requirements of the CRMP ensure baseline conditions of the ORVs associated with the corridors are maintained and improved as necessary. Tribal consultation efforts are ongoing and will continue through the life of the CRMP and as part of any future proposals tiered to or as a result of the plan.

ISSUES AND IMPACT TOPICS

As defined in NEPA regulations (40 CFR 1500.4[1]), key issues are used in the development of alternatives to the Proposed Action. These key issues are given special consideration by the decision maker when selecting an alternative. Guided by the Forest Plan (Forest Plan or LMP), the interdisciplinary team addressed the key issues identified during internal scoping as well as the public scoping process.

The following key issues were identified during the development of the CRMP:

- Resource protection, including impacts on water quality, hydrology, geology, scenery, wildlife, fish, botany, recreation, heritage resources, and climate change
- Development of lands and facilities
- User capacities

CHAPTER 2. ALTERNATIVES

This chapter describes the alternatives considered for managing the river corridor. The alternatives are compared, providing a basis for choice by the decision maker and the public. The FS is required by law to develop a CRMP that addresses resource protection, development of lands and facilities, user capacities, and other management practices necessary to meet the purposes of the Act.

No unresolved conflicts emerged from issues that fell within the scope of this project. Thus, this EA evaluates a single action alternative: the Proposed Action, in which the CRMP is adopted. A No-Action Alternative, in which management continues under existing standards and guidelines, applicable law, regulation, policy, Executive Orders, and special area plans (as applicable) with no adoption of the CRMP, is analyzed in this section as well. This No-Action Alternative provides a baseline for comparing environmental impacts related to the Proposed Action.

NO-ACTION ALTERNATIVE

Under the No-Action Alternative, the CRMP would not be adopted. Selecting not to adopt the CRMP would cause the Forest Service to be out of compliance with the Act. Section 7 of the Act states that Federal agencies must:

> *"protect federally designated rivers and congressionally authorized study rivers from the harmful effects of water resources projects. It requires evaluation of federally assisted water resources projects and a determination by the river-administering agency."* (IWSRCC, No Date)

The current Forest Plan and WSRA would continue to guide administration and management of Deep Creek WSR. Management would also continue to adhere to state water quality standards, existing FS policy 2670.32 (which directs management for FS Sensitive Species), and other applicable laws.

In addition to the Forest Plan, the Endangered Species Act (ESA) protects the species within the river corridor. The ESA regulates the conservation and protection of endangered and threatened species and their habitats. The Migratory Bird Treaty Act (MBTA) provides further protection to native bird species within the river corridor. The Bald and Golden Eagle Protection Act of 1940 provides special protections for eagles, prohibiting take, possession, sale, transport, export, or import, as well as restricting potentially disturbing activities in the vicinity of eagle nests. The National Trails System Act (Pub.L. 90-543, as amended) regulates planning and management of National Trails, including the Pacific Crest National Scenic Trail (PCT), which runs through the corridor.

Projects proposed in the bed or banks of a designated river require a Section 7 determination under the Act. Section 7 requires evaluation of the effects of proposed water resources projects on river values. Even if the proposed project is outside of the designated river corridor, a Section 7 analysis may be done if the project would unreasonably diminish the river values present at the date of designation. Such project-specific analyses may include studies such as groundwater modelling.

Under the No-Action Alternative, the interim boundary of "one-quarter mile from the ordinary high-water mark on each side of the river" (from Section 4(d) of the Act) would continue to be used for management

of the river corridor. A final, detailed river corridor boundary, as required in Section 3(b) of the Act, would not be established.

Scenery management along the river corridor would continue to be guided by *Landscape Aesthetics: A Handbook for Scenery Management* (USDA Forest Service 1995). No additional management strategies or thresholds would be implemented to accomplish the purpose of the wild and scenic river designation.

PROPOSED ACTION

The Proposed Action is the adoption of the *Deep Creek Wild and Scenic River Comprehensive River Management Plan*, which is incorporated herein by reference. The CRMP includes all existing management under the No-Action Alternative. In addition, the CRMP outlines desired conditions, standards, guidelines and management strategies to address issues and fulfill the purpose of the Act. The actions proposed in the CRMP are a combination of continued current management, as described in existing management plans, and additional management elements that were created for the protection of river values.

Additional Protections

Additional protections addressed in the CRMP include establishing a final boundary for the river, establishing user capacity levels, implementing thresholds for action, establishing desired conditions for the river corridors, proposing additional management actions to protect and enhance river values to better align with the WSRA mandate, and proposing monitoring items. These components are addressed in further detail below.

River Boundary

The current interim boundary for the river from the Act includes one-quarter mile from the OHWM on both sides of the river, along all wild, scenic, and recreational segments. The proposed final boundary is the same as the interim boundary. The proposed final boundary is shown in Figure 1.

User Capacity

The Wild and Scenic Rivers Act requires that user capacities are identified for each designated river and addressed in the river's associated CRMP (Section 3 (d)(1)). Appropriate management strategies are then developed based on these capacities. User capacity is defined as the maximum number of visitors per day that can be supported by the river without causing degradation or adverse impacts on river values. To estimate user capacity, information on current amounts and types of use is reviewed. Use is typically measured in number of visitors per day, vehicles per day, or campsite occupancy per day. User capacity is generally extrapolated from estimates of current use, types of use, and visitor behavior, although there is no single prescribed method for calculating capacity.

A user capacity analysis was conducted for Deep Creek and Whitewater Wild and Scenic River and is included as Appendix A to the CRMP. Goals of this analysis included identifying current usage at the river, determining the kinds of uses the river can support without impacting river values, establishing thresholds of use to prevent degradation of river values, calculating the user capacity, identifying triggers

for management action, and establishing adaptive management actions when triggers are exceeded. These adaptive management actions are thus incorporated as part of this project's Proposed Action. User capacity is addressed for the recreational (11 miles), scenic (1 mile), and wild segments (22.5 miles).

In the user capacity analysis, the project area was divided into three analysis areas. User capacity was estimated separately for these areas because of the variation in types and amount of use in each area.

Potential Future Management Actions

In addition to the adaptive management actions in response to changes in use levels described above, the CRMP provides further management direction to meet the requirements of the Wild and Scenic Rivers Act. Several additional potential future management actions are described below that would protect and enhance the river's free-flowing condition, water quality, and ORVs. These management actions are guided by a set of desired conditions for the river, described in further detail in the CRMP.

Although the CRMP and this EA discuss potential management actions to protect and enhance river values, they do not represent commitments or proposals to take the actions described. Site-specific actions detailed in these documents would require separate NEPA analysis as well as other appropriate compliance prior to implementation. The Proposed Action of this EA is solely the adoption of the CRMP, not the implementation of any actions described. The potential future management actions proposed in the CRMP are described in further detail below.

- Install a cable fence in areas where trespass is frequent at the Highway 173 north gate on USFS managed lands near the terminus of Deep Creek, as well as the Highway 173 south gate near the Bradford Trail that access Deep Creek Hot Springs.
- Add T-post fencing and vertical mulching to the Bradford Trail where feasible, coupled with delineating the best path that is safe and causes minimal erosion.
- Near Devils Hole (3N34D), install heavy duty pipe rail to keep OHVs on legal open routes. Delineate the normal path and install cable or T-post fencing where needed.
- In the Hot and Warm Springs areas, at trailheads, install new kiosks to provide information on legal OHV routes (FS managed lands and non-FS lands), particularly focusing on the 3N59 X 3N67 intersections and other areas along 3N67.
- The "Freedom Trail" unauthorized parking lot/trailhead outside the corridor on BLM lands is an access point for unauthorized OHV routes into the Deep Creek IRA. It is also an unsafe and unauthorized footpath into the Hot/Warm Springs area. FS recommends the following:
    - ❑ Work with BLM to either identify the trail as closed to use, restore the area, direct visitors to other areas that can serve as a trailhead, and focus all access through the system trail, or
    - ❑ Adopt this area as a new system trailhead.
- Limit unauthorized access from BLM land onto FS managed lands and into the Deep Creek Warm/Hot Springs area by installing pipe and cable fencing along the road and access points.
- In the 3N34 Splinter's Cabin area, restore former unauthorized hill climb/bypass and install some pipe and a cable fence to improve safety along the roads.
- Install permanent and more formidable barriers where possible in the T-6 area to address problems with graffiti, trash, and occasional barrier damage.

- Install walk-throughs (modified fences/gates that allow people/horses to pass but not vehicles) on the PCT at the 1W17 Intersection to keep equestrian riders and hikers on the designated route.
- Engineer a more permanent solution for moving boulders along Holcomb Creek in the 3N93 area (i.e., cable or cement boulders to one another or the ground).
- In upper Holcomb Creek, begin restoring the parking space footprint near the PCT crossing on 3N14 to return to original dimensions. Limit the number of people in this area at a time to reduce and/or prevent some of the damage that is happening to the creek.
- Install additional fence near Coxey Meadow area. Pipe and cable fence is in place, but people ride around the fence, accessing the area without authorization. Additional fence needs to be installed before restoration work continues.
- Trails and campsites – designate and build sustainable side-hill campsites and river access trails to maintain water quality and provide sustainable access and accommodations in the most resilient locations. Designating campsites would protect and sustain key infrastructure and enhance measures to prevent ecological damage to river values.
- Beaver removal – consider the benefit of beaver populations in Deep Creek before removal. Beavers are not native to this area and were introduced for sport. Currently, beaver dams provide good habitat for fish species which in turn feeds numerous species. Unfortunately, beaver dams also provide habitat for non-native bullfrogs and fish.
- Bullfrogs – consider working with CDFW and/or U.S. Geological Survey (USGS) to remove bullfrog populations.
- Arroyo toads – increase education about the presence of this listed species. Consider limited closures of areas where they are found and in suitable habitat, specifically in high use sections of the corridor.
- Southwestern Willow Flycatcher – increase education about this endangered species.
- Water testing – Deep Creek is considered impaired and is subject to monitoring via the state of California. Fisheries Resources Volunteer Corps have been providing this testing and monitoring support. Testing stopped during the pandemic and is being looked into to resume.
    - ❑ Request funding for additional water testing specifically upstream and downstream of the Deep Creek Hot Springs.
- Permit or reservation – establish a permit system to limit day use in the Deep Creek Hot/Warm Springs which would help limit the number of people impacting the hot springs and other ORVs found in the immediate area.
    - ❑ May also consider a permit or reservation system for Splinter's Cabin as well, given recent closures of Hook Road.
- At Highway 173 north gate, on FS managed lands near the terminus of Deep Creek, a heavy-duty gate is in place to maintain the highway closure, but the gate is often vandalized. Users have moved the boulders that support the closure. FS recommends the following:
    - ❑ Replacing/moving boulders back into place and securing them.
- At Highway 173 south gate, near the Bradford Trail (foot path) that accesses Deep Creek Hot Springs, the heavy-duty gate is often vandalized. Users have removed the boulders and fence placed by FS and which support the closure. FS recommends the following:
    - ❑ FS and Southern California Mountains Foundation (SCMF) staff repair fence to try and prevent OHV damage and erosion from affecting the Kinley Creek area.
    - ❑ Replacing/moving boulders back into place and securing them.

- Coxey Creek area at roads 2W01 and 3N59 are used as unauthorized routes/motorcycle trespass into the Deep Creek IRA. FS recommends the following:
    - ❑ Continue installing pipe and cable fencing similar to what has been done along the whole length of the west side of 3N59. This installation has resulted in a reduction of trespass use.
    - ❑ Continue restoration of an area near an unauthorized trail close to Road 2W01, but with cable fencing.
- Hot and Warm Springs Area
    - ❑ Restore and delineate appropriate trails that minimize erosion and additional resource damage. Appropriate routes would be designated system trails.
    - ❑ Continue to install barriers along the beginning of unauthorized routes and restore land once unauthorized routes are eliminated.
    - ❑ Identify the best locations for pipe and cable fencing.
- 3N34 in Splinters Cabin area
    - ❑ Delineate or install barriers where road widening from unauthorized parking occurs.
    - ❑ Create barriers to prevent OHV damage to the area, specifically, rare wildlife habitat.
    - ❑ Continue to monitor and remove infestations of garlic mustard in Hooks Creek and part of Deep Creek.
- Address problems with graffiti, trash, and occasional barrier damage in the T-6 crossing area. FS recommends:
    - ❑ Work with volunteer groups to schedule stewardship projects and increase monitoring in this area.
    - ❑ Repair barriers.
- PCT Bench Camp, 1W17 area
    - ❑ Implement restoration work along the unauthorized trail from Devils Hole (approximately 8 miles), which has been fenced with a T-post, slashed, and seeded. OHV and dirt bike riders here jump off of 1W17 and ride along the PCT to Bench Camp as well as in the washes and tributaries of Holcomb Creek.
    - ❑ Improve definition of the Holcomb Creek Crossing.
    - ❑ Complete restoration work in the creek and along the PCT after barriers are installed.
- Holcomb Creek in the 3N93 area
    - ❑ Organize multiple stewardship events to remove garbage and graffiti.
    - ❑ Monitor gate at 3N93 to ensure boulders are not moved by users into 3N16. Replace and/or move boulders back into place when necessary.
- Upper Holcomb Creek
    - ❑ Organize/host multiple stewardship events to remove garbage and graffiti.
    - ❑ Increase patrol to enforce Forest Plan direction on preventing camping close to the creek, as well as unauthorized prospecting.
- Enact closures as needed to help reduce resource impacts and health and safety risks along the WSR corridor. Areas would need to be monitored to determine the success of restoration and/or infrastructure put in place.
- In the Coxey Creek area at roads 2W01 and 3N59, increase restoration work to restore areas where erosion and the destruction of plant communities has occurred.

