



August 9, 2016

Tom Howard
Executive Director
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100

**Re: REQUEST FOR EMERGENCY REGULATIONS TO COMPLY WITH
PUBLIC TRUST OBLIGATION TO PREVENT EXTINCTION OF DELTA
SMELT**

Dear Director Howard:

On behalf of Defenders of Wildlife, the Natural Resources Defense Council, and The Bay Institute, we submit this request for adoption of emergency regulations pursuant to Government Code section 11346.1 in light of an urgent need for action to avoid irreparable harm to the public trust. The California State Water Resources Control Board (“SWRCB”) is currently violating its obligation under the public trust doctrine to safeguard public trust resources by permitting diversions and exports from the Sacramento-San Joaquin River Delta (“Delta”) and its watershed that threaten to permanently impair the public trust by driving Delta Smelt to extinction. In particular, the SWRCB has permitted and continues to permit diversions from the Bay-Delta watershed and water exports from within the legal Delta by the California Department of Water Resources (“DWR”), the U.S. Bureau of Reclamation (“Reclamation”), and other water rights holders in a manner that is depriving the San Francisco Bay Estuary of freshwater outflow from the Delta that is essential for the Delta Smelt’s continued existence. To remedy these ongoing legal violations and avoid a species’ extinction, the SWRCB must adopt emergency regulations pursuant to its authority under Government Code section 11346.1 and the public trust doctrine that require Delta outflow sufficient to protect our last remaining Delta Smelt. In particular, the SWRCB should adopt emergency regulations requiring that X2 be maintained no further east than 81 km from June 1 through September 30, as the U. S. Fish & Wildlife Service (“FWS”) has determined is necessary to prevent extinction of Delta Smelt. The rulemaking should require that DWR and Reclamation meet this requirement for the remainder of this water year, and be renewed until the SWRCB completes its long overdue update of the Bay-Delta Water Quality Control Plan.

One of the most important functions of the SWRCB is to safeguard the resources that it holds in trust for the public. Yet the SWRCB has failed to take action to prevent dramatic declines and even the potential extinction of multiple species in the San Francisco Bay Estuary, and instead has taken actions that are increasing damage to public fisheries, including the risk of multiple species' extinctions. Delta Smelt abundance has been at record-low levels in recent years and continues to decline, with an estimated 90% decline in abundance in 2015 alone; experts fear extinction may be imminent. The 2014 and 2015 year classes of winter-run Chinook salmon were wiped out by unacceptably high temperatures in the Sacramento River, returns from the 2013 year class (which was affected by reduction in Bay-Delta flow standards during the migration of its juvenile cohort to the ocean) appear likely to be a record low for the last 20 years, and operations this year are likely to result in at least some temperature-related mortality of the 2016 cohort. Listed species such as spring-run Chinook salmon have suffered severe impacts as well, and the longfin Smelt population is at the lowest level ever recorded. In addition, commercially valuable fisheries have been negatively impacted by water management practices that are within the SWRCB's authority to control. Fall-run Chinook salmon have suffered extremely poor conditions in both the Sacramento and San Joaquin Rivers and their tributaries, and starry flounder have declined to near-record lows. Wetland species have also suffered. For example, reduced water deliveries to wildlife refuges have restricted available habitat for the threatened giant garter snake and substantially reduced food availability for the millions of Pacific Flyway birds that descend upon the refuges in the winter. These impacts are not the unavoidable consequence of drought, but the result of SWRCB-sanctioned management decisions that failed to give sufficient priority to protection of public trust resources.

There are many actions the SWRCB should take to fulfill its obligations to protect the public trust, including finalizing and implementing a long-overdue update of the woefully inadequate water quality control plan for the San Francisco Bay-Delta to reflect the best available science regarding the estuary's ecological needs. The SWRCB has unreasonably delayed these proceedings, and it is clear that current standards under the 2006 Water Quality Control Plan fail to protect beneficial uses, including native fish and wildlife and water quality. These and other actions are essential to ensuring our shared resources remain for future generations.

Here, however, we focus on one particular action that the SWRCB must take immediately to ameliorate an ongoing public trust violation and avoid irreparable harm to an irreplaceable resource. Specifically, the SWRCB must adopt emergency regulations establishing minimum levels of Delta outflow that are sufficient to meet the Delta Smelt's habitat requirements and curtailing diversions that would cause outflow to drop below the required levels.

