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November 23, 2019

Via Certified Mail (Priority), Return Receipt Requested

David Bernhardt
Secretary of the Interior
Department of the Interior
1849 C St., NW
Washington, D.C. 20240

Brenda Burman
Commissioner of Reclamation
Bureau of Reclamation
1849 C St., NW
Washington, D.C. 20240

Re: Sixty-Day Notice of Intent to Sue for Violations of the Endangered Species Act and Administrative Procedure Act Regarding Reliance on Invalid Biological Opinions and Failure to Insure that Operations of the Central Valley Project will not Jeopardize ESA-Listed Species or Adversely Modify Critical Habitat

Secretary Bernhardt and Commissioner Burman:

This letter provides notice, pursuant to section 11(g) of the Endangered Species Act ("ESA"), of the intent of Natural Resources Defense Council, Defenders of Wildlife, Pacific Coast Federation of Fishermen's Associations, Institute for Fisheries Resources, Golden State Salmon Association, and The Bay Institute to file a citizen suit against the Bureau of Reclamation ("Reclamation") for violations of the ESA and its implementing regulations. These violations arise from Reclamation's arbitrary and capricious reliance on invalid biological opinions, and Reclamation's failure to insure that its operations of the Central Valley Project are not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of the critical habitat of such species. *See* 16 U.S.C. §1536(a)(2). Specifically, as described below, the federal National Marine Fisheries Service ("NMFS") and U.S. Fish and Wildlife Service ("FWS") on October 21, 2019, issued biological opinions concerning Reclamation's operation of the Central Valley Project ("CVP") that are arbitrary, capricious, and contrary to the ESA. 16 U.S.C. §1536; 5 U.S.C. §706. Reclamation's acceptance of and reliance on those flawed biological opinions is arbitrary and

capricious and violates Reclamation's independent duty under Section 7 of the ESA to insure that its operations of the Central Valley Project are not likely to jeopardize the continued existence of any listed species, or result in the destruction or adverse modification of designated critical habitat. *See* 16 U.S.C. §1536(a)(2). In light of the substantive and procedural flaws in the biological opinions, as well as in the Biological Assessment completed by Reclamation that informed those opinions, Reclamation's adoption and implementation of the CVP operations authorized in those biological opinions will violate Reclamation's independent ESA section 7 duties. In addition, because the incidental take statements included in the biological opinions are invalid and contrary to law, relying on those statements to take listed species is arbitrary and capricious, and will cause Reclamation to violate section 9 of the ESA. The incidental take statements also fail to provide sufficiently explicit or lawful authorization for take likely to occur, and thus will cause Reclamation to further violate section 9 of the ESA. If Reclamation does not fulfill its section 7 duties under the ESA by rejecting and refusing to implement the biological opinions, reinitiating consultation under section 7 to alter its proposed action to adequately insure that its operations of the CVP are not likely to cause jeopardy or the adverse modification of critical habitat, and operating the CVP pursuant to the 2008 and 2009 biological opinions until valid new biological opinions and incidental take statements are issued, the organizations represented by the undersigned intend to file suit after the 60-day period has run.[1]

I. BACKGROUND

A. The Central Valley Project

Reclamation and the California Department of Water Resources ("DWR") jointly manage and operate the dams, reservoirs, and other facilities in the Sacramento-San Joaquin River Bay-Delta watershed, including the legal Delta and the Sacramento and San Joaquin river systems that feed the Delta, as part of the Central Valley Project ("CVP"), managed by the federal government, and the State Water Project ("SWP"), managed by the State of California. The

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[1] The undersigned send Reclamation this notice in order to fulfill the ESA notice provision's purpose of providing the agency an opportunity to take action to ensure compliance with the ESA and thereby render a citizen suit unnecessary. To avoid suit for violating the ESA, Reclamation must reinitiate consultation to rectify the biological opinions' deficiencies, and alter its proposed action to adequately insure that its operations of the CVP are not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of critical habitat of such species. The undersigned recognize that Reclamation will be best able to take such corrective action *before* it finalizes implementation of its proposed and intended action; after Reclamation issues a final Record of Decision, its ability to alter the finally-approved operations of the CVP to ensure ESA compliance may be constrained. Because Reclamation has made its intent to carry out the proposed action clear through its Notice of Intent, Biological Assessment, participation in the section 7 consultation process, and apparent reliance on the biological opinions released in October 2019, the undersigned at this time provide notice of that proposed action's unlawfulness and harm to listed species, in order to abide by Congress's intent that conflicts be resolved "*before* harm to a species occurs." *See Forest Conservation Council v. Rosboro Lumber Co.*, 50 F.3d 781, 786 (9th Cir. 1995) (quoting S. Rep. No. 97-418, at 24 (1982) *reprinted in* 1982 U.S.C.C.A.N. at 1411).

coordinated operations of these two projects includes the massive pumping facilities in the Delta, which on average export millions of acre feet of water annually out of the Delta for delivery to irrigation agencies and other water districts. The operations of these pumps have altered natural flow patterns in the Delta, and even cause the flow in Old and Middle Rivers, two channels in the Delta, to flow backwards at times toward the pumps.

Reclamation is the designated federal agency responsible for operating the CVP. The CVP alone is one of the largest water projects in the world, annually managing, on average, more than 11 million acre-feet of water. It comprises approximately 20 dams and reservoirs (including some of the largest storage facilities in the state, such as the Shasta and Keswick Dams on the Sacramento River, the Trinity Dam on the Trinity River, Whiskeytown Dam on Clear Creek, and Folsom Dam on the American River), the Tracy Pumping Plant, and some 500 miles of canals, as well as conduits, tunnels, power plants, and related facilities. Reclamation's management of this vast system has had devastating impacts on threatened and endangered species.

B. Relevant Listed Species

The Sacramento-San Joaquin River watershed is home to a number of fish species listed as endangered or threatened under the ESA. As reflected by their listings, these species have been in dramatic decline for decades, in no small part due to the human alteration and management of the watershed, including CVP operations.

1. The Sacramento Winter-Run Chinook Salmon

The Sacramento-San Joaquin River watershed is home to the endangered Sacramento River winter-run Chinook salmon ("winter-run Chinook"). NMFS oversees the welfare of these anadromous fish species.

The winter-run Chinook's population has declined precipitously since the early 1980s, from an estimated historic high of 117,808 in 1969 to as few as 191 adult individuals returning to spawn in 1991. The winter-run Chinook was declared threatened on November 5, 1990 (55 Fed. Reg. 46515) and reclassified as endangered on January 4, 1994 (59 Fed. Reg. 440). NMFS re-affirmed the listing of the winter-run Chinook as an endangered species on June 28, 2005. 70 Fed. Reg. 37160, 37191. Critical habitat was first designated on August 4, 1989 (54 Fed. Reg. 32085), to include the portion of the Sacramento River from Red Bluff Diversion Dam in Tehama County (River Mile 243) to Keswick Dam in Shasta County (River Mile 302), including adjacent riparian areas as well as the river water and river bottom. On June 16, 1993, critical habitat was extended downstream to Chipps Island (River Mile 0) at the westward margin of the Sacramento-San Joaquin Delta. 58 Fed. Reg. 33212. Critical habitat now includes all waters from Chipps Island westward to Carquinez Bridge, including Honker Bay, Suisun Bay, and Carquinez Strait, all waters of San Pablo Bay westward of the Carquinez Bridge, and all waters of San Francisco Bay (north of the San Francisco-Oakland Bay Bridge) from San Pablo Bay to the Golden Gate Bridge. *Id.*

According to NMFS, winter-run Chinook are now one of the most endangered fish species in the United States. The species has been reduced to a single population that spawns on the Sacramento River, with only a few thousand fish returning each year. In 2009, NMFS stated that the winter-run Chinook was "at high risk of extinction" and warned that a prolonged drought could have devastating effects on the species. This vulnerability manifested itself during the 2012 to 2015 drought, when increased water temperatures in the upper Sacramento River had lethal impacts on winter-run Chinook eggs and fry. Specifically, during 2014 and 2015, Reclamation's operation of Shasta Dam resulted in high temperatures that caused two consecutive year class failures, with egg-to-fry survival rates of only 5.6 percent and 4.2 percent in 2014 and 2015, respectively. As a result of this high juvenile mortality, winter-run Chinook salmon returns were low in 2016 to 2018, with only 977 adults returning in 2017. Moreover, on average 66 percent of spawning winter-run Chinook were hatchery-origin from 2016 to 2018, which surpasses the fifty percent high risk threshold for negative hatchery influence. These extremely low abundance levels and high hatchery percentages, among other factors, mean the species is at grave risk of extinction.