- Increase tree and natural plant reforestation/planting along the banks in key areas to help stabilize banks, increase plant canopy for migratory birds/resident wildlife, reduce landslide possibilities, and slow the flow of water into the creek to decrease flash flooding. Identify invasive plant populations and remove. Identify healthy native plant populations and identify those for potential seed sources.
- Remove invasive plant species (salt cedar, cockle burr, other species) to increase water available for native vegetation. Focus on upstream and upland slopes where current efforts are taking place and ultimately expand to entire stream corridor. Contact and educate neighboring landowners to identify and manage noxious weeds to prevent their spread into the corridor.
- Natural Fish Structures – Consider adding in-stream rock structures, consistent with the local stream geomorphology to provide improved flow fish habitat, including slow-moving deep pools and fast-moving shallow riffles for reducing water temperature and providing fish holding, feeding, and spawning. Structures may also provide stream bed and/or bank stability where instability issues exist. Educate/enforce "catch and release" rule for fish found in Deep Creek by working with CDFW.
- Remove small, user-created dams throughout the corridor.
- Consider constructing new creek crossing at T-4 crossing on Holcomb Creek. This area is not concreted and has high use throughout the year that causes an increase in turbidity and impacts some species of fish and amphibians. New crossings may be similar to other crossings demonstrating long-term stability and uninterrupted flow. Crossings may be either a low-profile ford that allows for base flow to pass over the crossing or a low-profile culvert that spans the channel bed where no bed scour can be demonstrated, or a high-profile bridge span above flood levels.
- Mitigate or protect cultural sites in areas of high severity or with a high probability of natural events, such as fire (anchoring of sites in flood prone areas, etc.)
- Assess user-created foot trails to the WSR corridor and determine necessary closures.
- Inventory the Deep Creek/Holcomb Creek corridor where not previously inventoried and where topography and vegetation permit.
    - ❑ Document cultural resources and possible damage or threats from increased visitation due to WSR designation.
- Evaluate sites and districts within Deep Creek/Holcomb Creek corridors to recognize their significance and levels of historic integrity.
    - ❑ Include tribes and interested parties in evaluations
    - ❑ Consider areas of tribal significance for management even where no eligible sites exist in the interest of incorporating tribal ecological knowledge.
    - ❑ Sites ineligible for listing on the NRHP may be released from preservation considerations and used for interpretation or other activities after consultation with the tribes.
- Monitor and protect populations of rare plants.
- Proactively protect eligible or unevaluated cultural sites in areas of high risk for fire, floods, public use etc.
    - ❑ Continue and extend fuel reduction treatments to correspond to climate change;
    - ❑ Treat within eligible or unevaluated sites leaving sufficient vegetation in surrounding areas to frame and protect from looting;
    - ❑ Reduce/restore social trails and direct visitors to use existing trails or the river channel to reduce erosion and damage to known cultural resources and local geology;

- ❑ Develop management plans for sites eligible for listing on the National Register of Historic Places (NRHP), to track the success of management activities and modify ineffective activities as needed; and
- ❑ Where protection is not possible, incorporate mitigation actions such as data recovery.

- Install interpretive, directional, and safety signage along the corridor to inform visitors of the National Wild and Scenic Rivers designation, river values, and new facilities and/or restoration. Locations may include but are not limited to the Highway 173 north gate on FS managed lands near the terminus of Deep Creek, along the "Bradford Trail," and in the Warm/Hot Springs area to direct visitors to utilize open access routes. Design to be determined at a later date.
- Interpretation and signage on or about the PCT will follow the PCT Comprehensive Management Plan standards (USDA Forest Service 1982). All interpretation regarding the PCT will utilize the interpretive themes outlined in the PCT Foundation Document.
- Interpret heritage sites to help educate the public about changes to land management through history and the consequences for river values arising from land management practices.
- Use interpretation/messaging to encourage visitors to visit other areas of public land units to limit impacts to well-used areas or areas where eligible or unevaluated sites and historic districts are at risk.

Monitoring Plan

In addition to the management actions listed above, the free-flowing condition, water quality, and certain ORVs of the river would be monitored upon adoption of the CRMP. Several potential monitoring items are suggested in the CRMP to address the areas of highest concern in the river corridor. These items include free flow, water quality, wildlife, botany, and scenery. These are discussed in further detail, along with proposed monitoring actions, in Table 2. If cultural resources are found to be eligible for listing, they are typically classified by the FS as priority heritage assets and would require condition monitoring every five years. Existing monitor that occurs for fish and heritage values would continue upon adoption of the CRMP. Additional monitoring items specific to user capacity can be found in Appendix A of the CRMP.

Table 2. Potential Monitoring Items within the River Corridor

Location of Monitoring Action	Potential Issue / ORV Addressed	Monitoring Action
Throughout the corridor	Water quality and free flow	Conduct surveys of surface water and groundwater to monitor for wildlife, recreation use, and riparian health.
Throughout the corridor	Scenery and recreation impacts	Work with partner organizations (such as the PCTA) to monitor the PCT to ensure the nature and purposes of the PCT are protected.
Throughout the corridor	Wildlife impacts from visitor use	Continue surveys for/documentation of FSS wildlife species within the WSR corridor.
Throughout the corridor	Botany impacts from visitor use	Continue surveys for/documentation of invasive plant species within the WSR corridor.

CHAPTER 3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section summarizes the affected environment, the potential changes and impacts due to implementation of an alternative, and the basis for comparison of alternatives. Resources determined by the interdisciplinary team to be potentially affected are identified and analyzed. These include the ORVs relevant to each river segment, as well as global resource values, such as hydrology.

Resources determined to be potentially affected by the No-Action and Proposed Action alternatives are hydrology, geology, scenery, wildlife, fish, heritage resources, recreation, and botany.

GENERAL METHODOLOGY FOR ANALYZING IMPACTS

In accordance with the Council on Environmental Quality (CEQ) regulations for implementation of NEPA, direct, indirect, and cumulative impacts are described under each impact topic (40 CFR 1502.16 and 40 CFR 1508.1). To determine impacts, the current condition of each resource analyzed is presented below, followed by a comparison between the alternatives described in Chapter 2.

Direct impacts are caused by the action and occur at the same time and place. Indirect impacts are cause by the action and are later in time or farther removed in distance but are still reasonably foreseeable.

Cumulative impacts are defined as "the effects on the environment which results from the incremental effects of the action when added to the effects of other past, present, or reasonably foreseeable actions regardless of what agency (federal or nonfederal) or person undertakes such other actions" (40 CFR 1508.1). Cumulative impacts were determined for each impact topic by combining the impacts of the alternative being analyzed and other past, present, and reasonably foreseeable future actions that would also result in beneficial or adverse impacts.

Also considered in the impacts analysis is the User Capacity Analysis (Appendix A of the CRMP), which establishes user capacity thresholds and triggers and contains adaptive management strategies to manage use within those capacities.

CUMULATIVE ACTIONS

Past projects or plans with ongoing effects and reasonably foreseeable future projects and plans were identified by an interdisciplinary team to provide the cumulative impacts scenario. The cumulative impacts analysis focuses on cumulative actions that overlap with the project area or that are close enough that impacts from those areas may have been observed within the project area and on the resources (ORVs) carried forward for detailed analysis.

USACE/SCMF Mojave River Dam Cooperative Agreement (CA). In an effort to address the sharp rise in OHV use nationwide, most notably in the western United States, the USACE and SCMF developed a cooperative agreement that will help control unauthorized OHV at the top of the WSR

corridor. The region surrounding the Deep Creek corridor has long been a popular destination for OHV recreational pursuits. While the Forest Plan recognizes this popular recreational pursuit and has designated routes for various levels of OHV skill, many users seek to travel off designated routes. This has caused an increase in adverse resource impacts to sensitive areas. As a result of this cooperative agreement, these impacts have been and will continue to be addressed through a partnership between the Forest and SCMF through the installation of barriers, signage, and where necessary, habitat restoration. These efforts would go through separate environmental review processes and have resulted in increased wildlife and plant diversity, reduction if fire risk, as well as providing safer OHV recreation opportunities.

HYDROLOGY

Affected Environment

Deep Creek, Hydrologic Unit Code (HUC) 1809020801, is a free-flowing river along its entire length. The USGS maintains a surface water monitoring site on Deep Creek in Hesperia, California, where data are collected on flow rate and water elevation/river stage. River discharge, pH, specific conductance, and temperature are currently being monitored. Discharge data dates to 1905 (with no data collected in years 1923 to 1929). Annual mean daily discharge includes a minimum value of 3.06 cubic feet per second (cfs) in 1951 and a maximum value of 410.7 cfs in 1993. Single event peak flows vary from a minimum peak of 15 cfs for 2002, and a maximum peak of 46,600 cfs in 1938 (USGS lists this value as estimated). Historic data for Deep Creek suggest that higher base flow rates and more moderate high storm event flow rates were once the norm, as opposed to the current conditions that exhibit lower base flow and higher storm event rates. Heavy annual flow rates currently occur in the spring, corresponding to warmer weather and subsequent snow melt, or to single, heavy precipitation events. This remote, swift-flowing mountain stream possesses a drainage basin of 135 square miles in size. Storm events pose the most immediate threat to water flow, as historic data suggest, since the narrow canyon can trap debris and cause blockages. Stream flow is also impeded by introduced beavers, unauthorized dams installed for recreational wading, soaking pools at the hot spring areas, and culverted road crossings along the upper reaches of Holcomb Creek at Coxey Road, and Deep Creek at Crab Flats Road. Both culverts are low profile crossings that span the channel bed, allowing for base flow to freely pass, whereas higher flood flows pass through or over the structure. Downstream of Deep Creek, at its confluence with the West Fork Mojave River, the two rivers merge to form the Mojave River that flows north into the Mojave Desert. At this point, the USACE-run Mojave River Dam exists, which has a primary function of flood risk management, but secondarily, outdoor recreation and fish and wildlife conservation are also important missions. The dam is ungated, thus base flow is not impeded through the dam and as stated in the January 2023 Mojave River Dam Master Plan, impoundments of water behind the dam are very infrequent. During high flow events that exceed the capacity of the primary outlet of the dam, water will be impounded within the stream valley of Deep Creek and the West Fork Mojave River. At a maximum, the impounded flow would extend to the top of the dam embankment, at elevation 3,172 feet (NGVD 29), and thereby flood lands below this elevation. The WSR corridor begins where the channel bed is higher in elevation than 3,172 feet, thus the corridor would not experience any inundation as a result of the dam, and free flow is not affected.

The associated Holcomb Creek is also free flowing from the Hitchcock Ranch (east of the designated river corridor) impoundment to its confluence with Deep Creek. However, much of the flow in this

segment is intermittent. Heavy annual flows tend to occur in the spring, corresponding to warmer weather inducing snow melt, as well as heavy single precipitation events. As is the case at Deep Creek, storm events that can trap debris in the canyons are the most immediate threat to water flow. Other impediments include introduced beavers, unauthorized dams built for recreational wading, creek crossings, and an impoundment at the Hitchcock Ranch outside the river corridor.

Deep Creek, the largest tributary of the Mojave River and part of the Mojave River Watershed Management Area (MWMA), is listed as having impaired drainage and was therefore monitored by USGS from 2000-2005 for chemicals and bacteria. The USGS sample site was located near Arrowbear Lake south of the river corridor. Monitoring revealed potential exceedances in total dissolved solids, sulfates, fluoride, chloride, dissolved oxygen, pH levels, and boron. Exceedances in total dissolved solids were observed in four out of the five monitoring years and confirmed by a volunteer group associated with USFWS. In the late 1970s, a parasitic amoeba was found in the popular Deep Creek hot springs. While it has not been detected in recent years, this microorganism may still be present and pose a health threat. Camping and visitor use have led to an increase in debris, litter, and human waste along the river corridor. Also, in recent years, the FS and its partner, SCMF, have been working to restore parts of IRAs, which includes work within the WSR corridor. This work has included fencing, seeding, slashing, and signing in certain areas.

The associated Holcomb Creek is also part of the MWMA. Like Deep Creek, Holcomb Creek has impaired drainage and was therefore monitored during the 2000-2005 USGS survey. The sample site was located at Crab Flats Road. Potential exceedances were found for total dissolved solids, sulfates, chloride, dissolved oxygen, pH levels, and boron. At Holcomb Creek, exceedances in total dissolved solids were found in all five years of monitoring and were confirmed by the USFWS volunteer group. Historically, the nearby Holcomb Valley, upstream of the WSR corridor, was the site of many active and abandoned mines of generally low impact. However, some of the gold historically found in these mines was extracted using mercury, which is a concern for fish consumption across California. Fish sampling for mercury and PCBs has been conducted at Big Bear Lake, though is not monitored at two stream locations along Holcomb Creek where regular monitoring occurs. The state is currently developing a TMDL plan for the lake.

Impacts of No-Action Alternative

Under the No-Action Alternative, existing federal guidelines, such as those in the Forest Plan and Section 7 of the Act, as well as state water quality standards, would continue to protect water quality in Deep Creek.

Under the No-Action Alternative, there would continue to be adverse impacts if the physical footprint of recreational hot spots and informal trail networks were expanded from recreation use (Otak, Inc. 2023). However, the WSR would continue to be protected by the existing protections of the Act and state water quality standards.

Impacts of Proposed Action

Under the Proposed Action, impacts would be the same as under existing law, regulation, policy, Executive Orders, and special area plans (as applicable), but would add additional protection for hydrology resources, such as a final boundary, user capacity thresholds, and adaptive management actions

triggered by these thresholds. Establishing a final boundary would result in a beneficial impact because it would allow for management and protection of the river corridor from activities that may lead to free flow or water quality impairments. Specifically of concern to free flow is the protection and management of the immediate stream channel and valley from naturally occurring and anthropogenic activities that lead to water diversion or impoundment. The stream valley varies greatly from broad and sandy rolling hills to steep boulder and rock outcroppings, and the stream channel reflects this with its variation in channel bed materials and profile with varying systems of riffles and deep pools. The corridor is heavily used for recreation, including wading, fishing, and vehicular off-roading and rock crawling. Vehicular crossings and wading can lead to impoundments or diversions, thereby leading to further instability and impairments to free flow. Recreation also impacts water quality from debris, litter and human waste within the corridor. Furthermore, these activities can lead to additional ground and sediment disturbances that result in increased channel deposition as both suspended and dissolved solids. Management of these activities, including other activities such as channel bank and valley vegetation and ground stability are crucial for reducing erosion and sediment and nutrient deposition, as well as improving habitat, shading, and water temperatures, which are critical for other ORVs in the river corridor.