There is no question that the Delta Smelt is at grave risk of extinction. Inadequate Delta outflow in the past several years has been a primary factor in the species' unprecedented decline. To halt the Delta Smelt's race toward extinction, FWS determined in June of 2016 that

“[a]llowing X2 to move no more eastward than 81 km through the remainder of the water year is critical to maintaining adequate habitat conditions for Delta Smelt.” Memorandum from FWS Regional Director for the Pacific Southwest Region to Reclamation Regional Director regarding June 1, 2016 Determination under Component 2 Action 3 of the 2008 Coordinated Long-term Operation of the Central Valley Project and State Water Project Biological Opinion (June 1, 2016), available at https://www.fws.gov/sfbaydelta/documents/Smelt_working_group/R8_Signed_Determination_Memo_to_BOR_06-01-2016.pdf. Yet, to date, the SWRCB has failed to respond to this urgent directive and has, instead, permitted the Central Valley Project (“CVP”) and State Water Project (“SWP”) to operate such that X2 has been eastward of 81 km almost continuously since FWS issued its determination. Moreover, DWR and Reclamation do not have an adequate plan to ensure X2 is maintained no further eastward than 81 km through the remainder of this or future water years.

In light of the SWRCB’s authority, under the public trust doctrine and reasonable use doctrine, over all water diversions that are diminishing Delta outflow and impairing public trust resources, the SWRCB must immediately adopt emergency regulations to increase Delta outflow such that X2 is maintained at 81 km or more westward through September 30, 2016, and from June 1 through September 30 in subsequent years pursuant to a normal rulemaking or re-adoption of emergency regulations. The potential consequences of inaction—the extinction of a species and permanent impairment of the public trust—require this urgent action.

1. The SWRCB is required to exercise its authority under the public trust doctrine to protect a species from extinction, and may do so through adoption of emergency regulations.

The SWRCB has a legal obligation to protect public trust resources, including Delta Smelt and other fish and wildlife that depend upon adequate Delta outflow. The public trust doctrine recognizes that “the sovereign owns all of its navigable waterways and the lands lying beneath them as trustee of a public trust for the benefit of the people.” *Nat’l Audubon Soc’y v. Superior Court*, 33 Cal. 3d 419, 434 (1983) (quotation marks and citation omitted). “The state has an affirmative duty to take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible.” *Id.* at 445. The Sacramento-San Joaquin River Delta and the fisheries it supports, including Delta Smelt, fall squarely within the trust resources that the SWRCB is charged with protecting. *See id.* at 434-35. When diversions impair public trust resources like Delta Smelt, the SWRCB has the authority to modify or reduce the problematic diversions and a duty to reconsider those diversions. *Id.* at 447 (“Once the state has approved an appropriation, the public trust imposes a duty of continuing supervision over the taking and use of the appropriated water. In exercising its sovereign power to allocate water resources in the public interest, the state is not confined by

past allocation decisions which may be incorrect in light of current knowledge or inconsistent with current needs.”).¹

Further, when the fate of a species listed as threatened or endangered under the California Endangered Species Act (“CESA”)—like Delta Smelt—hangs in the balance, the SWRCB is *required* to exert its public trust authority to protect the resource. Under the public trust doctrine, the state is generally obligated to protect public trust resources to the extent that doing so is consistent with the public interest. *See id.* at 446-47. By enacting CESA, however, the California legislature balanced competing considerations and determined that protecting listed species is in the public interest, even when doing so may affect other interests. *See Cal. Fish and Game Code* §§ 2050 *et seq*; *see esp. id.* §§ 2052, 2053, 2055; *see also Cal. Trout, Inc. v. State Water Res. Control Bd.*, 218 Cal. App. 3d 187, 195 (1990) (explaining that the court considered sections of the Fish and Game Code intended to protect fish and concluded “the Legislature had resolved the competing claims for the beneficial use of water in these streams in favor of preservation of their fisheries”) (citing *Cal. Trout, Inc. v. State Water Res. Control Bd.*, 207 Cal. App. 3d 585, 622-625, (1989)). The SWRCB is required to adhere to this legislative determination regarding the prioritization of CESA-listed species, and may not balance away the protection of these public trust resources in favor of competing interests. *See Cal. Trout, Inc.*, 207 Cal. App. 3d at 631-32 (“We agree with the Water Board that the mandate of section 5946 is a specific legislative rule concerning the public trust. Since the Water Board has no authority to disregard that rule, a judicial remedy exists to require it to carry out its ministerial functions with respect to that rule. The Legislature, not the Water Board, is the superior voice in the articulation of public policy concerning the reasonableness of water allocation.”).

