

# South Fork Smith River Fishery Management Guidelines

State of California  
Department of Fish and Wildlife  
Heritage and Wild Trout Program  
Northern Region



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## Executive Summary

Portions of the South Fork Smith River, Del Norte County, and its tributaries were designated as a Heritage and Wild Trout Waters by the California Fish and Game Commission in 2016, 2017, and 2018 (Figure 1). Wild Trout Waters are those that support self-sustaining trout populations, are aesthetically pleasing and environmentally productive, provide adequate catch rates in terms of numbers or size of trout, and are open to public angling. Wild Trout Waters may not be stocked with catchable-sized hatchery trout. Heritage Trout Waters are a sub-set of Wild Trout Waters that highlight wild populations of native California trout found within their historical drainages.

In an effort to comply with existing policy and mandates, the HWTP has prepared these fishery management guidelines for the South Fork Smith River. This document is intended largely as an operations guide for internal planning purposes and to communicate management direction to the public, other agencies or entities, and trout angling organizations. These guidelines are intended to provide direction and list actions necessary to sustain the recreational fishery for the benefit and enjoyment of the angling public. However, actions associated with this document are initiated independently, thus any environmental review or permits needed to implement the actions are separate from this guidance document itself.

California Fish and Game Code (Chapter 7.2, Section 1726.4 (b)) states that it is the intent of the Legislature that “the department [specifically, the California Department of Fish and Wildlife (CDFW) Heritage and Wild Trout Program (HWTP)], in administering its existing [heritage and] wild trout program, shall maintain an inventory of all California trout streams and lakes to determine the most suitable angling regulations for each stream or lake. The department shall determine for each stream or lake whether it should be managed as a wild trout fishery, or whether its management should involve the temporary planting of native trout species to supplement wild trout populations that is consistent with this chapter.” Section 1726.4 (b) additionally states that “the biological and physical inventories prepared and maintained for each stream, stream system, or lake shall include an assessment of the resource status, threats to the continued well-being of the fishery resource, the potential for fishery resource development, and recommendations, including necessary changes in the allowed take of trout, for the development of each stream or lake to its full capacity as a fishery, consistent with this chapter.”

Furthermore, California Fish and Game Code (Chapter 7.2, Section 1727 (d)) requires that the CDFW “shall prepare and complete management plans for all

Wild Trout Waters not more than three years following their initial designation by the commission and update the management plan every five years following completion of the initial management plan.” For clarification, Wild Trout Waters, as stated above, represent waters that have been formally designated by the California Fish and Game Commission as Heritage and/or Wild Trout Waters.

## **Resource status**

### **Area description**

The South Fork Smith River is located in the western Siskiyou Mountain Range, in the northwest corner of California (Figure 1). The drainage begins at the summit of Bear Mountain (6,411 ft) in the Siskiyou Wilderness, the highest point in Del Norte County. The landscape is very steep, remote, and difficult to navigate off trail. Most summits that surround the South Fork Smith River drainage range from 2,800 to 5,200 feet in elevation. The entire upper watershed is encompassed by lands administered by the U.S. Forest Service, Six Rivers National Forest. The watershed is also a designated National Recreation area, created by Congress in 1990. All waters in the South Fork Smith River, including tributaries, have Wild and Scenic Status. The upper watershed, east of the main river, is within the Siskiyou Wilderness Area.

The South Fork Smith River was designated in several distinct sections as a Heritage and Wild Trout Water by the California Fish and Game Commission in 2016, 2017, and 2018. A total of 142 stream miles are included in the designation, including the South Fork Smith River from the mouth of Craigs Creek to the Island Lakes Trail Crossing, as well as 11 named tributaries (Craigs Creek, Coon Creek, Rock Creek, Goose Creek, Hurdygurdy Creek, Buck Creek, Quartz Creek, Eightmile Creek, Williams Creek, Harrington Creek, and Prescott Fork) (Figure 1). The elevation range of the designated waters is between approximately 200 to 3,200 feet. Accessing the South Fork Smith River is possible using various pullouts located along South Fork Road (County Road 427) including Sand Camp, Redwood Flat, Steven Bridge, and Goose Creek. The historic South Kelsey National Recreation Trail, which connects with the Elk Valley and Gunbarrel trails, and Island Lakes Trail are the primary access trails to the upper portion of the designated area.

