



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
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GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



June 15, 2021

Eileen Sobeck
Executive Director
State Water Resources Control Board
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SUBJECT: Minimum Flow Recommendations for the Shasta and Scott Rivers to Inform the 2021 Drought Emergency Regulations

Dear Director Sobeck:

On May 3, 2021, the California Department of Fish and Wildlife (CDFW) transmitted a letter to the State Water Resources Control Board (SWRCB) that there is sufficient scientific information available to begin a long-term flow setting process to protect Coho and Chinook Salmon in the Scott River. On May 10, 2021, Governor Gavin Newsom extended the drought declaration to include the Klamath Basin. On June 1, 2021, the SWRCB sent notices of water unavailability to junior water rights holders in the Scott River watershed in Siskiyou County. The purpose of this letter is to build on the cooperative relationship we have established with your agency, emphasize the importance of providing flows for Coho and Chinook Salmon during this drought emergency, and request drought emergency minimum instream flows for the Scott and Shasta Rivers for the next 12 months.

Recommendations

As the Trustee Agency for California's fish, wildlife, and native plant resources (See, e.g., Fish and Game Code sec 1802) we are providing drought emergency minimum flow recommendations by month for each River as measured at the relevant gages (Table 1). These flow recommendations were developed in consultation with the National Marine Fisheries Service (NMFS) and are not intended to set the stage for long-term management considerations, nor should they be construed to provide adequate protections for salmonids over extended periods of time. They only provide drought emergency minimum flow recommendations for all life stages of salmon during the current drought emergency. These drought emergency minimum flows are intended to enable salmonids in these rivers to survive this dire situation.

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Table 1. Drought Emergency minimum flow requirements for the Shasta and Scott Rivers

River (gage)	Daily Minimum Emergency Flow Requirements (cfs)											
	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Shasta (Yreka) USGS 11517500	50	50	125	150	150	135	135	135	70	<i>50</i>	<i>50</i>	50
Scott (Fort Jones) USGS 11519500	30	33	40	<i>60</i>	<i>150</i>	200	200	200	150	150	125	50

Italicized numbers represent deviations from referenced standards when subject matter experts considered other environmental variables. Implementation of these bare minimum flows may be lifted if CDFW and NMFS subject matter experts agree that reference minimum emergency flows are more than may be necessary to benefit relevant life stages (e.g., migration has ended early).

The Scott River recommendations are strongly influenced by the Klamath National Forest (KNF) adjudicated right to stream flow in the Scott River measured at the USGS gage at Fort Jones. The KNF flow amounts are deemed necessary through the Scott River decree *“to provide minimum subsistence-level fishery conditions including spawning, egg incubation, rearing, downstream migration and summer survival of anadromous fish and can be experienced only in critically dry years without resulting in depletion of fisheries resources”*. The Shasta River recommendations are informed by McBain and Trush (2014), and our understanding of available base flows and historic water use. The recommendations deviate from referenced values only when we considered other factors such as the current emergency drought conditions, field notes, and the professional judgment of CDFW and NMFS subject matter experts. A brief background for each river follows:

The Scott River

The Scott River was the focus of the CDFW’s May 3, 2021 letter in part because a lack of adequate flows in November and December nearly resulted in a Coho Salmon migration disaster in 2020. We believe that ultimately in mid-December, Coho Salmon managed to access a portion of the available spawning habitat following a long-delayed surface water connection. We will not know until Spring 2022 if that reproductive effort was successful. Our primary concern was that between the Fort Jones gage (USGS 11519500) and Shackelford Creek into mid-December 2020, approximately 1,700 adult Coho Salmon were staging in the mainstem Scott River without access to spawning tributaries.

In Attachment 2 of the May 3, 2021 letter, we also noted that Scott River Chinook Salmon are declining at a faster rate than the Klamath Basin as a

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whole. The later critical migration period for adult Chinook Salmon migration into the upper Scott River is from October 16-31. Extensive and prolonged groundwater extraction throughout the irrigation season, as well as surface water diversion for stock water generally beginning October 1 in the Scott Valley, further exacerbates low flow barriers during this critical migration period. Since 1980, when the Scott River decree was established, changes have occurred that result in lower base flows than in previous decades when similar amounts of annual discharge were available. These statements are scientifically supported by Attachment 2 (and associated figures/tables). Table 3 of Attachment 2 displays mean September flows at the Fort Jones gage for five water year types separated into two time periods – 1942 to 1979 and 1980 to 2020. For example, prior to 1980 there were four "critically dry" water years and the average September flows during these years was 33.1 cubic feet per second (cfs). After 1980 there have been 11 "critically dry" water years, and the average September flow during these years was 9.7 cfs.