The SWRCB has previously acknowledged the priority that it must afford to CESA-listed species. For example, in Decision 1644, the SWRCB stated that, “in exercising authority over water rights in the lower Yuba River, the California Endangered Species Act *requires* the SWRCB to seek to conserve spring-run chinook salmon.” SWRCB Decision 1644 at 27, available at http://www.waterboards.ca.gov/waterrights/board_decisions/adopted_orders/decisions/d1600_d1649/wrd1644revised.pdf (emphasis added).

As the Delta Smelt approaches extinction, the SWRCB is legally—and morally—obligated to intervene and exercise its authority under the public trust doctrine to protect the species before it is gone forever.

To remedy ongoing public trust violations before the damage is irreversible, the SWRCB must act expeditiously through an emergency rulemaking. The SWRCB has clear authority to

¹ The SWRCB is an appropriate forum for addressing diversions that impair public trust resources. *See In re Water of Hallett Creek Stream Sys.*, 44 Cal. 3d 448, 472 n.16 (1988) (recognizing the standing “of any member of the general public to raise a claim of harm to the public trust” and indicating that “[s]uch claims may be brought in the courts or before the Board.” (citing *Nat’l Audubon Soc’y*, 33 Cal. 3d at 431 n.11, 449)).

adopt regulations to fulfill its duties under the public trust doctrine. *See* Cal. Water Code § 186(a) (“The board shall have any powers . . . that may be necessary or convenient for the exercise of its duties authorized by law.”); *id.* § 1058 (“The board may make such reasonable rules and regulations as it may from time to time deem advisable in carrying out its powers and duties under this code.”). And acting on an emergency basis pursuant to Government Code section 11346.1 is necessary and appropriate because, as described more fully below, a failure to act immediately could lead to the extinction of a species native to California and poses a serious threat to the general welfare. *See* Cal. Gov’t Code § 11342.545 (“‘Emergency’ means a situation that calls for immediate action to avoid serious harm to the public peace, health, safety, or general welfare.”). The SWRCB has previously recognized the need to fulfill its obligations to protect endangered fish by adopting emergency regulations. For example, on March 17, 2015, the SWRCB adopted an emergency regulation to curtail water diversions in order to provide minimum flows on Mill, Deer, and Antelope Creek to protect listed salmonids. Cal. Code Regs., tit. 23, §§ 877-879.21; *see* Water Rights Order 2015-0036-DWR.²

Because there is a dire need for immediate action, emergency proceedings are necessary. Once the emergency regulations are effective, the SWRCB should proceed with a normal rulemaking process to ensure the regulations can remain in place through and beyond the 2017 water year, unless and until the SWRCB completes and implements its long-overdue update of the Bay-Delta water quality control plan.

2. The SWRCB is permitting diversions that are highly likely to cause extinction of Delta Smelt, permanently impairing public trust resources.

There is no question that Delta Smelt are at the very brink of extinction. The species was already at great risk of extinction prior to the drought, and numerous surveys show that Delta Smelt have suffered dramatic declines in abundance over the past several years. The 2016 Drought Contingency Plan confirmed that “Delta Smelt field surveys this past [water year] indicate that relative abundance is at an historical low.” Central Valley Project and State Water Project 2016 Drought Contingency Plan For Water Project Operations, February - November 2016 (Jan. 15, 2016), available at http://www.water.ca.gov/waterconditions/docs/2016-DroughtContingencyPlan-CVP-SWPOperations-Feb-Nov_1.19.16-FINAL.pdf. According to the California Department of Fish and Wildlife (“CDFW”), “[t]he 2016 Spring Kodiak Trawl (SKT) index is 1.8. This is a decrease from the 2015 SKT index (13.8) and is the lowest SKT index on

