D R A F T

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 2024-

REGARDING FLOW EFFORTS IN THE SCOTT RIVER AND SHASTA RIVER WATERSHEDS

WHEREAS:

1. Under Article X, section 2 of the California Constitution, the right to use water extends only to an amount and manner of diversion that is reasonable in light of competing needs, including instream needs.

2. The public trust doctrine limits the development of a right to divert water without taking into account the impact of such diversion on instream uses of the waters, including fishery protection. The state must protect such uses whenever feasible, recognizing that all uses, including instream uses, are subject to the constitutional rule of reasonableness. (National Audubon Society v. Superior Court (1983) (en banc) 33 Cal.3d 419.)

3. As the reasonable balance of instream and off-stream uses depends on the amount of water available, it generally changes with the amount of flow available, with more water available for all uses in wetter years. This variability is in line with natural flow fluctuations among years. A “water year-specific” minimum instream flow sets forth a range of minimums for different water year types (e.g., dry, normal, wet).

4. A “baseline minimum” flow is the flow appropriate to a stream system even in very dry years, sufficient to avoid severe drought impacts but not tailored to reflect the varied flows under which species and their ecosystems evolved and need for resilience and sustainability over time in a changing climate.

5. The Scott River and Shasta River watersheds are tributaries to the Klamath River with significant ecological value, particularly for anadromous fish, including fall-run Chinook, coho salmon, and steelhead.

6. These rivers and fisheries hold cultural importance for California Native American Tribes, including the Quartz Valley Indian Reservation, the Shasta Nation, the Shasta Indian Nation, the Karuk Tribe, the Hoopa Valley Tribe, and the Yurok Tribe.

7. The Southern Oregon/Northern California Coast (SONCC) coho salmon is listed as a threatened species under both the federal and state Endangered Species Acts (ESAs). The Scott River and Shasta River coho salmon are both “core, functionally independent” populations of the SONCC Evolutionarily Significant Unit under the federal ESA, indicating that the Scott River and Shasta River have a critical role in the continuation and recovery of SONCC coho salmon. Yet the species remains at high risk of extinction in the Shasta River, and at moderate risk of extinction in the Scott River.

8. The Scott River and Shasta River are key streams in the Klamath Basin for the culturally and commercially significant fall-run Chinook salmon, with the Shasta River supporting roughly 10 to 30 percent of the natural Klamath River watershed fall-run Chinook salmon population over the last decade. The Scott River population has contributed an average of 9 percent of the total wild run of Chinook salmon in the Klamath River since record-keeping began in 1978.

9. The fall-run Chinook salmon has high commercial importance and comprises one of the major stocks sought by commercial ocean fisheries. Low returns of Klamath fall-run Chinook salmon have resulted in a complete closure of hundreds of miles of the coast to commercial fishing multiple times in the past 15 years, including this year.

10. In addition to the closure of commercial ocean fishing, the in-river tribal and commercial fisheries have closed multiple times in the past decade when the numbers of returning fall-run Chinook are low, including most recently in 2023.

11. Steelhead in the Scott River and Shasta River watersheds are part of the federally-designated Klamath Mountains Province (KMP) Distinct Population Segment (DPS). KMP steelhead are a United States Forest Service Sensitive species, and summer-run steelhead in this DPS are a California Department of Fish and Wildlife (CDFW) recognized species of special concern.

12. The Scott River was listed as impaired for temperature in 1998, pursuant to Section 303(d) of the federal Clean Water Act. The Scott River Sediment and Temperature Total Maximum Daily Load (TMDL) identifies five anthropogenic factors that drive stream temperatures, including stream flow via surface diversion and stream flow via changes to groundwater accretion. The Shasta River was listed as impaired for adverse dissolved oxygen conditions in 1992 and for temperature in 1994. The Shasta River Temperature and Dissolved Oxygen TMDL identifies spring inflow as critical for the temperature impairment, stream temperature and flow as a driver for dissolved oxygen

impairment, and the need for an additional 45 cubic feet per second (cfs) of cold water in the Shasta River. Low flows thus contribute to temperature and dissolved oxygen failing to meet the objectives set to protect the beneficial use of cold-water fishery protection.

13. Anadromous fishery declines have multi-pronged causation, including factors related to ocean conditions, predation, low instream flows, and water quality. Low flows in key tributary streams, including the Scott River and Shasta River, are a contributor to such declines that interfere with migration, incubation, rearing, and food production (including health benthic macroinvertebrate populations), and can inhibit recovery.

14. Forestry and small-scale agriculture, and in particular raising cattle and cultivating alfalfa, grain, and pasture for livestock consumption are the predominant land uses in the Scott River and Shasta River watersheds.

15. In May 2021, CDFW submitted a 2017 Interim Flow Criteria Report for the Scott River to the State Water Board as the best available information from which to begin consideration of water year-specific minimum flows and recommended that the Board initiate a process that includes significant stakeholder involvement to develop appropriate permanent flows protective of the public trust in the Scott River. CDFW also noted that study plans have been developed by Normandeau Associates for a comprehensive site-specific instream flow study that would help CDFW better assess flow needs for coho and Chinook salmon; however, additional funding and property access is needed for those study plans to be executed.