### Land ownership/administration

- U.S. Forest Service
- State Parks
- National Parks
- Bureau of Land Management
- CDFW
- Private
- Other

### Public access

- Roadside
- Remote/hike-in
- Boat

### Designations

- Wild Trout Water
- Heritage Trout Water
- Federal Wild and Scenic River
- Wilderness
- Other

### Water source(s)

- Spring
- Rain
- Snow
- Tailwater

### Gradient

- Low (< 2%)
- Medium (2-4%)
- High (>4%)
- N/A

### Fishery description

The South Fork Smith River is a fast action fishery with the opportunity to catch trophy-sized Coastal Cutthroat Trout (>18 inches) and resident adult Coastal Rainbow Trout. The populations are self-sustaining and occur both above and below natural barriers. Those below the downstream-most barrier in a given stream may express anadromous (sea run) life histories. Those above barriers are generally resident forms, with the exception of those individuals who out migrate downstream over one or more barriers and may then express the anadromous life history form. This diversity, coupled with the opportunity to catch both Coastal Cutthroat Trout and Coastal Rainbow Trout in their native ranges, provides a unique angling opportunity. The Smith River watershed supports the largest population of Coastal Cutthroat Trout in California (Moyle et al. 2015). In

general, the South Fork Smith River and its tributaries offer a high-quality fishery, in terms of the potential for both numbers and size of fish, in a remote and particularly scenic landscape.

