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San Bernardino National Forest

Deep Creek Wild and Scenic River Comprehensive River Management Plan

Forest Service | San Bernardino National Forest | Pacific Southwest Region

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Background

This comprehensive river management plan (CRMP) establishes programmatic management direction for Deep Creek ("river"), a Wild and Scenic River (WSR) administered by the US Forest Service (Forest Service or FS). The river is located approximately 60 miles east of Los Angeles, California, running through the Mountaintop Ranger District of the San Bernardino National Forest (Forest). This CRMP has been developed to implement the direction of the Wild and Scenic Rivers Act of 1968 (Public Law 90-542) as amended in the 2019 John D. Dingell Jr. Conservation, Management, and Recreation Act (Dingell Act, Public Law 116-9). The 2019 Dingell Act designated 34.5 miles of Deep Creek, and its tributary Holcomb Creek, adding it to the National Wild and Scenic Rivers System. In its designating legislation, Deep Creek was classified as a combination of wild, scenic, and recreational segments, based on eligibility reports from the Forest Service. The Wild and Scenic Rivers Act (Act) established a system for preserving outstanding free-flowing rivers. Section 1(b) of the Act directs that:

> *"certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreations, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations"* (Public Law 90-542, 1968).

Role of a CRMP

The Act requires the agency responsible for the administration of designated rivers to develop a CRMP for all rivers added to the National Wild and Scenic River System, in order to protect and enhance their free-flowing condition, water quality, and outstandingly remarkable values (ORVs) -- collectively referred to as "river values" -- for the benefit and enjoyment of present and future generations. The Forest Service, under the direction of the Secretary of Agriculture, is the agency responsible for the administration of Deep Creek.

The purpose of this CRMP for the Deep Creek WSR is to protect and enhance river values by providing desired conditions, management direction, and monitoring plans that will be applied to the designated river corridor (the area within the proposed final boundary). The CRMP also addresses resource protection, development of lands and facilities, user capacities, and other management practices necessary or desirable to achieve the purposes of the Act.

This CRMP does not withdraw or invalidate valid existing rights within the corridor. Notably, special provisions associated with the Deep Creek WSR designation state that the operations of the Snow Valley Ski Resort as well as the state regulation of water rights and water quality associated with operating the resort would not be affected by the designation (Public Law 116-9). Existing land uses in the Deep Creek WSR corridor are discussed in the "Land Uses and Access in River Corridor" section below.

The river and its boundaries are shown in Figure 1, below. The river's outstandingly remarkable values are further discussed in the "Baseline Conditions" section.

As established in the 2019 Dingell Act, the Forest Service administers a 34.5-mile segment of Deep Creek. The river's designated wild segment stretches for 22.5 miles; 11 miles are designated as recreational; and 1

mile is designated as scenic. Further discussion of the river's classifications is detailed in the "Wild and Scenic River Corridor Classification" section, below.

This management plan, in addition to all existing management direction, will guide all development, management, and restoration activities in the WSR corridor. Additional information about existing management direction is described in the "Planning Context" section below.