² To protect salmonids in Mill, Deer, and Antelope Creeks, the SWRCB utilized its authority over waste and unreasonable use and acted on an emergency basis pursuant to Cal. Water Code § 1058.5. The public trust and reasonable use doctrines are intertwined, and if the SWRCB fails to act on the instant request pursuant to its public trust authority, we alternatively request that the SWRCB adopt emergency regulations to protect the Delta Smelt under its authority over waste and unreasonable use. *See, e.g., Light v. State Water Res. Control Bd.*, 226 Cal. App. 4th 1463, 1484 n.11 (2014) (“in general terms, the Board has the authority to find unreasonable a diversion of water . . . if that diversion is inconsistent with the public trust by creating a significant risk of salmonid mortality”).

record.” CDFW Memorandum, 2016 Index of Delta Smelt Relative Abundance from the Spring Kodiak Trawl (June 2, 2016). FWS has also acknowledged the Delta Smelt’s recent, precipitous decline: “[FWS] estimates that the current population of adult Delta Smelt is about 13,000 fish, compared to January and February 2015 when there was an estimated all-time low of 112,000 fish.” Steve Martarano, *Mathematician Uses Big Data to Save Tiny Smelt*, available at https://www.fws.gov/cno/newsroom/featured/2016/ken_newman/. Most recently, CDFW reported that the abundance index for Delta Smelt in the 2016 Summer Towntnet Survey is 0.0, “the second consecutive year in which low Delta Smelt catch resulted in an index of zero.” CDFW Memorandum, 2016 Summer Towntnet Survey Delta Smelt Abundance Index (July 8, 2016) (noting that 5 Delta Smelt were caught in the first two surveys, but catch was insufficient to produce an index value of 0.1).

Reductions in Delta outflow in the spring and summer months are a significant cause of the species’ decline in the past two years. Larval Delta Smelt distribution responds to changes in freshwater flow volumes through the Delta.³ Recent analyses of the relationship between X2 and subsequent abundance confirm that summer and fall abundances of Delta Smelt increase as spring outflows increase, particularly over the range of flows that move the low salinity zone beyond the river channels in the Delta to the pelagic waters of Suisun Bay.⁴ Recent scientific analyses by CDFW and FWS demonstrate that maintaining adequate Delta outflow during the summer months is also essential for juvenile Delta Smelt. It is well understood that juveniles become the predominant life-stage in the population by the end of June and remain the most common age-size classification through the summer and into the fall. These fish are most frequently found in salinities between 0.6 and ~3 psu—the fresher (eastward) edge of the low salinity zone.⁵ When these salinities occur in Suisun Bay, Delta Smelt can access high-quality pelagic habitats; if the low salinity zone is located in the channels of the Delta, juvenile Delta Smelt cannot access pelagic habitat of suitable salinity, temperature, and turbidity.⁶ Summer

³ See Dege, M., and L.R. Brown. 2004. Effect of outflow on spring and summertime distribution and abundance of larval and juvenile fishes in the upper San Francisco Estuary. *American Fisheries Society Symposium* 39:49–65; and Sommer, T., F. Mejia, M. Nobriga, F. Feyrer, and L. Grimaldo. 2011. The spawning migration of delta Smelt in the upper San Francisco Estuary. *San Francisco Estuary and Watershed Science* 9(2), available at: <http://www.escholarship.org/uc/item/86m0g5sz>.

⁴ Interagency Ecological Program, Management, Analysis and Synthesis Team (“MAST”). 2015. An updated conceptual model of Delta Smelt biology: our evolving understanding of an estuarine fish. Technical Report 90. Interagency Ecological Program for the San Francisco Bay/Delta Estuary; U.S. Fish and Wildlife Service. June 2016. Bay Delta Fish and Wildlife Office response to “Will Increasing Delta Outflow Help Delta Smelt?” authored by Dr. Scott Hamilton, Center for California Water Resources Policy & Management.

⁵ Nobriga, M. and B. Herbold. 2009. The Little Fish in California’s Water Supply: a Literature Review and Life-History Conceptual Model for delta Smelt (*Hypomesus transpacificus*) for the Delta Regional Ecosystem Restoration and Implementation Plan (DRERIP). California Department of Fish and Wildlife Ecosystem Restoration Program.

⁶ MAST 2015.

outflow thus appears to be essential for keeping the low salinity zone in a location where Delta Smelt can access high-quality habitats.