## Area Map

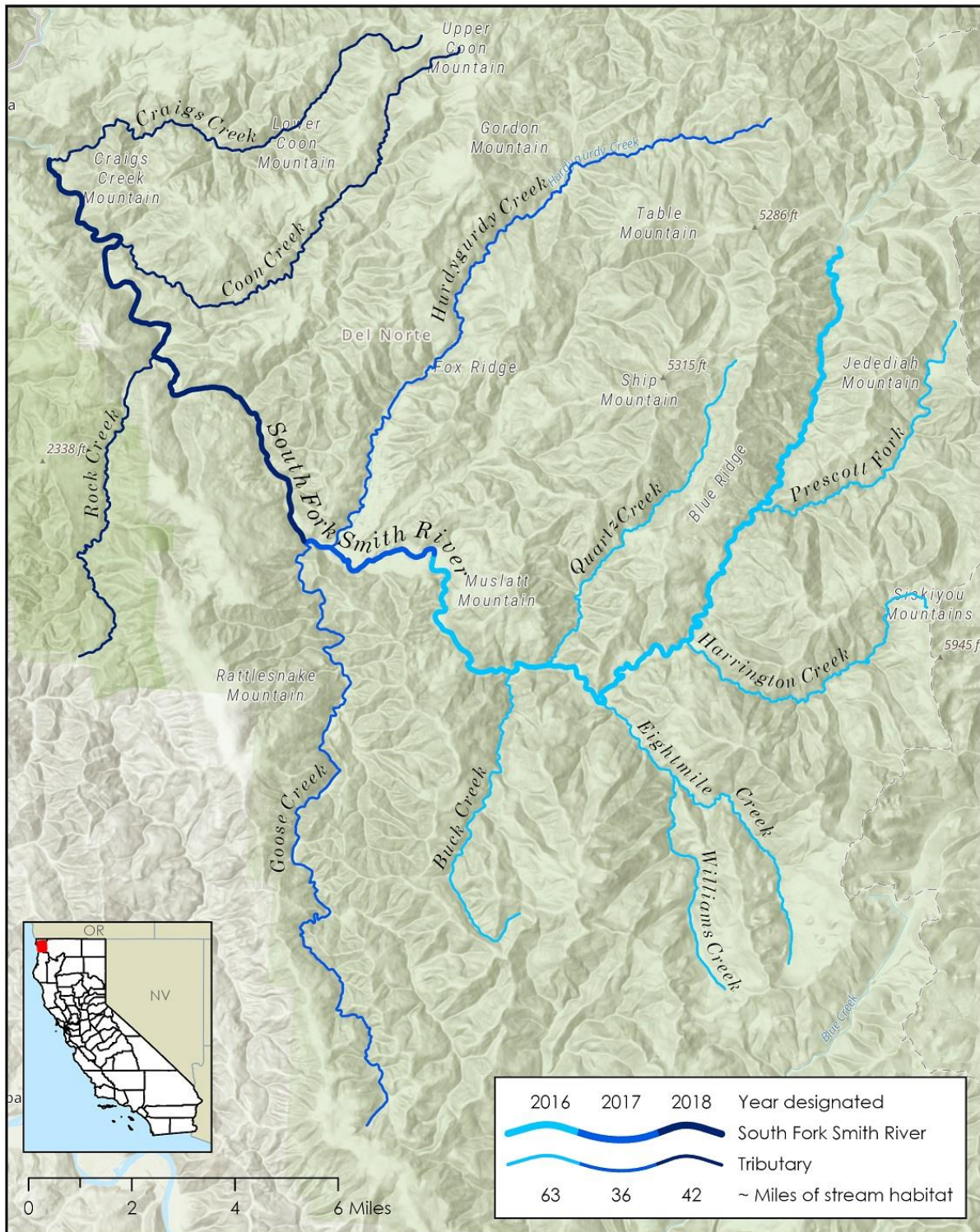


Figure 1. Map of the South Fork Smith River including the 2016, 2017, and 2018 Wild and Heritage Trout designations, Del Norte County, California. The total designation includes approximately 142 miles of the South Fork Smith River and associated tributaries (map created by CDFW, R1 Coast, Charlotte Peters).

## Fish species

Table 1. Listing status for all fish species documented in the South Fork Smith River. \* Rare occurrence in this waterbody

Common Name	Scientific Name	Native (Y/N)	Listing Status
Coho Salmon	<i>Oncorhynchus kisutch</i>	Y	California Threatened; Federal Threatened
Chinook Salmon	<i>Oncorhynchus tshawytscha</i>	Y	California Species of Special Concern
Sockeye Salmon*	<i>Oncorhynchus nerka</i>	N	none
Chum Salmon*	<i>Oncorhynchus keta</i>	Y	California Species of Special Concern
Coastal Rainbow Trout	<i>Oncorhynchus mykiss irideus</i>	Y	California Species of Special Concern (Klamath Mountain Province Steelhead DPS)
Coastal Cutthroat Trout	<i>Oncorhynchus clarkii clarkii</i>	Y	California Species of Special Concern
Klamath Smallscale Sucker	<i>Catostomus rimiculus</i>	Y	none
Pacific Lamprey	<i>Entosphenus tridentatus</i>	Y	California Species of Special Concern
Western Brook Lamprey	<i>Lampetra richardsoni</i>	Y	California Species of Special Concern
Green Sturgeon* (northern DPS)	<i>Acipenser medirostris</i>	Y	California Species of Special Concern
White Sturgeon*	<i>Acipenser transmontanus</i>	Y	California Species of Special Concern
Coast Range Sculpin	<i>Cottus aleuticus</i>	Y	none
Prickly Sculpin	<i>Cottus asper</i>	Y	none
American Shad	<i>Alosa sapidissima</i>	N	none

## Other aquatic species

Table 2. Listing status for all non-fish species observed during fisheries surveys in the South Fork Smith River. Other species may occur but have not been observed during these surveys.