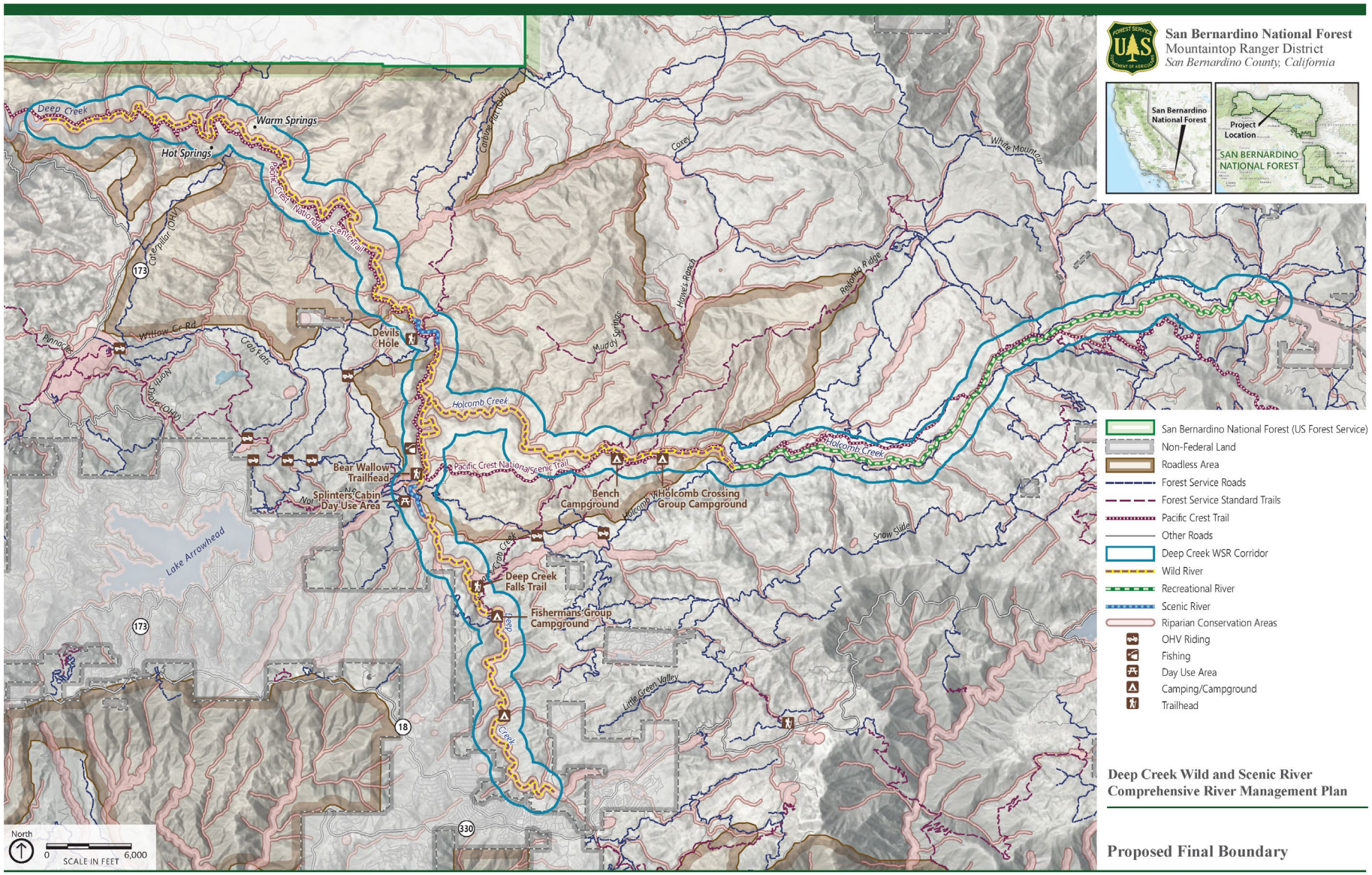

Figure 1. Proposed Final Boundary

River Corridor Locations and Boundaries

Deep Creek is located in San Bernardino County in the San Bernardino Mountains and flows through the San Bernardino National Forest; the San Bernardino National Forest is 811,571 acres and is located in San Bernardino and Riverside counties, California. 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. With this plan, the Forest Service is adopting the interim boundary of 1/4-mile from the ordinary high-water mark on both sides of the river ("river corridor") as the final boundary. The Forest Service interdisciplinary team (IDT) reviewed the interim boundary and found it to be sufficiently protective of the corridor's river values.

Wild and Scenic River Corridor Classifications

The Wild and Scenic Rivers Act states rivers should be classified, designated, and administered as wild, scenic, or recreational. The three classes (wild, scenic, or recreational) represent a development scale and serve as a framework for future management; they are not synonymous with the river's outstandingly remarkable values. Designating river segments in classifications neither prohibits development nor gives the federal government control over private property. Wild rivers are "those rivers or sections of river that are free of impoundments and generally inaccessible except by trail, with watershed or shorelines essentially primitive and water unpolluted." Scenic rivers are "those rivers or sections of rivers that are free of impoundments, with shorelines or watershed still largely primitive and shorelines largely undeveloped, but accessible in places by road." Recreational rivers are "those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past."

The Dingell Act designated parts of Deep Creek as a Wild and Scenic River and classified different sections as a combination of wild, scenic, and recreational segments, based on eligibility reports from the Forest Service (USDA Forest Service 2005c). It established a total of seven segments, designated as either scenic, recreational, or wild. Classification of each segment of river is described below.

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, 1.0 mile is designated as scenic, and 11.0 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 river consists of four wild segments, adding to a total of 22.5 miles of river. 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.

There are two scenic segments of Deep Creek. Each are 0.5 miles long, for a total of 1.0 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]

Regional River Setting

This section describes the regional context of the river corridors. San Bernardino National Forest's climate is characterized by long, dry summers and short, wet winters. It is cyclic in nature, with consecutive years of low rainfall and extended droughts, as well as years with high rainfall and associated flooding. Average annual precipitation in the region varies dramatically with latitude, longitude, and elevation, ranging from 2 to 3 inches in the eastern deserts, to 40-42 inches in the coastal redwoods, and to 60 inches or more on the higher mountain peaks, usually in the form of snow.

The Deep Creek WSR corridor is characterized by deep, steeply sloping canyon walls that occasionally broaden out. Deep Creek is also renowned for the unique thermal hot springs that occur in two areas within the river corridor.

As stated in the Forest Service's eligibility study for wild and scenic rivers—available in Appendix E of the 2005 Land Management Plan ("LMP" or "Forest Plan") Final Environmental Impact Statement, the landscape surrounding Deep Creek is unique in a southern California context, and its recreation opportunities are valued at the regional and national levels. Thermal hot springs (within the corridor) are unique and regionally important. Deep Creek supports the greatest diversity of wildlife habitats of any drainage on the San Bernardino National Forest and has earned the state designation of a Wild Trout Stream. It also represents some of the greatest diversity of vegetation communities of any drainage on the Forest. 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. The WSR is free of impoundments and is in a primitive watershed with unpolluted water (USDA Forest Service 2005a).

Planning Context

The Forest's responsibilities and requirement to comply with other federal laws remains unchanged by direction in this plan. The planning context for this CRMP includes, but is not limited to, the following other laws, regulations, policies, and special area plans that guided development of this plan, as well as future river management.