2. The Central Valley Spring-Run Chinook Salmon

The threatened Central Valley spring-run Chinook salmon ("spring-run Chinook") were historically one of the most abundant salmon runs in the Central Valley and on the west coast of the United States. Between the 1880s and 1940s, the Central Valley supported as many as 600,000 spring-run Chinook salmon per year, including a large run in the San Joaquin River. As a result of habitat loss, however, naturally-produced spring-run Chinook salmon have been extirpated from the San Joaquin River, and populations in the Sacramento River basin have drastically declined. Spring-run Chinook salmon currently exist in the Sacramento River, the Feather River, and several tributaries including Mill, Deer, and Butte Creeks. In addition, salmon exhibiting spring-run Chinook salmon life history have been observed in the Tuolumne and Stanislaus rivers in recent years. Only remnant independent natural spring-run Chinook populations survive. These remnant populations represent the last vestige of the once robust populations in the Sacramento-San Joaquin River system.

The Central Valley spring-run Chinook salmon was listed as threatened on September 16, 1999. 64 Fed. Reg. 50394. NMFS reaffirmed its threatened status on June 28, 2005. 70 Fed. Reg. 37160, 37191. On September 2, 2005, NMFS published the final designation of critical habitat for the spring-run Chinook, which is described and illustrated in detail in the Federal Register at 70 Fed. Reg. 52488, 52518, and 52590-52603.

In 2016, the California Department of Fish and Wildlife estimated that only 8,112 spring-run Chinook salmon returned to spawn in the Sacramento River, its tributaries, and the Feather River hatchery. Declines in abundance from 2005 to 2016 in Mill Creek and Deer Creek placed those populations at high risk of extirpation. In 2018, only 152 and 159 spring-run Chinook were estimated to have returned to Mill and Deer Creeks, respectively, which estimates are among the lowest numbers since records began in 1960.

CVP operations, including water storage and exports, impact spring-run Chinook salmon by, among other things, creating high water temperatures, dewatering redds, and altering the physical and biological features of the legal Delta, through which spring-run Chinook must pass on their way to the Pacific Ocean as juveniles and again as adults when returning to spawn.

3. The Delta Smelt

The Delta Smelt is a native estuarine species found in the Delta that spends its entire life span in the Delta. It was listed as threatened under the ESA in 1993. *See* 58 Fed. Reg. 12854 (March 5, 1993) (threatened). In 2010, the U.S. Fish and Wildlife Service determined that the Delta Smelt's status warranted reclassifying its listing as endangered, but found that the agency was precluded from doing so by competing actions. 73 Fed. Reg. 39639 (July 10, 2008) (ninety-day endangerment finding); 75 Fed. Reg. 17667 (April 7, 2010) (warranted but precluded). The Delta Smelt's designated critical habitat encompasses all waters and submerged lands within the Delta, including those at the pumping plants for the CVP and the SWP. *See* 59 Fed. Reg. 65256 (Dec. 19, 1994). Historically, Delta Smelt was one of the most common and abundant pelagic fishes in the estuary. Since the early 1980s, however, its abundance has declined by more than ninety-nine percent. Recent surveys report unprecedented and historically low abundance levels and confirm that the species is more vulnerable than ever. Population viability analyses conducted for the species indicate that the risk for extinction within the next twenty years is high. In 2018, the Fall Midwater Trawl survey caught no Delta Smelt and resulted in a Fall Midwater Trawl index of zero for the first time. The population of Delta Smelt has declined so much that the species is "essentially undetectable" in the Fall Midwater Trawl or Summer Townet Survey. In 2019, FWS estimated that the entire population was 5,610 Delta Smelt, the lowest on record.

The operations of the CVP and SWP have been major factors in the Delta Smelt's decline and its listing under the ESA, including by causing salinity levels to rise, reducing water flowing through the Delta into San Francisco Bay, significantly altering natural flow patterns, and causing fish to be entrained and killed in the pumping systems. Limiting the number of Delta Smelt that are entrained and killed in the pumping plants and maintaining a minimum level of Delta outflow (the amount of water flowing through the Delta and into the San Francisco Bay Estuary) during certain times of the year are critical to protecting estuarine habitat in the Delta and to the abundance of Delta Smelt.

4. The Central Valley Steelhead

Historically, Central Valley steelhead were abundant throughout the Sacramento and San Joaquin River systems, with an estimated population of one to two million adults annually. The populations have declined dramatically, down to an estimated 40,000 or fewer in the early 1960s and to much lower levels today.

Central Valley steelhead were listed as threatened on March 19, 1998. 53 Fed. Reg. 13347. Critical habitat was designated for the Central Valley steelhead on August 12, 2005. 70 Fed. 52488, 52518. On January 5, 2006, NMFS issued a final regulation listing the Central Valley steelhead as a threatened Distinct Population Segment ("DPS"), thereby maintaining its

"threatened" status. 71 Fed. Reg. 834. The regulation became effective February 6, 2006. Critical habitat was designated for Central Valley steelhead on September 2, 2005. 70 Fed. Reg. 52488, 52518.

The NMFS 5-year status reviews of the Central Valley steelhead in 2011 and 2016 found that natural production of steelhead has remained very low and has declined since 2011, suggesting that the population is declining. In addition, both status reviews concluded that the population is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Most natural-origin Central Valley steelhead populations are very small and may lack the resiliency to persist for protracted periods if subjected to additional stressors such as climate change or heightened impacts from CVP operational changes that maximize water exports and deliveries.

II. LEGAL FRAMEWORK

A. Section 7 of the Endangered Species Act

The ESA's fundamental purpose is to conserve endangered and threatened species and the ecosystems upon which they depend for survival and recovery. 16 U.S.C. §1531(b). Endangered Species Act section 7(a)(2) therefore provides that "[e]ach federal agency *shall* . . . *insure* that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [critical] habitat of such species." *Id.* §1536(a)(2) (emphasis added).[2] This obligation to "insure" against a likelihood of jeopardy or adverse modification requires federal agencies to give the benefit of the doubt to endangered species and to place the burden of protecting against risk and uncertainty on the agency. *See Ariz. Cattle Growers' Ass'n v. Salazar*, 606 F.3d 1160, 1166 (9th Cir. 2010).

Section 7's substantive protections are implemented in part through the consultation process, which Congress designed explicitly "to ensure compliance with the [ESA's] substantive provisions." *Thomas v. Peterson*, 753 F.2d 754, 764 (9th Cir. 1985). Pursuant to that process, federal agencies must consult with the appropriate federal fish and wildlife agency to evaluate the effects of the agency action in question on listed species and their critical habitat. *See id.*; *see also Karuk Tribe of Cal. v. U.S. Forest Serv.*, 681 F.3d 1006, 1020 (9th Cir. 2012) (en banc) (noting that the purpose of section 7(a)(2) consultation is to "obtain the expert opinion of wildlife agencies"). To this end, the action agency provides the consulting agency with a Biological Assessment outlining the action and the effects of that action on the species. 16 U.S.C. §1536(c); 50 C.F.R. §402.12. An action agency requesting formal consultation is required to

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[2] "Jeopardize the continued existence of means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." 50 C.F.R. §402.02. "Destruction or adverse modification means a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species. Such alterations may include, but are not limited to, those that alter the physical or biological features essential to the conservation of a species or that preclude or significantly delay development of such features." *Id.*

provide the consulting agency with "the best scientific and commercial data available or which can be obtained during the consultation for an adequate review of the effects that an action may have upon listed species or critical habitat." 50 C.F.R. §402.14(d).