Cumulative Impacts

The Proposed Action, adoption of the CRMP, is administrative in nature. Ground-disturbing activities include potential addition of natural fish structures within the channel. These rock structures would be proposed and implemented in compliance with state and federal guidelines and permit regulations for the purpose of improving fish habitat, free flow, and channel stability. With the implementation of the Mojave River Dam CA, actions would be put in place to continue to limit unauthorized OHV access from USACE land, thereby further restricting vehicular impacts in the corridor adding a beneficial incremental impact on hydrological resources and overall enhancing the river long term.

GEOLOGY

Affected Environment

Deep Creek lies within two ecological subunits of California. The upper third of the canyon falls within upper San Gorgonio Mountain, while the lower two-thirds lie within the lower elevation of Mount San Gorgonio, which lies within the San Bernardino Mountains. Upper San Bernardino Mountains contain mostly Mesozoic granite, as well as some Precambrian gneiss and Paleozoic marine sedimentary rocks. Mount San Gorgonio, on the other hand, contain mostly Mesozoic granite rocks and Precambrian igneous and metamorphic rocks, as well as some Paleozoic marine sedimentary rocks and minor amounts of Pliocene nonmarine sediments.

The river corridor possesses locally significant traverse range mountains with faults and steep escarpments. Deep Creek is located within the San Bernardino Mountains, part of the Traverse Ranges of Southern California. This mountain chain formed from tectonic forces at the San Andreas Fault, between the North American and Pacific Plates. The mountain range was shaped into its present form beginning approximately two million years ago, and the rocks making up the existing mountains range from 18 million to 1.7 billion years old.

Due to the large, steep rise of the San Bernardino Mountains above the surrounding terrain, erosion has carved out numerous river gorges, such as Deep Creek Canyon. Streambed materials vary from bedrock and large boulders to residual soils occurring as alluvium and colluvium. There are also quaternary nonmarine sediments and recent alluvium within the river corridor, important albeit small geological components of the area. The primary geomorphic processes are mass wasting and fluvial erosion.

Holcomb Creek is also characterized by several distinct geological features. The river corridor possesses a unique pebble plain habitat, derived from an ancient clay lakebed, as well as deposits of carbonite soil from an ancient inland sea. Both deposits support several sensitive and federally listed endemic plant species.

The most prominent geological features at the Deep Creek WSR, however, are the regionally significant thermal hot springs that occupy two areas within the river corridor, separated by approximately half a mile. The renowned Deep Creek Hot Springs draw visitors from around the region and the country.

Impacts of No-Action Alternative

Under the No-Action Alternative, there would continue to be adverse impacts if the physical footprint of recreational hot spots and informal trail networks were expanded from recreation use (Otak, Inc. 2023). In addition, continued over-use and anthropogenic stress on the hot springs has the potential for ground disturbances that may plug the spring or disrupt the physical boundary separating the hot springs from the mainstream channel.

Impacts of Proposed Action

Under the Proposed Action, impacts would be the same as existing law, regulation, policy, Executive Orders, and special area plans (as applicable), including that any proposed water resources projects would have to be reviewed under Section 7 of the Act; the Proposed Action would add additional protection for hydrology resources, such as a final boundary, user capacity thresholds, and adaptive management actions triggered by these thresholds. Establishing a final boundary would result in a beneficial impact because it would include additional protection of the river corridor and its geologic features from activities that may lead to impairments such as increases in ground disturbances, sediment runoff and rock migration, and graffiti. Similarly, establishing capacity thresholds would have a beneficial impact on the geologic features in the corridor by affording additional protections due to less impact from recreational use.

Cumulative Impacts

Under the No-Action Alternative, there would continue to be adverse impacts if the physical footprint of recreational hot spots and informal trail networks were expanded from recreation use (Otak, Inc. 2023). Continued over-use and anthropogenic stress on the hot springs has the potential for ground disturbances that may plug the spring or disrupt the physical boundary separating the hot springs from the mainstream channel. With the implementation of the Mojave River Dam CA, actions would be put in place to continue to limit unauthorized OHV access from USACE land, thereby further restricting vehicular impacts in the corridor adding a beneficial incremental impact to geologic resources.

Under the Proposed Action, impacts would be reduced compared to current management strategies, with the additional protections in place for geologic resources, such as a final boundary and adaptive management actions triggered by user capacity thresholds, resulting in an overall beneficial cumulative impact to geologic resources.

SCENERY

Affected Environment

Located in the San Bernardino Mountains, Deep Creek has scenery ranging from upper transitional life zone to a low desert. The river corridor possesses deep, rugged, steeply sloping canyon walls that occasionally broaden out to encompass large views. Above the stream are hillsides dominated by a variety of colorful vegetation, including conifer, mixed oak, and pinyon-juniper woodlands, chaparral and grassland, and desert-scrub. The stream corridor itself is surrounded by lush, green riparian forests of cottonwood, white alder, and willow. Seasonal variations in the vegetation and surrounding landscape are apparent, especially at higher elevations.

Deep Creek supports spectacular, unique, and diverse scenery of regional significance. Most portions of the creek flow year-round, providing consistently exceptional views. Dramatic breaks in the creek consist of deep pools, sprawling sandy beaches, ponds fringed with cattail and bullrush, and large slabs of bedrock. The Scenic Integrity Objective (SIO) is High, because though the corridor has experienced human use for thousands of years, the landscape remains natural in appearance, with modern development limited primarily to campgrounds in parts of the corridor. Deep Creek experiences very little noise disturbance, providing for a peaceful experience of the outstanding scenery. In recent years, the FS and its partner, SCMF, have been working to restore parts of IRAs, which includes work within the WSR corridor. This work has included fencing, seeding, slashing, and signing in certain areas.

Impacts of No-Action Alternative

Under the No-Action Alternative, the CRMP would not be adopted. Existing law, regulation, policy, Executive Orders, and special area plans (as applicable) would therefore continue to guide management of this section of the river. Further, no user capacity would be implemented. Impacts to scenery are expected to continue to occur if the CRMP is not adopted, such as from the unauthorized creation of OHV trails. Therefore, the No-Action Alternative is anticipated to have continued minor negative impacts on scenery.

Impacts of Proposed Action

The Proposed Action involves adoption of the CRMP. This would provide further guidance on management of this segment of the river, as well as setting user capacity levels and implementing final river boundaries.

The CRMP describes specific management actions that could be implemented to protect and enhance scenic views in the river corridor. Working to limit unauthorized OHV use in the corridor would help reduce the disturbance that OHVs can have, such as cutting wide swaths through viewsheds. Other management actions such as repairing the gate and fence at Little Pine Flats would have a minimal impact on scenery since this action would entail a repair of existing features. Since these features are not new in

the viewshed, no adverse impacts would be expected. Furthermore, adopting the CRMP and thus the user capacity thresholds and adaptive management actions triggered by those thresholds would have a beneficial impact on scenic values because they would afford additional protections due to less impact from unauthorized recreational use.

Cumulative Impacts

The No-Action Alternative is not expected to have any impacts on scenery and would therefore not contribute to cumulative impacts.

The Proposed Action, adoption of the CRMP, is generally administrative in nature and includes some actions that would improve protection and enhancement of scenic values. Additionally, with the implementation of the Mojave River Dam CA, actions would be put in place to continue to limit unauthorized OHV access from USACE land, thereby further limiting impacts of unauthorized trails on viewsheds in the corridor and adding a beneficial incremental impact on scenic resources.

WILDLIFE

Wildlife species are addressed in several different categories in this section: threatened and endangered species, Forest Service Sensitive Species, and migratory birds. To determine which species could occur within the analysis area, species occurrence records for the area were reviewed, and the habitat requirements of each species were compared with the habitat present in the analysis area. The results of this analysis are summarized in Table 3.

Resources used to identify ESA listed threatened and endangered species within the study area included the USFWS Information for Planning and Consultation (IPaC) System, the California Department of Fish and Wildlife Species of Special Concern (CDFW 2023a), and the California Natural Diversity Database (CDFW 2023b). These sources were reviewed to determine known populations of listed species in or near the river corridor, as well as suitable habitat within the river corridor. Suitable habitat was considered with respect to life cycle, reproductive phenology, and other relevant habitat requirements. The species identified in this analysis are found in or overlapping the Forest boundaries and have the potential to occur within the river corridor. Some but not all the species identified through this analysis are known to occur in the Deep Creek corridor, while others have the potential to occur based on habitat preferences and the availability of suitable habitat.

Affected Environment

Threatened and Endangered Species

In 1999, Deep Creek was identified as an area of high ecological significance in the Forest Service's *Southern California Mountain and Foothill Assessment: Habitat and Species Conservation Issues* report, which analyzed habitat and species conservation issues across the four California national forests. Two federally listed species depend on habitat associated with Deep Creek. These are the federally endangered southwestern willow flycatcher, which relies on the riparian forests of willow and cottonwood within the river corridor, and the federally endangered arroyo southwestern toad (*Bufo microscaphus californicus*),

which lives and breeds along the sandy shores of the creek. In fact, Deep Creek has been designated by USFWS as Critical Habitat for both the toad and flycatcher.

The Deep Creek River corridor provides high quality aquatic and riparian habitat for a number of other species as well. The high, sheer rock walls along the creek are ideal nesting and roosting habitat for birds of prey, most notably, golden eagles (*Aquila chrysaetos*) and several species of falcon. Shorter, deep side canyons also provide shelter from the heat and foraging habitat for mammals such as deer and black bears (*Ursus americanus*). The river corridor serves as a critical habitat linkage, connecting endangered species in desert riparian habitats in the Mojave River to animals in mountain habitats. The riparian corridor along Holcomb Creek is used by migrating birds and other wildlife, allowing further movement east into the San Bernardino Mountains.

Deep Creek supports a variety of unique and diverse habitats and harbors several sensitive and listed species along its length. In 2009 minimal ground disturbance activities associated with planting and restoration projects were authorized by the Forest Service's *Decision Memo for Habitat Protection* due to the valuable resources and habitat found within the Mountaintop Ranger District. There are documented occurrences of several threatened, endangered, and candidate species along or near the river. Some or all species may occur within the Deep Creek corridor. The IPaC search identified the following species as potentially occurring within the Deep Creek corridor: San Bernardino Merriam's kangaroo rat (*Dipodomys merriami parvus*) [endangered], California spotted owl (*Strix occidentalis occidentalis*) [proposed endangered], southwestern willow flycatcher (*Empidonax traillii extimus*) [endangered], desert tortoise (*Gopherus agassizii*) [threatened], arroyo toad (*Anaxyrus californicus*) [endangered], and monarch butterfly (*Danaus plexippus*) [candidate]. The IPaC search also identified flowering plant species of concern within or near the Deep Creek corridor: Ash-grey paintbrush (*Castilleja cinerea*) [threatened], Bear Valley sandwort (*Arenaria ursina*) [threatened], California taraxacum (*Taraxacum californicum*) [endangered], cushenbury buckwheat (*Eriogonum ovalifolium var. vineum*) [endangered], cushenbury milk-vetch (*Astragalus elbens*) [endangered], cushenbury oxytheca (*Oxytheca parishii var. goodmaniana*) [endangered], Parish's daisy (*Erigeron parishii*) [threatened], pedate checker-mallow (*Sidalcea pedata*) [endangered], San Bernardino bluegrass (*Poa atropurpurea*) [endangered], Santa Ana River woolly-star (*Eriastrum densifolium ssp. Sanctorum*) [endangered], slender-petaled mustard (*Thelypodium stenopetalum*) [endangered], and southern mountain wild-buckwheat (*Eriogonum kennedyi var. austromontanum*) [threatened]. The results of these analyses are summarized in Table 3. The FS has also confirmed that Least Bell's vireo (*Vireo bellii pusillus)* [endangered] nest pairs have been found within the past few years.

Table 3. Deep Creek - San Bernardino County, California
Endangered and Threatened Species List

Common Name	Scientific Name	Species Listing	Critical Habitat in Corridor?	Known to Occur in Corridor?	Habitat
Mammals					
San Bernardino Merriam's kangaroo rat	*Dipodomys merriami parvus*	Endangered	No. The project location does not overlap with the critical habitat.	Yes. Present day populations of this species are limited to three disjunct areas in San Bernardino and	Inhabits scattered, isolated patches of alluvial sage-scrub.