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

Wild and Scenic Rivers Act

The Wild and Scenic Rivers Act of 1968 preserves selected rivers and their immediate environments in free-flowing conditions to protect them for the benefit and enjoyment of present and future generations. These rivers may possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or similar values. The Wild and Scenic Rivers Act states rivers should be classified, designated, and administered as wild, scenic, or recreational. The Wild and Scenic Rivers Act requires the administering agency to establish a detailed river corridor boundary of an average of not more than 320 acres per river mile and to prepare a CRMP for those areas. The Act also requires the identification of user capacities and the development of management strategies to manage use within those capacities (IVUMC 2016a in Otak, Inc. 2023). A user capacity analysis was conducted for Deep Creek and is included as Appendix A.

Under Section 7 of the Act, water resources projects are restricted within the WSR in order to protect river values from the harmful effects of these projects. Section 7 requires evaluation of federally assisted water resources projects and a determination by the river-administering agency (IWSRCC, no date). A water resources project must meet applicable evaluation standards prior to implementation.

2019 John D. Dingell Jr. Conservation, Management, and Recreation Act

The 2019 John D. Dingell Jr. Conservation, Management, and Recreation Act (Public Law 116-9) designated Deep Creek as a Wild and Scenic River and established interim boundaries for Deep Creek. It also divided Deep Creek and Holcomb Creek into seven segments, designated as either scenic, recreational, or wild, along 34.5 miles of river. The 34.5-mile-long designated river is administered solely by the Forest Service.

Forest Plan

The National Forest Management Act of 1976 (NFMA) establishes standards for how the Forest Service manages the national forest and requires the development of land management plans (Forest Plan/ LMP) for national forests. The 2005 LMP for the San Bernardino National Forest is the guiding direction for the Forest. The 2005 LMP includes desired conditions and management direction for several eligible Wild and Scenic Rivers that were later designated, including Deep Creek and its tributary, Holcomb Creek. This direction was developed for eligible Wild and Scenic Rivers and have been adopted following designation of Deep Creek.

Within the 2005 LMP, management direction was specifically developed to preserve the free-flowing condition and water quality and to protect the ORVs for which Deep Creek was later congressionally designated. Management activities that are inconsistent with these objectives will not be permitted.

Forest Service Manual—Comprehensive River Management Plan

Forest Service Manual 2354 provides additional information on the requirements for completing a CRMP. Additional guidance on the suggested contents of a CRMP is found in the *Wild and Scenic River Management Responsibilities*, a technical report of the Interagency Wild and Scenic Rivers Coordinating Council (2002). The suggested contents for a CRMP include a description of the river setting and resource values, planning context, coordination with others, management direction, management actions, and monitoring strategies.

Government to Government Tribal Coordination

Joint Secretarial Order No. 3403 provides guidance with regard to Government-to-Government relations with Tribes and agency policy and guidance on tribal consultation and other engagement. Throughout the planning effort the agency has engaged with interested tribal parties; the agency will continue to engage interested tribal parties in river management issues in the future.

Pacific Crest Trail Comprehensive Plan and Foundation Document

The Pacific Crest National Scenic Trail (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 2023).

Federal Reserved Water Rights

Section 13(c) of the Wild and Scenic Rivers Act expressly reserves the quantity of water necessary to achieve the Act's purposes for each WSR designation, unless specified otherwise. As a result, Deep Creek WSR is entitled to protection by a federal reserved water right that was created when Congress designated the river. The federal reserved water right only protects the portion of Deep Creek in the WSR corridor and does not extend to downstream locations. The federal reserved water right protects the flows necessary to support the ORVs, which include wildlife and riparian vegetation.

The federal reserved water right is a non-consumptive instream flow water right, so any water protected by the federal right is available for other uses once the creek leaves the WSR-designated portion of the river. Given that the federal reserved water right is non-consumptive and limited to the designated stream corridor, exercising and protecting this right will not affect existing water uses located downstream.

The amount of the federal reserved water right is not identified at designation, and therefore must be quantified and secured through applicable state-based processes.

Migratory Bird Treaty Act and other Migratory Bird Protections

The Migratory Bird Treaty Act (MBTA) prohibits the take of protected migratory bird species without prior authorization by the US Fish and Wildlife Service (USFWS). Other legal protections for migratory birds include Executive Order (EO) 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds." Specific to this CRMP and accompanying National Environmental Policy Act (NEPA) process, EO 13186 requires that the FS evaluate the effects of its actions and agency plans on migratory birds, with emphasis on species of concern.

Land Uses and Access in River Corridor

Deep Creek is a moderate to high use multi-elevation backcountry canyon that supports a variety of recreational activities. The majority of land within the corridor is National Forest System land, though there is some non-federal land in select parts of the corridor. In the southernmost wild segment, there are a few privately owned camps. Another privately owned camp within the corridor is located between Splinters Cabin and Fisherman's Camp. In addition, the far eastern termini of Holcomb Creek overlaps with private land in Holcomb Valley. The river is easily accessible to visitors via the PCT, which runs throughout the WSR corridor, and via State Highway 18. Within the WSR corridor, there are various opportunities for both motorized (four-wheel drive and off-highway vehicles (OHVs)) and non-motorized (such as hiking and backpacking) recreation.

Land use in the WSR corridor varies widely based on the segment's classification. There are no mining or grazing activities within the WSR corridor.

