No. C101232

IN THE COURT OF APPEAL OF THE STATE OF CALIFORNIA
THIRD APPELLATE DISTRICT

SAN FRANCISCO BAYKEEPER and
THE BAY INSTITUTE,
Appellants,
v.
STATE WATER RESOURCES CONTROL BOARD,
Respondent.

State Water Board Cases
Sacramento County Superior Court
No. JCCP5013, 18CV05111,
19CECG00165, 34201980003051,
34201980003052, 34201980003063,
34201980003127, CV62094,
STKCVUWM2019472
The Hon. Stephen Acquisto, Judge

OPENING BRIEF OF APPELLANTS SAN FRANCISCO BAYKEEPER AND THE BAY INSTITUTE

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CERTIFICATE OF INTERESTED PARTIES

Pursuant to rules 8.208 and 8.488 of the California Rules of Court, Appellants San Francisco Baykeeper and The Bay Institute certify that they know of no interested entities or persons to list in this certificate.

Respectfully submitted,

DATED: March 2, 2026 /s/ Katrina A. Tomas

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TABLE OF CONTENTS

TABLE OF AUTHORITIES

Page(s)

Cases

Federal Statutes

State Statutes

Regulations and Other Authorities

INTRODUCTION

This appeal arises from the State Water Resources Control Board's ("Water Board" or "Board") failure to uphold its mandatory duty to reasonably protect native migratory fish populations that rely upon healthy conditions in both the San Joaquin River Basin and the San Francisco Bay and Sacramento-San Joaquin Delta estuary ("Bay-Delta" or "Delta"). These fish populations—including two distinct runs of Chinook Salmon, Steelhead, White Sturgeon, Green Sturgeon, and Sacramento Splittail—have experienced dramatic and persistent declines primarily due to impairments of natural river flows caused by the "replumbing" of California's water system. California's massive system of dams, reservoirs, canals, and other water diversions has significantly decreased the quantity, quality, timing, and variability of river flows. As a result, many populations of native fish have been extirpated from the San Joaquin Basin, and the populations that remain are at risk of extinction. These declines have devastating impacts, not only on the ecosystem, but also on Native American communities and commercial and recreational fisheries that depend on these native fish.

To protect the quality of California's waters, the State Legislature enacted the Porter-Cologne Water Quality Control Act ("Porter-Cologne"), which tasks the Water Board with adopting and regularly updating a plan to protect water quality and beneficial uses of water in the Bay-Delta. Unfortunately, the Water Board has failed for decades to reasonably protect fish and wildlife beneficial uses through the Water Quality Control Plan

for the San Francisco Bay-Delta ("Plan"). The latest 2018 amendments, which are the subject of this appeal, continue to fall short of the Board's legal obligations. The Plan identifies fish and wildlife beneficial uses that require improved conditions to be reasonably protected. But it fails to adopt objectives that would reasonably protect those uses and fails to identify actions that will achieve the objectives. While the 2018 amendments will improve conditions for native fish populations as compared to the status quo, they do not lower the risk of extinction to negligible levels and thus do not reasonably protect fish and wildlife beneficial uses.

The science is clear: to avoid extirpation and extinction, native fish of the San Joaquin River Basin that migrate through the Delta need more water left in their native rivers in patterns that mimic natural flows. When flows are too low, rivers lack adequate depth and velocity, water temperatures rise, toxic algal growth increases, and the amount of oxygen in the water decreases, among other negative habitat changes. These habitat conditions in turn affect fish reproductive success, growth, migration, risk of disease and predation, and other factors that determine the viability of native fish populations.

In the 2018 amendments, the Board adopted "Numeric Flow Objectives," a narrative "Viability Objective," and a Program of Implementation ("POI") that describes the flows and non-flow actions that are supposed to achieve the objectives. The Numeric Flow Objectives set minimum flows that must be maintained in the rivers, but the record shows that the

prescribed flow levels are too low to reasonably protect fish and wildlife beneficial uses. The narrative Viability Objective appropriately requires that water quality conditions support and maintain viable native fish populations, but the record shows the actions detailed in the POI will not achieve that objective. As a result, the Plan amendments identify neither the objectives that will reasonably protect fish and wildlife beneficial uses nor the actions that will achieve those objectives, in violation of Porter-Cologne.

Because the Plan amendments fail to comply with core requirements of Porter-Cologne, Appellants San Francisco Baykeeper and The Bay Institute (together, "Baykeeper") respectfully request this Court reverse the judgment below and direct issuance of a writ requiring the Board to adopt a lawful plan that provides the flows and other measures necessary to reasonably protect fish and wildlife beneficial uses and achieve the Plan's narrative Viability Objective.

STATUTORY BACKGROUND

The Porter-Cologne Water Quality Control Act is California's "comprehensive legislative plan" for protecting the quality of California's waters. (*Azusa Land Reclamation Co. v. Main San Gabriel Basin Watermaster* (1997) 52 Cal.App.4th 1165, 1180.) It declares it to be state policy "that the quality of all the waters of the state shall be protected for use and enjoyment by the people of the state." (Wat. Code § 13000.) Porter-Cologne also declares it to be state policy "that the health, safety and welfare of the people of the state requires [*sic*] that there be a

statewide program for the control of the quality of all the waters of the state; [and] that the state must be prepared to exercise its full power and jurisdiction to protect the quality of waters in the state from degradation originating inside or outside the boundaries of the state . . . ." (*Ibid.*) With respect to the Bay-Delta in particular, the Water Board has a "duty to provide water quality protection to the fish and wildlife that make up the delicate ecosystem within the Delta." (*United States v. State Water Resources Control Bd.* (1986) 182 Cal.App.3d 82, 98 ("*Racanelli Decision*").)

Porter-Cologne implements the federal Clean Water Act of 1977 (33 U.S.C. § 1251 et seq.), which prioritizes protection of fish and wildlife (33 U.S.C. § 1251(a)(2)) and requires states with water quality control plans to adopt standards for fish and wildlife protection. (See 33 U.S.C. § 1313.) A water quality control plan "consists of a designation or establishment for the waters within a specified area of all of the following: (1) Beneficial uses to be protected[;] (2) Water quality objectives[; and] (3) A program of implementation needed for achieving water quality objectives." (Wat. Code § 13050, subd. (j).)

"Beneficial uses" of state waters to be protected against water quality degradation include "domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves." (Wat. Code § 13050, subd. (f).)

"Water quality objectives" are "the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area." (Wat. Code § 13050, subd.(h).) Once the Water Board has designated beneficial uses for a specified area, it is required to "establish such water quality objectives in [the] water quality control plan[] as in its judgment will ensure the reasonable protection of beneficial uses. . . ." (Wat. Code § 13241.)

In establishing water quality objectives, the Water Board must consider the following factors: "(a) Past, present, and probable future beneficial uses of water. (b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto. (c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area. (d) Economic considerations. (e) The need for developing housing within the region. (f) The need to develop and use recycled water." (Wat. Code § 13241.)

Once the Board has established the water quality objectives, it must develop a "program of implementation" that will achieve the objectives. (Wat. Code § 13050, subd. (j)(3); *Racanelli Decision*, *supra*, 182 Cal.App.3d at p. 119.) The POI must include, at a minimum: "(a) A description of the nature of actions which are necessary to achieve the objectives, including recommendations for appropriate action by any entity, public or private[;] (b) A time schedule for the actions to be taken[; and] (c)

A description of surveillance to be undertaken to determine compliance with objectives." (Wat. Code § 13242.) Because the POI *must* achieve the Plan's objectives, the Board may not consider other factors or conduct balancing between beneficial uses when establishing the POI—its obligation to the Plan's objectives is absolute, and the balancing has already occurred. (*San Joaquin River Exchange Contractors Water Authority v. State Water Resources Control Bd.* (2010) 183 Cal.App.4th 1110, 1119-1120 [stating that consideration of factors enumerated under Water Code § 13241 occurs only when establishing water quality objectives and not when establishing a POI].)

STATEMENT OF FACTS

I. The Bay-Delta and the San Joaquin River

California's two longest rivers, the Sacramento and the San Joaquin, drain from approximately 40 percent of the state's land area. (SWRCB 00077971.)[1] These rivers converge in the Sacramento-San Joaquin Delta to flow westward into San Francisco Bay. (SWRCB 00468635.) Together, San Francisco Bay and the Delta ("Bay-Delta") represent one of the largest estuaries on the west coast of the Americas, encompassing 1,100 square miles. (SWRCB 00511492; SWRCB 00093315.)

The Bay-Delta provides habitat for species that are found nowhere else on Earth (SWRCB 00469987, 89), and some that support commercial and recreational fishing in the Bay-Delta, its watershed, and along the California and Oregon coasts. (SWRCB

[1] All references to the administrative record in this case are presented in the same format as used in the trial court proceeding: "SWRCB XXXXXXXX."

00473840-47.) Fish and invertebrates produced in the Bay-Delta contribute to the ocean food web, affecting the population size and reproductive success of organisms such as Orca whales and other marine mammals and birds. (SWRCB 00558765.) The California Legislature has declared that it is the policy of the State "to recognize, preserve, and protect those resources of the delta for the use and enjoyment of current and future generations" and has found that the Delta contains "irreplaceable resources." (Pub. Resources Code § 29701.)

The San Joaquin River is likewise home to myriad species of native fish and wildlife. The three main tributaries of the lower San Joaquin River are the Stanislaus, Tuolumne, and Merced Rivers. These rivers were once home to thriving native anadromous fish populations,[2] including several unique populations of species in the salmon family ("salmonids") such as Chinook Salmon and Steelhead (a migratory form of rainbow trout), as well as White Sturgeon, and Sacramento Splittail. (SWRCB 00379531 [graph showing fall-run Chinook Salmon declines on the Tuolumne River]; SWRCB 00529155; SWRCB 00474218-19.) Green Sturgeon is also believed to have existed in the San Joaquin River Basin. (SWRCB 00469986 [Water Board stating that "[i]t is suspected that [G]reen [S]turgeon once spawned in the [San Joaquin River] but have since been extirpated"]; see also SWRCB 00206777, 86.)