Agencies must fulfill the consultation process "*before* engaging in a discretionary action which may affect listed species." *Turtle Island Restoration Network v. Nat'l Marine Fisheries Serv.*, 340 F.3d 969, 974 (9th Cir. 2003) (emphasis added); *see also Nat. Res. Def. Council v. Houston*, 146 F.3d 1118, 1129 (9th Cir. 1998) ("The failure to respect the process mandated by law cannot be corrected with post-hoc assessments of a done deal."). As the Ninth Circuit has explained, "[i]f a project is allowed to proceed without substantial compliance with those procedural requirements, there can be no assurance that a violation of the ESA's substantive provisions will not result." *Thomas*, 753 F.2d at 764.

At the close of the formal consultation process, the consulting agency must issue a "biological opinion" in which the agency determines whether the proposed activity is likely to jeopardize the continued existence and recovery of a listed species or result in the destruction or adverse modification of its critical habitat, and provides the reasons supporting the biological opinion's conclusion and the information upon which it is based. 16 U.S.C. §1536(b)(3)(A); 50 C.F.R. §402.14(g)(4), (h). In formulating its biological opinion, the consulting agency must use the best scientific and commercial data available. 16 U.S.C. §1536(a)(2); 50 C.F.R. §402.14(g)(8).

In addition, the ESA requires a biological opinion to analyze the effects of the entire action authorized by the agency. Specifically, section 7(a)(2) of the ESA, 16 U.S.C. §1536(a)(2), requires that a consulting agency consider the "entire agency action" in a consultation that is "coextensive" with the extent and duration of the action. *Conner v. Burford*, 848 F.2d 1441, 1453, 1458 (9th Cir. 1988); *see, e.g.*, *Wild Fish Conservancy v. Salazar*, 628 F.3d 513, 521–25 (9th Cir. 2010) (holding that a biological opinion was arbitrary and capricious where the Fish and Wildlife Service "committed legal error by limiting the scope of the action to five years"). The term "agency action" must be defined broadly because "caution can only be exercised if the agency takes a look at all the possible ramifications of the agency action." *Burford*, 848 F.2d at 1453 (brackets omitted) (quoting *N. Slope Borough v. Andrus*, 642 F.2d 589, 608 (D.C. Cir. 1980)).

To assess whether a project will jeopardize the continued existence and recovery of the species or adversely affect its critical habitat, a biological opinion may consider conservation or mitigation measures that are included with the proposed project. However, any such "[m]itigation measures supporting a biological opinion's no jeopardy conclusion must be 'reasonably specific, certain to occur, and capable of implementation; they must be subject to deadlines or otherwise enforceable obligations; and most important, they must address the threats to the species in a way that satisfies the jeopardy and adverse modification standards.'" *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 839 F. Supp. 2d 1117, 1125-26 (D. Or. 2011) (quoting *Ctr. for Biological Diversity v. Rumsfeld*, 198 F. Supp. 2d 1139, 1152 (D. Ariz. 2002));

see Ctr. for Biological Diversity v. U.S. Bureau of Land Mgmt., 698 F.3d 1101, 1117 (9th Cir. 2012); *Nat. Res. Def. Council v. Kempthorne*, 506 F. Supp. 2d 322, 350–57 (E.D. Cal. 2007).

If the consulting agency concludes that a proposed action is likely to jeopardize a listed species or adversely modify its critical habitat, the agency must propose reasonable and prudent alternatives that will mitigate the proposed action to avoid jeopardy and adverse habitat modification. *See* 16 U.S.C. §1536(b)(3). If the consulting agency concludes that a proposed agency action will not jeopardize the continued existence of a species but is likely to result in incidental takings, it issues an "incidental take statement" with the biological opinion. 16 U.S.C. §1536(b)(4); 50 C.F.R. §402.14(i).

The incidental take statement must "specif[y] the impact"—that is, the amount or extent—"of such incidental taking on the species," as well as "those reasonable and prudent measures . . . necessary or appropriate to minimize such impact." 16 U.S.C. §1536(b)(4); 50 C.F.R. §402.14(i)(1)(i). The statement acts as a safe harbor, exempting the specified amount of incidental taking from the take prohibition of ESA section 9. The level of take authorized in the incidental take statement must be tied to the scope of the proposed action and its effects that are analyzed in the underlying biological opinion; a take statement is invalid if it is broader and allows for more take than is anticipated and supported by a valid biological opinion. *See Oregon Nat. Res. Council v. Allen*, 476 F.3d 1031, 1036–37 (9th Cir. 2007).

"If during the course of the action the amount or extent of incidental taking, as specified [in the statement], is exceeded, the Federal agency must reinitiate consultation immediately." 50 C.F.R. §402.14(i)(4). To effectuate the reinitiation requirement, an incidental take statement must "establish a *meaningful* trigger for renewed consultation," which requires that the action agency be "capable of quantifying take to determine when the trigger has been met." *Wild Fish Conservancy*, 628 F.3d at 532 (emphasis added); *see also Oregon Nat. Res. Council v. Allen*, 476 F.3d at 1041 ("[A] limitation on take . . . cannot be so indeterminate as to prevent the Take Statement from contributing to the monitoring of incidental take by eliminating its trigger function."). The consulting agency "is responsible for specifying in the [incidental take] statement how the action agency is to monitor and report the effects of the action on listed species." *Wild Fish Conservancy*, 628 F.3d at 532.

"A surrogate (*e.g.*, similarly affected species or habitat or ecological conditions) may be used to express the amount or extent of anticipated take." 50 C.F.R. §402.14(i)(1)(i). However, such use of a surrogate requires that the biological opinion or incidental take statement "[d]escribe[] the causal link between the surrogate and take of the listed species" and "explain[] why it is not practical to express the amount or extent of anticipated take or to monitor take-related impacts in terms of individuals of the listed species." *Id.*; *see also Oregon Nat. Res. Council*, 476 F.3d at 1037 ("Congress has clearly declared a preference for expressing take in numerical form, and an Incidental Take Statement that utilizes a surrogate instead of a numerical cap on take must explain why it was impracticable to express a numerical measure of take."). In other words, "the agency must articulate a rational connection between the surrogate and the taking of the species." *Wild Fish Conservancy*, 628 F.3d at 530. In addition, use of a surrogate

requires that the incidental take statement "set[] a clear standard for determining when the level of anticipated take has been exceeded." 50 C.F.R. §402.14(i)(1)(i). The Ninth Circuit "has rejected a surrogate trigger so vague that it failed to 'provide a clear standard for determining when the authorized level of take has been exceeded,' and a surrogate so broad—'all spotted owls' associated with the project—that it 'could not adequately trigger reinitiation of consultation.'" *Wild Fish Conservancy*, 628 F.3d at 531 (first quoting *Ariz. Cattle Growers' Ass'n*, 606 F.3d at 1251, then quoting *Or. Natural Res. Council*, 476 F.3d at 1038).

Ultimately, if the consulting agency's biological opinion fails to meet these ESA requirements, or if the agency fails to make a rational decision on the record before it, the biological opinion is invalid as "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. §706(2)(A). Thus, the consulting agency must always "articulate[] a rational connection between the facts found and the conclusions made" in a biological opinion. *Wild Fish Conservancy*, 628 F.3d at 525 (brackets in original). "'[I]f the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise,' the agency action may be overturned as unlawful." *Pac. Coast Fed'n of Fishermen's Ass'ns v. Bureau of Reclamation,* 426 F.3d 1082, 1090 (9th Cir. 2005) (quoting *Motor Vehicle Mfrs. Ass'n v. State Farm Mutual Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)).