The wild segments are more primitive, though experience numerous visitors hiking along the PCT, which runs throughout the WSR corridor and State Highway 18 and provides easy access to the river[2]. All use is non-motorized, though unauthorized OHV use occurs occasionally. In the northern portion of the Deep Creek WSR wild segment, properties adjacent to Forest Service land (but not within the corridor) include a property owned by the U.S. Army Corps of Engineers (USACE) to the west of the WSR corridor, as well as two privately owned properties called Bowen Ranch and Los Flores Ranch north of the corridor. Visitors park at these locations to access the river and other sites within the corridor. Many trails exist within this portion of the corridor, including some social trails that visitors have developed to access the Deep Creek Hot Springs and Warm Springs areas. There is some equestrian use on trails in the area, which is allowed; OHVs also use some trails, which is not permitted. Use in the Hot Springs and Warm Springs areas is concentrated and can be heavy. Pools are created by visitors and there is some camping, which is not authorized. Heavy use has resulted in the degradation of some of these areas, including littering, human waste, and graffiti.

The recreational segment in the eastern part of the corridor includes frequent vehicle use on FS roads, thru-hiking and day hiking along the PCT, and some campground usage. The scenic segments of the corridor include the Devils Hole and Aztec Falls areas. Heavy use occurs at Devils Hole which has resulted in a number of social trails leading from dispersed camping areas down to the river. Much of this use is associated with the PCT. FS roads provide vehicle access to Devils Hole and Aztec Falls.

There are also a number of permitted activities/uses in the WSR corridor, including an Outfitter/Guide operation called "Enjoy the Mountain," an OHV guide that operates tours in the area. The guides stage at the Pinnacles Staging Area and use surrounding Forest Service roads. Some tours also hike the PCT in the adjacent area. Other special permitted uses in the corridor include various recreation events including long-distance hikes and marathons, as well as mountain bike races and Jeep or dune buggy runs.

[2] Approximately 65 hikers per day access the Deep Creek Hot Springs area of the PCT during peak weekends. See Appendix A, User Capacity Analysis

Baseline Conditions

Management emphasis in the designated wild and scenic river corridor is to protect and preserve the free-flowing conditions, water quality, and ORVs. The Act specifies that designated rivers "shall be administered in such manner as to protect and enhance the values which caused it to be included in said system…" (U.S. Congress 1968).

Free-Flowing Condition and Water Quality

Deep Creek is a free-flowing river along its entire length. The U.S. Geological Survey (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. Most recently, reported annual mean daily flows were 22.8, 5.82, 39, 90.2, and 9.48 cfs for 2022, 2021, 2020, 2019, and 2018. 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 impoundment (east of the designated river corridor) to its confluence with Deep Creek. However, much of the flow in this segment is intermittent. The river flows southwest from its headwaters at an elevation of 7,200 feet to its intersection with Deep Creek, which is 4,400 feet in elevation. 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.