16. In June 2021, CDFW submitted to the State Water Board survival-level flows for the Scott River and Shasta River watersheds in drought years. These flows were routinely not met in many water year types.

17. In August 2021 the State Water Board adopted drought emergency minimum flows for both rivers, based on CDFW's June 2021 recommendation. The emergency regulation was readopted with minor amendments in June 2022 and expired on August 1, 2023. A similar drought emergency minimum flow regulation was adopted in December 2023 and is set to expire on February 1, 2025.

18. The best available information at adoption and re-adoption of the emergency regulations indicated that these flows are the appropriate baseline minimum flows required for fisheries, even in a severe drought. During the drought, as refinements and new information were developed, the State Water Board

implemented amendments to the flows recommended in CDFW's June 2021 letter, based on CDFW recommendations. The Board and CDFW also considered and rejected other recommendations for changes to the minimum flows, as insufficiently supported or contraindicated by available evidence.

19. Since August 2021, the Shasta River largely met the drought emergency minimum flow requirements during the effective period of the regulations, with curtailment of all but the most senior diversions in 2022 and more limited curtailments in fall of 2021, in 2023, and in 2024. The spring-fed Shasta River provides sufficient, year-round flows such that diversion management alone can reliably sustain the drought emergency minimum flow requirements. When the drought emergency regulation expired in August of 2023, flows on the Shasta River sharply declined – local coordination and diversion management efforts improved flows, but not to the flows required by the drought emergency regulation.

20. Diversion management under the emergency regulations is an important, but less determinative tool on the snowmelt- and groundwater-level-driven Scott River. Conditions improved in the Scott River when the emergency regulation was in place, but flows continued to fall below minimum requirements in the critical late summer and early fall adult salmonid migration season. The improved conditions include higher flows than under recent similar water years; increased wetted area and improved water quality conditions in isolated pools; improved tributary connection to the mainstem; and recovery of surface flows after curtailment with no precipitation or after less precipitation than in similar water years. The cause of these improvements is not only management under the regulations (i.e., curtailment, reductions in livestock watering diversions, and reductions in overlying groundwater use through widespread adoption of local cooperative solutions) but is also influenced by other management efforts (including winter groundwater enhancement and restoration efforts that enhance natural groundwater infiltration) and by natural conditions (including temperature, precipitation timing, and precipitation amounts). The relative contribution of such varying factors is under evaluation but all of the factors – including but not limited to diversion reductions – are likely important in sustaining the river to provide minimum conditions for fish.

21. In both watersheds, since adoption of the emergency regulation, there have been significant private and public investments in infrastructure, restoration and irrigation improvements, as well as new adoption of conservation measures, that are anticipated to reduce water use and improve habitat over a longer term.

22. Additionally, in both watersheds, there has been significant dialogue and collaboration among people with various interests and expertise in the rivers' waters, including agricultural interests, environmental organizations, tribal governments, and local, state, and federal agencies.

23. In light of declining flow trends and fishery declines in these watersheds, there is a need to ensure that baseline minimum flow in the Scott River and Shasta River watersheds are met in all water years, regardless of whether the conditions allowing for drought emergency regulation authority exist.

24. The economic analysis required for emergency regulations is more limited than for permanent regulations and does not account for the broad range of economic impacts raised in public meetings, including direct impacts to the agricultural and fishing sectors, and more indirect impacts to businesses affected by the well-being of these sectors.

25. The Karuk Tribe, Environmental Law Foundation, Pacific Coast Federation of Fishermen's Associations, and Institute for Fisheries Resources filed a petition with the State Water Board on May 23, 2023, requesting that the Board initiate a rulemaking to establish minimum flows on the Scott River based on the flow criteria in CDFW's 2017 report, with increases to those amounts "as hydrologically appropriate."

26. On July 20, 2023, CDFW submitted a letter that, inter alia, supported establishment of proposed minimum flows in tandem for both the Scott River and Shasta River watersheds and offered to submit proposed minimum flows for the Shasta River. Additionally, the letter emphasized the potential benefits of extending the drought emergency minimum flows as an interim backstop during flow development.

27. On January 17, 2024, California Coastkeeper Alliance, Friends of the Shasta River, Mt. Shasta Bioregional Ecology Center, Water Climate Trust, Shasta Waterkeeper, Save California Salmon, and Environmental Protection Information Center filed a petition with the State Water Board requesting that the Board initiate a rulemaking to establish minimum flows in the Shasta River based on a number of studies.

28. Through implementation of the emergency regulations and by working with representatives of state, local and federal agencies, tribes, environmental and agricultural interests, the State Water Board is continuing to gather and analyze data relevant to instream flows and balancing of water uses, including on groundwater dynamics, agricultural practices, stream

connectivity, flows, and watershed responses to changing conditions and practices.