[2] An anadromous fish is one that is born in fresh water, migrates to the ocean after its freshwater rearing period is complete, and then migrates up rivers from the sea to spawn.

The San Joaquin River flows into the Delta at Vernalis. All fish migrating into or out of the San Joaquin River and its tributaries must pass this point. The U.S. Environmental Protection Agency ("U.S. EPA")[3] acknowledged the critical importance of maintaining adequate flows at Vernalis to support a migratory corridor for native fishes, stating that "[t]he ability of salmonids to migrate past Vernalis, through the Delta to the ocean, and then return to spawn is essential to achieving sustainable populations." (SWRCB 00385182.)

II. Native Fish Populations in the Bay-Delta Are Declining at an Alarming Rate, with Many Species on the Brink of Extinction.

As the Water Board has acknowledged, "[n]ative species in the Bay-Delta ecosystem are . . . experiencing an ecological crisis." (SWRCB 00596117; see also Wat. Code § 85001, subd. (a) ["[t]he Sacramento-San Joaquin Delta watershed . . . [is] in crisis and existing Delta policies [including the pre-2018 version of the Plan] are not sustainable."].) Many of the native fish populations that migrate through the Delta have been extirpated from the San Joaquin River Basin, and those that remain are in decline, in danger of becoming extinct, and currently not viable. (SWRCB 00388770 [California Department of Fish and Wildlife ("DFW") 2017 Comments on the Revised Draft Substitute Environmental

[3] Under the federal Clean Water Act, the U.S. EPA must review and approve the Water Board's water quality control plans. (33 U.S.C. § 1313(a); SWRCB 00071733.) During the amendment process, the Agency reviewed and commented on the Water Board's proposed amendments. U.S. EPA has not issued a final approval or disapproval of the Plan.

Document in Support of the Plan ("SED")]; 65-CT-17759 [Final DFW 2010 Report on Biological Objectives]; SWRCB 00031046 [Draft DFW 2010 Report on Biological Objectives]; SWRCB 00474248 [Water Board 2018 Scientific Basis Report]; SWRCB 00474214-15 [Same]; SWRCB 00468635 [Water Board 2018 Executive Summary of SED]; SWRCB 00174367 [National Marine Fisheries Service ("NMFS") 2013 Comments on Draft SED].) A "viable" population has a negligible risk of extinction over a defined period that encompasses many generations. For example, a "viable salmonid population" is "an independent population [of Steelhead or salmon] . . . that has a negligible risk of extinction due to threats from demographic variation, local environmental variation, and genetic diversity changes over a 100-year time frame." (SWRCB 00147301.) 100 years is approximately 33 generations of salmon. (SWRCB 00474212 [Water Board explaining that one generation of Chinook Salmon generally encompasses a "three-year return frequency"]; SWRCB 00503557 [24 years amounts to approximately eight salmon generations.].)

Central Valley spring-run Chinook Salmon ("spring-run Chinook Salmon"),[4] once the most abundant species of salmon in

[4] The Bay-Delta watershed supports four unique types of Chinook Salmon known as "runs": the fall-run, late-fall-run, spring-run, and winter-run. These runs are defined by the season in which the adults enter fresh water on their way to their spawning grounds. Migratory strategies—including the out-migration timing of juvenile salmon—differ among the runs as well. Spring-run and winter-run are protected under the state and federal endangered species acts.

California's Central Valley (SWRCB 00529155), was extirpated from the San Joaquin River Basin (SWRCB 00469983), and is on both state and federal lists of endangered and threatened species. (SWRCB 00469976.) Late-fall-run Chinook Salmon has also been extirpated from the San Joaquin River Basin and is considered a species of special concern. (SWRCB 00474205; SWRBC 00106917; SWRCB 00469975.) Green Sturgeon is also believed to be extirpated from the San Joaquin River Basin, and the remaining population in other parts of the Bay-Delta is listed as threatened under the federal Endangered Species Act. (SWRCB 00469986-87.) Central Valley Steelhead ("Steelhead")—once thought to be extirpated from the San Joaquin River watershed—has been detected there, but its population "continue[s] to decline" and Steelhead are "not viable at this time." (SWRCB 00474218-19.) As a result of their imperiled status, Steelhead are also listed as threatened under the federal Endangered Species Act. (SWRCB 00469976.)

Once-robust populations of other species, such as White Sturgeon and Sacramento Splittail, exist in the San Joaquin River Basin but are declining. Sacramento Splittail is considered a species of special concern in California because of the decrease in their abundance could cause it to become endangered in the future. (SWRCB 00469977.) Like Steelhead, White Sturgeon are barely detectable in the San Joaquin Basin. (SWRCB 00470232-33.)

Indeed, even fall-run Chinook Salmon—which is more abundant and more tolerant of degraded conditions than some

other migratory fishes that are native to the San Joaquin watershed—has experienced severe and persistent declines and is considered a species of special concern. (SWRCB 00379531 [showing fall-run Chinook Salmon declines on the Tuolumne River]; SWRCB 00469975; SWRCB 00173428.) According to the State Water Board, in 1985, approximately 70,000 adult fall-run Chinook Salmon returned to the Stanislaus, Tuolumne, and Merced rivers. (SWRCB 00741396.) In 2000, the number of returning adults dropped to approximately 40,000 and by 2013, the numbers dropped again to approximately 8,000 returning adults. (*Ibid.*) In 2017, returning fall-run adults were estimated to number approximately 10,000, representing an 85 percent net loss in returning adult fall-run Chinook Salmon from 1985 to 2017. (*Ibid.*) As the Water Board explained, "[t]he [San Joaquin River] Basin once supported large spring-run and fall-run (and possibly late fall-run) Chinook Salmon populations; however, the basin now only supports fall-run Chinook Salmon populations, and these populations are facing a high risk of extinction." (SWRCB 00473584.) Likewise, the California Department of Fish and Wildlife ("DFW")[5] has determined that "[t]he population

[5] DFW is "the state fishery management agency," that "manages fishery regulations, implements management plans, provides technical expertise, and coordinates the implementation of [fish and wildlife] policy throughout California." (SWRCB 00473841.) DFW provided extensive comments on the proposed plan amendments, detailing the importance of flows for native fish and the need to increase flows to protect native fish populations. (SWRCB 00173423-96.)

numbers of fall-run Chinook Salmon in the [lower San Joaquin River] watershed is [*sic*] in a state of decline and there is substantial evidence that the fishery is not sustainable under existing flow conditions." (SWRCB 00173428.)

Taking stock of the state of Chinook Salmon and Steelhead in the San Joaquin River, the National Marine Fisheries Service ("NMFS")[6] observed that these populations are "severely depressed," (SWRCB 00174370) and that survival rates are "unlikely to support a viable salmonid population." (SWRCB 00174367.) As U.S. EPA summarized, all federal and state fisheries agencies have identified Chinook Salmon and Steelhead populations as "declining under current flow conditions" in the San Joaquin River watershed. (SWRCB 00385179.)

This native fish decline has devastating impacts, not only on the ecosystem, but also on communities that depend on fish. The Chinook Salmon populations that were once plentiful enough to support subsistence fishing by Native American communities and thriving commercial and recreational fisheries no longer sustain these important interests. (SWRCB 00106924; SWRCB 00473840-49.) In 2008 and 2009, for the first time in state history, the commercial salmon fishery was completely closed due to the historically low levels of fall-run Chinook Salmon and late-

[6] NMFS is a federal agency charged with administration of the Endangered Species Act with regard to listed salmonids and Green Sturgeon. (SWRCB 00174367.) Like DFW, NMFS provided extensive comments on the proposed plan amendments, citing the need for increased flows in order to protect and restore native fish species. (SWRCB 00174367-69.)

fall-run Chinook Salmon, causing substantial harm to California's fishing industry and the people who depend on it. (SWRCB 00453847-49; SWRCB 00012050-52.)

III. Native Fish Decline is Primarily Due to Insufficient River Flows.

Numerous San Joaquin River native fish populations are not viable due in large part to reductions and alterations in river flows by retention of water behind dams on the San Joaquin River and its tributaries and by diversion of river flow below those dams for consumptive uses. (SWRCB 00021173; SWRCB 00529115; SWRCB 00529162.) Large dams were constructed on the tributaries in the twentieth century, preventing migratory fish from accessing over 90 percent of their historical upstream cold-water habitat and drastically altering the rivers and downstream habitat through changes to the quantity and timing of river flows. (SWRCB 00769250 [NMFS map demonstrating dam impacts to native fish]; SWRCB 00474193 [Water Board describing impacts of water development projects on river flow and fish and wildlife beneficial uses]; SWRCB 00212425 [NMFS describing impacts of water development projects, including dams, on salmonids].) Overwhelming scientific evidence links reservoir operations and diversions, the ensuing decrease and alteration of flows, and the resulting degradation of fish habitats with the non-viability of native fish species in the San Joaquin River and its tributaries. (See e.g., SWRCB 00021173 [Water Board explaining alterations to flow, impacts on fish species, and declining populations]; SWRCB 00174367 [NMFS explaining that

current flow conditions do not support viable salmonid populations].) These dams and diversions have led to a 60 to 80 percent reduction in average flows from historical, unimpaired levels on the Stanislaus, Merced, and Tuolumne rivers; in some years, diversion and storage remove even more water from these rivers. (SWRCB 00468649.)