Common Name	Scientific Name	Native (Y/N)	Listing Status
Crayfish spp.	<i>Pacifastacus spp.</i>	Unknown	none



<b>Common Name</b>	<b>Scientific Name</b>	<b>Native (Y/N)</b>	<b>Listing Status</b>
Coastal Giant Salamander	<i>Dicamptodon tenebrosus</i>	Y	none
Rough-Skinned Newt	<i>Taricha granulosa</i>	Y	none
Foothill Yellow-Legged Frog (north coast DPS)	<i>Rana boylei</i>	Y	California Species of Special Concern
Coastal Tailed Frog	<i>Ascaphus truei</i>	Y	California Species of Special Concern
Western Toad	<i>Anaxyrus boreas</i>	Y	none
Aquatic Garter Snake	<i>Thamnophis atratus</i>	Y	none
Northwestern Garter Snake	<i>Thamnophis ordinoides</i>	Y	none
Northern River Otter	<i>Lontra canadensis</i>	Y	none

### **Fisheries and habitat assessments**

Table 3. Surveys completed on the South Fork Smith River.

<b>Water</b>	<b>Year(s)</b>	<b>Survey type</b>	<b>Reference data/summary report</b>
Smith River	1955-2014	Creel Census	CDFW Synthesis Report, Zuspan et. al. 2018
South Fork Smith River	2003-2014	direct observation (snorkel)	Smith River Alliance, US Forest Service, California Department of Fish and Wildlife raw data (Figure 2)
South Fork Smith River	2005	direct observation (snorkel)	Reedy 2005
South Fork Smith River	2010-2011	direct observation (snorkel)	McCain 2010, McCain 2011
Buck, Eightmile, Goose, Hurdygurdy creeks	2011	angling survey data	CDFW HWTP raw data
South Fork Smith River	2011	direct observation (snorkel)	CDFW HWTP raw data
South Fork Smith River	2012	direct observation (snorkel)	CDFW HWTP raw data

<b>Water</b>	<b>Year(s)</b>	<b>Survey type</b>	<b>Reference data/summary report</b>
South Fork Smith River and tributaries	2012-2022	Temp logger	Garwood et al. 2014
South Fork Smith River and tributaries	2013-2022	direct observation (snorkel)	Garwood and Larson 2014; Garwood et al. 2014; Walkley and Garwood (2015, 2017) (Figure 3)
Smith River	2013	Genetic Analysis	Humboldt State University, Master Thesis, Rizza 2015
South Fork Smith River	2018	Direct observation (snorkel) and angling	CDFW HWTP raw data, Duckwall 2019 (draft)
South Fork Smith River	2016-2022	direct observation (snorkel)	Parish 2016-17; Parish Hanson 2018-22 (Figure 2)

