

State of California
Department of Fish and Wildlife

Memorandum

Date: October 8, 2021

To: Eileen Sobeck, Executive Director
Division of Water Rights
State Water Resources Control Board
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From: Tina Bartlett, Regional Manager
Northern Region



Subject: Presence of Central Valley Steelhead on Deer and Mill Creeks Fall 2021

Current agricultural diversion rates are resulting in insufficient stream flow downstream of Ward Dam on Mill Creek and Stanford-Vina Ranch Irrigation Company (SVRIC) Dam on Deer Creek, in Tehama County, to allow adult Central Valley steelhead (*Oncorhynchus mykiss*) (steelhead) to enter the streams, transit through impaired stream reaches, and migrate to upstream spawning habitat. In addition, under current conditions, juvenile salmonids residing in upper stream reaches will encounter extremely low stream flows and increased mortality risk if they migrate to stream reaches downstream of Ward and SVRIC Dams. The Department of Fish and Wildlife (Department) is requesting the State Water Resources Control Board curtail diversions on Deer and Mill Creeks on October 15, 2021, to provide a minimum base flow of 50 cubic feet per second (cfs) in Deer Creek from SVRIC Dam to the Sacramento River and on Mill Creek from Ward Dam to the Sacramento River.

Historic Sacramento River adult steelhead trapping conducted upstream of the Feather River confluence near Knights Landing (1953-1959) shows that adult steelhead migrations to the Upper Sacramento River watershed begin in July and peak in late September and early October. Additional historic steelhead monitoring data collected at the Red Bluff Diversion Dam (RBDD) (river mile 244) show that adult steelhead are present in significant numbers in the Upper Sacramento River as early as August, with steelhead numbers at RBDD increasing substantially after mid-September. This historic data strongly suggests that steelhead would be present in the Sacramento River on or before October 15 and would enter the tributaries following the restoration of sufficient flows in Deer and Mill Creeks.

Currently the Department maintains and operates electronic fish monitoring equipment (video camera and sonar systems) at Ward and SVRIC Dams to monitor the passage of steelhead into Deer and Mill Creeks in near-real time. This monitoring has provided significant insight into current steelhead migratory patterns in Deer and Mill Creeks. Video data collected at Ward Dam between 2009 and 2020 shows that adult steelhead were detected as early as September 22, and between one and four days following the restoration of minimum adult fish passage flows downstream of Ward Dam.

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Under current conditions, which are prohibiting steelhead from entering Deer and Mill Creeks, the expectation that steelhead would be present by October 15 in 2021 is informed by steelhead monitoring conducted by the Department in the mainstem Sacramento River and its tributaries. The Department currently operates multiple fyke traps on the Sacramento River between river miles 74.6-78.5 near Knights Landing. The purpose of the fyke traps is to capture and tag adult steelhead migrating upstream through the Sacramento River for estimating population abundance and life history information. Since fyke trapping began in late summer of 2021, through October 4, 2021, a total of 27 hatchery-origin steelhead, 8 natural-origin and 1 unclassified steelhead have been captured in the fyke traps. All steelhead captured in the fyke traps are implanted with Passive Integrated Transponder (PIT) tags. PIT antennas located in tributaries upstream of the fyke traps record the passage of steelhead that were implanted with PIT tags at the downstream fyke traps. Based on the PIT detection information the Department has obtained on this project steelhead travel on average 3.88 miles per day. The confluence of Deer and Mill Creeks with the Sacramento River is at river mile 230 and 220 respectively. The first natural-origin steelhead captured at the fyke traps was on August 26, 2021. Theoretically, this fish could be expected at the Deer Creek confluence in 36 days or October 1, or at the Mill Creek confluence in 39 days or on October 4.

In addition to the fyke traps the Department operates video monitoring equipment on Clear and Battle Creeks, Sacramento River tributaries located upstream of Deer and Mill Creeks. Flows in Battle and Clear Creeks are sufficient for steelhead passage year-round, and the Department has been monitoring steelhead passage on Clear Creek since August 15 and on Battle Creek since August 19 in 2021. Clear and Battle Creek video review has been completed through September 22, 2021. In that period a total of 5 steelhead have been documented entering Clear Creek and 23 steelhead entering Battle Creek. The latest steelhead observed on Clear Creek and Battle Creek was on September 22, 2021.

Based on relevant current and historic steelhead monitoring data described in this memo the Department believes Mill and Deer Creek steelhead are present in the Sacramento River, and that restoration and maintenance of a 50 cfs minimum base flow on October 15 downstream of Ward and SVRIC Dams is necessary to protect this species.

If you have any questions, please contact the Departments Northern Region Fisheries Program Manager, Jason Roberts at (530) 526-2168 Jason.Roberts@wildlife.ca.gov.

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