2020 gage information further supports our recommendations in the Scott River that are below the KNF water rights. In November 2020, flows at the Fort Jones gage ranged from 7 to 37 cfs. Shackleford Creek connected to the mainstem Scott River for a few days in mid-November only when flows peaked at 19-37 cfs. Coho Salmon accessed French Creek sometime between December 17 and December 21 when flows ranged between 86 and 131 cfs at the gage, which exceeds the 60 cfs that appears to provide minimal access to tributaries (Yokel 2014). Coho Salmon were able to access Sugar Creek and presumably the upstream Scott River Forks through the "tailings" around January 4 and 5, 2021 when the flows exceeded 149 cfs.

The Shasta River

We cannot overstate the relevance of the Big Springs Complex, Mainstem Shasta River, and other key tributaries that support roughly 10 to 30 percent of Klamath Basin Chinook Salmon population over the last decade (CDFW 2020). This system is also key to supporting spawning and rearing habitat for Klamath Basin Coho Salmon. In the last two years, outmigration conditions for Chinook and Coho Salmon in the Shasta River have been critically impaired. May/June 2021 flows have been as low as 3.5 cfs at the Montague gage (USGS 11517000) and 6 cfs at the Yreka gage (USGS 11517500). This represents a new low in the historical record for the Shasta River during this time frame. Worth noting is the correlation of low flows with lethal water temperatures that have occasionally exceeded 25 degrees Celsius.

Based on current conditions, we think it will be nearly impossible to achieve needed flows to support Chinook and Coho Salmon during this emergency

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drought without significant improvements to water use practices. For the best available science regarding drought emergency minimum flows, we are referencing McBain and Trush (2014). They used regional regression models, standard setting methods, riffle-crest measurements, 1 and 2-dimensional hydraulic modeling, habitat mapping, and photo documentation to summarize Instream Flow Needs (IFN) at USGS gage 115117500 in table 22 (page 105). Recommended minimum flows for dry conditions resulting from that effort range from 50 to 150 cfs.

Item 6 of the May 10 drought proclamation states “*To the extent voluntary actions are not sufficient, the Water Board, in coordination with the Department of Fish and Wildlife, shall consider emergency regulations to establish minimum drought instream flows*”. We support meeting drought emergency minimum flow requirements through voluntary actions. In fact, some landowners have already contributed voluntary flows upon agency request. However, if voluntary actions are not implemented immediately or are not projected to be successful in achieving the drought emergency minimum flows, then curtailment of surface water diversions and ground water withdrawals will be required. We must also continue to address unlawful water diversions, illegal cannabis, and other unreasonable uses.

Action needs to start immediately to minimize delays in surface water connection. We are prepared to meet with you to review the enclosed scientific information that informs our recommendations. If you have any questions regarding this letter, please contact Environmental Program Manager Joe Croteau at joe.croteau@wildlife.ca.gov.

Sincerely,

DocuSigned by:

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Tina Bartlett
Regional Manager
Northern Region

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Enclosures

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CDFG 1974_ Stream Flow Needs for Anadromous Salmonids in the Scott River Basin

Division of Water Rights 1975_Hydrogeologic Conditions Scott Valley

CDFG 1976_ Internal Memo Re: Scott River Adjudication

SWRCB 1976_Proposed Principles for Allocating Water to Various Claimants

McBain and Trush, 2014. Shasta River Canyon Instream Flow Needs Assessment. 221 pg.

Yokel 2014_Scott River Adult Coho Spawning Ground Surveys

Yurok 2015_ An Evaluation of the Anadromous Fish Interim Instream Flow Need for the Lower Scott River, in Siskiyou County, California Phase I, Final Report

2020 Scott Juvenile Salmon Outmigration Study_FINAL

2020 Scott River Salmon Studies Annual Report_FINAL

2020 Shasta Juvenile Salmon Outmigration Study_FINAL

2020 Shasta River Salmon Studies Annual Report_FINAL

May 3, 2021 Attachment 1 - 2017 Flow Report

May 3, 2021 Attachment 2 - Scott River CDFW Memo_FINAL

References

California Department of Fish and Wildlife. 2020. Shasta River Salmon Monitoring Report. Prepared for Coastal Monitoring Program. 29 p.

Yokel, D. 2014. Scott River adult Coho spawning ground surveys 2013-2014 Season. Siskiyou Resource Conservation District, Etna, California. Prepared for: United States Fish and Wildlife Service; Agreement #12-CS-11050500-037. 27 p.

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