Table 3. Deep Creek - San Bernardino County, California
Endangered and Threatened Species List

Common Name	Scientific Name	Species Listing	Critical Habitat in Corridor?	Known to Occur in Corridor?	Habitat
				Riverside counties, which contain the largest remaining areas of suitable habitat for this species.	
Birds					
California spotted owl	*Strix occidentalis occidentalis*	Proposed Endangered	No critical habitat has been designated for this species. All California spotted owls are in the vicinity of the Coast, Transverse, and Peninsular mountain ranges from Monterey County, San Diego County, and Kern County.	Potentially. Occurs throughout the Sierra Nevada mountain range in California and Nevada; in southern and coastal California in the Coastal, Transverse, and Peninsular mountain ranges.	Inhabit older forests that contain structural characteristics necessary for nesting, roosting, and foraging. On the central coast of California and in southern California, the owls are found in riparian /hard wood forests and woodlands, live oak/big cone fir forests, and redwood/California laurel forests. Nests are typically found in areas of high canopy cover, a high number of large trees, and downed trees.
Southwestern willow flycatcher	*Empidonax traillii extimus*	Endangered	Yes. The project location overlaps with the critical habitat.	Yes. Revised critical habitat was proposed August 15, 2011, and includes river segments in counties currently designated: Apache, Cochise,	Requires dense riparian habitats with cottonwood/willow and tamarisk vegetation and microclimate. Saturated soils, standing water

Table 3. Deep Creek - San Bernardino County, California
Endangered and Threatened Species List

Common Name	Scientific Name	Species Listing	Critical Habitat in Corridor?	Known to Occur in Corridor?	Habitat
				Gila, Graham, Greenlee, Maricopa, Mohave, Pima, Pinal, and Yavapai Counties. New river segments in the following counties include: La Paz, Santa Cruz, and Yuma Counties.	or nearby streams, pools, or cienegas are a component of nesting habitat that also influences the microclimate and density vegetation component.
Least Bell's Vireo	*Vireo bellii pusillus*	Endangered	No. The project location does not overlap with the critical habitat.	Yes. Several nest pairs have confirmed sightings on land south of the spillway.	Breeding habitat requires primarily riparian woodlands. Can also be found foraging and occasionally nesting in scrub, chaparral and oak woodlands.
Reptiles					
Desert tortoise	*Gopherus agassizii*	Threatened	Yes. The project location overlaps with the critical habitat.	Potentially. Mojave population of desert tortoise lives in a variety of habitats from sandy flats to rocky foothills, including alluvial fans, washes, and canyons.	Inhabits desert, arid land with sparse vegetation. Typically found in creosote bush, where scattered shrubs provide abundant space for growth of grasses and wildflowers, the favored foods of the species.
Amphibians					
Arroyo toad	*Anaxyrus californicus*	Endangered	Yes. The project location overlaps with the critical habitat.	Yes. Suitable habitat is present; a natural body of running water is within the project corridor, Deep Creek.	Habitat consists of narrow and shallow aquatic and riparian areas with slow moving water as

Table 3. Deep Creek - San Bernardino County, California
Endangered and Threatened Species List

Common Name	Scientific Name	Species Listing	Critical Habitat in Corridor?	Known to Occur in Corridor?	Habitat
					well as nearby upland areas that are not too widely dispersed. Typical aquatic habitats are bordered by low-elevation hills, scattered vegetation, and sandy, fine gravel, and pliable soils accompanied by rocks of varied size.
Insects					
Monarch butterfly	*Danaus plexippus*	Candidate	Under consideration for official listing. No critical habitat has been designated for this species.	Potentially. For overwintering months, habitat with a specific microclimate is needed for protection from the elements, as well as moderate temperatures to avoid freezing. Monarchs living west of the Rocky Mountain range in North America primarily overwinter in California at sites along the Pacific Coast, roosting in eucalyptus, Monterey pines and Monterey cypress trees.	Fields, roadside areas, open areas, wet areas, or urban gardens, milkweed and flowering plants are needed for monarch habitat. Adult monarchs feed on the nectar of many flowers during breeding and migration, but they can only lay eggs on milkweed plants.
Flowering Plant Species					
Ash-grey paintbrush	*Castilleja cinerea*	Threatened	Yes. The project location overlaps	No. Based on USFWS	Inhabits dry desert and

Table 3. Deep Creek - San Bernardino County, California
Endangered and Threatened Species List

Common Name	Scientific Name	Species Listing	Critical Habitat in Corridor?	Known to Occur in Corridor?	Habitat
			with the critical habitat.	Interactive Map, this species does not appear to be located within the project corridor.	sagebrush scrub, woodland, and coniferous forest.
Bear Valley sandwort	*Arenaria ursina*	Threatened	Yes. The project location overlaps with the critical habitat.	No. Based on USFWS Interactive Map, this species does not appear to be located within the project corridor.	Inhabits pebble-plain and dry slopes. Populations of this species are known from eight pebble plain complexes in the vicinity of Big Bear and Baldwin Lakes.
California dandelion	Taraxacum californicum	Endangered	Yes. The project location overlaps with the critical habitat.	No. Based on USFWS Interactive Map, this species does not appear to be located within the project corridor.	Species prefers mountain meadows. Populations of this species are known to inhabit areas surrounding Big Bear Lake, Running Springs, Onyx Peak, and Little San Gorgonio Peak.
Cushenbury buckwheat	*Eriogonum ovalifolium var. vineum*	Endangered	No. The project location does not overlap with the critical habitat.	No. Based on USFWS Interactive Map, this species does not appear to be located within the project corridor.	Inhabits openings of pinyon woodland, pinyon-juniper woodland, Joshua Tree woodland, and blackbrush scrub communities. Lives on rocky carbonate soils.
Cushenbury milk-vetch	*Astragalus elbens*	Endangered	No. The project location does not overlap with the critical habitat.	Potentially, but not likely. The USFWS Interactive Map	Typically found on carbonate substrates along rocky washes

Table 3. Deep Creek - San Bernardino County, California
Endangered and Threatened Species List

Common Name	Scientific Name	Species Listing	Critical Habitat in Corridor?	Known to Occur in Corridor?	Habitat
				displays this species scattered across San Bernardino National Forest.	and gentle slopes within pinyon woodland, pinyon-juniper woodland, Joshua Tree woodland, and blackbrush scrub communities.
Cushenbury oxytheca	*Oxytheca parishii var. goodmaniana*	Endangered	No. The project location does not overlap the critical habitat.	Potentially, but not likely. The USFWS Interactive Map displays this species scattered across San Bernardino National Forest.	All Cushenbury oxytheca populations occur on limestone or a mixed lithology of limestone and dolomite except the population growing only on dolomite at north Holcomb Valley.
Parish's daisy	*Erigeron parishii*	Threatened	No. The project location does not overlap with the critical habitat.	No. Based on USFWS Interactive Map, this species does not appear to be located within the project corridor.	Parish's daisy is typically found associated with pinyon woodlands, pinyon-juniper woodlands, and blackbrush scrub at elevations from 4,000 to 6,400 ft. Usually found on dry rocky slopes, shallow drainages, and outwash plains on substrates derived from limestone or dolomite.
Pedate checker-mallow	*Sidalcea pedata*	Endangered	No critical habitat has been designated for this species.	Potentially, but not likely. The USFWS	Habitat restricted to vernally moist

Table 3. Deep Creek - San Bernardino County, California
Endangered and Threatened Species List

Common Name	Scientific Name	Species Listing	Critical Habitat in Corridor?	Known to Occur in Corridor?	Habitat
				Interactive Map displays this species scattered across San Bernardino National Forest.	meadows and sparsely vegetated drier meadows at elevations from 5,250-8,200 ft in Big Bear Valley.
San Bernardino bluegrass	*Poa atropurpurea*	Endangered	Yes. The project location overlaps with the critical habitat.	No. Based on USFWS Interactive Map, this species does not appear to be located within the project corridor.	Inhabits montane meadows in the Big Bear region of the San Bernardino Mountains, as well as in meadows in the Laguna Mountains and Palomar Mountains of San Diego County at elevations of 6,000-7,500 ft, near the drier margins of meadows that are vernally wet marshlands.
Santa Ana River woolly-star	*Eriastrum densifolium ssp. Sanctorum*	Endangered	No critical habitat has been designated for this species.	No. Based on USFWS Interactive Map, this species does not appear to be located within the project corridor.	Endemic to the Santa Ana River drainage in southern California. It thrives in open areas that receive a lot of sun and where there are infrequent flood events that contribute to seed dispersal. Santa Ana River woolly-star grows in sandy

Table 3. Deep Creek - San Bernardino County, California
Endangered and Threatened Species List

Common Name	Scientific Name	Species Listing	Critical Habitat in Corridor?	Known to Occur in Corridor?	Habitat
					areas and is a pioneer species, meaning that it will take over previously unutilized habitat. It requires periodic flooding along with scouring and sediment deposition to persist.
Slender-petaled mustard	*Thelypodium stenopetalum*	Endangered	No critical habitat has been designated for this species.	No. Based on USFWS Interactive Map, this species does not appear to be located within the project corridor.	Moist meadows, although the species does tend to occupy the drier portions of wet meadows or sparsely vegetated "dry" meadows. The habitat where the species is documented is generally dominated by open sagebrush scrub vegetation.
Southern mountain wild-buckwheat	*Eriogonum kennedyi var. austromontanum*	Threatened	Yes. The project location overlaps with the critical habitat.	No. Based on USFWS Interactive Map, this species does not appear to be located within the project corridor.	Species occurs primarily on pebble plain habitat.
Fish					
Lahontan cutthroat trout	*Oncorhynchus clarki henshawi*	Threatened	No. The project location does not overlap the critical habitat.	Unknown. Occurs throughout the Sierra Nevada mountain range in California and Nevada.	Cold mountain streams at high elevations. Highly alkaline desert lakes at lower elevations

Table 3. Deep Creek - San Bernardino County, California
Endangered and Threatened Species List

Common Name	Scientific Name	Species Listing	Critical Habitat in Corridor?	Known to Occur in Corridor?	Habitat
					(most commonly in Nevada).
Mohave tui chub (hybridized pop.)	*Gila bicolor mohavensis*	Endangered	No. The project location does not overlap with the critical habitat.	Potentially. Based on USFS documentation the chub has been known to reside in Deep Creek	Native to the Mohave River Basin. Habitat is characterized by Alkaline deep pools and shallow running water.
Arroyo Chub	*Gila orcuttii*	Candidate	No. The project location does not overlap with the critical habitat.	Potentially. Based on USFS documentation the chub has been known to reside in Deep Creek	Warm streams, with fluctuating seasonal clarity and depth. Common in slow moving backwater with sandy substrate.

Source: USFWS 2023a

Forest Service Sensitive Species

A number of Forest Service sensitive species are documented to occur in the river corridor or have the potential to occur there (USDA Forest Service 2023), based on their habitat preferences and the available habitat along the river. The likelihood occurrence was determined based on past reports of the species and the availability of suitable habitat along the river. Several species of note are highlighted below.

The arroyo toad (*Anaxyrus californicus*) can be found along the central and southern coast of California to northwest of Baja California, Mexico. Because the arroyo toad inhabits such highly populated and urbanized coastal regions, the species faces a variety of threats to its survival, reproduction, and persistence (USFWS 2023b). The Mountaintop Ranger District continue to work with the USACE on restricting access to Deep Creek through the Mojave Forks Dam tunnel to protect critical species in addition to the arroyo toad.

Migratory/Non-Migratory Birds

San Bernardino National Forest is home to diverse bird habitats and species. The environments birds are found in include mountain lakes and meadows, coniferous forest, oak woodland, riparian woodland, chaparral scrub, desert scrub and grasslands. These diverse habitats provide homes for bird species that are resident year-round, as well as for birds which utilize that area only for breeding, wintering, or as stop-over sites during spring and fall migrations (USDA Forest Service 2014). The USDA created a checklist of the *Birds of the San Bernardino National Forest* (updated in October 2014) and includes

habitat, whether the species is a seasonal or long-term resident, and the degree of observability within the San Bernardino Mountain range.

The proposed endangered California spotted owl (*Strix occidentalis occidentalis*) is considered uncommon, but usually can be encountered in small numbers in proper habitat. This species can be found in woodlands: oaks, conifers, oak-conifer associations, and pinyon-juniper trees (USDA Forest Service 2014). The spotted owl is a present, year-round resident and regular breeder in the San Bernardino National Forest.

The endangered Southwestern willow flycatcher (*Empidonax traillii extimus*) is an occasional, rare species within the San Bernardino National Forest. There are no notable records for the willow flycatcher and the species is sighted only a few times a year in proper habitat. This species can be found in riparian, stream-side thickets and woodlands. The willow flycatcher is a transient, summer resident nesting but not remaining through the winter. The species migrates through the region during the spring (March-June) or fall (August-November) in the San Bernardino Mountain range.

The endangered Least Bell's vireo (*Vireo bellii pusillus)* is found in the riparian woodlands of the San Bernardino National Forest during the breeding and nesting season (March-September). In addition to nesting in riparian woodlands, Least Bell's vireo forage and occasionally nest in scrub, and oak woodlands. Historically this species was found throughout the California Central Valley, but due to habitat loss is now found primarily in coastal southern California (USFWS 2023c). This species inhabits riparian environments, stream side thickets, and woodlands. Bell's vireo is a summer resident, nesting but not remaining through the winter, and is considered a regular breeder in the San Bernardino National Forest. In recent years several nesting pairs have been sighted within the project corridor, south of the spillway.

Impacts of No-Action Alternative

Under the No-Action Alternative, Deep Creek would continue to support populations of and habitat for federally listed species and migratory birds. Existing law, regulation, policy, Executive Orders, and special area plans (as applicable), including the ESA and MBTA, would continue to protect federally protected species such as the southwestern willow flycatcher. These continued management strategies include project planning to consider conservation of suitable habitat components over the long term, including avoidance and/or minimization of additional land disturbance activities that could cause direct or indirect adverse effects to federally listed wildlife species. Without the management efforts under the Proposed Action (such as a final boundary along the banks of Deep Creek, user capacity thresholds and adaptive management actions triggered by these thresholds, and efforts to curb unauthorized OHV access), current high traffic areas would continue to reduce habitat and diminish riparian habitat. Current conditions include unauthorized usage by visitors who creating unauthorized trails for foot traffic and OHVs. Visitors have also made sandbags with sand from shore to dam the free-flowing water for recreational purposes. This unauthorized damming has put stress on arroyo toad habitat and shifted current habitat into heavily trafficked areas with the creation of unauthorized trails and by eliminating near-water habitat. Under the No-Action Alternative, there may also continue to be adverse impacts if the physical footprint of recreational hot spots, parking areas, and informal trail networks were expanded from recreation use (Otak, Inc. 2023). However, these adverse impacts on wildlife would be reduced

considering other ongoing conservation efforts that the FS is undertaking, including continued unauthorized trail and dam removal.

Impacts of Proposed Action

Under the Proposed Action, limiting unauthorized OHV access in the WSR corridor would help create more stable habitat, by lowering human interactions and habitat disturbances to wildlife. Under the Proposed Action, in addition to current laws, Executive Orders, regulations, policies, and special area plans, supplemental protections would be put in place to protect federally listed species, FS sensitive species, potential habitat for federally listed species, and habitat for federally listed species. These protections include establishing a final river corridor boundary, user capacity thresholds, and additional management guidance.

The establishment of a final boundary would provide additional protection of the river corridor from development which could prevent disturbance to wildlife in the vicinity. Similarly, establishing user capacity thresholds would create guidelines for the number of visitors that can be accommodated while meeting habitat restoration goals and would afford protections from recreational and unauthorized use. Adaptive management actions triggered by these thresholds would also afford additional protections to wildlife resources. Under the Proposed Action, user capacity thresholds would limit recreational hotspots such as OHV trails, as well as water quality issues caused by swimming holes and unauthorized camping sites and trails which causes harm to fragile habitats and the wildlife found within Deep Creek. The actions implemented under the Proposed Action would strengthen protections for federally threatened and endangered species, FS sensitive species, migratory birds, potential/occupied habitat for federally threatened and endangered species, and critical habitat for federally threatened and endangered species.