More specifically, the scientific evidence developed by both FWS and CDFW underscores that reductions in Delta outflow in the spring and summer months are likely a major cause of the species' recent decline and that increases are necessary to prevent extinction.⁷ For instance, FWS has concluded that recent statistical "results provide strong support for a role of Delta outflow on the population trend of Delta Smelt when its abundance the year prior has been accounted for," and conclude that increasing outflow is a viable method for increasing the population of Delta Smelt.⁸ FWS has also recently stated "that emerging science shows the importance of outflow to all life stages of Delta Smelt and to maintaining the primary constituent elements of designated critical habitat."⁹ Similarly, CDFW's conceptual models show that maintaining summer outflow should improve food supply for Delta Smelt and limit recruitment of invasive clams (*P. amurensis*) that impair food supply, reduce predation risk, and provide improved habitat and water quality conditions.¹⁰ Statistical analysis by CDFW demonstrated that,

In years following 2002, monthly outflow for July, August, and September was strongly correlated to summer survival (Figure 3). This relationship was strongest in the July and August months (r^2 of 0.736 and 0.679 respectively) and weakest in September ($R^2 = 0.423$). However, alternative regression analyses using first-difference data for each of these months also indicated significant association between the summer to fall Delta Smelt survival and mean Delta outflow. This emphasizes the consistent year-to-year covariation between survival and summer Delta outflow.¹¹

The best available scientific data—including multiple statistical analyses and life-cycle models—indicate that maintaining X2 at higher levels than required by D-1641 is necessary to prevent extinction of Delta Smelt.

Over the past several decades, SWRCB-permitted diversions and exports have significantly reduced Delta outflow in the spring and summer, contributing to the Delta Smelt's decline and the degradation of the public trust. As the SWRCB has acknowledged, the flow and water quality requirements in D-1641 are insufficient to ensure the health of the Bay-Delta Estuary and protect public trust resources. *See* SWRCB, Development of Flow Criteria for the

⁷ FWS, Bay Delta Fish and Wildlife Office response to Dr. Scott Hamilton; CDFW Memorandum, CDFW Rationale for Summer Delta Flow Augmentation (July 8, 2016).

⁸ FWS, Bay Delta Fish and Wildlife Office response to Dr. Scott Hamilton.

⁹ Acting Regional Director, FWS Region 8, Response to Request for Reinitiation of Section 7 Consultation Addressing Coordinated Long-Term Operation of the Central Valley Project (CVP) and State Water Project (SWP) (August 3, 2016).

¹⁰ CDFW Memorandum, CDFW Rationale for Summer Delta Flow Augmentation.

¹¹ *Id.*

Sacramento-San Joaquin Delta Ecosystem (2010), available at http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/final_rpt080310.pdf. An updated water quality control plan is long overdue.

During the drought, the SWRCB has repeatedly waived water quality standards including Delta outflow requirements, further starving the estuary of critical freshwater flows. By granting Reclamation and DWR's Temporary Urgency Change Petitions in 2014 and 2015, the SWRCB weakened water quality standards to provide more than 1.35 million acre feet of additional water supply (more than 450,000 acre feet in 2014 and over 900,000 acre feet in 2015) at the expense of declining fish populations. See SWRCB Summary Tables at http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/tucp/accounting_reports/docs/2014_final_cwareport.pdf and http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/tucp/accounting_reports/docs/dwr2015nov_droughtacct.pdf. The SWRCB's failure to update and implement water quality standards in a timely manner and its waiver of existing standards have permitted diversions that have substantially limited Delta outflow, starving the estuary of fresh water and contributing to the Delta Smelt's decline.

3. The U.S. Fish and Wildlife Service has outlined actions that must occur immediately to avoid catastrophic consequences for Delta Smelt.

Providing adequate Delta outflow immediately is critical to ensuring the continued existence of the Delta Smelt. Recognizing the essential nature of Delta outflow, on June 1, 2016, FWS described the conditions necessary to maintain adequate Delta Smelt habitat for the remainder of the water year:

Last week, X2 was at about 74 km, a location that provides relatively good habitat conditions for Delta Smelt. Continuing to maintain X2 in this position would help to sustain Delta Smelt through the end of the water year. Allowing X2 to move no more eastward than 81 km through the end of the water [year] is critical to maintaining adequate habitat quality for Delta Smelt. Without action to provide adequate habitat, we risk continued declines in Delta Smelt abundance.