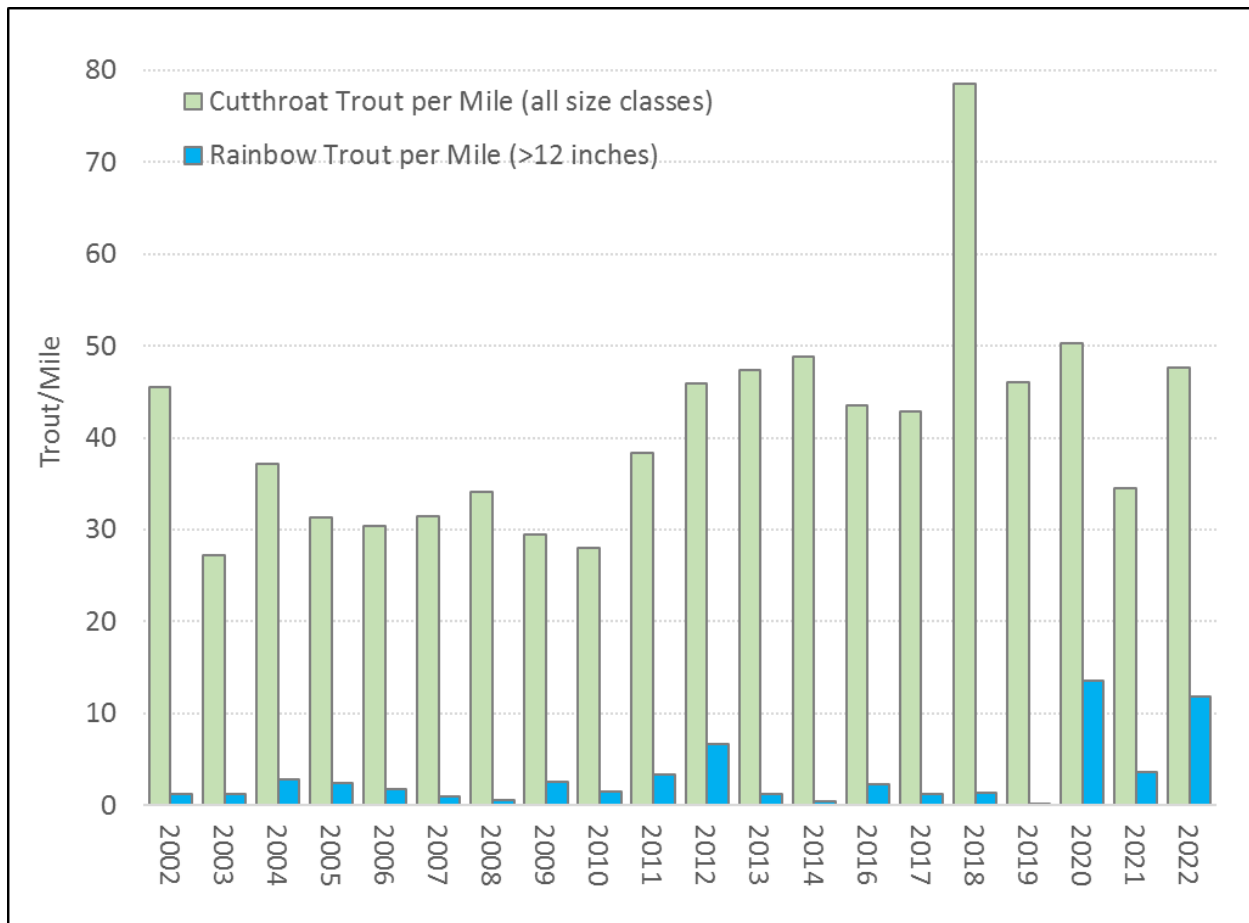


Figure 2. Coastal Cutthroat Trout and resident Coastal Rainbow Trout per mile in the South Fork Smith River (2002 to 2022). Data were adapted from the Smith River Alliance annual Smith River volunteer fish count (Parish Hanson 2022).