Cumulative Impacts

The No-Action Alternative would result in continued high traffic areas that would reduce habitat and diminish riparian habitat, due to the absence of specific management and conservation efforts. Current conditions would continue to jeopardize wildlife habitat; however, considering other ongoing conservation efforts, this would not result in a substantial negative impact. The Mojave River Dam CA would contribute a beneficial effect to wildlife resources under the No-Action Alternative by strengthening enforcement of unauthorized OHV access from USACE land and adding a beneficial incremental impact on wildlife resources.

The Proposed Action would strengthen wildlife protections and habitat through the establishment of final river corridor boundaries, user capacity thresholds, and limiting OHV access. The stronger protections afforded by the Proposed Action would produce an indirect, positive incremental impact on wildlife and reverse damage from human use. Combined with the beneficial impact from the Mojave River Dam CA, the overall cumulative impact on wildlife would be beneficial.

FISH

Affected Environment

Deep Creek is a premier fishing location, one of two drainages in the region designated as a Wild Trout Stream by the California Department of Fish and Wildlife. The river corridor possesses outstandingly remarkable fish values. Deep Creek supports naturally reproducing populations of rainbow (*Oncorhynchus mykiss irideus*), and brown trout (*Salmo trutta*). The federally endangered Mohave tui chub (*Gila bicolor mohavensis*) was once present in Deep Creek, although these fish have since hybridized with the arroyo chub (*Gila orcuttii*), a California Species of Concern. The exotic black bullhead (*Ameirus melas*) and green sunfish (*Lepomis cyanellus*), as well as the native Pacific staghorn sculpin (*Leptocottus armatus*), can also be found in the river. In the summer months, deep pools within Deep Creek provide important resting and foraging areas for trout and chub.

Mohave tui chub (*Gila bicolor mohavensis*) are a federally endangered chub species that has historically been found along the Deep Creek corridor. A hybridized population can now be found throughout Deep Creek and San Bernardino County, using similar habitat as the historic species. The subspecies is likely hybridized with the Arroyo chub (*Gila orcuttii*) a more resilient chub species. Typical spawning occurs in deep pools from February-October. The species relies on these modified deep pools for spawning, and shallow running water for the fry to school (CDFW 2023c).

The native Pacific staghorn sculpin (*Leptocottus armatus*) can be found in Deep Creek. Staghorn sculpin are a relatively small fish, reaching maturity around 3.5-5 inches long. This native species can typically be found in brackish waters, but adults can be found upstream in freshwater like that of Deep Creek. Juvenile staghorn sculpin feed on invertebrates and insect larvae.

Rainbow trout (*Oncorhynchus mykiss irideus*) are a native trout species found within the corridor, with individuals potentially spending their full lifecycle within the corridor. Rainbow trout are known to exhibit site fidelity to their hatch site, including Deep Creek.

Brown trout (*Salmo trutta*), while not native to California, now use Deep Creek as natural habitat. Brown trout rely on cold fast-moving waters for habitat but can adapt to warmer waters up to neatly 30 degrees (USGS 2022). Brown trout have been known to prey on smaller native fish species, such as the arroyo and Mohave tai chub that use the same habitat as that in the Deep Creek corridor.

Black bullhead (*Ameiurus melas*) is a small, hearty species, preferring slow muddy bottomed, turbid waters. They can be seen in large schools as juveniles and adults can typically be found under vegetation beds. Black bullhead are highly adaptive and can survive in a wide variety of aquatic conditions, including intermittent streams and streams with highly variable temperatures and saline conditions (University of California 2023a).

Green sunfish are an exotic species that can be found throughout California. This introduced species preys heavily on native fish populations and thrive in low diversity stream systems. Green sunfish are generally 2-4 inches long but can grow up to 10 inches if there is little competition. Typical habitat is small streams, particularly intermittent streams. This species thrives in disturbed habitat and will outcompete less adaptable species during stream disturbances (University of California 2023b)

Impacts of No-Action Alternative

Under the No-Action Alternative, the CRMP for Deep Creek would not be adopted, and the watershed would continue to be managed and monitored using current laws, Executive Orders, regulations, policies, and special area plans. Policies protecting threatened and endangered species would still apply to relevant species within the WSR corridor. Unauthorized damming to create artificial pools would continue, negatively impacting water quality and fish habitat. Under the No-Action Alternative, there would continue to be adverse impacts if the physical footprint of recreational hot spots, parking areas, and informal trail networks were expanded from recreation use (Otak, Inc. 2023).

Impacts of Proposed Action

Under the Proposed Action, in addition to current management direction, supplemental protections would be put in place to protect federally threatened and endangered species. Implementation of the Proposed Action would establish a final river corridor boundary, user capacity thresholds, and reduce unauthorized access in parts of the corridor, which may help improve fish habitat.

Establishing a final boundary would provide additional protection of the river corridor from development, which could prevent degradation of water quality and disturbance to fisheries habitat. Similarly, establishing user capacity thresholds and adaptive management actions triggered by these thresholds would afford additional protections from recreational use and unauthorized use. Management strategies under the Proposed Action would continue the ongoing protection of fish resources, which include minimization of additional land disturbance and unauthorized activities that could cause direct or indirect adverse effects to fish in the river. The CRMP provides further management guidance to protect water quality and the fishery ORV of the river segment.

The Proposed Action would have no direct or indirect adverse effects to critical species or their habitat. However, there could be direct benefits to fishes and their habitat from protections proposed in the CRMP.

Cumulative Impacts

The No-Action Alternative would have impacts on fisheries and habitats, and therefore would contribute to the impacts of other actions. The Mojave River Dam CA would contribute a beneficial effect to fish resources under the No-Action Alternative by strengthening enforcement of unauthorized OHV access from USACE land and adding a beneficial incremental impact on fish resources.

The Proposed Action would strengthen fisheries protections through the establishment of final river corridor boundaries, user capacity thresholds, and actions to limit unauthorized access in the corridor. Unauthorized use has affected stream structure and degraded habitat over time. The stronger protections afforded by the Proposed Action would produce direct, beneficial impacts on fisheries. The positive increment contributed by the Mojave River Dam CA would result in an overall positive cumulative impact on fish.

BOTANY

Affected Environment

The Deep Creek River corridor possesses diverse vegetation communities, supporting montane riparian hardwood, montane conifer/hardwood, montane conifer, montane upland hardwood, mixed conifer, Jeffrey pine (*Pinus jeffreyi*), riparian forest, riparian scrub, lower montane conifer/hardwood, pinyon/juniper woodlands, northern mixed chaparral, scrub oak chaparral, montane chaparral, and interior/desert scrub communities. The river corridor is also home to several rare botanical resources. The locally significant, Forest Service Sensitive and Watch List species, lemon lily (*Lilium parryi*), Humboldt Lily (*Lilium humboldtii*), Mojave tarplant (*Deinandra mohavensis*) and hot springs fimbristylis (*Fimbristylis thermalis*), all occur along the creek. The two species of lily are present in numerous locations, and there is a historic population of the Mojave tarplant in the southern portion of the river corridor. The presence of these rare plants, combined with the 14 known vegetation communities along the river corridor, constitute outstandingly remarkable botanical values at Deep Creek.

Holcomb Creek, a small mountain creek that is a tributary of Deep Creek, also possesses outstandingly remarkable botanic values. The creek supports rare, regionally significant montane wet meadow habitat, as well as a high number of endemics, federally listed and Forest Service Sensitive plants, some of which appear in regionally significant populations along the river corridor. The adjacent pebble plain habitat supports the federally listed southern mountain buckwheat (*Eriogonum kennedyi* var. *Austromontanum*), Bear Valley sandwort (*Eremogone ursina*), and ash gray paintbrush (*Castilleja cinerea*), as well as the Forest Service Sensitive and Watch List Species Transverse Range phacelia (*Phacelia exilis*), San Bernardino Mountains dudleya (*Dudleya abramsii ssp. affinis*), silver-haired ivesia (*Ivesia argyrocoma* var. *argyrocoma*), and Parish's rockcress (*Boechera parishii*).

The carbonate plant habitat adjacent to Holcomb Creek, derived from an ancient inland sea, also supports several rare plants. These include the Forest Service Sensitive and Watch List plants crested milkvetch (*Astragalus bicristatus*), San Bernardino buckwheat (*Eriogonum microthecum* var. *corymbosoides*), Humboldt Lily, San Bernardino ragwort (*Packera bernardina*), Mohave phacelia (*Phacelia mohavensis*), Palmer's mariposa lily (*Calochortus palmeri*) and San Bernardino Mountains owl's-clover (*Castilleja lasiorhyncha*).

The montane meadow habitat at Hitchcock Ranch supports several federally listed plant species, including ash gray paintbrush, San Bernardino bluegrass, and California taraxacum. It is anticipated that the meadow also supports a few additional Forest Service Sensitive and Watch List species, as the nearby Belleville Meadow, which possesses similar habitat, harbors an unusually large number of Forest Service Sensitive and Watch List species.

The rare native lemon lily is found on the banks of Deep Creek. This rare perennial lily is characterized by its tall stem, growing up to 2 meters tall and large, bright yellow flowers. The lemon lily has three known habitats in California: the San Bernardino Mountains (Deep Creek), the San Gabriel Mountains, and Palomar Mountain. The moist mountainous habitat in these locations is what has allowed the lily to continue to grow.

Humboldt Lily (*Lilium humboldtii*) is another rare, high elevation perennial lily found along the Deep Creek corridor, growing at elevations 2,000 to 3,900 feet. The deep orange flowers bloom in clusters on stems up to 8 feet tall during the spring and summer months. During the winter dormant months, the plant thrives with little water, but during the spring and summer requires more moisture. Similar to the other

lily species found within the project corridor prime habitat includes moist canyons and streamside vegetation.

Mojave Tarplant (*Deinandra mohavensis)* is an annual flowering species in the aster family and is endemic to California. The tarplant is recognized by its hair glandular stems, serrated leaves, and yellow clusters of 5-rayed florets. Mojave Tarplant is found in the moist riparian and chaparral zones of the Sierra Nevada's, Mojave Desert and San Bernardino Mountains. This plant is considered rare and was considered extinct until 1994 when it was rediscovered in the San Jacinto Mountains.

Southern mountain buckwheat (*Eriogonum kennedyi* var. *Austromontanum*) is a federally threatened native Californian subshrub that can be found along Holcomb Creek in adjacent pebble plain habitats. This perennial is vulnerable to habitat destruction from off-road vehicles, heavy traffic, and over grazing in its fragile habitat. The pink and white flowers bloom and fruit from June through August.

Bear Valley sandwort (*Eremogone ursina*) blooms May through August in similar pebble plain habitat as the southern mountain buckwheat. Bear valley sandwort is a native Californian plant, endemic to San Bernardino County and is found within the Deep and Holcomb Creek project area. It can also be found among pinyon-juniper woodlands.

Ash gray paintbrush (*Castilleja cinerea*) is a small hemiparasitic herb with small yellow flowers. This plant is found within the Holcomb Creek area and can be found blooming June through August. The Ash gray paintbrush can be found in pebble plain habitat near Holcomb Creek in addition to meadows and large openings.

The hot springs fimbristylis (*Fimbristylis thermalis*), a southwestern native plant, can be found near the Warm Springs area. This native sedge has a thick stem and grows in clumps up to a meter in height. Each stem has pointed hairy spikelet. This rhizomatic sedge can be found in alkaline muds and sands such as those found around the Warm Springs.

Recent restoration efforts in the corridor include work completed by the FS and its partner, SCMF, which have been restoring parts of IRAs. This work has included fencing, seeding, slashing, and signing in certain areas.

Impacts of No-Action Alternative

Under the No-Action Alternative, the proposed CRMP would not be adopted for Deep Creek, and the river would be managed under existing laws, Executive Orders, regulations, policies, and special area plans. None of the benefits and additional management measures of the CRMP would be implemented. Implementation of the No-Action Alternative would have continued impacts on botany and plant habitat. Under current management, high use near Warm/Hot Springs has caused vegetation loss due to unauthorized trails. Without the implementation of the Proposed Action, there would continue to be adverse impacts if the physical footprint of recreational hot spots, parking areas, and informal trail networks were expanded from recreation use (Otak, Inc. 2023). This continued use would have adverse impacts to the botany and habitat along Deep Creek.

Impacts of Proposed Action

Under the Proposed Action, the CRMP would be implemented to protect botanical resources throughout the river corridor. Impacts would be the same as current management strategies for FS sensitive species, but the Proposed Action would add protection for botanical resources by establishing a final boundary,

user capacity thresholds and adaptive management actions triggered by these thresholds, and additional management guidance. Actions would include limiting OHV access in the Warm/Hot Springs area, blocking certain access points to reduce unauthorized access, and directing visitors to use existing trails in order to reduce trampling of vegetation communities and subsequent damage to botanical resources. Similarly, establishing user capacity thresholds would provide the Forest with additional tools to protect botanical resources from threats due to visitor use, such as trampling and vandalism, especially in the Warm/Hot Springs area where heavy use has damaged vegetation. Risks to botanical resources by visitors are expected to be reduced under the Proposed Action and final boundary establishment. User capacity thresholds and management actions would provide additional long-term protections and management for botanical resources when compared to existing conditions and the No-Action Alternative.

The CRMP, combined with project-specific planning, would benefit the conservation of these habitat components over the long term. The Proposed Action would enhance habitat for botanical resources. The Proposed Action, adoption of the CRMP, is administrative in nature and no ground-disturbing activities are proposed. Therefore, although there would be no direct impacts on botany, the Proposed Action may result in indirect beneficial impacts on botanical resources in the river corridor.

Cumulative Impacts

The No-Action Alternative would result in negative impacts to botanical resources because damage caused by heavy use in popular areas and along trails would continue to occur. The Proposed Action would strengthen protections on plants and habitats through limiting OHV access and directing visitors to use existing trails in order to reduce trampling of vegetation communities.

The Proposed Action would also establish user capacity thresholds and improve project planning considerations for threatened and endangered plant species. The stronger protections afforded by the Proposed Action would produce a positive incremental impact on botany. Combined with the beneficial impact from the Mojave River Dam CA, which would strengthen efforts to prevent unauthorized OHV access from USACE land, the overall cumulative impact on botany would be beneficial.