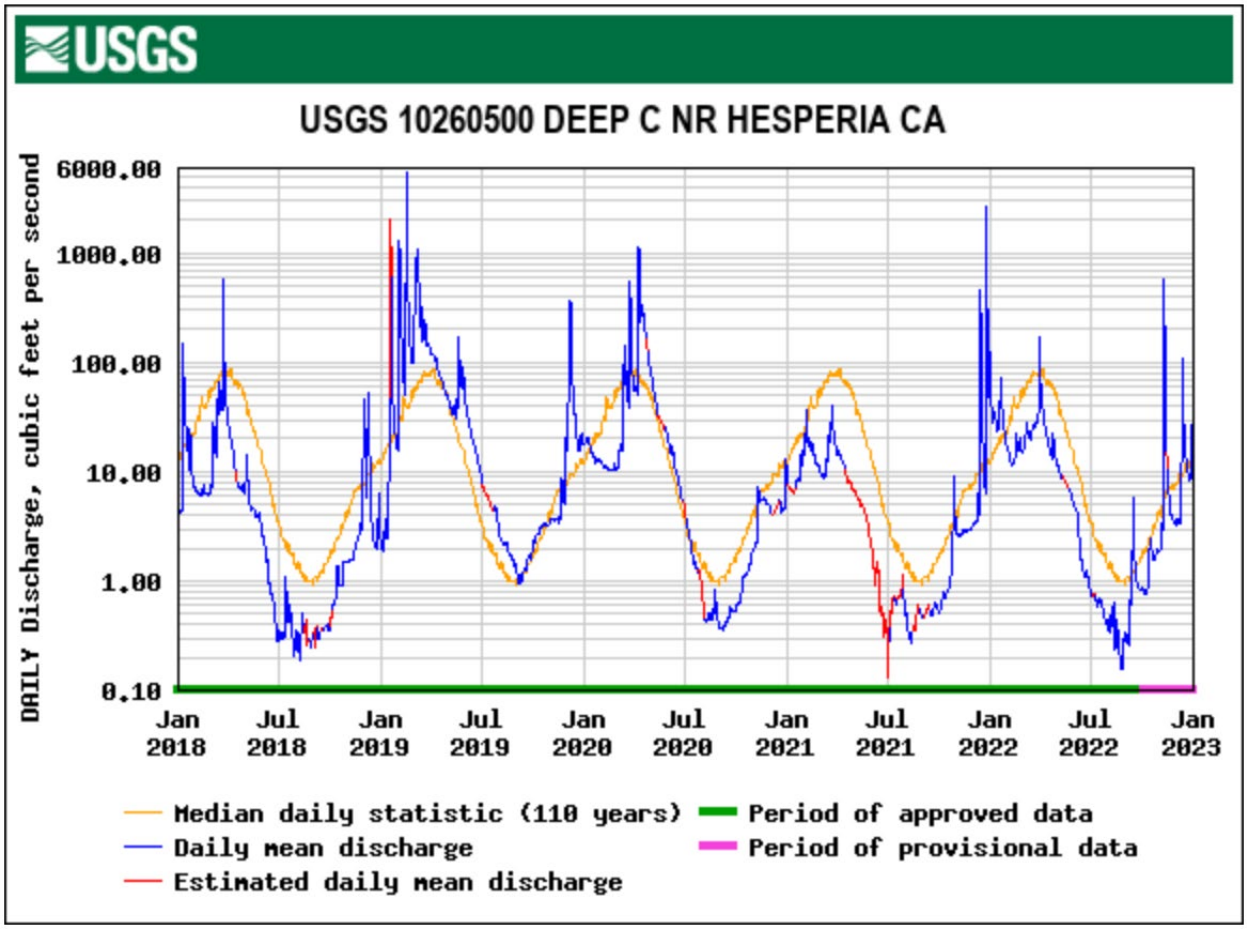

Figure 2. Deep Creek Discharges from 2018 through 2022

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.

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.

Table 1. Monitored Water Quality Constituents

Location		1	2	3	4	5	EPA WQ Criteria [6]
Constituent	Units	2001 - 2005	2001-2005	05/21/2013	10/16/2018	07/02/2018	
Boron	mg/L	5.00	5.16	-	0.4544	-	-
Chloride	mg/L	2.49	16.01	-	18.7	6.20	860
Fluoride	mg/L	0.10	0.07	-	5.89	-	-
Nitrogen	mg/L	-	-	0.145	0.140	0.280	-
pH	-	7.54	7.21	-	-	-	-
Phosphorus	mg/L	-	-	0.0168	0.0540	0.0180	-
Sulfate	mg/L	0.71	0.76	29.8	184	8.18	-
Total Dissolved Solids	mg/L	127.82	107.33	-	151	-	-
Total Suspended Solids	mg/L	-	-	0.5	-	-	-

1. Crab Creek at Crab Flats Road, USGS--10260432. Average of data collected 7/18/01 through 7/27/05. https://mywaterway.epa.gov/monitoring-report/NWIS/USGS-CA/USGS-10260432/
2. Deep Creek near Arrowbear Lake, USGS-10260431, Average of data collected 7/18/01 through 7/27/05. https://mywaterway.epa.gov/monitoring-report/NWIS/USGS-CA/USGS-10260431/
3. Deep Creek, 0.8 mile above Mojave River, CEDEN-628PS1307 https://mywaterway.epa.gov/monitoring-report/STORET/CEDEN/CEDEN-628PS1307/
4. Deep Creek, downstream of Hot Springs, CEDEN-628DEPHS https://mywaterway.epa.gov/monitoring-report/STORET/CEDEN/CEDEN-628DEPDHS/
5. Deep Creek, 1.1 mile below Holcomb Creek, CEDEN-628PS2063 https://mywaterway.epa.gov/monitoring-report/STORET/CEDEN/CEDEN-628PS2063/
6. EPA National recommended water quality criteria. Note that some constituents do have limiting threshold criteria for drinking water standards but are not listed herein.

Outstandingly Remarkable Values

The Wild and Scenic Rivers Act requires that each river possess one or more outstandingly remarkable values to qualify for designation. In order to be assessed as outstandingly remarkable, a river-related value must be 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 values should be directly river related. 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. The Forest Service region of comparison is defined geographically in the 2022 Resource Assessment, included in this document as Appendix B.

Prior to Deep Creek's designation as a WSR, an eligibility study was initiated in 2005, during the LMP process, to evaluate the eligibility of Deep Creek and other rivers for Wild and Scenic River status and determine which resources would qualify as an ORV. Following Deep Creek's designation as a WSR, a resource assessment for its corridor was completed in February 2022 to support development of this CRMP. A virtual workshop was held in March 2021 for the purpose of developing CRMPs for Deep Creek and the Whitewater River on the San Bernardino National Forest. During that workshop, the resource experts on the CRMP team, comprising representatives from the Forest Service and contractors, reviewed each potential ORV for the river. All ORVs from the 2005 eligibility study were retained by the team with no further revisions or additions.

The identified ORVs for the river are identified below in Table 2 and further described in the following section. See Appendix B for additional detail about ORV findings and rationales, as well as the criteria used to define each ORV.

Table 2. Outstandingly Remarkable Values for Deep Creek

ORV Name	Deep Creek
Scenery	Yes
Wildlife	Yes
Fish	Yes
Heritage Resources (cultural)	Yes
Recreation	Yes
Geology	Yes
Botany	Yes

Scenery

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. Deep Creek experiences very little noise disturbance, providing for a peaceful experience of the outstanding scenery.

The Scenic Integrity Objective (SIO) is High. SIOs are objectives that define the minimum level to which landscapes are to be managed from an aesthetics standpoint (USDA Forest Service 2005b). For example, a "Very High" SIO generally provides for ecological changes only and refers to landscapes where the valued or desired landscape character is intact with only minute, if any, deviations. Though the Deep Creek 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.

Wildlife

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 the toad.

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.

Fish

Deep Creek is a premier fishing location in the area and is the only drainage in the area designated as a Wild Trout Stream by the California Department of Fish and Game. It supports naturally reproducing populations of rainbow trout and brown trout (*Salmo trutta*), which are regionally and nationally significant, as well as other important native fishes. The federally endangered Mojave tui chub (*Gila bicolor mohavensis*) was once present in Deep Creek, although these fish have since hybridized with 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. The river possesses high quality aquatic habitat and a diverse array of fishes.