All expert fish and wildlife agencies agree that native fish populations are declining because they lack sufficient river flows. The Water Board has found that "[t]he best available science suggests that current flows [in the Delta ecosystem] are insufficient to protect public trust resources," including fisheries. (SWRCB 00154796.) With respect to Chinook Salmon and Steelhead in particular, the Water Board has determined that "higher and more variable inflows [to the Delta from the San Joaquin River] during the February through June time frame are needed to support existing salmon and steelhead populations from the major [San Joaquin River] tributaries to the southern Delta at Vernalis." (SWRCB 00021172.) NMFS agreed, stating that "[c]urrent [San Joaquin River] flow levels are not sustaining salmon and steelhead populations and their habitats." (SWRCB 00174370.) The agency acknowledged that "San Joaquin River flows must be augmented significantly from current levels in order to reverse the present trend of salmonid population declines in the [San Joaquin River] basin." (SWRCB 00174367.)

DFW has likewise found that increased flows are the "primary mechanism" needed to increase productivity and survival of salmonids in the San Joaquin River Basin. (SWRCB

00031092-93 [finding positive correlation between success of juvenile salmonids and increased flows]; see also 65-CT-17817-18.) DFW also emphasized that the San Joaquin River "cannot regain its ecological integrity and provide sustainable salmon fisheries without more flow." (SWRCB 00173423.) The U.S. EPA also found that the absence of sufficient flows at critical times in the San Joaquin River Basin is a "primary driver of population declines." (SWRCB 00385179.) And the Anadromous Fish Restoration Program ("AFRP"), comprised of state and federal fish and wildlife agencies whose aim is to double the natural production of Chinook Salmon from a historical baseline, has also determined that more flow is needed to accomplish this doubling goal. It explained that increasing flows between February and June is "the most likely means" of increasing production of adult salmon. (SWRCB 00307580.)

In its Recovery Plan for spring-run Chinook Salmon and Steelhead, NMFS called for populations of these species to be restored to the San Joaquin Basin. It stressed that both species would remain non-viable and threatened with extinction until at least two populations at low risk of extirpation were established in one or more of the San Joaquin River tributaries. (SWRCB 00290733.) To accomplish this species recovery, NMFS identified the need for increased river flows in each of the three San Joaquin River tributaries, (SWRCB 00529444 [Stanislaus]; SWRCB 00529432 [Tuolumne]; SWRCB 00529422 [Merced]), and called for an "ecologically based San Joaquin River flow regime to help . . . support all life stages of steelhead and spring-run

Chinook salmon." (SWRCB 00529414.) NMFS also indicated that an updated Bay-Delta Plan was needed to achieve these improved flows for fish recovery. (SWRCB 00529434, 44-45.) These findings make clear that without improvements to flow in the San Joaquin tributaries, populations of these native fish will not attain viability, and the species will continue to decline toward extinction.

IV. Flow is the Master Variable and Key Driver that Limits Native Fish Viability.

Flow is critical for native fish population viability because, as the Water Board summarized "[n]early every feature of habitat that affects native fish and wildlife is, to some extent, determined by flow (e.g., temperature, water chemistry, physical habitat complexity)." (SWRCB 00468645.) And "[t]hese habitat features, in turn, affect risk of disease, risk of predation, reproductive success, growth, smoltification [(i.e. the physiological process through which anadromous salmon adapt from living in fresh water to living in seawater)], migration, feeding behavior, and other physiological, behavioral, and ecological factors that determine the viability of native fish." (*Ibid*.) All six viability attributes identified by the Water Board (population abundance, spatial extent, distribution, structure, genetic and life history diversity, and productivity) are affected by environmental conditions, such as water temperature, dissolved oxygen, velocity, depth, and floodplain inundation, factors that are, in turn, determined in large part by river flow.

(See generally SWRCB 00473502-65 [describing connection between flow and various environmental conditions].)

For example, low volume of water released into a San Joaquin River tributary from a reservoir will create a shallow and slow flowing river that will heat up more quickly during the spring and summer as compared to a deeper river with faster flow. Water temperature affects the ability of native fish populations to migrate into and out of certain rivers, and the frequency and duration of suitable migration conditions, and therefore impacts the spatial extent, structure, and life history diversity of the population, key attributes of viability. (SWRCB 00078001-06.) The Water Board's own analysis shows that when the volume of flow released from reservoirs upstream is increased, water temperatures associated with suitable fish habitat and migration corridors occur more frequently, cover more of the seasonal window associated with key life-stage transitions, and extend further downstream. (SWRCB 00021199-221; SWRCB 00596317-83; see also SWRCB 00379635-42; SWRCB 00399808-10.) Water temperature affects fish growth and development, as well as the spread of disease and intensity of predation, and these conditions in turn affect survival of eggs and juvenile fish. (SWRCB 00468645; SWRCB 00473505-14.) Survival ultimately determines population productivity and abundance, which scientists agree are key attributes of population viability. (SWRCB 00379492 [scientific presentation showing "flow magnitude and variance promote life history diversity . . . and instream survival"].)

Flow volume also affects water chemistry conditions such as dissolved oxygen and concentrations of harmful algae. (SWRCB 00078001-08.) Algae can emit toxins into the water that kill fish, fish prey items, small mammals, and even impact human health, while also depleting oxygen in the water. (SWRCB 00501870; SWRCB 00032438.) Toxins and low oxygen levels harm fish and affect the ability of fish to migrate into and out of rivers. (SWRCB 00173987; SWRCB 00142313 [noting that toxic algae can kill both Steelhead and Chinook Salmon].) This effect on migration can determine the productivity, population spatial extent, distribution, and structure, which are key attributes of viability. (SWRCB 00078001-08.)

Flow also determines river velocity and depth, which in turn controls the area of suitable substrate like gravel and floodplains that fish need for spawning and juvenile rearing. (SWRCB 00021214-18; 00473499-505.) Juveniles of many fish species, including salmon and Sacramento Splittail, benefit from rearing on shallow inundated habitats off the main channel, including floodplains. (SWRCB 00473550-51 [explaining the importance of floodplains for salmonids].) The amount and diversity of these habitats in turn affects life history diversity in the population, as well as abundance. (SWRCB 00379492.)

Many of the analyses of the effects of flow on native San Joaquin fish have focused on fall-run Chinook Salmon because they are more abundant than many of the other native migratory fish populations in the San Joaquin River and because, as detailed below, the Water Board, the California Legislature, and

the U.S. Congress have all mandated doubling of the natural production of these fish pursuant to state and federal laws. Other imperiled native fish species—including spring-run Chinook Salmon, Steelhead, Green Sturgeon, White Sturgeon, and Sacramento Splittail—also require sufficient flows in the San Joaquin River and its tributaries to spawn, incubate, grow, and survive, and to migrate into and out of the Delta during the appropriate seasons. (SWRCB 00473551 [Water Board observing that non-salmonids benefit from increases in floodplain habitat associated with higher flows]; SWRCB 00473584 [Water Board stating that many other species will "benefit from improved flow"]; see also SWRCB 00157293 [U.S. Fish & Wildlife Service[7] noting the importance of flow for Green Sturgeon and White Sturgeon]; SWRCB 00155061-69, 84-87 [Baykeeper's comments summarizing flow needs of native fish species].) River flow is the linchpin of native fish population viability, and the lack of necessary quantity, quality, and timing of flow in the San Joaquin River and its tributaries is the primary reason why populations are not currently viable.

In addition to flow, non-flow measures like restoration of periodically inundated habitats ("floodplain restoration") and control of non-native species may impact native fish populations. But, as the Water Board has explained, non-flow measures "will

[7] The U.S. Fish & Wildlife Service is a federal agency dedicated to the management of fish, wildlife, and natural habitats. It provided comments to the Water Board on the draft plans. (See SWRCB 00399730-60.)

not be sufficient to support and maintain the natural production of viable native San Joaquin River Watershed fish populations migrating through the Delta." (SWRCB 00504820 [internal quotations omitted].) "Non-flow measures, which in most cases depend on sufficient flow for successful implementation, cannot substitute or be prioritized over the need for flow requirements." (*Ibid.*) The Water Board cautioned, "flow and physical habitat interact in many ways, but they are not interchangeable." (SWRCB 00077947; see also SWRCB 00174370 [NMFS stating that "[h]abitat restoration alone cannot make up for the lack of flow"].)

In sum, the record shows—and the Water Board agrees—that flow is the "master variable" and key driver in native fish population health and that higher flows of greater variability over a longer duration are needed to protect native fish populations and restore them to viable levels. (See SWRCB 00021211.) Conversely, failure to adequately improve flows will result in continuing native fish population declines of currently non-viable populations toward a high risk of extirpation and extinction.

V. Prior Plan Amendments Document the Need for More Flow.

Despite the decisive evidence demonstrating the importance of improved freshwater flow for native fish, the Bay-Delta Plan has long failed to require flow levels necessary to protect and restore imperiled fish populations. Since first adopting the Bay-Delta Plan in 1978, the Water Board has

amended the Plan several times, adding provisions intended to protect certain native fish species. None of these amendments succeeded in staving off the Bay-Delta's ecological crisis.

A. The 1995 Plan

Prior to the 2018 amendments at issue, the last time the Water Board substantively amended the Bay-Delta Plan was in 1995. The 1995 Plan imposed a minimum monthly flow requirement on the lower San Joaquin River at Vernalis. (SWRCB 00468877.) It did not address flows on any of the San Joaquin River tributaries.