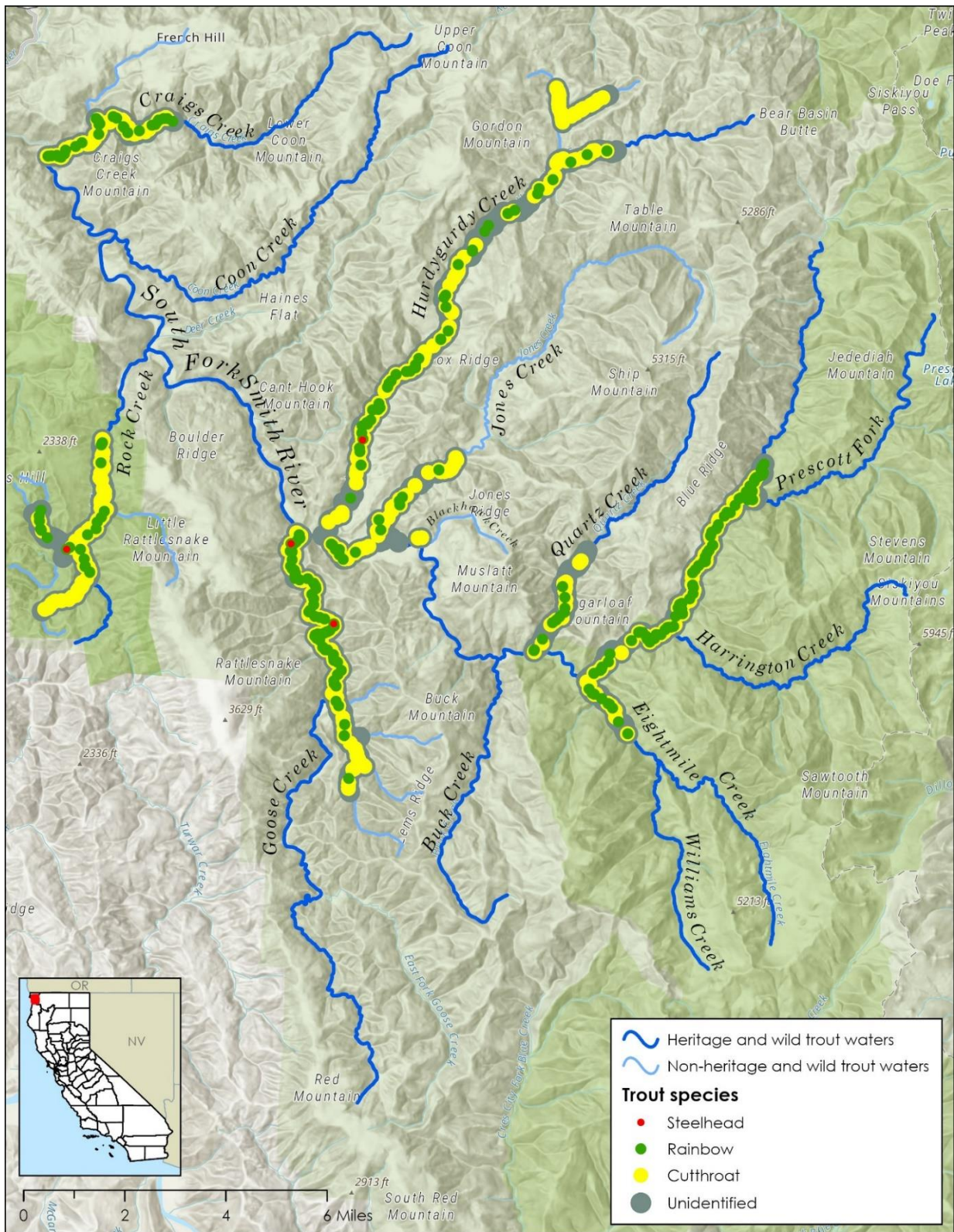


Figure 3. Summer trout distributions in the South Fork Smith River based on annual randomly selected reach observation surveys. (2014-2022). Not all sections or creeks of the South Fork were sampled. See Wakley and Garwood 2017 for more information (map created by CDFW, R1 Coast, Charlotte Peters).

## Angler survey data

Self-reporting angler survey data has been collected continuously since 2017 by voluntary compliance and completion of a form from the angling public after their fishing excursion. The self-reporting forms are located in an Angler Survey Box (ASB) at the U.S. Forest Service South Kelsey Trailhead. The number of ASB forms filled out by anglers between 2017-2022 was 62. The reported trout catch for all years combined is split between Coastal Rainbow Trout (80%) and Coastal Cutthroat Trout (20%). Other ASB catch data statistics are summarized in Table 4. The data collected can inform managers about the fishery's performance, angler satisfaction, and trends in catch rates and size class structure over time.

Table 4. South Kelsey Trailhead angler survey box catch summary (2017-2022). Wild Rainbow Trout/steelhead and hatchery Rainbow Trout/steelhead were grouped together.