29. The State Water Board is under contract to develop a set of models to simulate the complicated hydrology of the Shasta River watershed including flows, groundwater levels, surface and groundwater interaction, water temperature, and water demands. Initial iterations of the groundwater model are being refined to include more recent climatic and groundwater level data, and geohydrologic parameters, and to improve integration of the surface water, groundwater, and water temperature models.

30. Similarly, the State Water Board is under contract to improve existing groundwater and surface water models in the Scott River watershed, including incorporation of more recent data and improved ability to model different management scenarios, including conservation measures and unimpaired flow.

31. In both watersheds, the Board is coordinating with Siskiyou County's modeling efforts under the Sustainable Groundwater Management Act.

32. The identification, evaluation, and implementation of water year-specific flows would require significantly more time than evaluation of baseline minimum flows.

33. The drought emergency regulations provide significant information on the ecosystem and economic impacts associated with implementing baseline minimum flows in the Scott River and Shasta River watersheds. This additional information would expedite evaluation and consideration of baseline minimum flows.

34. The Board has previously found during drought conditions that it is unreasonable to divert water for other purposes when baseline minimum flows are not met in the Scott and Shasta Rivers, with exceptions as expressed in the drought emergency regulations adopted in 2021, 2022, and 2023. The impact on diversions for off-stream uses is likely to be reduced in non-drought years (e.g., fewer days curtailed). The reasonableness of continued diversions for other purposes with higher minimum flows in wetter water years has not been evaluated and would likely require significant additional time and resources than evaluation of baseline minimum flows over a longer term.

35. The California Salmon Strategy finds that adequate flows of cold water, including during drought and water shortage conditions, will help protect endangered and imperiled species when they are most at risk. Establishing the scientific basis for baseline flow levels is a key step to help balance needs in the system. A thorough scientific basis for baseline minimum flows will also provide greater certainty for management decisions in these watersheds, including individual decisions regarding farming, ranching, and restoration programs and for public planning processes like development and implementation of groundwater management plans under the Sustainable Groundwater Management Act.

36. The State Water Board's 2024 Strategic Work Plan includes priorities related to developing appropriate science to establish minimum fishery-protective flows in California's streams and rivers, with particular focus on watersheds affected by the 2020-2022 drought. Establishing a scientific basis for adequate flows helps the Board address its priorities, while also furthering the Board's Racial Equity Resolution.

37. The flows in the drought emergency regulation, codified at California Code of Regulations, title 23, section 875, subsection (c) are an appropriate initial starting point from which to refine baseline minimum flows and for further economic and environmental analysis of the impact of baseline flow requirements on both agricultural and fishing activities, and related broader community economic impacts.

38. Drought emergency regulations established fishery-protective minimum flows, as recommended by the California Department of Fish and Wildlife. A drought emergency declaration for the Klamath watershed, including the Scott River and Shasta River watersheds, remains in effect, which allows the Board to re-adopt the existing or a similar emergency regulation.

39. However, reliance on emergency regulations to establish baseline flows while establishing long-term flows is not indefinitely sustainable. The duration of drought conditions and regulation under them is uncertain, and the year-by-year regulation impacts the planning horizon for agriculture, restoration, data collection, and other practices dependent on water availability. Additionally, use of significant staff time to refine and implement emergency regulations on an annual basis is in tension with advancing long-term flows, particularly in light of current budget constraints.

40. In light of ongoing collaborative efforts in the watershed, it is possible that interested parties could provide viable alternatives to emergency regulation in one or both watersheds that would allow the Board to transition away from reliance on emergency regulations in the upcoming year.

THEREFORE BE IT RESOLVED THAT:

The State Water Board directs staff to take the following actions:

1. Regarding the long term:

    a. Develop for peer review a report setting forth the scientific basis for baseline minimum flow requirements. Report development shall consider the flows in California Code of Regulations, title 23, section 875, subdivision (c), as well as potential refinements to those flows.

    b. Initiate analysis of the economic impacts of implementing long-term baseline minimum flows, including consideration of impacts on fishing and agriculture and associated indirect impacts.

    c. Continue modeling and data collection efforts that would help inform:
        i. establishment of baseline minimum flows, and also
        ii. any later efforts regarding water year-specific (e.g. wet, dry, average) flows.

    d. Report to the Board on these efforts by the end of November 2025, to receive further Board input.

2. Regarding the immediate term:

    a. Prior to its expiration, solicit input regarding whether to readopt “Establishment of Minimum Instream Flow Requirements, Curtailment Authority, and Information Order Authority in the Scott River and Shasta River Watersheds,” adopted in December 2023 or a similar emergency regulation, and, if so, what, if any, changes to the regulation would be appropriate.

b. Solicit proposals for alternatives to readoption of the emergency regulation. The Board will consider such alternatives, with particular emphasis on proposals that are all of the following:

    i. Supported by diverse interests in the watershed,
    ii. Enforceable,
    iii. Implementable at the local level, and
    iv. Extend longer than the one-year term of an emergency regulation.

CERTIFICATION

The undersigned Clerk to the Board does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on October 16, 2024.

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Courtney Tyler
Clerk to the Board