Heritage Resources (cultural)

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 shot 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 the present. Today, unique gold mining auto tours guide visitors through the California Gold Rush history in this area.

Recreation

Deep Creek is a moderate to high use multi-elevation backcountry canyon that is easily accessible to visitors via the PCT, which runs throughout the WSR corridor, and State Highway 18, and which supports a variety of recreational activities, including fishing, hiking, camping, and OHV opportunities.

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 been designated as a State of California Wild Trout Program Stream. Visitors can also enjoy remote fly-fishing opportunities with beautiful scenery and abundant fish. There are many opportunities for sightseeing, swimming, picnicking, horseback riding, and wildlife viewing at the river as well. Deep Creek Hot Springs is another unique and popular recreation destination in the river corridor. Most of the recreational activities at Deep Creek are available nearly year-round, although heavy snows at the upper reaches of the river corridor can limit access during the winter.

Holcomb 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. There are several camping areas and challenging cross-country skiing opportunities within the river corridor as well.

The PCT runs throughout the WSR corridor along both Deep Creek and Holcomb Creek. This national scenic trail and congressionally designated area is a continuous path along the spectacularly scenic crest of the Pacific mountain ranges between Mexico and Canada and affords numerous unique recreational opportunities. The PCT follows Deep Creek from the Lake Arrowhead area to the Mojave River Forks Dam for 16 miles as part of the 2,650-mile national scenic trail, crossing Deep Creek twice on elevated bridges (see figure 1 for location of the PCT in relation to the river corridor). The PCT travels through some of the most outstanding scenery in the U.S. and is enjoyed by hikers and equestrians throughout the year. Some users travel the trail for a few miles, while others travel the entire length in a season (USDA Forest Service 2022). The trail provides visitors opportunities for adventure, with areas to hike near gateway communities, thru-hiking, and skiing.

Holcomb Creek offers several challenging Jeep trail travel opportunities for experienced four-wheel drive enthusiasts, opportunities unavailable at Deep Creek. The T-6 Crossing Bridge near Dishpan Springs is the most difficult jeep and OHV trail adjacent to the river corridor. Other off-road opportunities provide novice four-wheel and OHV drivers with less challenging routes.

The Holcomb Creek section of the WSR corridor has many areas that are easily accessible to visitors, with numerous established trails, roads, and camping areas. Hikers can rest in several designated developed trail campsites along Holcomb Creek such as Little Bear Springs, as well as numerous non-designated, primitive campsites.

Geology

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 Transverse 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. These unique hot springs impart the creek with its outstandingly remarkable geologic values.

Botany

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, Humboldt Lily (*Lilium humboldtii*), and Mojave tarplant (*Deinandra mohavensis*) 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 fourteen 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 endemic, 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 a number of 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*).

Also, 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.

Finally, the montane meadow habitat at Hitchcock Ranch supports a number of federally listed plant species, including ash gray paintbrush, San Bernardino bluegrass, and California taraxacum. It is anticipated that the meadow also supports a number of 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.

Climate Change

To evaluate the influence of climate change stressors on the ability to manage for the ORVs, the IDT from the San Bernardino National Forest and Bureau of Land Management staff, along with regional staff from the Forest Service Region 5 Wild and Scenic Rivers Program, met with the Northern Institute of Applied Climate Science in February 2022. The workshop included a review of climate influences on watershed and river values and integrated methods, tools, and resources from the Adaptation Workbook, a climate change decision-support framework (USDA Forest Service 2016). Specifically, the IDT used the Adaptation Workbook to integrate climate change considerations into this CRMP. The IDT evaluated potential management actions that may be needed to respond to the effects of climate change and needed to sustain or maintain river values given climate-related risks and vulnerabilities. See the "Management Direction" section for climate-related management actions. Notes from this workshop are included as Appendix C.

Visitor Use Management and Capacity

A user capacity analysis was conducted for Deep Creek in support of the development of this CRMP. The Act does not define user capacities or prescribe a particular approach to address user capacities in CRMPs. However, agencies are directed to specify numeric user capacities to define the maximum number of people that can be accommodated in a designated river area without adversely impacting river values (IVUMC 2016b in Otak, Inc. 2023).Goals of the capacity analysis included identifying current usage at the river, determining the kinds of uses the river can support, calculating user capacities, establishing thresholds of use to prevent river degradation, identifying triggers for management action, and establishing an adaptive management framework. Site-specific user capacity methodologies were developed to specify estimated numeric user capacities for three analysis areas within the Deep Creek

WSR corridor. The user capacity analysis is incorporated into this CRMP; details on the framework, concepts, and methodology used to develop the capacity analysis, as well as the conclusions reached, are found in Appendix A.