RECREATION

Affected Environment

Deep Creek is a moderate to high use multi-elevation backcountry canyon that supports a variety of recreational activities. The river is easily accessible to visitors via the PCT and State Highway 18. Part of the river is also near the communities of Arrowbear Lake and Running Springs, which contributes to recreation use of nearby recreation areas such as the Fisherman’s Group Campground and Splinters Cabin Day Use Area. Some sections of Deep Creek are ideal for four-wheel drive and OHVs, while other portions are well-suited to hiking and backpacking. In recent years, the FS and its partner, SCMF, have been working to restore parts of IRAs, which includes work within the WSR corridor. This work has included fencing, seeding, slashing, and signing in certain areas.

Deep Creek is also a renowned regional freshwater fisheries resource, one of the best in the surrounding Forest and greater southern California. It was adopted by the Fisheries Resource Volunteer Corps, and it has also been designated as a State of California Wild Trout Program Stream. Visitors can also enjoy

remote fly-fishing opportunities with beautiful scenery and abundant fishes. There are many opportunities for sightseeing, swimming, picnicking, horseback riding, and wildlife viewing at the river as well. Deep Creek Hot Springs, adjacent to the creek itself, is another unique and popular recreational site in the river corridor. Most of the recreational activities at Deep Creek are available almost year-round, although heavy snows at the upper reaches of the river corridor can limit access during the winter. Social trails originating from the PCT provide access to the area via multiple points. The Hot Springs see heavy use, which also includes some unsanctioned use, such as camping and OHV riding. Overcrowding and unsanctioned behavior has also resulted in degradation to the area including human waste, visitor-created pools, garbage, and graffiti.

Graffiti near Hesperia Falls (within red circle)
Source: Otak, Inc.

Holcomb Creek, a tributary of Deep Creek, also provides opportunities for swimming, picnicking, fishing, wildlife viewing, and hiking. These opportunities are available most of the year, except when heavy snows at the upper reaches of the river corridor limit access. The headwaters of Holcomb Creek begin in Holcomb Valley, the site of a unique self-guided auto tour of historic gold mining operations. The iconic PCT also intersects Holcomb Creek. There are several camping areas and challenging skiing opportunities within the river corridor as well.

Deep and Holcomb Creek provide a variety of high-quality recreational activities during nearly every season. These river corridors are easily accessible to visitors, with numerous established trails, roads, and camping areas. There are also several unique opportunities in the area, such as the hot springs, gold mining auto tour, and renowned trout-fishing areas.

Impacts of No-Action Alternative

Under the No-Action Alternative, the CRMP would not be adopted, and management of the river would continue to be governed by existing laws, Executive Orders, regulations, policies, and special area plans. Resource and social conditions at heavily visited recreation sites in the corridor such as Deep Creek Hot Springs could continue to degrade. A resource assessment performed on the PCT found extensive bare

ground from recreation sites and campsites as well as informal trails in the Hot Springs area (Marion et. al. 2023, as cited in Otak, Inc. 2023). Other unsanctioned uses, such as OHV riding, and behavioral challenges that cause degradation including human waste, visitor-created pools, garbage, and graffiti, could continue. Furthermore, high recreational use at popular sites within the corridor could lead to unacceptable levels of overcrowding for visitors (Otak, Inc. 2023). OHV use in the river corridor would continue to be monitored, as part of a California State Parks OHV restoration grant.

If the CRMP is not adopted, no user capacity would be implemented for the river; general visitor use levels at the river would not be monitored as frequently, beyond the OHV monitoring currently happening; and there could be fewer mechanisms in place to limit the number of visitors. Overcrowding, increases in waste, debris, and additional human disturbance, could continue to degrade recreational experiences at the river. Thus, under the No-Action Alternative, there may be negative impacts on recreation.

Impacts of Proposed Action

Under the Proposed Action, user capacities would be set for the river, with associated triggers for adaptive management action. User capacities have been estimated for each of three separate areas in the corridor (Appendix A of the CRMP). These estimates are based on best available data and professional management judgement, and as such should be re-evaluated and adjusted as needed. Upon adoption of the CRMP, use levels at these river areas could potentially be monitored to determine whether user capacity has been reached or exceeded as specified in the User Capacity Analysis. If capacities are exceeded for a certain period of time, there could be detrimental impacts on recreation due to overcrowding, increased human disturbance, and higher levels of waste and debris.

The User Capacity Analysis analyzes user capacity in the corridor by river segment, or "analysis area." Analysis Area 1 (Figure 3 in Appendix A of the CRMP) consists of the lower Deep Creek corridor from east of the Mojave River Forks Reservoir spillway to the scenic section of the WSR corridor near Devils Hole. Deep Creek is designated wild in this analysis area. Deep Creek Hot Springs is the most heavily visited recreation destination in this analysis area; the recreational user capacity for daily visitor use in the Deep Creek Hot Springs area is estimated to be approximately five percent lower than existing levels of use.[3] The recreational user capacity estimate for daily visitor use in Analysis Area 1 overall is 40 to 70 people per day. Therefore, under the Proposed Action, recreational access in Analysis Area 1 may be negatively impacted by management actions that protect river values by addressing overuse. Implementation of the Proposed Action, however, would improve the quality of the recreation experience by continuing efforts to reduce use-related degradation such as described above. Under the Proposed Action, various actions would be taken to decrease or eliminate unauthorized OHV access such as repairing fences. These actions would improve the quality of the recreation experience in the area.

Analysis Area 2 (Figure 7 in Appendix A of the CRMP) consists of the upper Deep Creek corridor from the headwaters through the scenic section of the WSR corridor near Devils Hole. Deep Creek is

[3] Visitor use in Analysis Area 1 additionally includes episodic spikes in use on the PCT during relatively brief periods in the spring and fall when PCT thru-hikers pass through the area. It is the USFS' professional judgement that these brief periods during which PCT thru-hikers travel through Analysis Area 1 can be accommodated without causing degradation to river values.

designated wild in most of this analysis area with the exception of sections near Devils Hole and Splinters Cabin that are designated scenic. Recreational use in this analysis area is generally moderate to high and is concentrated at Devils Hole, Splinters Cabin, and Aztec Falls. The recreational user capacity for daily visitor use in Analysis Area 2 is approximately 100 visitors per day for day use and approximately 88 visitors per day for overnight use at the area campgrounds. If management triggers are reached and management actions that protect river values need to be taken, access to recreational opportunities in the campsites and day-use parking locations in Analysis Area 2 could be negatively impacted. Implementation of the Proposed Action, however, would improve the quality of the recreation experience in this area by reducing use-related degradation such as described above.

Analysis Area 3 (Figure 8 in Appendix A of the CRMP) consists of Holcomb Creek, from just below the headwaters of Holcomb Creek on the eastern end of the river corridor, to where the recreational segment meets the wild segment of Holcomb Creek just east of Holcomb Crossing. Holcomb Creek is designated recreational in this analysis area. Recreational use in this analysis area is generally low to moderate to high and includes a low to moderate levels of OHV use as well as PCT use and camping. The recreational user capacity for daily visitor use in Analysis Area 3 is approximately 20 visitors per day for day use and 32 visitors per night in the area campgrounds. If management triggers are reached and management actions that protect river values need to be taken, access to recreational opportunities in the campsites and day-use parking locations in Analysis Area 3 could be negatively impacted. Implementation of the Proposed Action, however, would improve the quality of the recreation experience in this area by reducing use-related degradation such as described above.

Cumulative Impacts

Under the Proposed Actions, management actions that impact recreation would be implemented if triggers were reached; these include potentially rehabilitating impacted trails and implementing campsite improvements. With the implementation of the Mojave River Dam CA, actions would be put in place that would contribute a beneficial increment to recreation under the No-Action Alternative by continuing to better manage motorized use in the area, which would add a beneficial increment impact to overall recreational resources and enhance recreation-related river values long term.

HERITAGE RESOURCES (CULTURAL)

Affected Environment

The river has outstandingly remarkable heritage values, as discussed above and documented in the CRMP. Heritage sites in the corridor, however, are continuously losing ground to public and Forest practices, wildfires, and natural weathering. Significant heritage sites dating to the last 2,000 years are found within the river corridor reflecting a long period of Native American occupation and use. Some of the earliest prehistoric sites identified in vicinity of the Deep Creek corridor date to the archaic period which is relatively rare in the San Bernardino Mountains. They are thought to represent semi-nomadic groups following seasonal rounds in large catchment areas, residing in basecamps and outlying workstations.

Evidence of occupation within the corridor continues through the later prehistoric periods and into the present. During the later prehistoric period, the Kaiwiem people used both the area near today's Lake

Arrowhead and the western half of today's Holcomb Valley as part of their season round movements, travelling to and from today's Big Bear Lake area along the Deep Creek corridor to their social and ceremonial engagements. Far more late-period Native American sites are recognized in southern California when compared to the numbers of sites dating to earlier periods; several sites located along Deep Creek and Holcomb Creek appear to represent important recent Native American occupations. Members of the local tribes, in particular the San Manuel Band of Mission Indians, continue to visit and study the general area in an effort to regain and keep cultural knowledge. They have been active in retaining cultural sites near the Deep Creek/Mohave River confluence that may represent winter homes and gathering areas of the Kaiwiem people who used the Deep Creek/Holcomb Valley Corridor.

These heritage resources have exceptional human-interest value to the local Native American and tribal community. Ethnographic research has documented local Native American place names for several areas within the river corridor, affirming long-standing associations in the tribal community. In addition to having scientific value, these resources may also meet the standards for a highly significant Traditional Cultural Property. Traditional Cultural Properties are eligible for inclusion in the National Register of Historic Places (National Register).

The river is also known for its significant California Gold Rush history. From 1860 through the early 1900s, Holcomb Valley was the scene of Southern California's largest gold rush. The mining towns of Belleville, Clapboard Town, and Union Town grew up in the Valley. Much of the mining in the Holcomb Mining District was placer mining which involves separating heavy pieces of gold from lighter sand or gravel, typically in creeks. There were several mining claims in the vicinity of Holcomb Creek, including the Greenwood, Bullion, Chiquita, Argos, and Cottonwood. Successive gold rushes in the area drew the attention of both large schemes funded by investors on the London Stock Market during the 1890s and family-run outfits testing their luck during the Great Depression and post-World War II era. Extractions of gold, silver, and copper continued in this area for longer than anywhere else in California. This eventually developed into the extraction of the limestone country rock by the steel industry.

The Gold Rush history is complemented by its concurrent grazing history. Prominent cattle ranchers Will Hitchcock and the Quiroz brothers grazed their herds between Holcomb Valley, Big Pine Flat, and Coxey Meadow during the summer, returning to Apple Valley environs for winter pasture by way of "driveways." One driveway trail was later developed into the current route for the northern end of Coxey Road, another followed Holcomb Creek to Deep Creek, using the creek corridor for access and water. Their summer pastures were incorporated into the huge Coxey Grazing Allotment in the 1920s, and Hitchcock purchased some of the abandoned Valley Gold Company claims for their upper ranch. Three quarters of the Coxey Grazing Allotment was within the Holcomb/Deep Creek watershed and while drift fences prevented cattle from drifting from Holcomb Valley, the steep canyon walls of Deep Creek preventing cattle from drifting to the west (Anderson 1923).

The growing communities and farmlands in the lowland valleys were largely dependent on the mountain watersheds for their water supply. In the 1880s, the Big Bear Dam and the Deep Creek Flume were constructed to store water and deliver it to nearby farmlands. As soon as Big Bear Lake was created by the dam, it became a recreation destination popular for fishing and boating. Visitors to Big Bear Lake also took trips to Holcomb Valley to see the Gold Rush miners, establishing the Holcomb Creek area as a recreational area in addition to a gold mining district and grazing pasture.

By the turn of the century, lumber-cutting and mining operations left many areas of the forest a wasteland, and uncontrolled cattle and sheep grazing prevented new growth as well as polluted ponds and streams. After the Forest Reserve Act passed through Congress in 1891, concerned San Bernardino area citizens petitioned for the preservation of the mountain resources and in 1893, President Harrison authorized creation of the San Bernardino Forest Reserve (Robinson 1989:96). In 1905, the reserve was transferred to the Department of Agriculture's Bureau of Forestry, and under Gifford Pinchot, budgets were accorded for improvements. In succeeding decades different measures were tried to enforce new regulations restricting timber-use, grazing, and camping, to improve fire control methods, reforest denuded slopes, and provide sustainable recreation. In 1915, the Occupancy Permit Act allowed the Forest Service to set aside Recreation Tracts with lots for summer cabins, organizational camps etc. under permit. One such tract was laid out at Hook Creek, just west of Deep Creek, where the remains of "Splinter's Cabin" is now a day use area.

The first major building program undertaken by the Forest Service occurred in the 1930s through the efforts of the depression-era New Deal Civilian Conservation Corps (CCC). To make the best use of their huge influx of manpower, the National Forest system employed architects, landscape architects, engineers and others to improve on design and methods for administrative sites, recreational facilities, trail and road construction, firefighting, and reforestation. Soil scientists and landscape architects published a handbook on planning sustainable campgrounds that had looping roads with parking spurs for managing vehicles and blended in visually with the natural landscape: these methods were employed in developing a campground in Deep Creek at Warm Springs. Experiments in trail and road constructions were used to develop new over-side drainage systems and engineered roads such as the current northern end to Coxey Road, which crosses Holcomb Creek. The Forest Service was not alone in developing recreational opportunities or trails: the PCT was laid out by relays of YMCA kids also during the 1930s and 1940s, although the final routing was not completed until the 1970s.

Heritage resources of these historic periods remain extant within the river corridor. These resources include mining sites along Holcomb Creek, the Green Lead mines (which overlook the WSR corridor), the original Coxey Road, (now called the Van Dusen Road), grazing features such as the current Coxey Road route originally used as a driveway and the Deep Creek canyon topographic features used as a barrier, and the CCC-era development of Coxey Road and the former campground at Warm Springs. These resources are associated with the economics of Gold Rush mining, cattle ranching, and tourism since the 1880s.

Most of the sites in the Deep Creek/Holcomb Creek corridor have not been evaluated for listing in the National Register. However, the Holcomb Valley, including the Holcomb Creek mining claims, is California Historical Landmark #619 for its California Gold Rush History and the district appears to be eligible for listing on the National Register. This Landmark is managed as part of a Forest Service Special Interest Area which includes Historical (gold rush), and Botanical features of interest. Recreation featuring the Gold Rush mines and their historical significance which developed in the 1880s has continued to the present. Today, unique gold mining auto tours guide visitors through the California Gold Rush history in this area.