<b>Year</b>	<b>Form Count</b>	<b>Rainbow Trout/steelhead*</b>	<b>Coastal Cutthroat Trout</b>	<b>CPUE (trout catch/hours fished)</b>
2017	8	29	6	1.30
2018	10	37	39	2.71
2019	9	68	22	2.12
2020	8	27	3	1.36
2021	14	139	5	2.20
2022	13	83	12	1.96

## Angling regulations

Table 5. South Fork Smith River (Heritage and Wild Trout Section):

<b>Body of Water</b>	<b>Open Season and Special Restrictions</b>	<b>Daily Bag and Possession Limit</b>
Craigs Creek to Jones Creek.	Fourth Sat. in May through Apr. 30. Only artificial lures with barbless hooks may be used from the fourth Sat. in May through August 31. Only barbless hooks may be used from Sep. 1 through Apr. 30.	2 hatchery trout or hatchery steelhead. 4 hatchery trout or hatchery steelhead in possession. 2 Cutthroat Trout minimum size limit: 10 inches total length. 1 Chinook Salmon and no more than 5 wild Chinook Salmon over 22 inches per year.
Above the mouth of Jones Creek.	Fourth Sat. in May through Oct. 31. Only artificial lures with barbless hooks may be used.	2 Cutthroat Trout minimum size limit: 10 inches total length. 2 hatchery trout or hatchery steelhead. 4 hatchery trout or hatchery steelhead in possession.

The closure period from November 1 to the 4th Friday in May is to protect anadromous adult salmonids during the spawning season and juvenile anadromous salmonid smolts during the spring downstream migration period. The closure period also protects State and Federally Threatened Coho Salmon that consistently use the upper South Fork Smith River for spawning and rearing (Walkley and Garwood 2017). In addition to the angling regulations above, there are low-flow restrictions for the South Fork Smith River that can be found in Article 4, Section 8.00 of the California Freshwater Sport Fishing Regulations.

## Known stressors

### Fire

Wildfire is part of the natural disturbance regime throughout Northern California, including the Siskiyou Mountains. The California Department of Forestry and Fire Protection (CalFire) has identified the entire South Fork Smith River watershed as a Very High Fire Hazard Severity Zone (CalFire 2007). Extreme wildfires can increase soil erosion and landslides in watersheds with steep topography (Meyer and Pierce 2003), like the Smith River. Additionally, extreme wildfire events can dramatically increase stream temperatures during the summer by destroying buffered forest microclimates and eliminating riparian vegetation along the stream corridor (Isaak et al. 2010).

## Cannabis cultivation

Cannabis cultivation has greatly expanded in remote portions of California over the past decade (Carah et al. 2015, Butsic and Brenner 2016) and clandestine operations have penetrated very remote and sensitive watersheds with high biodiversity (Bauer et al. 2015). Cannabis cultivation is associated with multiple environmental impacts including, but not limited to; land clearing, surface water diversions, agrochemical pollution, and wildlife poaching (Gabriel et al. 2013, Thompson et al. 2014, Bauer et al. 2015).

## Climate Change

Predicted climate change impacts to Northern California's coastal streams are expected to be less than those to inland waters of California, since the maritime climate and associated fog belt will likely offset air temperature increases. However, coastal areas have already experienced a 33% reduction in fog frequency since the early 20th century and further reduction is predicted to increase summer drought frequency and duration along the west coast (Johnstone and Dawson 2010). Predicted increases in air temperatures (up to 10°C by 2100; Dettinger 2005), in combination with reduced fog frequency and associated increases in evapotranspiration, may negatively impact juvenile rearing habitats (e.g., warmer water temperatures, lower flows). Poor ocean conditions (e.g., reduced upwelling, higher temperatures), may also reduce ocean survival and limit gene flow between populations. In addition, sea level rise will likely reduce rearing habitats in estuaries, unless similar habitats become available in upstream areas as estuaries 'back upstream' as a result of sea level rise (Moyle et al. 2015).