The 1995 Plan also introduced the Salmon Doubling Objective which requires that "[w]ater quality conditions shall be maintained, together with other measures in the watershed, sufficient to achieve a doubling of natural production of chinook salmon from the average production of 1967–1991, consistent with the provisions of State and federal law." (SWRCB 00075096.) The Salmon Doubling Objective is an outgrowth of both state and federal efforts to address salmon decline in California. In 1988, the California Legislature enacted the Salmon, Steelhead Trout, and Anadromous Fisheries Program Act, which declared it to be the policy of the state "to significantly increase the natural production of salmon and steelhead trout by the end of [the twentieth] century," and directed the California Department of Fish and Game (which was renamed the California Department of Fish and Wildlife in 2012) to develop a plan and program to "double the current natural production of salmon and steelhead trout resources." (Fish & G. Code § 6902,

subd. (a).) In 1992, the U.S. Congress enacted the Central Valley Project Improvement Act ("CVPIA") (Pub.L. No. 102-575, § 3401-12 (Oct. 30, 1992) 106 Stat 4600), which similarly directed the U.S. Secretary of the Interior to "develop within three years of enactment and implement a program which makes all reasonable efforts to ensure that, by the year 2002, natural production of anadromous fish in Central Valley rivers and streams will be sustainable, on a long-term basis, at levels not less than twice the average levels attained during the period of 1967–1991." (*Id.* § 3406(b)(1).)

In the 1995 Plan, the Water Board stated that there was uncertainty about whether the numeric flow objectives at Vernalis would be sufficient to achieve the Plan's water quality objectives. (SWRCB 00506965.) It stated that it would consider monitoring results in subsequent reviews of the Plan to evaluate whether the objectives were achieved and to inform the development of future numeric objectives to replace the existing objectives. (SWRCB 00506966.)

B. The D-1641 Water Rights Decision and 2006 Plan

To implement the 1995 Plan, the Water Board adopted Water Rights Decision 1641 ("D-1641") in 2000. D-1641 assigned responsibility to certain water rights holders to implement the Vernalis flow requirements.

Several conservation and fishing groups filed suit challenging D-1641 on the basis that it failed to require adequate flows to achieve the Salmon Doubling Objective. The California

Court of Appeals concluded that the Water Board's obligation in D-1641 was to implement the 1995 Plan and that "[d]etermining what actions were required to achieve the [Salmon Doubling Objective] was part of the Board's obligation in formulating the 1995 Bay-Delta Plan in the first place." (*State Water Resources Control Bd. Cases* (2006) 136 Cal.App.4th 674, 775 ("*Robie Decision*") [citing Wat. Code § 13050, subd. (j)(3)].) The court further explained that "[i]f the [conservation and fishing group petitioners] are correct in their contention that scientific evidence shows the flows needed to achieve the [salmon doubling] objective must be greater than the Vernalis flow objectives of the 1995 Bay-Delta Plan, then that evidence may provide a basis for *changing* the Vernalis flow objectives in the next regulatory proceeding to review and revise the water quality control plan for the Bay-Delta." (*Id.* at p. 777, original italics.)

In the wake of the D-1641 Decision, the Water Board amended the Bay-Delta Plan in December 2006. While this update did not contain major substantive changes, the Water Board identified San Joaquin River flows "as an emerging issue requiring additional consideration to address ongoing population declines of salmonids." (SWRCB 00468843.)

VI. The 2018 Plan Amendments are Insufficient.

A. Draft Analysis and Administrative Process

In 2009, the Water Board began its current update to the Plan, adopting the Staff Report on the Periodic Review of the 2006 Water Quality Control Plan for the San Francisco Bay/Sacramento–San Joaquin Delta Estuary. (SWRCB

00746402.) This report noted that the Water Board had previously committed to reviewing San Joaquin River flow objectives and recommended that the Board not separately review the Salmon Doubling Objective but instead, "consider the narrative salmon protection objective [the Salmon Doubling Objective] as a part of the State Water Board's further review of flow and water quality objectives." (SWRCB 00746412.) Staff made this recommendation "recognizing that salmon production is linked to flow and water quality conditions" and noted that "[c]onsideration of biological information (including salmon production numbers) will be an essential part of the flow and water quality objective development process." (*Ibid.*)

In 2012 and 2016, the Board circulated draft Substitute Environmental Documents ("SED"), including a Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Salinity Objectives ("Scientific Basis Report"). (SWRCB 00474115.) The drafts proposed new objectives related to flow. These included (1) a narrative objective for maintaining inflow conditions sufficient to support and maintain "viable" native fish populations; (2) a numeric objective that would require unimpaired flow levels in the San Joaquin River tributaries; and (3) a numeric objective that would require a minimum baseflow at Vernalis.

Baykeeper, fish and wildlife agencies, and other experts commented extensively during the development of the Plan amendments and the draft and final SED. In reviewing the Water Board's proposals and analyses, commenters provided

ample evidence of the flow conditions needed to protect and restore native fish populations and expressed concern that the Board had not considered factors relevant to native fish viability when proposing new flow objectives. (SWRCB 00173448 [DFW]; SWRCB 00385180-82 [U.S. EPA].) They explained that the Board had failed to show that the proposed numeric flow objectives would protect fish and wildlife beneficial uses. (SWRCB 00388800 [DFW]; SWRCB 00173435 [NMFS]; SWRCB 00385181 [U.S. EPA].) They asserted that the Board had failed to show that the flow levels proposed were at the levels necessary to achieve the narrative "viability" objective. (SWRCB 00399794-95 [Baykeeper]; SWRCB 00388800 [DFW]; SWRCB 00174368 [NMFS].) Pointing to the Board's Flow Criteria Report and Scientific Basis Report, as well as expert analyses, commenters provided evidence that the proposed amendments did not require the flows needed to maintain inflow conditions sufficient to support and maintain native fish populations. (SWRCB 00173435-47 [DFW]; SWRCB 00385180-81 [U.S. EPA]; SWRCB 00399731 [U.S. Fish & Wildlife Service]; SWRCB 00173986-4026 [Baykeeper].) Commenters also expressed concern about the Board's failure to require reservoir carryover storage levels (i.e., the amount of water left in storage at the end of the water year (or other pre-defined time)), an important measure for temperature control in the downstream rivers. (SWRCB 00385180 [U.S. EPA]; SWRCB 00399820 [Baykeeper].) The Board largely ignored this evidence and did not conduct the analyses that commenters asserted were necessary.

B. The Final Amendments

On December 12, 2018, the Water Board adopted the final amendments and the accompanying Final SED. The 2018 update to the Bay-Delta Plan includes a numeric objective for unimpaired flows in the three tributaries to the San Joaquin River (i.e., the Stanislaus, Tuolumne, and Merced Rivers) and an amended version of the numeric flow objective for the lower San Joaquin River at Vernalis. It also includes a new narrative objective for native fish viability (the "Viability Objective"). And it amends the POI to include new measures for implementing each of the objectives.

In the Plan, the Board also identified seven beneficial uses related to the preservation and enhancement of fish, wildlife, and other aquatic resources or preserves (see Wat. Code § 13050, subd. (f)): (1) Migration of Aquatic Organisms (MIGR), (2) Spawning, Reproduction, and/or Early Development (SPWN), (3) Rare, Threatened, or Endangered Species (RARE), (4) Cold Freshwater Habitat (COLD), (5) Warm Freshwater Habitat (WARM), (6) Estuarine Habitat (EST), and (7) Wildlife Habitat (WILD) (collectively, "fish and wildlife beneficial uses"). (SWRCB 00478409.)

1. Numeric Flow Objectives

The Plan amendments include two objectives that set numeric flow requirements:

(1) A new unimpaired flow objective that requires 40 percent of unimpaired flows in the Stanislaus, Tuolumne, and Merced Rivers from February through June, with an allowable

"adaptive" range between 30 and 50 percent (SWRCB 00478416); and,

(2) An updated baseflow objective that establishes a minimum flow at Vernalis. It requires that "[a]t all times during February through June, the flow at Vernalis . . . shall be no lower than the minimum base flow value of 1,000 [cubic feet per second ("cfs")] with an allowed adaptive management range between 800 – 1,200 cfs, inclusive." (*Ibid.*)

2. Narrative Viability Objective

The Plan's new narrative Viability Objective requires the Board to take actions to "[m]aintain inflow conditions from the San Joaquin River watershed to the Delta at Vernalis sufficient to support and maintain the natural production of viable native San Joaquin River watershed fish populations migrating through the Delta." (SWRCB 00478416.) The Viability Objective also describes certain attributes of viability as well as flow conditions necessary for maintaining viable populations. It states that "[i]nflow conditions that reasonably contribute toward maintaining viable native migratory San Joaquin River fish populations include, but may not be limited to, flows that more closely mimic the natural hydrographic conditions to which native fish species are adapted, including the relative magnitude, duration, timing, and spatial extent of flows as they would naturally occur." (*Ibid.*) And it explains that "[i]ndicators of viability include population abundance, spatial extent, distribution, structure, genetic and life history diversity, and productivity." (*Ibid.*) The Viability Objective is a flow objective.

3. Program of Implementation

The 2018 update to the Bay-Delta Plan also amends the POI. As amended, the POI restates the Numeric Flow Objective and attempts to describe the circumstances under which these adaptive adjustments are allowed. It also describes certain limited non-flow measures that pertain to fish habitat conditions. These restated numeric requirements and other measures are intended to achieve both the Numeric and Narrative Flow Objectives.

Flow Levels: The POI describes "Implementation of the February through June Lower San Joaquin River Flow Objectives," (SWRCB 00478426-37) and "Flow Requirements for February through June." (SWRCB 00478427.) It states that the flow objectives "shall be implemented by requiring 40 percent of unimpaired flow, based on a minimum 7-day running average." (*Ibid*.) The Vernalis flow objective "shall be implemented by requiring a minimum base flow of 1,000 cfs, based on a minimum 7-day running average, at Vernalis at all times." (*Ibid*.)

The POI also states that "[w]hen implementing the [lower San Joaquin River] flow objectives, the State Water Board will include minimum reservoir carryover storage targets or other requirements to help ensure that providing flows to meet the flow objectives will not have significant adverse temperature or other impacts on fish and wildlife or, if feasible, on other beneficial uses." (SWRCB 00478426.) However, the POI does not set carryover storage requirements.