Management Direction

Management direction contained in this plan is designed to meet Wild and Scenic Rivers Act as well as Forest Service requirements, in order to provide a long-term management strategy for protecting and enhancing the river segment's free-flowing condition, water quality, and ORVs. Management direction in this section consists of desired conditions and management actions and standards, some of which are drawn from the Forest Service's 2005 LMP. Those that are derived from the 2005 LMP include the document section reference in parentheses following the standard or action. Management direction prioritizes protecting and enhancing WSR values during the planning and implementation of resource management activities in the river corridor. Some specific management actions were developed through the IDT's internal planning and discussions, and further informed by project scoping, which took place from February 15 – March 15, 2022. Project scoping consisted of releasing the Resource Assessment for public review on the Forest website, on the Forest's Twitter account, and via the newspaper of record, the Idyllwild Town Crier. Comments received during scoping focused on topics such as OHV access, expanded ORVs, fire suppression jurisdiction, and user capacity in popular areas within the corridor. The Forest Service reviewed scoping comments and took them into consideration when identifying key concerns within the corridor. This helped the Forest Service subsequently develop management actions to address these key issues.

Given the multi-jurisdictional nature of WSRs, where appropriate, the Forest Service would continue to work with other agencies that have a nexus in WSR management, and would also maintain past, present, and future partnerships with organizations (e.g., Southern California Mountains Foundation [SCMF]) to help steward the WSR.

Desired Conditions

Desired conditions for the WSR describe the resource conditions, visitor experiences and opportunities, and facilities and services that the agency should strive to achieve and maintain within the designated river corridor in order to protect river values. The desired conditions present a broad vision of the desired state for resources in the river corridor. Actions that lead toward the desired conditions over the long term would be considered consistent with this plan. Actions that lead the corridor away from desired conditions over the long term would be considered inconsistent with this plan.

As established in the *LMP, Part 2 San Bernardino National Forest Strategy* (USDA Forest Service 2005a), the Forest has been divided into a series of geographical units called "Places." Each Place has its own landscape character. Landscape character has been described as an overall visual and cultural impression of landscape attributes, the physical appearance and cultural context of a landscape that gives it an identity and "sense of place." Desired conditions for each Place paint a picture of what the Place could be as the Forest Service implements activities to move toward the overall Forest-wide desired conditions (USDA Forest Service 2005a). Parts of Deep and Holcomb Creeks are located within Arrowhead, Big Bear Backcountry, and Silverwood Places.

The desired conditions for Deep Creek are derived from the Place-based desired conditions and have been broken out by river value.

- Free flow and Water Quality: Conditions are managed to protect or enhance the river's water quality and free flowing condition
- Scenery: Corridor is maintained as a natural-appearing landscape with seasonal influences; valued landscape attributes to be preserved over time include natural appearing views from the PCT.
- Wildlife and Fish: Habitat conditions for threatened, endangered, proposed, and sensitive species in the corridor are improving over time; invasive nonnative species are reduced
- Heritage Resources (cultural): Cultural resources in the corridor are identified and evaluated. Partnerships are established to provide stewardship and interpretation. The landscape is maintained as natural appearing along Deep Creek and as a historic and natural appearing landscape along Holcomb Creek.
- Recreation: A wide variety of recreation uses in the corridor will be promoted, where appropriate and environmentally sustainable.
- Geology: Local geology and landscape features are managed to enhance geological values in the corridor. Access and disturbances are managed in a way that reduces potential impacts on defining geologic features in the corridor.
- Botany: Chaparral and forested areas are managed to provide fire protection for adjacent communities, recreation areas and wildlife habitat; Habitat conditions for threatened, endangered, proposed, and sensitive species are improving over time; invasive nonnative species are reduced.
- All river values: Management of Deep Creek Hot Springs and Warm Springs is improved.

Management Standards and Actions

The management standards below prioritize protecting and enhancing wild and scenic river values during the planning and implementation of resource management activities in the river corridor. These standards and actions are derived from the 2005 LMP, as well as civic engagement and interdisciplinary team planning and discussions that informed the development of this CRMP. Those standards derived from the LMP include a citation to the LMP following the standard; standards informed through IDT planning and civic engagement do not include a citation. A standard acts as a threshold or constraint for management activities or practices to ensure the protection of resources. These standards are intended to protect and enhance the designated river's free-flowing condition, water quality, and ORVs.

As mentioned below, the PCT overlaps with the WSR corridor. Congressionally designated under the National Trails System Act, the PCT is managed by a comprehensive plan which guides the administration of the trail. Thus, any actions stated in this CRMP that overlap with or affect the PCT would be closely coordinated with the PCT Administrator and other affiliated stakeholders such as the Pacific Crest Trail Association in order to ensure consistency with PCT management direction.