Even after the procedural requirements of consultation are complete, the ultimate duty to ensure that an activity does not jeopardize a listed species lies with the action agency (here, Reclamation). Because Section 7 includes "*substantive* obligations," an action agency cannot "abrogate its responsibility to ensure that its actions will not jeopardize a listed species" simply by requesting formal consultation or by relying on the mere fact that a consultation occurred. *Pyramid Lake Paiute Tribe of Indians v. U.S. Dep't of the Navy*, 898 F.2d 1410, 1415 (9th Cir. 1990); *see also Res. Ltd. v. Robinson*, 35 F.3d 1300, 1304 (9th Cir. 1994) ("Consulting with the FWS alone does not satisfy an agency's duty under the Endangered Species Act."); *City of Tacoma v. FERC*, 460 F.3d 53, 75-76 (D.C. Cir. 2006) ("[T]he ultimate responsibility for compliance [with Section 7] . . . falls on the action agency."). Moreover, the decision to rely on a consulting agency's opinion must not be arbitrary and capricious. *Res. Ltd.*, 35 F.3d at 1304; *see also Lone Rock Timber Co. v. U.S. Dep't of the Interior*, 842 F. Supp. 433, 440 (D. Or. 1994) ("Consultation is not an end in itself, but merely the means to reach a reasoned decision."). An action agency's reliance on an inadequate, incomplete, or flawed biological opinion to satisfy its duty to avoid jeopardy is arbitrary and capricious and violates the ESA. *Wild Fish Conservancy v. Salazar*, 628 F.3d 513, 532 (9th Cir. 2010) ("Arbitrarily and capriciously relying on a faulty Biological Opinion violates this [section 7 substantive] duty."); *see, e.g., id.* (holding that the action agency "violated its substantive duty to ensure that its operations and maintenance did not [cause jeopardy]" because its "reliance on a legally flawed biological opinion was arbitrary and capricious"); *Pyramid Lake Tribe of Indians v. U.S. Navy*, 898 F.2d 1410, 1415 (9th Cir. 1990);

Stop H-3 Ass'n. v. Dole, 740 F.2d 1442, 1460 (9th Cir. 1984) (failure of action agency to independently consider whether its actions jeopardize species is arbitrary and capricious).

The substantive duty imposed by section 7(a)(2) is constant and continuing, relieved only by an exemption from the Endangered Species Committee. 16 U.S.C. §1536(h); *Conner v. Burford*, 848 F.2d 1441, 1452 n.26 (9th Cir. 1988). Thus, the substantive duty not to jeopardize listed species (or adversely modify critical habitat) remains in effect regardless of the status of the consultation.

Finally, Section 7(d) of the ESA prohibits federal agencies, after the initiation of consultation, from making any "irreversible or irretrievable commitment of resources" if doing so would foreclose the implementation of reasonable and prudent alternatives. 16 U.S.C. §1536(d); *see Natural Resources Defense Council v. Houston*, 146 F.3d 1118, 1128 (9th Cir. 1998) (section 7(d) violated where the Bureau executed water service contracts prior to completion of formal consultation); *Marsh,* 816 F.2d at 1389 (construction of highway outside species' habitat barred by section 7(d) pending completion of consultation). This prohibition remains in effect until the procedural requirements of section 7(a)(2) are lawfully satisfied, 50 C.F.R. §402.09, and it ensures that section 7(a)(2)'s substantive mandate is met. *See, e.g., Pacific Rivers Council v. Thomas,* 30 F.3d 1050 (9th Cir. 1994); *Greenpeace v. National Marine Fisheries Service,* 80 F. Supp. 2d 1137 (W.D. Wash. 2000).

B. Section 9 of the Endangered Species Act

Section 9 of the Endangered Species Act prohibits the "take" of any endangered or threatened species of fish or wildlife within the United States. 16 U.S.C. §1538(a)(1)(B). The statute prohibits any person from directly taking any protected species and makes it unlawful to "cause to be committed" any take. *Id.* §1538(g).

Congress defined take broadly to mean "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." *Id.* §1532(19). The ESA's implementing regulations further define "harass" and "harm." "Harass . . . means an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering." 50 C.F.R. §17.3. "Harm" includes "significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering." *Id.*; *see Babbitt v. Sweet Home Chapter of Cmtys. for a Great Or.*, 515 U.S. 687, 708 (1995) (upholding the regulation defining harm to include "significant habitat modification").

The ESA's legislative history supports "the broadest possible" reading of take. *Sweet Home*, 515 U.S. at 704–05. The Supreme Court has explained that "Congress intended 'take' to apply broadly to cover indirect as well as purposeful actions." *Id.* at 704. For instance, "harming a species may be indirect, in that the harm may be caused by habitat modification." *Defenders of Wildlife v. Bernal*, 204 F.3d 920, 924–25 (9th Cir. 1999). Harm occurs when habitat degradation prevents or slows the recovery of a listed species through the "*significant*

impairment of the species' breeding or feeding habits." *See Nat'l Wildlife Fed'n v. Burlington N. R.R.*, 23 F.3d 1508, 1512–13 (9th Cir. 1994).

Any "person" under the jurisdiction of the United States can be liable for violating Section 9. 16 U.S.C. §1538(a)(1). The ESA defines "person" to include "any officer, employee, agent, department, or instrumentality of the Federal Government, of any State, municipality, or political subdivision of a State" and "any State, municipality, or political subdivision of a State." *Id.* §1532(13). Government actions authorizing third parties to engage in harmful activities can constitute illegal take under section 9. *See, e.g.*, *Strahan v. Coxe*, 127 F.3d 155, 164 (1st Cir. 1997); *Defenders of Wildlife v. Admin'r, Envt'l Prot. Agency*, 882 F.2d 1294, 1301 (8th Cir. 1989); *Animal Prot. Inst. v. Holsten*, 541 F. Supp. 2d 1073, 1080 (D. Minn. 2008).

Pursuant to ESA section 7(b)(4), a consulting agency may issue an "incidental take statement" if the agency concludes both that the federal action in question will not jeopardize a listed species, or can be carried out pursuant to a RPA without jeopardizing a species, and that the taking of the species is incidental to the action and will not cause jeopardy or adversely modify habitat. 16 U.S.C. §1536(b)(4)(A)-(B). "If the terms and conditions of the Incidental Take Statement are disregarded and a taking does occur, the action agency or the applicant may be subject to potentially severe civil and criminal penalties under Section 9." *Ariz. Cattle Growers' Ass'n*, 273 F.3d at 1239.

Courts can enjoin parties to protect endangered and threatened species from future take. In assessing claims of future harm, the Ninth Circuit has noted that "[p]ast takings are indeed instructive, especially if there is evidence that future similar takings are likely." *Nat'l Wildlife Fed'n*, 23 F.3d at 1511.

III. SECTION 7 CONSULTATION ON OPERATIONS OF THE STATE WATER PROJECT AND CENTRAL VALLEY PROJECT

A. History of Consultation

The history of section 7 consultation on long-term operations of the CVP and SWP reaches back to the 1990s, but most relevant here are the events that transpired the last time that NMFS and FWS issued no-jeopardy biological opinions. In June 2004, Reclamation issued the Long-Term Central Valley Project Operations Criteria and Plan ("OCAP") to guide the coordinated operation of the CVP and SWP. Reclamation requested consultation with NMFS and FWS pursuant to ESA section 7 to determine the OCAP's effects on listed species, including the winter-run and spring-run Chinook and the Delta smelt, and their critical habitat. FWS issued a biological opinion in July 2004, and NMFS issued a biological opinion on October 22, 2004, ("2004 NMFS BiOp") on the effects of the OCAP on anadromous species.