FWS Memorandum (June 1, 2016), available at https://www.fws.gov/sfbaydelta/documents/Smelt_working_group/R8_Signed_Determination_Memo_to_BOR_06-01-2016.pdf (emphasis added). In light of record-low Delta Smelt abundance, we simply cannot afford further declines.

Despite this urgent call, responsible regulatory agencies, including the SWRCB, failed to take action to implement and meet minimally protective outflow conditions during the summer of 2016. Since June 1, 2016, X2 has been consistently and nearly constantly eastward of 81 km, demonstrating the inadequacy of D-1641 and current regulatory requirements to provide adequate protection. Without immediate action from the SWRCB, Delta outflow in the coming

months and years will likely be insufficient to meet the minimum requirements that FWS has indicated are necessary to safeguard Delta Smelt.

Though DWR and Reclamation appear to acknowledge that merely adhering to D-1641's outflow requirements is inadequate, their proposed strategy does not provide the Delta outflow necessary to ensure that X2 moves no further east than 81 km. On July 12, 2016, the California Natural Resources Agency released a Delta Smelt Resiliency Strategy ("Strategy"). With respect to actions to augment Delta outflow, the Strategy states that, "[i]n 2016, Reclamation will provide 85 thousand acre-feet (TAF) to 200TAF additional outflow above what is required under D-1641 for release in the summer." Delta Smelt Resiliency Strategy at 7, available at <http://resources.ca.gov/docs/Delta-Smelt-Resiliency-Strategy-FINAL070816.pdf>. But these promised resources have not materialized, nor prevented X2 from moving far eastward of 81 km. Nor was the inadequacy of this Strategy a surprise. Indeed, a Reclamation spokesperson explicitly acknowledged that "[w]e're fairly confident we'll get some water, but I don't think we'll get anywhere close to the top end of this range that's in this document." State's Delta Smelt plan calls for more water flowing to sea, Sacramento Bee (July 12, 2016), available at <http://www.sacbee.com/news/state/california/water-and-drought/article89089322.html>. To date, Reclamation has not released any additional water to augment Delta outflow for Delta Smelt in 2017, and we understand that they will not do so this year.

For 2017 and 2018, the Strategy states that "up to an additional" 250 TAF will be provided, yet provides no assurances that those resources will be provided or that they will be adequate to maintain X2 at or more westward of 81 km. Additionally, the Strategy only discusses the summer months and does not address the need to maintain a safe X2 position for the remainder of the water year.¹² The Strategy identifies no actions by DWR to make any additional contribution to Delta outflow in 2016.

Urgent action by the SWRCB to maintain X2 at a location no further east than 81 km is clearly needed to ensure that Delta Smelt extinction is avoided.

4. Pursuant to its public trust obligations, the SWRCB must intervene and adopt emergency regulations to ensure sufficient Delta outflow to protect Delta Smelt from extinction.

¹² The other proposed management actions included in the Resiliency Strategy do not reduce the need to augment Delta outflow. CDFW's own analysis clearly indicates that maintaining increased summer outflow (compared to D-1641) is essential for Delta Smelt, and that adequate outflow is critical to provide habitat conditions that reduce predation, improve food supply, and avoid harmful algal blooms. See CDFW Memorandum, CDFW Rationale for Summer Delta Flow Augmentation.

Permitting diversions that reduce Delta outflow below the levels that are necessary to prevent extinction of the Delta Smelt is a clear violation of the SWRCB's public trust obligations. Accordingly, we request that the SWRCB immediately adopt emergency regulations requiring that X2 be maintained no more eastward than 81 km through September 30, 2016, and requiring that diversions causing X2 to move further eastward be curtailed.

Once the emergency regulations are effective, the SWRCB should proceed through the regular rulemaking process to require that X2 be maintained no more eastward than 81 km from June 1 through September 30, unless and until the SWRCB implements adequate outflow under an updated Bay-Delta water quality control plan. If the regular rulemaking process is not completed before June 1, 2017, the SWRCB should readopt the emergency regulations to require that X2 move no further east than 81 km from June 1, 2017 through September 30, 2017. *See* Cal. Gov't Code § 113461.1(h). An X2 location of 81 km provides the minimum habitat conditions necessary to protect Delta Smelt—to the extent that implementation of other laws, regulations, or actions would result in an X2 location westward of 81 km, those more protective laws, regulations, or actions can and should prevail. This action is absolutely necessary in light of the profound consequences that are likely to occur if the SWRCB continues to stand idly by while the CVP and SWP are permitted to reduce outflow below the levels required to sustain our last remaining Delta Smelt.