Adaptive Adjustments to Flow: The POI describes "Adaptive Methods for February through June Flows" that allow but do not require adjustments to flow within the range of 30 to 50 percent of unimpaired flows in the Stanislaus, Tuolumne, and Merced Rivers, and within the range of 800–1,200 cfs at Vernalis. (SWRCB 00478428-29.) It states that flows may be adjusted within these ranges, delayed, or managed on an "adaptive schedule" based on the recommendations of a working group established by the Board. (SWRCB 00478428-29.) It also provides "[t]he required percent of unimpaired flow for February through June may be managed as a total volume of water and released on an adaptive schedule during that period where scientific information indicates a flow pattern different from that which would occur by tracking the unimpaired flow percentage would better protect fish and wildlife beneficial uses." (SWRCB 00478428.) The amended POI also allows for a portion of the February to June unimpaired flows to be released after June, provided that at least 30 percent of unimpaired flows is released between February and June. (SWRCB 00478429.)

The POI provides that the Board will consider adoption of "biological goals" 180 days after the approval of the Plan. (SWRCB 00478430.) Biological goals will be used "to inform the adaptive methods [for flow], evaluate the effectiveness of this [POI] . . . and [evaluate] future changes to the Bay-Delta Plan." (*Ibid*.) Further, the POI provides that biological goals will "specifically be developed for [lower San Joaquin River] salmonids, as salmonids are among the fish species most

sensitive to [lower San Joaquin River] flow modifications." (*Ibid.*) For other non-salmonid native fish species, the Board "may seek recommendations on biological goals for other . . . species as appropriate." (*Ibid.*)

The POI provides that biological goals for salmonids will "specifically be developed" for attributes of viability including "abundance . . . productivity as measured by population growth rate . . . genetic and life history diversity . . . [and] population spatial extent, distribution, and structure." (SWRCB 00478430.) The Plan states that "[r]easonable contributions to these biological goals may include meeting temperature targets and other measures of quality and quantity of spawning, rearing, and migration habitat, fry production, and juvenile outmigrant survival to the confluence of each tributary to the [lower San Joaquin River]." (*Ibid.*)

The POI allows adaptive adjustments on an annual or long-term basis based on "current information" developed through scientific processes. (SWRCB 00478428.) Such adjustments are permitted if the scientific evidence shows the adjusted flows will "be sufficient to support and maintain the natural production of viable native San Joaquin River watershed fish populations migrating through the Delta" and "meet any existing biological goals approved by the State Water Board." (*Ibid.*) The POI only *allows* adjustments, i.e., it does not require them even if evidence demonstrates that upward adjustments in the range are necessary to achieve the water quality objectives.

Non-Flow Measures: The POI describes non-flow measures such as fish screens and habitat restoration, but it does not require these actions. (See SWRCB 00478460-64.) With respect to the Salmon Doubling Objective, the POI specifically contemplates a role for such "other non-flow measures" in addition to flow "if implementation of the flow-dependent objectives does not achieve the [Salmon Doubling] objective." (SWRCB 00478453.) And it indicates that the "Water Board expects that implementation of the numeric flow-dependent objectives and other non-flow measures will implement [the Salmon Doubling] objective." (SWRCB 00478453.)

PROCEDURAL HISTORY

Baykeeper filed a Verified Petition for Writ of Mandate and Complaint for Declaratory Relief challenging the 2018 Plan amendments in Sacramento Superior Court on April 22, 2019. (5-CT-1403-33.) On January 31, 2022, Baykeeper filed a Verified Amended Petition for Writ of Mandate. (51-CT-13951-52.) In its challenge, Baykeeper sought, among other things, a judgment declaring that the adoption of the 2018 amendments is unlawful and a writ of mandate directing the Water Board to make the necessary revisions to bring the Plan into compliance with the law. (51-CT-13993-94.) On March 15, 2024, the trial court issued its final order on the merits denying Baykeeper's petition for writ of mandate and complaint for declaratory relief. (94-CT-25662-823.) On April 10, 2024, the Superior Court entered judgment. (94-CT-25898; 94-CT-25888-89.) Baykeeper timely filed its Notice of Appeal on May 10, 2024. (99-CT-26818-19.)

STATEMENT OF APPELLATE JURISDICTION

This appeal is from a final judgment of the Superior Court of Sacramento County. (94-CT-25898; 94-CT-25888-89.) The judgment finally disposed of all issues between the parties and thus is an appealable order under Code of Civil Procedure section 904.1, subdivision (a)(1).

STANDARD OF REVIEW

The Water Board's adoption of the Plan amendments is a quasi-legislative action subject to traditional mandamus review under Code of Civil Procedure section 1085. (*Racanelli Decision*, *supra*, 182 Cal.App.3d 82 at pp. 112-113.) On appeal from the denial of a petition for a writ of mandate, the appellate court's role mirrors that of the trial court. (*McGill v. Regents of Univ. of California* (1996) 44 Cal.App.4th 1776, 1785-1786.) Meaning, both courts determine whether the agency's action was "arbitrary, capricious, or lacking in evidentiary support," and whether required legal procedures were followed. (*Cal. Hotel & Motel Assn. v. Industrial Welfare Com.* (1979) 25 Cal.3d 200, 212; see also *Manderson-Saleh v. Regents of Univ. of Cal.* (2021) 60 Cal.App.5th 674, 692.)

Moreover, "[a] court reviews such actions to 'determine whether the agency acted within the scope of its delegated authority. . . ." (*State Water Resources Control Bd. v. Super. Ct.* (2025) 115 Cal.App.5th 734, 767 [quoting *Western Oil & Gas Assn. v. Air Resources Bd.* (1984) 37 Cal.3d 502, 509]; see also *Manderson-Saleh, supra,* 60 Cal.App.5th at p. 692.) Judicial review focuses on the administrative record. (*Racanelli Decision,*

supra, 182 Cal.App.3d at pp. 112-13.) While the court may not substitute its own policy judgment for the agency's, it must ensure the Water Board "adequately considered all relevant factors, and has demonstrated a rational connection between those factors, the choice made, and the purposes of the enabling statute." (*Western States Petroleum Assn. v. Super. Ct.* (1995) 9 Cal.4th 559, 577 [citing *Cal. Hotel & Motel Assn., supra,* 25 Cal.3d at p. 212].)

ARGUMENT

The Water Board's adoption of the 2018 amendments to its Water Quality Control Plan for the San Francisco Bay-Delta was arbitrary and capricious and not in accordance with the law. Porter-Cologne requires the Board to establish and regularly update a water quality control plan to ensure the reasonable protection of beneficial uses. The Board's 2018 Plan amendments purport to protect fish and wildlife beneficial uses and ensure viable native fish populations in two main ways: (1) by establishing numeric flow objectives that require minimum levels of unimpaired flows in the three main tributaries to the Lower San Joaquin River and minimum flows at Vernalis; and (2) by establishing a narrative objective that requires water quality conditions that will maintain and support viable native fish populations. But the record shows that the flows required by the numeric flow objectives are insufficient to improve water quality conditions enough to prevent the risk of extinction and reasonably protect fish and wildlife beneficial uses. Additionally,

the record shows that the Plan's POI is insufficient to achieve the narrative Viability Objective.

I. The Numeric Flow Objectives Do Not Provide the Flows Necessary to Reasonably Protect Fish and Wildlife Beneficial Uses.

The Porter-Cologne Water Quality Control Act requires the Water Board to adopt water quality objectives that "ensure the reasonable protection of beneficial uses." (Wat. Code § 13241.) The Plan identified seven fish and wildlife beneficial uses: (1) Migration of Aquatic Organisms (MIGR), (2) Spawning, Reproduction, and/or Early Development (SPWN), (3) Rare, Threatened, or Endangered Species (RARE), (4) Cold Freshwater Habitat (COLD), (5) Warm Freshwater Habitat (WARM), (6) Estuarine Habitat (EST), and (7) Wildlife Habitat (WILD). (SWRCB 00478409, 11; see Wat. Code § 13050, subd. (f).) As this Court held in a decision on a prior version of the Plan, the Water Board specifically has the "duty to provide water quality protection to the fish and wildlife that make up the delicate ecosystem within the Delta." (*Racanelli Decision,* 182 Cal.App.3d at p. 98.)

To reasonably protect native fish populations, the Plan must at the very least restore and maintain populations such that they are at a negligible risk of extinction. The Water Board acknowledges this, stating that the Plan must "continue to provid[e] . . . a basis for the existence of fish populations." (SWRCB 00504798.) Further, the Plan defines "reasonable protection" of fish and wildlife beneficial uses in terms of the

viability of native fish populations. (See, e.g., SWRCB 00468648 [describing the goals of the numeric flow objectives to include maintaining "viable native [San Joaquin River] fish populations."].) The scientific definition of population viability is well understood to mean that the population has a negligible risk of extinction within a particular time frame. (SWRCB 00147301 ["We define a viable salmonid population as an independent population . . . that has a negligible risk of extinction due to threats from demographic variation, local environmental variation, and genetic diversity changes over a 100-year time frame [approximately 33 salmon generations]."]; SWRCB 00094780-82.) To reasonably protect native fish, maintain viable populations, and comply with the law, the current march toward extinction and extirpation must be reversed, not merely delayed.

Here, the Water Board established the Numeric Flow Objectives purportedly to protect fish and wildlife beneficial uses. (SWRCB 00478392, 411, 415-16; SWRCB 00741335.) However, the Water Board failed to demonstrate that the Numeric Flow Objectives will protect these beneficial uses, and the evidence demonstrates they will not. The record shows that the Plan's flow requirements do not require enough water to be left in the rivers to create water quality conditions that restore, support, and maintain fish populations such that they are not at risk of extinction.