The 2004 NMFS BiOp concluded that the OCAP was not likely to jeopardize the continued existence of the species it addressed, nor result in the destruction or adverse modification of those species' designated critical habitat. In 2005, FWS issued a revised

biological opinion ("2005 FWS BiOp") similarly concluding that the OCAP would not jeopardize Delta Smelt or adversely modify its critical habitat.

Both of these BiOps finding no jeopardy were challenged and ultimately invalidated in court as arbitrary and capricious, with federal courts remanding to FWS and NMFS to commence new consultations. *Pacific Coast Federation of Fishermen's Associations v. Gutierrez*, 606 F. Supp. 2d 1122 (E.D. Cal. 2008) (invalidating 2004 NMFS BiOp); *Nat. Res. Def. Council v. Kempthorne*, 506 F. Supp. 2d 322 (E.D. Cal. 2007) (invalidating 2005 FWS BiOp).

As a result, in December 2008, FWS issued a new BiOp ("2008 FWS BiOp") concluding that the OCAP operations *would* likely jeopardize the continued existence of Delta Smelt and adversely modify its critical habitat. As required, the 2008 FWS BiOp included a reasonable and prudent alternative ("RPA") that specified terms under which the CVP and SWP could be operated compliant with the ESA. The 2008 RPA included actions to reduce entrainment, provide for increased high quality low-salinity habitat in certain year types, create additional subtidal habitat, and monitor ongoing operations. The Ninth Circuit would later uphold this BiOp in *San Luis & Delta-Mendota Water Authority v. Locke*, 776 F.3d 971 (9th Cir. 2014).

In 2009, NMFS also issued a new BiOp ("2009 NMFS BiOp") analyzing the effect of an updated OCAP on certain listed anadromous species and their critical habitat. NMFS concluded that the operations of the CVP and SWP, as provided for in the OCAP, would likely jeopardize the continued existence of winter-run and spring-run Chinook salmon, California Central Valley steelhead, and the sDPS of North American green sturgeon, and adversely modify their critical habitats. As required, the 2009 NMFS BiOp included a Reasonable and Prudent Alternative ("RPA") that specified terms under which the CVP and SWP could be operated to avoid causing jeopardy to the species or adversely modifying critical habitat. NMFS has revised and amended the 2009 BiOp several times since it was first issued, including in 2011, in response to a report from an independent review panel, and in 2014 and 2015, in response to requests for reinitiated consultation from Reclamation. *See, e.g.*, Letter from William Stelle, NMFS, to David Murillo, Reclamation and Mark Cowin, DWR (Mar. 27, 2015); Letter from William Stelle, NMFS, to David Murillo, Reclamation and Mark Cowin, DWR (Jan. 29, 2015); Letter from William Stelle, NMFS, to David Murillo, Reclamation and Mark Cowin, DWR (Apr. 8, 2014).

B. Reinitiation of Consultation

Despite the RPAs in the 2008 and 2009 BiOps, which were meant to ensure that listed species were not jeopardized and that their critical habitat was not adversely affected by CVP operations, the listed species have continued to decline and suffer from deleterious impacts of CVP and SWP operations. In particular, during California's recent drought, state and federal agencies repeatedly weakened or did not implement important protections for salmon, Delta Smelt, and other listed species, including requirements under the 2008 and 2009 biological opinions. In 2014 and 2015, endangered winter-run Chinook salmon were nearly entirely wiped

out by lethal water temperatures below Shasta dam,[3] and juvenile spring-run Chinook salmon suffered similarly high mortalities.[4] In addition, multiple surveys of Delta Smelt indicated that the population is on the brink of extinction.[5]

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[3] Winter-run Chinook inhabit the upper Sacramento River and its tributaries, where the flow of cold water throughout the summer allows for successful spawning, egg incubation, and rearing. Historically, winter-run Chinook relied on the McCloud, Pit, and Little Sacramento Rivers, as well as Hat and Battle Creeks, for habitat conducive to egg and fry development and survival and juvenile rearing. The construction of Shasta Dam blocked access to almost all of these rearing waters. Today, the upper Sacramento River below Keswick Dam is the only remaining spawning area used by winter-run Chinook. The survival of the winter-run Chinook is therefore completely dependent on Reclamation's management of the temperature and flow conditions below Keswick dam.

Winter-run Chinook are particularly vulnerable during the "temperature management season," which generally lasts from May through October. Adult winter-run Chinook migrate up the Sacramento River in the winter and spring and then hold below the Keswick Dam before spawning. During this critical time, the salmon require cold water for the development of fertilized eggs and embryos. The optimal temperature for egg incubation is at maximum daily water temperatures of between 41 and 53.7 degrees Fahrenheit. Mortality of eggs and fry begin when maximum daily water temperatures exceed 53.7 degrees Fahrenheit. Additionally, the adverse effects of high incubation temperatures extend beyond the egg stage, causing higher rates of mortality later in the salmonid life stage. As a result, RPA Action 1.2.4 of the 2009 NMFS BiOp requires Reclamation to manage releases from Keswick Dam such that there is sufficient volume in the cold water pool behind Shasta Reservoir to enable Reclamation to maintain daily average water temperatures that do not exceed 56 degrees at compliance locations between Balls Ferry and Bend Bridge from May 15 through September 30 of each year.

Reclamation released water from Shasta Dam and Keswick Dam in 2014 and 2015 to satisfy its contractual arrangements, but doing so caused a loss of temperature control. By releasing water for contractual demands, Reclamation depleted the cold water in the Shasta Reservoir, thereby causing 95% mortality of endangered winter-run Chinook salmon in 2014 and similar damage in 2015.

[4] Spring-run Chinook spawn in the Sacramento River in September and October, and they have similar temperature requirements for incubating eggs as do winter-run Chinook. NMFS has found, and CDFW and FWS monitoring data confirm, that in 2014 and 2015 high water temperatures in the Sacramento River resulted in increased, if not complete, temperature-dependent mortality of spring-run Chinook salmon eggs in the mainstem of the Sacramento River.

[5] Maintaining a minimum level of Delta outflow (the amount of water flowing through the Delta and into the San Francisco Bay Estuary) during certain times of the year is critical to protecting estuarine habitat in the Delta and affects the abundance of Delta Smelt. In fact, in its rule listing the Delta Smelt, FWS identified reduced river and Delta flows due to water diversion as among the most important factors contributing to the Smelt's decline. *See* 58 Fed. Reg. 12854, 12859–60. FWS reiterated these when considering whether to change the smelt's status to endangered: continuing habitat loss and degradation resulting from Delta exports and other water diversions remain significant threats and warrant the species' reclassification as endangered. *See* 73 Fed. Reg. 39639 (July 10, 2008). Since then, evidence supporting the importance of timely and adequate Delta and river flows to Delta Smelt abundance and critical habitat has strengthened, leading FWS to conclude in 2016 that Delta outflows are important "to all life stages of Delta Smelt" and to maintaining critical habitat.

CVP contractual water deliveries reduce Delta inflow and outflow and accordingly cause degradation and loss of Delta Smelt habitat and the direct and indirect deaths of Delta Smelt. To address this impact, the 2008 BiOp required certain water quality and flow standards. But during the recent

As a result, on August 2, 2016, Reclamation requested reinitiation of consultation with NMFS and FWS. In its letters to those agencies, Reclamation stated that the reinitiation request was "based on new information related to multiple years of drought and recent data demonstrating low Delta Smelt populations" and "extremely low listed-salmonid population levels for the endangered winter-run Chinook salmon," as well as "new information available and expected to become available as a result of ongoing work through collaborative science processes." *See* Bureau of Reclamation, Letter to NMFS Re: Request for Reinitiation of Section 7 Consultation Addressing Coordinated Long-Term Operation of the Central Valley Project (CVP) and State Water Project (SWP) (Aug. 2, 2016); Bureau of Reclamation, Letter to FWS Re: Request for Reinitiation of Section 7 Consultation Addressing Coordinated Long-Term Operation of the Central Valley Project (CVP) and State Water Project (SWP) (Aug. 2, 2016). In addition, on August 2, 2016, Reclamation requested that NMFS use the adaptive management provisions of the 2009 biological opinion to modify the Shasta RPA in that biological opinion. *See* Bureau of Reclamation, Letter to NMFS Re: Request to Engage in Adaptive Management Provision of 2009 Biological Opinion for the Reasonable and Prudent Alternative (RPA), section 11.2.1.2 (Aug. 2, 2016).