Given the extremity of the threat to the continued survival of the Delta Smelt, the SWRCB should also consider other, more experimental actions within its authority to protect the species. For instance, reoperation of the Suisun Marsh Salinity Control Gates ("SMSCG") to reduce salinity in the Suisun Marsh during summer months was identified by the California Resources Agency in its Delta Smelt Resiliency Plan as a measure that may also help to reduce the grave risk to Delta Smelt, and the SWRCB should consider requiring the SMSCG to be reoperated in order to attract Delta Smelt into the Marsh, in conjunction with the Delta outflow augmentation specified by FWS. Since 2005, 75% of all Delta Smelt in the CDFW Summer Tow Net Survey were captured along the northern shore of Suisun Bay and remaining areas of low salinity in Suisun Marsh, indicating that this region is of critical importance to the species during summer. Suisun Marsh also typically has higher food (copepod) densities than adjacent Suisun Bay such that juvenile Delta Smelt from the marsh exhibit higher body condition indices than elsewhere.¹³ Moreover, flooding areas of the marsh adjacent to natural sloughs can provide localized cooling, increasing the likelihood that suitable water temperatures may occur for Delta

¹³ Bennett, W.A., J.A. Hobbs, and S.J. Teh. 2008 Interplay of environmental forcing and growth selective mortality in the poor year-class success of delta smelt in 2005. Final Report submitted to IEP. Available at: http://www.science.calwater.ca.gov/pod/pod_reports.html; Moyle, P.B., A.D. Manfree, and P.L. Fiedler, editors. 2014. Suisun Marsh: Ecological History and Possible Futures. University of California Press; Hammock, B.G., J.A. Hobbs, S.B. Slater, S. Acuna, and S.J. Teh. 2015. Contaminant and food limitation stress in an endangered estuarine fish. *Science of the Total Environment* 532: 316-326.

Smelt in parts of the marsh.¹⁴ Contrary to the Resources Agency's incorrect suggestion that this action is an alternative to increasing outflow, reoperation of the SMSCG relies on the availability of relatively fresh water that can flow into the Marsh and therefore would need to be implemented in concert with outflow augmentation, not as an alternative to it (also see footnote 12).

We note that the actions required to protect Delta Smelt must be taken in the context of the SWRCB's broader obligation to safeguard public trust resources. As the SWRCB is well aware, several salmon runs have been decimated by poor management of temperatures on the Sacramento River during the last several years. DWR and Reclamation have proposed a temperature management plan for 2016 that is intended, among other things, to avoid the loss of a third year class of endangered winter-run Chinook salmon. Reservoir operations to date have already resulted in measureable (and avoidable) losses to winter-run and fall-run Chinook salmon, and failure to successfully and faithfully execute the 2016 temperature plan could result in catastrophic losses to both runs. To ensure the continued existence of Delta Smelt and winter- and spring-run Chinook salmon and the successful reproduction of fall-run Chinook salmon, the SWRCB must increase Delta outflow in a manner that does not impair Reclamation's ability to comply with its temperature-related obligations on the Sacramento River, such as by requiring DWR to shoulder a fair share of its obligations to protect public trust resources. Further, the SWRCB must increase Delta outflow in a manner that does not interfere with Reclamation's ability to comply with its Central Valley Project Improvement Act refuge water supply obligations, or with Reclamation's and DWR's obligations to protect water quality, fish, and wildlife resources throughout the Central Valley. This will likely entail some combination of increasing releases from reservoirs other than Shasta, prohibiting downstream diversion of such releases, and further reducing diversions from the watershed and exports to junior water contractors from the Delta to a level commensurate with maintaining the essential Delta outflows for survival of Delta Smelt.

Sincerely,



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¹⁴ Enright, C., S.D. Culberson, and J.R. Burau. 2013. Broad timescale forcing and geomorphic mediation of tidal marsh flow and temperature dynamics. *Estuaries and Coasts* 36:1319-1339.

*Defenders, NRDC, and TBI request for emergency regulations
August 9, 2016*

Cc: SWRCB Chair Felicia Marcus
SWRCB Vice Chair Frances Spivy-Weber
SWRCB Member Dorene D'Adamo
SWRCB Member Tam Doduc
SWRCB Member Steven Moore