A. The record shows that higher unimpaired flows are required to reasonably protect fish and wildlife beneficial uses.

The Water Board repeatedly acknowledges that existing flows in the San Joaquin River basin are not protecting fish and wildlife beneficial uses because populations of native San Joaquin River fish are *currently not viable* and are rapidly declining toward extinction. (SWRCB 00473501-02 [stating that "a more natural flow regime" is needed to protect fish and wildlife beneficial uses in the San Joaquin River basin "including increasing the populations" of salmonids]; SWRCB 00473508 [citing evidence that anadromous fish beneficial uses are not being met and that high temperatures are a critical limiting factor].) The Plan amendments' requirement of 40 percent of unimpaired flows, with an adaptive range of 30 to 50 percent, still falls short. These prescribed flows do not achieve the Plan's obligation to "maintain[] inflow conditions from the [San Joaquin River] Watershed sufficient to support and maintain the natural production of viable native fish populations," and therefore, reasonably protect fish and wildlife beneficial uses. (SWRCB 00473467.)

Furthermore, the record does not show that any of the Plan's fish and wildlife beneficial uses are reasonably protected. For example, the RARE beneficial use requires flows sufficient to support habitats necessary for the survival and successful maintenance of species listed as rare, threatened, or endangered. (SWRCB 00478409.) Many native fish species in the San Joaquin

basin are rare, threatened or endangered, including fall-run and spring-run Chinook Salmon, Steelhead, Green Sturgeon, and Sacramento Splittail. (SWRCB 00469975-77.) These native species in the Bay-Delta are, in the Water Board's own words, "experiencing an ecological crisis." (SWRCB 00596117.) Yet the record demonstrates that substantially greater flows are required to ensure their survival and population viability. In the final SED, the Board admits that "[s]cientific studies indicate a flow closer to 60 percent of unimpaired flows would improve conditions for a healthy fishery." (SWRCB 00468607.)

Current conditions on the Stanislaus River demonstrate that 40 percent of unimpaired flows are insufficient for the survival and successful maintenance of rare, threatened, or endangered fish populations, as required by RARE. Currently, the median flow on the Stanislaus River from February to June is approximately 40 percent of unimpaired flows, and scientists studying the river conclude that these current flows do not sustain viable populations of Steelhead, fall- and spring-run Chinook Salmon. (SWRCB 00385181 [U.S. EPA concluding that flows higher than 40 percent of unimpaired flows are needed to "promote instream survival and life history diversity" of salmonids on the Stanislaus]; SWRCB 00503554-55 [fall-run Chinook Salmon]; SWRCB 00503594-95 [spring-run Chinook Salmon]; SWRCB 00503616-19 [Steelhead]; SWRCB 00768681-85 [NMFS findings that most of the flow-related stressors that are threats to Steelhead viability currently exist on the Stanislaus].) For example, the Stanislaus River once abundantly supported

spring-run Chinook Salmon when flows were higher, but now that regular median flow is 40 percent of unimpaired flows, spring-run Chinook Salmon are barely detectable there. (SWRCB 00503519, 68, 77.) Steelhead populations on the Stanislaus River are also imperiled and other rare, threatened or endangered native migratory fish populations like Green Sturgeon and White Sturgeon have been extirpated. (SWRCB 00469986 [Green Sturgeon]; SWRCB 00470233 [White Sturgeon].)

Similarly, the MIGR, COLD, and SPWN beneficial uses require the Water Board to maintain flows sufficient to support fish migration, cold-water ecosystems, and high-quality spawning and early development habitat. (SWRCB 00478409). But again, the record does not support a determination that 40 percent of unimpaired flows will protect any of those uses. Specifically, the Water Board noted that flows higher than 40 percent of unimpaired flows are necessary to improve temperature conditions to levels needed for spawning, migration, and species viability and reasonable protection of these beneficial uses. In the SED, the Water Board found that "[s]ignificant temperature improvements in the Stanislaus River primarily occur under 50%-60% [of] unimpaired flow[]." (SWRCB 00473544.) For the Stanislaus and Merced Rivers, the Water Board also found that significant improvements in attainment of smoltification criteria, which measure the success of young salmon migrating to the ocean, would "*only* occur under the 50% or 60% unimpaired flows." (SWRCB 00473545 [emphasis added].) The Water Board went on to explain that "[t]his is an important result because

temperature impacts on the smolt have been repeatedly reported as one of the limiting factors to salmonid populations in the Central Valley and [San Joaquin River] Basin." (*Ibid.*) Per the Water Board's own findings, without higher flows than those currently prescribed in the Numeric Flow Objectives, there will not be necessary temperature improvements to reasonably protect fish and wildlife beneficial uses.

The remaining three fish and wildlife beneficial uses (WARM, EST, and WILD) involve uses of water that support, preserve, and enhance different types of fish and wildlife habitat. (SWRCB 00478409, 11.) The Water Board's conclusion that 40 percent of unimpaired flows is adequate similarly lacks supporting evidence related to these uses.

The evidence of the Plan's inadequacy was not limited to the Water Board's analysis. State and federal fishery agencies confirmed that the Plan's prescribed flows will not reasonably protect fish and wildlife beneficial uses because native rare, threatened, and endangered fish populations will not be restored to viability. For example, DFW stated that "[s]ubstantial evidence demonstrates that approximately 50%-60% [of] unimpaired flow is the minimum necessary to reestablish and sustain fish and wildlife beneficial uses." (SWRCB 00173435.) NMFS made clear that at least 45 percent of unimpaired flows were necessary (SWRCB 00174368), warning that 40 percent of unimpaired flows would leave fish populations below viability thresholds and at risk of extirpation. (SWRCB 00549028.) As the U.S. EPA similarly observed, "multiple scientific studies indicate

flows higher than 40% of [unimpaired flows] may be needed to . . . protect the beneficial use." (SWRCB 00385181 [U.S. EPA 2016 comments on Revised Draft SED].)

Given the abundance of record evidence demonstrating that 40 percent of unimpaired flows is not sufficient to lower the risk of native fish extinction to negligible levels, the Water Board's selection of this flow requirement was arbitrary and capricious. Rather than demonstrating that its decision to select 40 percent of unimpaired flows reasonably protects fish and wildlife beneficial uses, the Board argues that 40 percent of unimpaired flows is adequate because it provides *more* protection than the status quo. The Board's temperature analysis is illustrative of this flawed reasoning. The modeling demonstrated temperature improvements from 40 percent of unimpaired flows, but the Water Board did not show whether those improvements would *actually* attain species viability or reasonably protect fish and wildlife beneficial uses such as RARE, COLD, SPWN, or MIGR, which all depend on suitably cold water temperatures. (SWRCB 00478416.) As DFW noted, improvements above baseline conditions are "arbitrary temperature improvements . . . [that] give no insight as to whether the conditions will support viable populations or just a delay in extinction or extirpation . . . ." (SWRCB 00388800; see also SWRCB 00385181 [U.S. EPA noting that "the SED does not evaluate the ability of flow alternatives to meet the proposed [] viability objective"].) Better than status quo, especially when the status quo is non-viability and extirpation, is not Porter-Cologne's legal test. The question is whether the

Numeric Flow Objectives provide sufficient flows to reasonably protect fish and wildlife beneficial uses by, at minimum, reducing the risk of extinction to negligible levels. The record demonstrates that they do not, and the Water Board has provided no evidence to the contrary.

The Water Board will likely attempt to justify its decision by pointing to the Numeric Flow Objectives' allowable range of up to 50 percent of unimpaired flows. But there is no requirement that the Water Board would mandate these higher flows. Furthermore, the Board's inclusion of an adaptive range between 30 and 50 percent of unimpaired flows does not explain or justify its arbitrarily chosen starting point of 40 percent of unimpaired flows or its inclusion of 30 percent as a potentially acceptable downward deviation from that starting point. (See SWRCB 00399753-54 [given Board's findings that temperature improvements only occur at 50 to 60 percent of unimpaired flows, FWS asked "[w]hy is 40% considered protective?"].) The Water Board cannot defend its decision by pointing to higher, merely discretionary flows while mandating flows that do not reasonably protect fish and wildlife beneficial uses.

Indeed, the Water Board's flow requirements in the Numeric Flow Objective are a policy compromise influenced in part by consumptive water users, and not a scientifically supported determination of what flows were necessary to ensure reasonable protection for fish and wildlife beneficial uses. While Porter-Cologne directs the Water Board to consider other factors, such as economic impacts, when establishing water quality

objectives, it does so only after acknowledging that "it may be possible for the quality of water to be changed to some degree without *unreasonably* affecting beneficial uses." (Wat. Code § 13241 [emphasis added].) That language presumes that changes based on the consideration of other factors can only be made if beneficial uses are still reasonably protected. There is nothing in Porter-Cologne that allows the Board to sacrifice reasonable protection of fish and wildlife beneficial uses by "balancing" other factors or interests.

Nor does the Water Board's decision warrant deference. Courts defer to agency expertise only where the agency's determination is supported by substantial evidence. (*City of Arcadia v. State Water Resources Control Bd.* (2010) 191 Cal.App.4th 156, 170.) Here, the evidence from the Water Board's own reports, independent experts, state and federal fishery agencies, and peer-reviewed science all converge: flows substantially greater than 40 percent of unimpaired flows are necessary to achieve viability for native fish species and achieve reasonable protection. The Water Board failed to offer any evidence demonstrating that 40 percent of unimpaired flows will lower the risk of extinction for native fish species to negligible levels. That is because there is no such evidence. At most, the Water Board can merely point to its assessment that requiring 40 percent of unimpaired flows will "meet[] more of the purposes and goals of the plan amendments more fully." (SWRCB 00473468.). Baykeeper does not dispute that requiring 40 percent of unimpaired flows will improve degraded status quo conditions.

However, improving the status quo does not satisfy Porter-Cologne, especially where, as here, the improvement falls far short of reasonable protection.