On August 3, 2016, FWS agreed that "reinitiation of consultation is required under the terms of the 2008 Biological Opinion and the reinitiation regulations, due to multiple dry years and new information." Fish & Wildlife Service, 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) (Aug. 3, 2016). FWS "recognize[d] that this new information is demonstrating the increasingly imperiled state of the Delta Smelt and its designated critical habitat, and that emerging science shows the importance of outflows to all life stages of Delta Smelt and to maintaining the primary constituent elements of designated critical habitat." *Id.* Similarly, on August 17, 2016, NFMS agreed that "reinitiation is required under the terms of the 2009 Biological Opinion and ESA regulations" for reasons including "new information related to the effects of multiple years of drought, recent data demonstrating extremely low abundance levels for endangered Sacramento River winter-run Chinook salmon and threatened Central Valley spring-run Chinook salmon, and new information resulting from ongoing scientific collaboration." National Marine Fisheries Service, Reinitiation of OCAP Consultation (Aug. 17, 2016). In addition, on that same date NMFS agreed that multiple years of drought conditions, new science and modeling, and data demonstrating low population abundance levels of Sacramento River winter-run Chinook salmon and Sacramento River spring-run Chinook salmon warrant modifications to the Shasta RPA actions (RPA Actions Suite I.2) in the 2009 Opinion." *See* NMFS, Letter to Reclamation Re: Request to Engage in Adaptive Management Provisions for RPA 11.2.1.2 (Aug. 17, 2016).

On August 30, 2016, then-Interior Secretary Sally Jewell wrote a memo to the President explaining that the reinitiation of consultation likely would lead to new or amended biological opinions *increasing* protections for listed species, and that these new protections would likely

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drought, those water quality and flow standards were repeatedly weakened and waived in order to enable greater water deliveries to contractors. In recent years, the devastating effects of CVP/SWP operations to meet the demands created by specific contract terms have become increasingly clear, as the abundance of Delta Smelt has plummeted to new lows.

reduce water supply from the Delta. The memo noted the "downward trajectory of the endangered Delta Smelt, whose population last year hit a record low level, and is down an additional 90 percent this year," such that "[s]ome experts are opining that the fish may be well on its way to extinction." Secretary Sally Jewell, Memorandum for the President Re: Update on California Water Issues (Aug. 30, 2016). In addition, the memo found that "[e]ndangered winter-run Chinook are in a similarly perilous state since low water levels and excessive temperatures on the Sacramento River in 2014 and 2015 resulted in the loss of over 90 percent of the population both years." *Id.*

Despite the imperiled state of listed species and the demonstrated need for increased protections that is documented in the administrative record, including in Reclamation's requests for reinitiation of consultation, the current Administration, including the Department of Interior and Reclamation, has throughout the reinitiation of consultation process improperly focused on increasing water diversions and exports by the CVP and spurning protections for listed species, ignoring the devastating effects on listed species of such actions. For example, on January 19, 2017, NMFS issued a draft amendment to the existing biological opinion that would have immediately strengthened protections for endangered winter-run Chinook salmon regarding Reclamation's operations of Shasta Dam. However, Reclamation refused to accept or implement this revision of the existing biological opinion, instead deferring any changes and suggesting that more study and analysis was necessary. *See* Bureau of Reclamation, Letter to NMFS (Jan. 25, 2017).

Next, in December 2017, Reclamation issued a Notice of Intent under the National Environmental Policy Act ("NEPA") to evaluate the effects of alternative operations of the Central Valley Project and State Water Project. According to reporting by the New York Times based on a whistleblower complaint, David Bernhardt intervened to become personally involved in the scope of the reinitiation of consultation and NEPA processes, despite his ethics obligations and conflicts arising out of his prior litigation and lobbying on behalf of Westlands Water District, the largest agricultural water district in the country and one of the primary recipients of CVP water deliveries. *See* Coral Davenport, *Top Leader at Interior Dept. Pushes a Policy Favoring his Former Client*, New York Times, February 12, 2019. Even though the reinitiation of consultation was required in order to *increase* protections and avoid jeopardy for ESA-listed species, Reclamation's Notice of Intent under NEPA explained that the purpose of its proposed new operational rules was to "maximize water deliveries and optimize marketable power generation," restore water supply to contractors that was reduced by existing ESA protections, and increase operational flexibility. *See* 82 Fed. Reg. 61789. Nowhere in its Notice of Intent did Reclamation acknowledge that the species were in peril or that, despite the protections offered by the 2008 and 2009 biological opinions, CVP and SWP operations were causing further decline of the species. *See id.*

On October 19, 2018, the President of the United States issued a memorandum entitled, "Presidential Memorandum on Promoting the Reliable Supply and Delivery of Water in the West." This memorandum identified a policy of minimizing or eliminating regulatory burdens that limit water and power deliveries, and directed the agencies to suspend or revise regulations or procedures that limit water deliveries and to take the irregular step of designating a single federal official to coordinate and oversee the required ESA consultations (as opposed to allowing

NMFS and FWS to oversee their own consultations). Presidential Documents, Promoting the Reliable Supply and Delivery of Water in the West, 83 Fed. Reg. 53961 (Oct. 25, 2018). The memorandum also mandated a very short timeline for completing the consultation process, requiring that Reclamation issue a final biological assessment of proposed CVP operations by January 31, 2019, and that NMFS and FWS issue their final biological opinions within just 135 days of that date. *Id.* For comparison, the Ninth Circuit has previously called a *one year* court-imposed deadline to produce a biological opinion on CVP and SWP operations "challenging," and suggested that such a deadline was problematic because it imposed a "substantive constraint" on the analysis the agency could perform, particularly given the "extremely complicated and technical subject matter covering multiple federal and state agencies and affecting millions of acres of land and tens of millions of people." *San Luis & Delta-Mendota Water Auth. v. Jewell*, 747 F.3d 581, 606 (9th Cir. 2014). The Court noted that "scientific tasks may not be . . . well suited to deadlines," and recognized that strict deadlines could affect the thoroughness, reliability, and rigor of biological opinions and the scientific analyses on which they are based. *See id.* at 605–06. As a result, the Ninth Circuit directed, "[f]uture analyses should be given the time and attention that these serious issues deserve." *Id.* at 606. Yet the deadlines imposed by the Presidential Memorandum did not heed this warning, and federal scientists and agency staff reportedly expressed concerns that the required timeline risked forcing agencies to take shortcuts in the required scientific analysis, particularly in the face of inadequate staff and resources. *See, e.g.*, Lauren Sommer, *Trump's California Water Order Rushes Science and Cuts Out Public, Emails Show*, KQED Science, Mar. 7, 2019.