## **Management**

### **Management goals and objectives**

- Fast action (catch rates  $\geq$  2 fish/hour)
- Trophy (trout  $\geq$  18 inches)
- Heritage trout
- Other

### **Monitoring**

Annual monitoring efforts conducted by CDFW are summarized below. Survey efforts consist of a combination of direct observation (i.e., snorkel surveys), angling surveys, temperature monitoring, and a self-reporting angler survey (i.e., ASB). The direct observation snorkel survey is spatially balanced (within each

stratum), design-based program with the goal of producing representative samples of target species within each stratum.

Table 6. California Department of Fish and Wildlife monitoring surveys and schedules for the South Fork Smith River watershed. <sup>1</sup> This is a design-based sampling program which uses the generalized random tessellation stratified (GRTS) algorithm to draw a sample from a population of defined reaches annually throughout the Smith River basin.

<b>Water</b>	<b>Date range (month/year)</b>	<b>Survey type</b>	<b>Survey interval</b>
South Fork Smith River random sampling of reaches for spatial structure surveys <sup>1</sup>	June-September 2012-ongoing	direct observation snorkel surveys	annual
Throughout designation area	June-September 2012-2017	temperature loggers	annual
South Fork Smith River, Kelsey Trailhead	May-September 2017-ongoing	angler survey box	seasonal

### **Ongoing evaluation of angling regulations**

Current angling regulations for the South Fork Smith River were proposed and adopted to provide protection for trout and salmon populations, while maintaining existing management goals and objectives. The Department shall monitor the fishery, along with angler satisfaction/preferences, to guide and direct any future regulatory changes if warranted. Regulations will be used in an adaptive manner to optimize angler opportunities while adhering to the guidelines set forth in this document.

### **Addressing stressors**

#### Fire

While fuels reduction projects, prescribed fires, and other management and prevention activities may be employed in portions of the South Fork Smith River drainage, they are not allowed in designated wilderness areas. Given that the upper South Fork watershed (upstream of Buck’s Creek) lies within federally designated wilderness, fire threats will likely continue in this drainage.

#### Cannabis cultivation

The extent to which marijuana “grows” are affecting fish habitats in the Smith River drainage is currently unknown. There have been documented grows in the lower Smith River, but there are no documented grows in the designated area of the South Fork Smith River (R. Bourque, pers comm. Nov. 27, 2023). However,



the footprint of this activity has rapidly expanded in recent years throughout California. Field survey crew safety is of paramount concern, so any suspicious activities or evidence of cannabis cultivation (e.g., irrigation tubing, fertilizer bags, buckets, hoses, fencing in remote locations, etc.) should be documented and reported to CDFW and local law enforcement. No other recommendations are currently available to address this growing threat to California's streams and rivers and the fishes that depend on them. Updates will be incorporated into these guidelines as information at a more localized level becomes available.

### Climate change

Although there are no known mechanisms by which potential climate change impacts can be mitigated in the Smith River drainage, monitoring may help direct future actions. In particular, long-term water temperature monitoring and associated data sets can allow for tracking trends over time. Specifically, modeling local current stream temperatures within the South Fork Smith River with predicted future climate scenarios will allow for an assessment of long-term stream temperature resiliency.

### **Adaptive strategies**

This document provides guidance and management direction for wild trout resources in the South Fork Smith River. These management recommendations are based on existing conditions and should be used in accordance with updated information over time. Long-term monitoring of the fishery and associated angler preferences should play a critical role in future management prescriptions. Any changes to the prescribed management goals and objectives should be based on updated quantifiable data, public and local government input, HWTP Policy (Bloom and Weaver 2008), the Strategic Plan for Trout Management (CDFW 2023), and collaborative (CDFW Fisheries Branch and Regional) HWTP review.

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