B. Higher baseflow requirements at Vernalis are required to reasonably protect fish and wildlife beneficial uses.

The Water Board provided no evidence that the daily minimum baseflow of 1,000 cfs at Vernalis, with an adaptive range of 800 to 1,200 cfs from February through June, is sufficient to avoid extinction. Rather, the record shows that substantially higher flows are necessary to maintain migratory corridors, protect juvenile outmigration, and reasonably protect fish and wildlife beneficial uses.

Adequate flows at Vernalis are critical because all native migratory fish in the San Joaquin Basin migrate through Vernalis, and sufficient flow is needed to ensure that fish can migrate past this point in the river, through the Delta, to the ocean, and back. (SWRCB 00385182; SWRCB 0031098.) Vernalis flows are thus critical for the MIGR beneficial use. (SWRCB 00478416.) Without adequate flows at Vernalis, dissolved oxygen can be chronically low and block migration pathways for native fish in the Lower San Joaquin River. (SWRCB 00142313.) The Water Board itself has acknowledged that "low [dissolved oxygen] levels in the Stockton Deep Channel" have been "related to apparent blockage and delays in migration of adult salmon in the Delta." (SWRCB 00470020, 36; see also SWRCB 00077983, 00173987-88.) These conditions can create complete migratory

barriers for Chinook Salmon, Steelhead, Green Sturgeon, White Sturgeon, and other native species, threatening fish abundance, diversity, and viability. (SWRCB 00399812; SWRCB 00558873.) Low dissolved oxygen in the lower San Joaquin River is a longstanding and persistent problem. (SWRCB 00399811-12.) Adequate Vernalis flows would solve this problem and are thus essential for viable fish populations. Yet the Board failed to ensure sufficient flows when it required only 1,000 cfs as the daily minimum.

The record demonstrates that the 1,000 cfs baseflow requirement, and even the high end of the adaptive range (1,200 cfs), is insufficient to prevent migration blockages at Vernalis. Independent scientists convened by the Water Board recommended year-round minimum flows of 2,000 cfs at Vernalis to improve salmon migration success, in part by alleviating low dissolved oxygen stress. (SWRCB 00077827-29.) DFW similarly advised that flows above 2,000 cfs are needed in most water year types (i.e., dry, below normal, above normal, and wet years). (SWRCB 00031096.)

Despite this decisive evidence, the Board adopted the 1,000 cfs minimum anyway. The Board did so without analyzing how such flows would affect dissolved oxygen levels or whether they would ensure fish passage under varying hydrologic conditions. Instead, the Water Board justified its decision by pointing to modeling that indicates average flows under the 40 percent of unimpaired flows regime would exceed 2,000 cfs in April, May, and June and exceed 1,500 cfs in February and March. (SWRCB

00477360-61.) But Porter-Cologne requires protection of beneficial uses *at all times*, not only in some months, and not solely as an average. And the Board's own analysis shows that during dry or critically dry conditions, Vernalis flows may fall well below protective thresholds, exposing entire cohorts of migratory fish to lethal dissolved oxygen conditions, toxic algal blooms, or other migratory barriers. (SWRCB 00501902; SWRCB 00032438; SWRCB 00173987; SWRCB 00142313.) Setting objectives that protect fish only *some of the time* does not satisfy the statutory mandate of "reasonable protection." (Wat. Code § 13241.)

Again, the Water Board's decision here does not warrant deference because the 1,000 cfs minimum, and the 800 to 1,200 cfs adaptive range, is unsupported by evidence demonstrating that it will reasonably protect fish and wildlife beneficial uses. (*Cal. Hotel & Motel Assn.*, *supra*, 25 Cal.3d at pp. 212-213 [finding that an agency decision must be supported by evidence in the record otherwise it is arbitrary and capricious].) "[T]he governing statutes and [the relevant evidence in the record] provide boundaries within which the Board may exercise discretion." (*Poverty Resistance Center v. Hart* (1989) 213 Cal.App.3d 295, 305.) Here, the Board has strayed well beyond allowable limits by making decisions that conflict with record evidence and find no support in the record.

II. The Program of Implementation Does Not Adequately Describe the Flow and Non-Flow Actions Necessary to Achieve the Viability Objective.

A POI must provide: (1) a description of the nature of the actions necessary to achieve the Plan's objectives, (2) a time schedule for those actions, and (3) surveillance measures to determine compliance. (Wat. Code § 13242.) Unlike when adopting water quality objectives, Porter-Cologne does not direct or allow the Board to consider other factors when establishing the POI. Rather, once the Board has balanced competing uses of water to establish water quality objectives, Porter-Cologne requires the Board to describe the actions necessary to achieve them. (Wat. Code § 13050, subd. (j)(3); *City of Arcadia*, *supra*, 191 Cal.App.4th at p. 177 ["But this statute only requires consideration of the [section 13241] listed factors when establishing water quality objectives . . . ."].) This mandate is unconditional. (See *San Joaquin River Exchange Contractors Water Authority v. State Water Resources Control Bd.*, *supra*, 183 Cal.App.4th at pp. 1119-1120; *Racanelli Decision*, *supra*, 182 Cal.App.3d at p. 133 [overturning trial court's invalidation of POI for failure to consider economic effects pursuant to section 13241].)

The Board itself acknowledges it does not "revisit[]" the question of "reasonableness" when developing the POI. (SWRCB 00504029-30 [explaining in response to comments that section 13241 factors are only considered when establishing water

quality objectives].) As such, a POI that does anything less than describe the actions necessary to achieve the water quality objective—support and maintain fish viability—is illegal. That the POI may result in improved conditions for fish does not mean it will support and maintain viability. A POI that delays extinction is unlawful in the face of an objective requiring that the risk of extinction be negligible.

Yet that is what the Board's POI does: the record shows that the actions described in the POI will not maintain river conditions that will support and maintain viable fish populations. Specifically, the POI does not require that enough water be left in the rivers to support and maintain fish viability, nor does it describe non-flow actions that will make up for the shortfalls in its flow requirements. Accordingly, it violates Porter-Cologne.

A. Flow levels higher than those required in the POI are necessary to achieve the Viability Objective.

The POI requires the same flow levels as the Numeric Flow Objectives—40 percent of unimpaired flows and a 1,000 cfs daily minimum at Vernalis, with the same adaptive ranges. As explained above (see *supra,* Section I), the record shows that those flows do not reasonably protect fish and wildlife beneficial uses because they leave native fish at a significant risk of extinction. Fish populations at clear and measurable risk of extinction are not viable.

Viability is multi-faceted and determined through several indicators. Per the narrative Viability Objective, species viability

requires adequate levels of population abundance, spatial extent and distribution, population structure, genetic and life history diversity, and productivity so that populations are self-sustaining and resilient to threats. (SWRCB 00478416.) The Plan identifies these variables as "indicators of viability." (*Ibid.*)

The record demonstrates that the flows the POI prescribes are insufficient to support viability based on those indicators. Specifically, the prescribed flows (1) will not sustain the **population structure and life history diversity** of native fish populations; (2) will not facilitate **spatial distribution** of populations; and (3) will not yield **abundant and productive** native populations. As a result, the POI is unlawful.

Population Structure and Genetic and Life History Diversity. The POI's prescribed flows cannot sustain the life history diversity and population structure necessary for viability. Life history diversity means having a diverse range of sizes and ages of native fish rearing in and/or migrating through the river at certain times. (SWRCB 00503583; SWRCB 00741340 [life history diversity is an indicator of fish population viability].) Increased life history diversity ensures greater resilience by protecting populations from short-term and long-term environmental disturbances. (SWRCB 00474233.) The more diverse a species is, "the greater the probability that some will survive and reproduce when presented with environmental variation." (*Ibid.*)

Water temperature greatly impacts population structure and genetic and life history diversity because high water

temperatures can make habitats unsuitable for different fish populations and life stages. (SWRCB 00021213.) For example, juvenile Chinook Salmon leave the rivers in which they are born at different sizes, ages, and times of the year, and this contributes to population resilience by spreading risk across life stages. (SWRCB 00173989; SWRCB 00474205.) Smolt, the largest freshwater size-class of juvenile fall-run Chinook Salmon, must survive migration through the San Joaquin River watershed into June to maintain the levels of life history diversity needed for population viability. (SWRCB 00510964.) Currently, June flows are extremely low, leading to high temperatures that are not suitable for Chinook Salmon smolt. (SWRCB 00510959.) At these temperatures, fall-run Chinook Salmon juveniles are forced to migrate out of rivers early or die, limiting their life history diversity and making them more susceptible to extinction. (SWRCB 00503539, 54.)

The Board itself acknowledged that "[t]emperature impacts on the smolt life stage have been repeatedly reported as one of the limiting factors to salmonid populations" in the San Joaquin basin. (SWRCB 00473545.) While temperature modeling shows some improvement for salmonids at 40 percent of unimpaired flows, it does not provide conditions sufficient to "support and maintain" viable populations as the Viability Objective demands. (SWRCB 00478416.) Significant temperature benefits occur only under alternatives with at least 50 to 60 percent of unimpaired flows. (SWRCB 00473544.)

Existing conditions on the Stanislaus River underscore this point. Historic median flows from February through June already approximate 40 percent of unimpaired flows (SWRCB 00468229), yet these flows have failed to sustain viable populations of Steelhead, White Sturgeon, Green Sturgeon, and fall- and spring-run Chinook Salmon. (SWRCB 00503554-55 [fall-run Chinook Salmon]; SWRCB 00503594-95 [spring-run Chinook Salmon]; SWRCB 00503616-19 [Steelhead]; SWRCB 00469986 [Green Sturgeon]; SWRCB 00470233 [White Sturgeon]; SWRCB 00385181 [EPA observing that flows higher than 40 percent of unimpaired flows are needed to "promote instream survival and life history diversity"].) The record shows that with 40 percent of unimpaired flows, the Stanislaus River still experiences recurrent low-flow barriers to migration and related stressors that further erode life history diversity, leading to cohort failures that undermine long-term population viability. (SWRCB 00478416.)