Impacts of No-Action Alternative

Under the No-Action Alternative, cultural resources in the Deep Creek corridor would continue to lose ground to public and Forest practices, wildfires, and natural weathering because there would be no change to Forest management of these resources. Benign neglect would continue, resulting in the loss of resources over time. Until they are lost, sites and other features would continue to serve as important cultural resources, and there would continue to be limited archaeological investigations undertaken. Known heritage sites would be afforded the same consideration and protection as those properties evaluated as eligible to the National Register of Historic Places, per existing policies and the 2005 Land Management Plan for the Southern California National Forests (USDA Forest Service 2005a). The No-Action Alternative would continue to protect access to and the use of sensitive traditional tribal use areas. The Forest Service would continue to comply with the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), which states that the "recovery, treatment, and repatriation of human remains, sacred objects, and objects of cultural patrimony" would be directed to appropriate tribes (USDA Forest Service 2005a). If ancestral human remains were "discovered either by intentional excavation or inadvertent discovery," the Forest Service would consult with any culturally affiliated tribes to develop appropriate procedures for addressing this discovery (USDA Forest Service 2005a). Although existing laws, Executive Orders, regulations, policies, and special area plans (where applicable) would continue to protect heritage resources, if unauthorized informal trail networks and access areas potentially expanded, this would negatively impact resources through degradation or damage (Otak, Inc. 2023).

Impacts of Proposed Action

Under the Proposed Action, specific administrative management actions could be studied, analyzed, and potentially implemented to help protect and preserve cultural and historic heritage resources. Inventory and evaluation of heritage resources to determine their significance and eligibility for listing in the National Register would better allow FS staff to manage these resources in a manner that protects the historic integrity of the resources, so they continue to convey their significance, depending on funding and staff capability. In the long-term, limiting unauthorized access through measures such as repairing gates and fencing could protect sensitive heritage resources from damage due to unauthorized parking and trampling when visitors walk off of established trails. Reduced erosion resulting from improved trails could protect sensitive archaeological resources from disturbance. Stewardship and work with volunteer groups to increase monitoring could better protect heritage resources from graffiti, trash, or other vandalism. Additional management and protection for heritage resources could be put in place with a final boundary and user capacity thresholds. Establishing a final boundary should result in a beneficial impact because it would include additional protection of the river corridor from development, which could prevent damage to heritage sites and artifacts in the river corridor. Similarly, establishing user capacity thresholds and adaptive management actions triggered by these thresholds could have a beneficial impact on heritage resources because they should provide additional protections due to less impact from recreational use. Overall, the Proposed Action should result in a benefit to heritage resources due to increased protections.

Cumulative Impacts

Under the No-Action Alternative, benign neglect in the WSR corridor would continue to result in the loss of heritage resources over time. Until they are lost, sites and other features would continue to serve as important cultural resources.

The Proposed Action would help protect cultural resources and preserve our national heritage through a variety of different management actions, as well as establishing capacity thresholds. It could also result in some adverse impacts where fence posts or barricades may be dug and by altering the historic setting of the area. Combined with the beneficial impact of the Mojave River Dam CA, which would strengthen limitations on unauthorized OHV access from USACE land, there would be an overall beneficial cumulative impact on heritage resources.

CLIMATE CHANGE

Affected Environment

The effects of global climate change occur throughout the WSR corridor. To better understand current effects as well as future impacts from climate change, the Forest Service analyzed climate change trends within the WSR corridor using the *Fourth National Climate Assessment* (NCA4), which is the most recent published assessment by the U.S. Global Change Research Program.[4] NCA4 divides the country into 10 climate regions, covering California as part of the Southwest region. To assess existing climate change conditions, the FS reviewed key climate trends in the Southwest region. The FS also reviewed county-level information from tools such as the USGS Climate Change Viewer, and water data from "Streamflow Metrics," a dataset of modeled flow metrics for streams in the contiguous U.S. for historical and future climate change scenarios, managed by USDA Forest Service, Rocky Mountain Research Station. As part of its review of climate trends, the FS focused on outcomes associated with future scenarios often used in climate change research, called Representative Concentration Pathways (RCPs). RCPs estimate factors such as emissions, GHG concentrations, and particulate matter; various climate models use these data to predict future climate outcomes (USGCRP 2018). Specifically, the FS assessed outcomes under the RCP4.5 and RCP8.5 scenarios. The RCP4.5 is considered a lower scenario with less warming, in which lower population growth, more technological innovation, and lower carbon intensity occur (USGCRP 2018). The RCP8.5 is associated with more warming and higher population growth, less technological innovation, and higher carbon intensity (USGCRP 2018).

The Southwest is home to the hottest and driest climate in the U.S. Ecosystems vary from deserts and grasslands in the hotter, lower elevations to forests and alpine meadows in cooler, higher elevations (USGCRP 2018). Both naturally occurring and human-caused wildfires are prevalent and affect the forest and shrub cover in the region. NCA4 notes that climate change in particular is altering ecosystem services via substantial vegetation shifts and increases in wildfire-burned areas. Climate change has contributed to the drying of forests in the Southwest, which has made them more susceptible to burning. Specifically, San Bernardino National Forest is one of the most wildfire-prone national forests in the U.S. (Robey 2023). The Forest's arid climate, highly flammable vegetation, steep sloping landscapes, and Santa Ana winds all contribute to the risk of fast-growing, severe fires; changing climate conditions have also led to a longer and more extreme fire season (Robey 2023).

Regionally, the average annual temperature increased by 1.6 degrees Fahrenheit between 1901-2016 (USGCRP 2018). Droughts caused by low total precipitation in the region are intensified by warming

4 USGCRP is currently developing the *Fifth National Climate Assessment* (NCA5) and anticipates releasing this next report in 2023.

temperatures. Projected higher temperatures in the future may potentially lead to longer, persistent droughts that last more than a decade (known as "megadroughts") (USGCRP 2018). Drought may also reduce water sources such as lakes and rivers in the area (WCROG, no date).

Climate change modelling and projections for precipitation are more challenging and variable than for temperature. However, climate change forecasts for the region generally indicate that total precipitation will increase per year, will occur in less frequent and more severe rainfall events, and will occur less frequently as snowfall, thereby reducing seasonal snowpack. Data from "Streamflow Metrics" shows increases in mean annual and flood event flow but decreases in base flow as summarized in Tables 4 and 5 below.

Table 4. Percent Change in Modelled Streamflow Projections for Mid-Century (2030-2059) under the RCP8.5 scenario

Mid-Century (2030-2059)					
Location	**Mean Annual Flow**	**Base Flow**	**1.5-Year Flood**	**25-Year Flood**	**Number of Winter Floods**
Deep Creek at USGS Gage	32.86%	-13.77%	237.43%	49.00%	13.90%
Holcomb Creek at Deep Creek	33.79%	-17.27%	253.28%	57.70%	18.99%
Deep Creek above Holcomb Ck	32.94%	-14.75%	270.10%	49.63%	12.98%

Table 5. Percent Change in Modelled Streamflow Projections for End-of-Century (2070-2099) under the RCP8.5 scenario

End of Century (2070-2099)					
Location	**Mean Annual Flow**	**Base Flow**	**1.5-Year Flood**	**25-Year Flood**	**Number of Winter Floods**
Deep Creek at USGS Gage	40.04%	-2.34%	268.30%	104.38%	13.56%
Holcomb Creek at Deep Creek	41.53%	-7.30%	384.82%	123.32%	19.45%
Deep Creek above Holcomb Ck	40.14%	-3.28%	274.66%	103.54%	12.55%

Source: USDA Forest Service 2022a

As evident in Tables 4 and 5, the projected reduction in base flow, in combination with increased flood flows and mean annual flow, is indicative of a greater amount of precipitation falling throughout the year within single larger storm events. Base flow reductions are projected; however, toward the end of the century those reductions are slightly mitigated. Of greater concern, however, are the increases in flood flows, both in the mid-century and end-of-century projections. The 1.5-year flood is typically associated with the channel defining, or bankfull flow, which separates the flow typically contained within the main channel and that which spills out into the floodplain. With greater than 200% increases projected for flows associated with this event, flooding will become much more frequent and will put additional stress on the channel form in its current setting. Furthermore, larger flood events, as indicated in the 25-year flood (equivalent to the flood that has a 4% chance of occurring within a given year) are projected to increase in flood flow by approximately 50% in the near term and over 100% increase by the end of the century. A higher frequency of larger flood events will put additional stress on the current channel and

floodplain and may lead a higher rate of sediment transport, bed and/or bank erosion, floodplain erosion, and possible channel migration.

Further compounding the effects of increased precipitation and flood flows are rising air temperatures and the effects it has on changing vegetation and the potential for forest fires within the watershed. Vegetation improves absorption of rainfall, reduces the rate at which runoff flows into receiving channels, and provides bank and floodplain stability, habitat, and cooling effects. A change or reduction in the density or type of vegetation within the watershed may lead to higher rates of runoff and flash flooding. High intensity rainfall events that occur within areas recently destroyed by forest fires often result in increased runoff rates, more intense flash flooding and significant sediment transport from upland soils into the stream valley.

The Forest Plan acknowledges the ongoing challenges presented by a changing climate and altered natural fire regimes, including forest pest management, the risk to adjacent communities and land, and managing at-risk areas where threatened, endangered, proposed, candidate, and sensitive species live (USDA Forest Service 2005b).

San Bernardino County is expected to experience the following temperature and precipitation changes in future years, as compared to historic conditions:

Table 6. Projected Temperature and Precipitation Changes in San Bernardino County, California under the RCP4.5 and RCP8.5 Scenarios

	Projected Temperature Change (degrees Fahrenheit)[1]	**Projected Precipitation Change (inches per month)[2]**
San Bernardino County		
RCP4.5	+2.52	+0.01
RCP8.5	+2.99	+0.03

Source: Alder and Hostetler 2013

[1] Change is the difference in mean annual temperature (measured in degrees Fahrenheit) between historical data (1981-2010) and the future climatology period from 2025-2049.

[2] Change is the difference in mean annual precipitation (measured in inches per month) between historical data (1981-2010) and the future climatology period from 2025-2049.

Impacts of No-Action Alternative

Under the No-Action Alternative, the CRMP would not be implemented, and existing laws, Executive Orders, regulations, policies, and special area plans would continue to guide the management of Forest resources. The Forest's susceptibility to burning as the climate trends towards hotter and drier conditions could potentially increase. In addition, increased flooding would put additional stress on the current channel and floodplain and may lead a higher rate of sediment transport, bed and/or bank erosion, floodplain erosion, and possible channel migration. The changes to the affected environment of the project area resulting from climate change would continue to occur even if the No-Action Alternative were selected. The No-Action Alternative would not impact global climate change processes or the WSR corridor's ability to adapt to climate change because fuel treatments would continue as necessary even under the No-Action Alternative.

Impacts of Proposed Action

To evaluate climate change impacts on the Proposed Action, the FS reviewed NCA4 to determine the range of effects climate change would have on the implementation of the CRMP. This section also considers the impacts of CRMP implementation on global climate change.

As described above in the "Affected Environment" section, the region surrounding Deep Creek is expected to see an increase in drier forests in the coming years, which makes these areas more susceptible to wildfires. In addition, projected drought and flooding in the region would impact the base flow of Deep Creek. As temperatures warm in the future and lead to potential droughts, water levels in Deep Creek may be reduced, ultimately affecting the ORVs which owe their existence to the river (WCROG, no date). With projections for total precipitation occurring less frequently and as more severe rainfall events, and occurring less frequently as snowfall, seasonal snowpack would be reduced. As a result, it is expected that daily base flow in Deep Creek would be reduced, whereas storm event flood flows would increase in frequency and magnitude.

As shown in Tables 4 and 5, increased flood flows projected for the middle and end of the century could result in more frequent flooding that puts additional stress on the channel form. A higher frequency of larger flood events could put stress on the current channel and floodplain and may lead to higher rates of sediment transport, bed and/or bank erosion, floodplain erosion, and possible channel migration. The management actions included under the Proposed Action would not impact these effects, and the possibility of flash floodings and landslides would continue.

When considering the impact of the Proposed Action, there would be no impact on global climate change. On the Forest as a whole, there would be no substantial alteration to the carbon cycle (i.e., trees' ability to absorb carbon dioxide in the atmosphere and convert it to oxygen) when considered in the context of global climate change.

OTHER DISCLOSURES

Civil Rights and Environmental Justice

There are no known direct, indirect, or cumulative effects on Native Americans, minority groups, women, or civil rights as a result of this project analysis.

EJ is defined by the EPA as the fair treatment and meaningful involvement of all people, regardless of race, color, faith, national origin, or income, in the development, implementation, and enforcement of environmental laws, regulations, and policies. To the extent practical and permitted by law, all populations are provided the opportunity to comment before any decisions are made and to share in the benefits of government programs and activities affecting human health and the environment. Executive Order 12898 requires federal agencies to identify and address any disproportionately high adverse human health or environmental effects on EJ communities. An EJ community is generally defined as any low-income community or community of color, as these communities have historically experienced disproportionate impacts of pollution and environmental degradation. The consideration of EJ communities in environmental planning and project development aids in the prevention of the unequal treatment of vulnerable EJ communities that can lead to adverse effects on public health and quality of life.

To identify potential EJ communities near Deep Creek, EJ screening was performed using the EPA webtool EJSCREEN on July 6, 2023, on three U.S. Census Bureau Block Groups through which the river runs. The Forest Service analyzed three key indicators to determine whether any communities of concern existed within block groups and thus, within the project area: low-income populations, linguistically isolated populations, and minority populations. For each indicator, the Forest Service identified thresholds; if any indicator exceeded the threshold, it was considered a community of concern. The thresholds for low-income populations, linguistically isolated populations, and minority populations were 25% or greater, 5% or greater, and 50% or greater, respectively. Considering these thresholds, Block Groups 060710111021 and 060710113001 were found to be communities of concern while Block Group 060710109051 was not (EPA 2023a, 2023b, 2023c). However, the Proposed Action is administrative in nature and does not involve any ground-disturbing activities. Adoption of the CRMP would therefore not have disproportionately high or adverse effects to EJ communities in this area compared to non-EJ communities. Further, scoping has raised no issues or concerns associated with the principles of EJ. The Proposed Action is not anticipated to result in substantial environmental hazards or effects to differential patterns of consumption of natural resources. All interested parties will continue to be involved in commenting on the project and the decision-making process for the project.