On January 31, 2019, Reclamation transmitted its Reinitiation of Consultation Biological Assessment ("BA") to NMFS and FWS for their consultation on the effects of the proposed CVP and SWP operations. Similar to the Notice of Intent, Reclamation's BA stated that the purpose of the proposed action is "to continue the coordinated long-term operation of the CVP and SWP to maximize water supply delivery and optimize power generation . . . and to increase operational flexibility by focusing on nonoperational measures to avoid significant adverse effects." *See* Bureau of Reclamation, Reinitiation of Consultation on the Coordinated Long-Term Operation of the Central Valley Project and State Water Project: Final Biological Assessment 4-1 (Jan. 2019) ("January BA"). Reclamation's proposed new operational rules would weaken or eliminate many of the protections for endangered fish mandated by the 2008 and 2009 biological opinions. Despite the legal requirement that Reclamation provide the consulting agencies with the best scientific and commercial data available or obtainable during consultation, Reclamation did not include any biological modeling in the January BA, except for modeling of temperature-dependent mortality of winter-run Chinook salmon. *See* 50 C.F.R. §402.14(d). As discussed herein, Reclamation's hydrological modeling also failed to adequately assess the proposed action. Reclamation's failure to provide a scientifically rigorous BA at the outset further suggests that Reclamation was focused on pursuing its political goals regardless of what the science says and what the ESA requires. Further, even well after NMFS and FWS began their review of the BA and the effects of the proposed action, Reclamation repeatedly made changes to the proposed action described in the BA. For example, in April 2019 Reclamation made revisions that included the removal and/or addition of proposed action components.

According to subsequent public documents, in June 2019, NMFS circulated a draft of its biological opinion for independent peer review. That June draft highlighted heightened risks to the listed species and their critical habitats, especially with respect to Reclamation's proposed operations at Shasta Dam, which are expected to result in high levels of temperature dependent egg mortality and egg-to-fry mortality; adverse effects to species related to routing into the interior and southern Delta at the Delta Cross Channel; loss of individuals at the State and Federal export facilities resulting from increased exports, particularly during spring months; and expected adverse effects on San Joaquin Basin steelhead related to the discontinuance of the San Joaquin inflow to export ratio. *See* Summary: Biological Opinions for the Reinitiation of Consultation on the Long Term Coordinated Operations of the Central Valley Project and State Water Project 14 (Oct. 2019) ("2019 BiOps Summary"). The June draft NMFS opinion circulated for peer review also highlighted concerns regarding warm water temperatures affecting Central Valley spring-run Chinook salmon holding and spawning in Clear Creek; warm spring and summer water temperatures affecting spawning and rearing California Central Valley steelhead in the American River; hatchery management practices at the Nimbus Fish Hatchery affecting California Central Valley steelhead; and temperature-related effects to California Central Valley steelhead in the Stanislaus River. *Id.*

Likewise, FWS expressed concerns in its initial analysis about the effects of the proposed action on Delta Smelt and its critical habitat. Specifically, FWS noted that Reclamation's proposal for protective actions for larval and juvenile Delta Smelt likely was not similarly protective for early life stages as are current operations under the 2008 BiOp. In addition, FWS concluded that the proposed Summer Fall Habitat Action lacked certainty around how or when the action would be implemented.

The independent scientific peer reviews of the draft FWS biological opinion also raised numerous significant concerns, including statements that:

- "I believe that the BiOP provides enough information to demonstrate that the status of delta smelt critical habitat under the PA [Proposed Action] will most likely be degraded by cumulative effects under the early long-term."
- "if the conclusion of this BiOP is that the PA will make things worse for delta smelt and that the numbers are continuing to decrease, coupled with a conservation hatchery expected to go on line at the date delta smelt are expected to blink out of the environment, doesn't that suggest great peril for the species?"
- "While this may maximize exports, it increases the risk of jeopardy to Delta Smelt, particularly in areas where the populations are most abundant."
- "Are the methods utilized appropriate to determine if the proposed action is likely to jeopardize delta smelt or adversely modify its critical habitat? The short answer is no."

According to publicly available documents, NMFS finished preparing a 1,123-page biological opinion on or about July 1, 2019, in which NMFS concluded that Reclamation's

proposed actions would jeopardize listed salmon, steelhead, and killer whales in violation of the ESA.[6] NMFS's analysis identified multiple and significant adverse effects of the proposed action on Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, California Central Valley steelhead, and Southern resident killer whales. As a result of these findings, the July 1 version of the biological opinion included a reasonable and prudent alternative to Reclamation's proposed action.

Although the July biological opinion had been signed by multiple staffers and cleared by NMFS attorneys, NMFS ultimately did not adopt or officially release that opinion. *See* Bettina Boxall, *Salmon study may foil Trump's plan to boost water deliveries to Central Valley farms*, L.A. Times, July 18, 2019. Instead, in response to the July biological opinion's finding that the proposed action would jeopardize listed species, the Trump administration reportedly removed most of the scientists working on the biological opinion and established a team of lawyers and scientists from Reclamation and other agencies to review and revise the biological opinion, deeming the July version a "draft" in need of improvement. *See* Bettina Boxall, *A report shows Trump's water plan would hurt California salmon. The government hid it*, L.A. Times, Aug. 21, 2019; Email from Paul Souza Re: Federal Team for CVP and ESA – Meet on Tuesday in Sacramento (July 3, 2019) (attached as Exhibit 1). In addition, NMFS apparently revoked the authority of the regional Administrator to sign a final biological opinion, reserving that authority to political appointees in Washington, D.C.

FWS and NMFS subsequently submitted revised biological opinions for independent scientific peer review, and those peer reviews also identified numerous flaws and shortcomings in both biological opinions. For instance, these peer reviews noted that:

- "... it seems the overall logic in the BiOp is COS [Continuing Operating Scenario, i.e., operations under the 2008 and 2009 BiOps] is part of baseline and th[at] with COS the populations have been declining. Therefore, if PA has similar effects as COS, then the populations will continue on their trajectories."

- "Two observations stand out in the current BiOp: (1) Delta Smelt abundance is the lowest ever observed and is expected to continue to decline, and (2) the Proposed Action includes an annual increase in water exports from the ecosystem."

On August 21, 2019 the California Department of Fish and Wildlife submitted comments to Reclamation on the Reinitiation of Consultation on the Coordinated Long-Term Operation of the Central Valley Project and State Water Project Draft Environmental Impact Statement. These comments identified numerous concerns with the lack of detail on the proposed project, a failure to adequately analyze impacts, and significant concerns that the proposal provided inadequate protections for salmon and other endangered species.

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[6] That biological opinion is available online at: https://www.documentcloud.org/documents/6311822-NMFS-Jeopardy-Biop-2019-OCR.html. It is incorporated here by reference.

On October 22, 2019, NMFS and FWS released final biological opinions (together, "2019 BiOps").[7] The final NMFS biological opinion was signed by a political appointee of NMFS, rather than the NMFS Administrator for the West Coast region.[8] In contrast to the agencies' earlier findings and despite no change in the imperiled status of many of the listed species at issue, the 2019 BiOps concluded that the proposed action would not jeopardize listed species or adversely modify critical habitat. Specifically, NMFS concluded, "[a]fter reviewing and analyzing the current status of the listed species and critical habitat, the environmental baseline within the action area, the effects of the proposed action, any effects of interrelated and interdependent activities, and cumulative effects," that "the proposed action is not likely to jeopardize the continued existence of Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, California Central Valley steelhead, Southern Resident Killer Whales, or the Southern DPS of Green Sturgeon or destroy or adversely modify their designated critical habitat." National Marine Fisheries Service, Biological Opinion on Long-Term Operation of the CVP and SWP 797 (Oct. 21, 2019) ("NMFS 2019 BiOp"). Likewise, FWS concluded that the proposed action is not likely to jeopardize the continued existence of Delta Smelt or destroy or adversely modify its designated critical habitat. Fish & Wildlife Service, Biological Opinion For the Reinitiation of Consultation on the Coordinated Operations of the Central Valley Project and State Water Project 220 (Oct. 21, 2019) ("FWS 2019 BiOp"). Although FWS first determined that implementation of the proposed action will result in adverse impacts to Delta Smelt and its habitat, it pointed to the Old and Middle River ("OMR") Management actions and Additional Real-Time OMR Restrictions as providing adult protections to minimize entrainment so as to supposedly provide conditions similar to current operations.[9] *See id.* at 221; 2019 BiOps Summary at 15. FWS also relies on OMR actions to keep OMR flow and turbidity within levels that it expects to be "similarly protective of dispersing adult delta smelt as those that have occurred over the past decade." 2019 BiOps Summary at 15.