Proposed Goals

- Any proposed water resources projects would have to be reviewed under Section 7 of the Wild and Scenic Rivers Act.
- For standards and guidelines regarding facility development in each land use zone, see the *LMP, Part 2 San Bernardino National Forest Strategy* (2005a).
- In the wild segment, minimize facility development; when necessary to permit facilities, design structures to have a natural, rustic appearance (USDA Forest Service 2005a).
- Follow thresholds and capacity guidelines as described in the User Capacity Analysis (Appendix A) to ensure recreation activities do not negatively affect river values. Given that the PCT has its own trail-wide guiding information around carrying capacity, all threshold and capacity decisions will be in alignment with PCT national policy.
- Project planning should 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 endangered species.
- Project planning shall consider conservation of the PCT and its associated resources and values. Consider avoidance and/or minimization of proposed land management activities and recreation uses that could significantly interfere the nature & purposes for which the trail was designated. (PCT Comp Plan, National Trails System Act, Foundation Document.)
- When implementing new projects in areas that provide for threatened, endangered, proposed, and candidate species, use design criteria and conservation practices so that discretionary uses and facilities promote the conservation and recovery of these species and their habitats. Accept short-term impacts where long-term effects would provide a net benefit for the species and its habitat where needed to achieve multiple-use objectives (USDA Forest Service 2005b).
- Design management activities to meet the SIOs (USDA Forest Service 2005b).
- In the wild, scenic, and recreation segments, plan, design, and implement all management activities to be consistent with the SIO of "High." Follow guidelines in *Landscape Aesthetics: A Handbook for Scenery Management* (or other current guides) for all management activities in the WSR corridor (USDA Forest Service 2005b).
- SIOs will be met with the following exceptions:
    - ❑ Minor adjustments not to exceed a drop of one SIO level is allowable with the Forest Supervisor's approval (USDA Forest Service 2005b).
    - ❑ Temporary drops of more than one SIO level may be made during and immediately following project implementation providing they do not exceed three years in duration (USDA Forest Service 2005b).
- Until proper evaluation occurs, known heritage resource sites shall be afforded the same consideration and protection as those properties evaluated as eligible to the National Register of Historic Places (USDA Forest Service 2005b.
- Leave human remains which are not under the jurisdiction of the County Coroner undisturbed unless there is an urgent reason for their disinterment. In case of accidental disturbance of human remains, excavation of human remains, or subsequent re-internment of human remains follow national forest, federal and tribal policies
- Protect the access to and the use of sensitive traditional tribal use areas (USDA Forest Service 2005b).

Proposed Water Extractions and Diversions

- Surface water diversions and groundwater extractions, including wells and spring developments will only be authorized when it is demonstrated by the user, and/or agreed to by the Forest Service, that the water extracted is excess to the current and reasonably foreseeable future needs of forest resources (USDA Forest Service 2005b). (See section on "Federal Reserved Water Rights," above, for more information.)
- Consideration of beneficial uses, existing water rights, and the absence of other available water sources will be part of the water extraction application.
- Approved extractions and diversions will provide for long-term protection and reasonable use of surface water and groundwater resources.
- Feasibility and sustainability assessments should be appropriately scaled to the magnitude of the extraction or diversion proposed.

Management Actions

The desired conditions described above present a broad vision for the resources in the river corridor. The management actions described in this section are actions that help move the resources toward these desired conditions. For example, management actions that aim to decrease unauthorized OHV access help move resources such as water quality, botany, and fish habitat towards their desired conditions.

As noted above, this CRMP establishes programmatic management direction. Site-specific NEPA analysis will be done for any actions proposed on Forest Service lands in the WSR corridor. All proposed projects would be checked for consistency with the CRMP during the site-specific analysis. For any water resources project listed below, Section 7 of the Act requires a determination of effect to river values. This determination would be made by FS and take place in future project planning efforts.

- Decrease or eliminate unauthorized OHV access into Deep Creek Inventoried Roadless Area (IRA) and WSR at terminus of Deep Creek that borders USACE-managed lands. Extensive OHV damage, graffiti, trash in riverbed and along PCT are widespread all the way to Hesperia Falls, also within the WSR corridor.
- 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:
    - ❑ Continue working with U.S. Army Corps of Engineers to prioritize and mitigate trespass issues into the Deep Creek corridor. FS may also leverage other partnership opportunities with the SCMF to support this work.
- Make the following improvements to Devils Hole (3N34D), which experiences problems with large OHVs accessing the creek. A 24-inch legal crossing exists but large vehicles are getting down to the creek bottom via this single-track legal route. FS recommends the following:
    - ❑ Blocking access points to the creek with a permanent barricade where funding allows and when feasible.
- In the Hot and Warm Springs Area trailheads, utilize existing 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.

- Limit unauthorized OHV access from BLM land onto FS managed lands and into the Deep Creek Warm/Hot Springs areas.
- Repair gate and T-post fence at Little Pine Flats, which are often damaged.

Potential Future Management Actions

This CRMP establishes programmatic management direction and therefore, site-specific projects are not included as part of this plan. However, the Forest may consider more site-specific projects in the WSR corridor in the future, for which separate NEPA analysis would be conducted. As noted above, all proposed projects would be checked for consistency with the CRMP during the site-specific analysis.

Potential future management actions for Deep Creek include the following:

- 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 area, 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 the California Department of Fish and Wildlife (CDFW) and/or 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 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. 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

The CRMP monitoring plan is intended to track river corridor impacts from various kinds of land uses, including recreation, and to maintain the river corridor's desired conditions. Monitoring these items will provide managers with key thresholds for when changes to management must be considered in order to protect the corridor's ORVs, free flow, and water quality, and to manage use within capacity.

The following table lists the location, issue being addressed, and brief description of CRMP monitoring items. Monitoring design considers past, current, and anticipated future funding levels, along with staffing level and other Mountaintop Ranger District priorities. The monitoring actions selected are those that address areas of highest concern. In addition to the actions listed in Table 3, Appendix A contains additional monitoring items related to the impacts of visitor use on river values. These monitoring items consist of a system of social and resource-based indicators, triggers for those indicators, and actions to be taken when triggers are reached. River values for which there is no specific monitoring item are already adequately monitored under existing Forest management.

Table 3. Possible Monitoring Items and their Locations in the Wild and Scenic River Corridors

Location of Monitoring Action	Potential Issue / River Value Addressed	Monitoring Action
Throughout the corridor	Water quality and free flow	Conduct surveys of surface water and groundwater to monitor for free flow, 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 FSS and invasive plant species within the WSR corridor.

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