Congressionally Designated Areas

This EA discusses why the Proposed Action is needed, as well as the effects of the project on Congressionally designated areas including the Deep Creek WSR and the PCT. The PCT runs throughout the WSR corridor and is a popular recreational activity for visitors. The PCT was authorized by Congress in 1968 under the National Trails System Act. A 1978 amendment to this Act required a comprehensive plan defining the development, management, and use of the trail. The comprehensive plan was developed in consultation with the PCT Advisory Council, the Bureau of Land Management (BLM), the National Park Service, and the governors of California, Oregon, and Washington (USDA Forest Service 1982). In addition to the comprehensive plan, the PCT Foundation Document informs management considerations, decisions, and planning efforts for the PCT. It aggregates legislative history, legal and policy requirements, special mandates, administrative commitments, and trail management directives. It also identifies the trail's nature and purposes, what makes it significant, fundamental resources and values, and interpretive themes (USDA Forest Service 2022b). No Congressionally designated areas would be adversely affected by the Proposed Action, which is administrative in nature. No significant irreversible or irretrievable commitment of resources would occur upon adoption of the CRMP because its purpose is to protect and enhance the values of the WSR corridor.

Prime Farm and Forest Lands

The Secretary of Agriculture issued Memorandum 1827 to protect prime farmlands, rangeland, and forest land. Prime forest land describes only non-federal land and is therefore not applicable to lands within the National Forest System, including the WSR corridor. The National Forest lands within the project area would be managed with consideration of impacts to private lands. The project area does not contain any prime farmlands or rangelands. Thus, the Proposed Action is in compliance with the Farmland Protection Act (USDA 1981) and Departmental Regulation 9500-3, Land Use Policy (USDA 1983).

On May 24, 1977, Executive Orders 11988 and 11990 were both issued. Executive Order 11988 (Floodplain Management) outlines guidance related to floodplains, defined as low, flat areas adjacent to water bodies and subject to a one percent or greater chance of flooding in any given year. The Order directs agencies and other project planners to avoid occupancy and modification of floodplains where possible, provide measures to reduce the risk of flood-related loss, and evaluate project impacts on floodplains. The WSR corridor does not fall within a Federal Emergency Management Agency (FEMA) floodplain and therefore the Floodplain Management guidance does not apply.

There would be no direct, indirect, or cumulative adverse effects to prime farmlands, rangelands, prime forest lands, or floodplains as a result of the Proposed Action.

Compliance with Other Policies, Plans, Jurisdictions

The alternatives are consistent with the goals, objectives, and direction of the Forest Plan, the accompanying final environmental impact statement, and the record of decision. Implementation of the No-Action Alternative or the Proposed Action would be consistent with all relevant federal, state, and local laws, regulations, and requirements designed for the protection of the environment, including the Clean Air and Clean Water Act.

Section 106 of the National Historic Preservation Act

Consultation with the California State Historic Preservation Officer (SHPO) was initiated in October 2023 pursuant to Section 106 of the NHPA, as amended, and its implementing regulation found at 36 CFR § 800. The CRMP is considered an "undertaking" as defined at 36 CFR 800.3 and requires analysis regarding the effect of the proposed plan on historic properties. The Area of Potential Effects (APE) for the proposed undertaking is the congressionally defined corridor as identified above.

As agreed between agencies and concurred by the SHPO, the *Programmatic Agreement Among the USDA Forest Service, Pacific Southwest Region (Region 5), California State Historic Preservation Officer, Nevada State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding the Processes for Compliance with Section 106 of the National Historic Preservation Act for Management of Historic Properties by the National Forests of the Pacific Southwest Region* (Region 5 PA) is the appropriate mechanism to comply with Section 106. Wild and Scenic River Plans are specifically identified as a Class B Screened Undertaking that will have little to no potential to cause effects to historic properties present in the APE [Region 5 PA, Appendix D 2.3 (a)]. The identification of historic properties (36 CFR 800.4) included background research and records reviews conducted for each river corridor by agency personnel and permitted consultants with VHB. The results of the reviews are summarized as part of the heritage values of the CRMP. Although present in both river corridors, this planning effort will have no effect to historic properties eligible for listing or listed in the National Register. Future activities that may be proposed within the WSR corridors will require additional Section 106 review, including, but not limited to field inventory and consultation with the SHPO and tribes.

REFERENCES CITED

Alder, J.R. and S.W. Hostetler

2013 "USGS National Climate Change Viewer: San Bernardino County, California." US Geological Survey. Accessed April 11, 2023. https://apps.usgs.gov/nccv/maca2/maca2_counties.html.

Anderson, L. H.

1923 Range Classification Report: Coxey Ranch Allotment - San Bernardino N.F. in Grazing Atlas on file at the San Bernardino Supervisor's Office Heritage Program.

California Department of California Department of Fish and Wildlife (CDFW)

2023a Species of Special Concern and Wildlife. Accessed March 2023. www.wildlife.ca.gov/Conservation/SSC#394871316-what-is-a-species-of-special-concern

2023b California Natural Diversity Database. Accessed March 2023. www.wildlife.ca.gov/Data/CNDDB

2023c *Mohave Tui Chub (Siphateles bicolor mohavensis) Species Profile.* Accessed April 2023. www.wildlife.ca.gov/Regions/6/Desert-Fishes/Mohave-Tui-Chub.

Interagency Wild and Scenic River Coordinating Council (IWSRCC)

No Date *Introduction to IWSRCC WSRA Section 7 Examples V. 080408*. Accessed February 2022. https://www.rivers.gov/documents/section7/section7-introduction.pdf.

Otak, Inc.

2023 *Comprehensive River Management Planning for San Bernardino National Forest: User Capacity Analysis for Deep Creek and Whitewater Wild and Scenic River Corridors, Draft Final Report.* June 2023.

Robey, B.

2023 "NFF and the San Bernardino National Forest Partner on Post-Fire Restoration and Wildfire Resilience." National Forest Foundation. Accessed April 10, 2023. https://www.nationalforests.org/blog/nff-and-the-san-bernardino-national-forest-partner-on-post-fire-restoration-and-wildfire-resilience

Robinson, John W.

1989 The San Bernardinos: The Mountain Country from Cajon Pass to Oak Glen, Two Centuries of Changing Use. Big Santa Anita Historical Society, Arcadia, California.

University of California

2023a "California Fish Species: Black Bullhead - California Fish Website (ucdavis.edu)." Accessed June 2023, www.calfish.ucdavis.edu/species/?ds=241&uid=7

2023b "California Fish Species: - California Fish Website (ucdavis.edu)." Accessed June 2023, www.calfish.ucdavis.edu/species/?uid=62&ds=698

U.S. Congress

1968 Wild and Scenic Rivers Act. Public Law 90-542. October 2, 1968.

2019 John D. Dingell, Jr. Conservation, Management, and Recreation Act. Public Law No. 116-9, 133 Stat. 580.

U.S. Department of Agriculture (USDA)

1981 Farmland Protection Policy Act of 1981, Pub. L. No. 97-98, subtitle I of Title XV, sec. 1539-1549.

1983 USDA Departmental Regulation 9500-3, Land Use Policy. March 22, 1983.

U.S. Department of Agriculture Forest Service (USDA Forest Service)

1982 *Pacific Crest National Scenic Trail Comprehensive Plan*. January 1982.

1995 *Landscape Aesthetics: A Handbook for Scenery Management.* Agriculture Handbook no. 710. Washington, D.C.

2005a *Land Management Plan, Part 3 Design Criteria for the Southern California National Forests.* September 2005.

2005b *Land Management Plan, Part 1 Southern California National Forests Vision.* September 2005.

2014 "Birds of the San Bernardino National Forest." October 2014.

2022a FSGeodata Clearinghouse. "Hydro Flow Metrics for the Contiguous United States." Last updated May 10, 2022. Accessed May 15, 2023. https://data.fs.usda.gov/geodata/edw/datasets.php?xmlKeyword=hydro+flow+metric

2022b *Foundation Document: Pacific Crest National Scenic Trail*. April 2022.

2023 Land Management Monitoring Report for the San Bernardino National Forest 2019-2020. March 2023.

U.S. Environmental Protection Agency (EPA)

2023a "EJScreen Community Report: San Bernardino County, CA. Blockgroup 060710113001." Accessed July 6, 2023. https://ejscreen.epa.gov/mapper/

2023b "EJScreen Community Report: San Bernardino County, CA. Blockgroup 060710109051." Accessed July 6, 2023. https://ejscreen.epa.gov/mapper/

2023c "EJScreen Community Report: San Bernardino County, CA. Blockgroup 060710111021." Accessed July 6, 2023. https://ejscreen.epa.gov/mapper/S

U.S. Fish and Wildlife Service (USFWS)

2023a Information for Planning and Consulting (IPaC) Tool: San Bernardino National Forest. Accessed April 2023. https://ipac.ecosphere.fws.gov/location/index

2023b Arroyo Toad Species Profile. Accessed April 2023. https://www.fws.gov/species/arroyo-toad-anaxyrus-californicus 2023c Least Bell's Vireo Species Profile. Accessed April 2023. www.fws.gov/species/least-bells-vireo-vireo-bellii-pusillus-californicus

U.S. Geological Survey

2022 *Nonindigenous Aquatic Species. Brown Trout Species Profile.* Accessed April 2022. www.nas.er.usgs.gov/queries/FactSheet.aspx?speciesID=931

US Global Change Research Program (USGCRP)

2018 Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II, Chapter 25: Southwest. Washington, DC.

Western Riverside Council of Governments (WRCOG)

No Date *San Bernardino County Vulnerability Assessment*.

APPENDIX A: DRAFT EA COMMENT ANALYSIS

The Draft EA was posted on the Forest website on November 3, 2023. Comments concerning the Draft EA were identified from written correspondence received from the following organization. All correspondence has been reviewed by the interdisciplinary team in order to address the comments.

The following table lists the comments received and responses. The interdisciplinary team considered these comments while completing the Final EA.

Table 1. Draft EA Comments

	Summary of Comments	Commenter	Response
1	There are a significant number of references to either the National Trails Act or the National Trails System Act. These should be edited to reference the National Trails System Act.	PCTA	Revised as suggested throughout Deep Creek and Whitewater EAs and CRMPs
2	There are quite a few references to the PCT Comprehensive Management Plan and the Foundation Document. Periodically in the documents, the comprehensive management plan was noted as (USDA Forest Service 2023). This is correct for the Foundation Document; however, the comprehensive management plan should be noted as (USDA Forest Service 1982).	PCTA	Revised as suggested throughout Deep Creek and Whitewater EAs and CRMPs. Revised Foundation Document citation to 2022, per date on final version.
3	The term "citizen science" is used within the document. This is exclusionary language. In keeping with what we believe to be the intent of that term while making the language more inclusive, we suggest changing that term to "community science."	PCTA	Revised as suggested throughout Deep Creek and Whitewater EAs and CRMPs
4	For the BLM segments that overlap the PCT, include a reference to ensuring consistency with BLM Manual 6280-Management of National Scenic and Historic Trails which provides the line manager and program staff	PCTA	Revised as suggested in Whitewater EA and CRMP

Table 1. Draft EA Comments

	Summary of Comments	Commenter	Response
	professionals with policies for the management of the PCT.		
5	In the User Capacity Analysis for Deep Creek and Whitewater Wild and Scenic River Corridors document, Pacific Crest Trail Thru-Hike permits, page 19 (page A-27 of the PDF): We recommend utilizing a combination of data that includes the most current permit data by including 2022 data (available on the PCTA website) and 2023 data, as this has the highest level of confidence.	PCTA	Revised User Capacity PCT thru-hiker data in User Capacity Analysis to use 2021 and 2022 data from PCTA website rather than 2019 and 2021. 2023 data were not available at time of publishing.
6	In the User Capacity Analysis for Deep Creek and Whitewater Wild and Scenic River Corridors document, Pacific Crest Trail Thru-Hike permits, page 19 (page A-27 of the PDF): It should be noted that permitted use does not equate to actual use. There are several factors that contribute to this including but not limited to: attrition/injury of permit users and many section permits do not reflect trips that overlap with Whitewater or Deep Creek.	PCTA	In the discussion of thru-hiker permits, the User Capacity Analysis for Deep Creek and Whitewater does acknowledge that "as many as two thirds of permit holders may cancel or not complete their plans…" No change necessary.
7	In the User Capacity Analysis for Deep Creek and Whitewater Wild and Scenic River Corridors document, Pacific Crest Trail Thru-Hike permits, page 19 (page A-27 of the PDF): Additionally, as it's important to clarify that permit levels are authorized by the Forest Service, we recommend editing "according to the PCTA website" to "On behalf of the USFS, PCTA issues a maximum of 50 permits per day for northbound trips and a maximum of 15 permits per day for southbound trips."	PCTA	Revised as suggested in User Capacity Analysis.
8	In relation to the adjacent ski resort Snow Valley, commentors added comments about adding areas adjacent to the proposed WSR corridor, its impact on the WSR,	Bialecki, Flores,	The well at Snow Valley Ski Area and its use predated the designation of Deep Creek Wild and Scenic River (2019 Dingell Act). The Snow Valley Ski Area well was being

Table 1. Draft EA Comments

	Summary of Comments	Commenter	Response
	water runoff from its parking lot, how the FS manages its special use permits, limiting water extraction during the summer months, how the resort manages waste, and to change the boundary of the WSR to include its headwaters.	Luczyski, and Loe	utilized during the WSR eligibility study done as part of BDF LMP revision in 2005, which determined eligibility and recommendation of WSR designation. During the eligibility study, it was determined that the use did not alter stream flows enough to invalidate WSR eligibility. In addition, the designation clearly stated that operations at the Snow Valley Ski Area would not be altered, changed, or affected by designation (2019 Dingell Act pg. 133).