Spatial Extent and Distribution. Low flows cause water-quality impairments that restrict fish range and distribution. (SWRCB 0058759-60; SWRCB 00474235.) The evidence demonstrates that due to current degraded flow conditions on the three tributaries, spring-run Chinook Salmon, Steelhead, Green Sturgeon, and White Sturgeon are not attaining the spatial extent and distribution associated with viability. (See, e.g., SWRCB 00503572 [spring-run Chinook Salmon and Steelhead are not sustained by current flows in the Stanislaus River, which mimic the amendments prescribed flows]; SWRCB

00469986 [same for Green Sturgeon]; SWRCB 00470233 [same for White Sturgeon].)

In particular, low dissolved oxygen episodes in the lower San Joaquin and Stockton Deepwater Ship Channel form migration barriers that prevent adult and juvenile Chinook Salmon, Steelhead, and sturgeon from passing, recolonizing, and accessing rearing habitat. (SWRCB 00470036; SWRCB 00077983; SWRCB 00142313; SWRCB 00173988; SWRCB 00399811-12; SWRCB 00558873.) These barriers severely constrain the occupied range and fragment populations, contrary to the Plan's recognition that broad spatial distribution is required for viability. (SWRCB 00478416.) The flows described in the POI will facilitate these barriers, not eliminate them. For example, the Board's own independent experts recommended that Vernalis baseflows be greater than 2,000 cfs year-round to alleviate low dissolved oxygen and improve migration success. (SWRCB 00077827-29.) DFW and FWS similarly concluded that the 1,000 cfs minimum (with an adaptive range as low as 800 cfs) is far below what is needed to ensure adequate dissolved oxygen levels. (SWRCB 00031096; SWRCB 00399758.)

Abundance and Productivity. Species abundance across the tributaries "are highly correlated with tributary, Vernalis, and Delta flows." (SWRCB 00474221 ["Additional flow is needed to significantly improve production (abundance) of fall-run Chinook [S]almon."].) Indeed, the Water Board acknowledges that spring flow magnitude, duration, and variability are master variables for juvenile salmon survival and smolt outmigration,

which in turn impacts species abundance. (SWRCB 0047193.) Flows at 40 percent of unimpaired flows and a 1,000 cfs baseflow at Vernalis do not provide the survival gains needed to restore self-sustaining production. The Board's own 2010 flow criteria and later technical syntheses concluded that flows closer to 60 percent of unimpaired flows are necessary to improve production, and both DFW and FWS advised that 800 to 1,200 cfs at Vernalis is inadequate to achieve the narrative Viability Objective because of the lack of sufficient flows to promote salmonid abundance and productivity. (SWRCB 00031096; 00399758.)

Together, this evidence confirms that the POI's flow prescriptions fall well short of the levels necessary to achieve the Viability Objective. This Court has explained that the Water Board has an obligation to increase the POI's prescribed flows if evidence shows, as it does here, that flow increases are needed to achieve a water quality objective. (*Robie Decision*, *supra*, 136 Cal.App.4th at p. 777 [finding that if "scientific evidence shows the flows needed to achieve the objective must be greater. . . then that evidence may provide a basis for changing the []flow objectives in the next regulatory proceeding"].) The record is clear that the POI flow requirements of 40 percent of unimpaired flows and a 1,000 cfs daily minimum at Vernalis will not support adequate levels of population abundance, spatial extent and distribution, population structure, genetic and life history diversity, and productivity. Consequently, higher flows are required for the POI to achieve the narrative Viability Objective. (*Id.*)

Moreover, the Water Board does not, and cannot, point to substantial evidence to support its determination that the POI will achieve the narrative Viability Objective, as Porter-Cologne requires. (Wat. Code § 13242.) Accordingly, the Board's failure to meet a non-discretionary obligation is arbitrary, capricious, and unlawful. (*Cal. Hotel & Motel Assn*, *supra*, 25 Cal.3d at p. 212 [determining that an agency decision must be overturned if it is "arbitrary, capricious, or lacking in evidentiary support"]; see also *Manderson-Saleh*, *supra*, 60 Cal.App.5th at p. 692.)

B. The Water Board did not adequately describe any other actions that will make up for the flow deficiencies and achieve the Viability Objective.

The Water Board defended the POI's inadequate flow prescriptions by arguing that undefined non-flow measures will complement the Plan's prescribed flows, and together, the flow and non-flow measures will achieve the narrative Viability Objective. (See, e.g., SWRCB 00478460-64.) But the record shows otherwise, and the Water Board's description of the non-flow measures do not meet the requirements of Porter-Cologne.

First, the record shows that no amount of non-flow measures can substitute for adequate flows. The Board's own findings acknowledge that "[t]hese other [non-flow] factors do not obviate the need for improved [San Joaquin River] inflow conditions to the Delta to protect fish and wildlife beneficial uses." (SWRCB 00474248; see also SWRCB 00504820 [non-flow measures "cannot substitute or be prioritized over the need for

flow requirements"].) Federal agencies agreed. For example, NMFS cautioned that "[h]abitat restoration alone cannot make up for the lack of flow." (SWRCB 00174370.) Because the POI prescribes flow levels that the record shows are insufficient, it cannot be saved by vague references to non-flow actions. Indeed, this does not satisfy Porter-Cologne's requirement that the POI adequately describe the necessary actions to achieve the Viability Objective. (Wat. Code § 13242, subd. (a).) Fish habitat, and consequently fish viability, requires fresh water. Without a plan to provide that water, the non-flow actions, typically earth-moving to build theoretical habitat, cannot make up the gap.

Second, even if the record showed that non-flow measures could reduce the quantity of flows needed to achieve the Viability Objective, the Water Board did not meet its legal requirement to adequately describe the nature of these non-flow measures, provide a schedule, and adopt surveillance measures to ensure achievement of the Viability Objective. (Wat. Code § 13242, subds. (a)–(c).) To wit, the POI identifies no specific non-flow actions, quantifies no contribution from such measures, and sets no schedule for their implementation.

Illustratively, while the record shows that expanding and improving floodplain habitats could improve conditions for native fish and help to support fish viability, the Water Board failed to evaluate how much improved floodplains would contribute to viability and, more importantly, what flows would be necessary to make improved floodplains usable and useful. The Water Board did not describe how much floodplain habitat complemented by

adequate flows is necessary to achieve the Viability Objective, nor did it describe the levels of flow, timing of flows, or duration of flows necessary to complement any floodplain improvements. Without these details, it was arbitrary and capricious for the Water Board to conclude that the POI will achieve the Viability Objective on the basis of non-flow actions. (See *Cal. Hotel & Motel Assn.*, *supra*, 25 Cal.3d at p. 212 [finding agency decision arbitrary when unsupported by substantial evidence and legal procedures were not followed].)

Likewise, the Board failed to describe the actions necessary to protect reservoir cold-water pools and maintain suitable temperature conditions for fish viability. The record and the Board itself acknowledge that requiring minimum volumes of water to be stored behind San Joaquin tributary dams is necessary to protect cold-water pools and maintain suitable temperature conditions for fish viability. (SWRCB 00478426 [Water Board acknowledging that carryover storage needed to avoid adverse effects to fish and wildlife]; SWRCB 00385179–80 [U.S. EPA finding same].) However, the Plan includes no carryover storage requirements. (SWRCB 00478426.)

In sum, the record is clear that the Water Board did not establish a POI that adequately describes the nature of actions necessary to achieve the Viability Objective. The Board's failure to do so violates Porter Cologne. (Wat. Code § 13050, subd. (j)(3); Wat. Code § 13242.)

Finally, the Plan fails to describe the objective and measurable levels of each viability indicator (i.e., population

abundance, spatial extent, distribution, structure, genetic and life history diversity, and productivity) that are needed to support and maintain viable fish populations. (See SWRCB 00478416.) Without knowing the levels of each indicator needed to support viability, there is no way to adopt surveillance measures to determine whether the actions described in the POI achieve the Viability Objective. (Wat. Code § 13242, subd. (c).)

CONCLUSION

Because the Plan amendments fail to comply with core requirements of Porter-Cologne, Baykeeper respectfully requests that this Court reverse the judgment below and direct issuance of a writ requiring the Board to adopt a lawful plan that provides the flows and other measures necessary to reasonably protect fish and wildlife beneficial uses and achieve the Plan's narrative Viability Objective.

DATED: March 2, 2026 /s/ Katrina A. Tomas

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CERTIFICATE OF COMPLIANCE

Pursuant to California Rule of Court 8.204(c)(1), I hereby certify that the foregoing OPENING BRIEF OF APPELLANTS SAN FRANCISCO BAYKEEPER AND THE BAY INSTITUTE consists of 13,033 words, not including tables of content and authorities, the certificate of interested parties, and this certificate of compliance as counted by Microsoft Word, the computer program used to prepare this brief.

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CERTIFICATE OF SERVICE

I am a citizen of the United States of America and a resident of the County of Alameda; I am over the age of 18 years and not a party to the within-entitled action; my business address is 1 Sansome Street, Suite 1700, San Francisco, California 94104.

I hereby certify that on March 2, 2026, I served electronically via the Court's TrueFiling electronic filing system the following document(s) on all participants in the case who are registered TrueFiling users:

OPENING BRIEF OF APPELLANTS SAN FRANCISCO BAYKEEPER AND THE BAY INSTITUTE

I hereby certify that on March 2, 2026, I also caused to be served the aforementioned document via U.S. Mail, postage prepaid, addressed as follows:

Sacramento County Superior Court

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Sacramento, CA 95814

I certify under penalty of perjury that the foregoing is true and correct. Executed on March 2, 2026, in Oakland, California.

Joseph Griffin