IV. THE 2019 BIOLOGICAL OPINIONS VIOLATE THE ENDANGERED SPECIES ACT AND THE ADMINISTRATIVE PROCEDURES ACT

In light of the significant procedural irregularities in the consultation process,[10] the critical reviews by independent scientific peer reviewers and the California Department of Fish

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[7] Reclamation issued its final Biological Assessment on October 21, 2019, having finalized its proposed action on October 17, 2019, only several days before the 2019 BiOps were signed.

[8] The Administrator for the West Coast region is a scientist and career civil service staff person, and he (or his designee) is the official that traditionally signs the NMFS biological opinions concerning operations of the CVP and SWP.

[9] The Old and Middle Rivers (OMR) are channels of the San Joaquin River as it enters the Delta. The location of these channels can result in "reverse" flows when the CVP and SWP pumps are turned on and operating at certain levels under certain conditions, thus causing a negative flow rate. Higher pumping levels result in higher negative flows, which in turn increase the probability of fish being drawn into the pumps (entrained). OMR management actions and restrictions thus refer to managing the negative flow rate in the OMR by managing the rate of Delta pumping.

[10] Beyond the irregularities detailed in this letter, we understand and are aware that there are several memorandums and other documents prepared by agency staff alleging and documenting examples of political interference and/or scientific misconduct in the consultation process. These documents must be included in the administrative record.

and Wildlife, NMFS' July 1, 2019 biological opinion concluding that the proposed project would jeopardize listed salmonids, and the findings in the final biological opinions, it is clear that the 2019 biological opinions are legally and scientifically flawed. The 2019 biological opinions violate the Endangered Species Act, with arbitrary and capricious conclusions that are contrary to the best available science and the reasoned conclusions of internal experts. Overall, despite the severe decline of listed species and the substantial additional adverse impacts that the proposed operations would have on those species, the 2019 BiOps conclude that the proposed action will not jeopardize the continued existence of any of the species and will not adversely modify or destroy their critical habitat. These conclusions run contrary to the evidence before NMFS and FWS, and do not comply with the most basic requirements of the ESA to protect and restore listed species. Moreover, the conclusions were reached by failing to consider the entire impact of the action and other relevant factors, making unlawful and unsupported assumptions, ignoring the best available science, and relying on protective measures that have not been specifically identified and that are not reasonably certain to occur.[11]

A. The Conclusions of the Biological Opinions Run Counter to Evidence Before the Agencies, Are Not Rationally Connected to Facts or Supported by Reasoned Explanations, and are Pretextual

The 2019 BiOps fail to provide a reasoned explanation between the agencies' findings regarding the status of the species, the demonstrated need for increased protections, and the impacts of the proposed action, on the one hand, and the no jeopardy / adverse modification of critical habitat conclusions on the other hand. In other words, the agencies failed to make rational decisions on the record before them and failed to "articulate[] a rational connection between the facts found and the conclusions made," because the evidence and facts in the record demonstrate that the proposed action would jeopardize listed species and adversely affect their habitat. *See Wild Fish Conservancy*, 628 F.3d at 525 (brackets in original).

In particular, as described above, the listed species at issue have been in decline, and some are reaching the brink of extinction. NMFS and FWS agreed that reinitiation of consultation was required under the ESA because the dramatic declines these species were suffering despite the protections in the 2008 and 2009 BiOps showed that the species required more protection. Most notably, in 2016 Secretary of the Interior Sally Jewell concluded that, "The reinitiation process will likely lead to new or amended biological opinions that will increase protections for these species," warning that the efforts could lead to further reductions in water supply. But the 2019 BiOps fail to increase protections for the species, and they fail to provide a reasoned explanation why increased protection is not necessary despite earlier findings

[11] In many cases, the legal flaws in the BiOps identified in the pages that follow constitute multiple violations of the ESA; for instance, the lack of adequate modeling of OMR storm flexibility (OMR storm flexibility allows for higher rates of Delta pumping and thus more negative OMR flow rates during certain storm conditions) results in the BiOps: (1) failing to consider an important aspect of the problem (OMR storm flexibility in excess of that analyzed in the BiOps); (2) relying on mitigation measures that are not reasonably certain to occur (life cycle models and other analysis assume OMR storm flexibility would be exercised less frequently, at less negative OMR magnitude, and for shorter duration than permitted under the BiOps); and (3) failing to consider the whole of the action (the BiOps do not limit OMR storm flexibility to -6,000 cfs for a 7 day duration with limited frequency, as modeled in the BA).

to the contrary. In fact, the proposed action and 2019 BiOps actually dramatically weaken protections for species as compared to existing operations, including by:

Shasta Dam operations:

- Eliminating requirements for carryover storage in Shasta Dam, which helps ensure adequate cold water for the following year (NMFS RPA Action I.2);
- Eliminating requirements that NMFS approve an annual plan for Shasta water temperatures to protect salmon prior to Reclamation announcing water supply allocations in February, with monthly consultations between NMFS and Reclamation to ensure they maintain adequate cold water for salmon (NMFS RPA Actions 1.2.3 and 1.2.4);
- Eliminating a program to evaluate and enable reintroduction of winter-run Chinook salmon above Shasta Dam (NMFS RPA Action 1.2.5).

Delta operations:

- Allowing Delta pumping that results in Old and Middle River flows that are more negative than -5,000 cfs during storm events between January and June, with no limit on the magnitude, duration, or frequency of such OMR storm "flexibility" events (Overriding RPA Action IV.2.3 in the NMFS 2009 BiOp and RPA Actions 1, 2, and 3 in the FWS 2008 BiOp);
- Eliminating the San Joaquin River inflow: export ratio, which regulates Delta pumping during the months of April and May, that was required by the NMFS 2009 biological opinion (NMFS RPA Action IV.2.1);
- Weakening the Fall X2 action in the FWS 2008 biological opinion by reducing the minimum Delta outflow required to protect Delta Smelt (RPA Action 5 in the FWS 2008 BiOp);
- Failing to identify how larval and juvenile Delta Smelt will be protected from the adverse impacts of Delta pumping.

Clear Creek operations:

- Eliminating requirements to meet maximum water temperatures in dry and critically dry years that protect salmon and steelhead (NMFS RPA Action I.1.5).

Stanislaus River operations:

- Reducing the minimum instream flows on the Stanislaus River that NMFS required to protect steelhead (NMFS RPA Action 3.1.3);
- Eliminating NMFS' requirement to manage water temperatures to protect spawning and rearing steelhead (NMFS RPA Action 3.1.2).

At the same time, the biological opinions' increase the amount of species that may lawfully be killed as incidental to the proposed operations, including:

- Allowing the Central Valley Project to legally kill 100% of the endangered winter-run Chinook salmon below Shasta Dam due to water temperatures in three consecutive years, *see* NMFS 2019 BiOp at 801;
- Increasing the number of juvenile steelhead that can be killed at the Delta pumps from 3,000 steelhead in a year to 2,760 steelhead from December 1 to March 31 and 3,040 steelhead from April 1 to June 15, *see id.* at 810;
- Apparently increasing the number of endangered winter-run Chinook salmon that can be killed at the Delta pumps from 1% of the juvenile production estimate to 2% of the juvenile production estimate in any single year, *see id.*;
- Eliminating all limits on the number of adult Delta Smelt that can be killed at the Delta pumps, and deferring to the future how to calculate a limit on the number of larval and juvenile Delta Smelt that can be killed at the pumps, *see* FWS 2019 BiOp pages 42–47.

By reducing important protections for the species and permitting more of the species to lawfully be killed, when listed species have suffered dramatic declines, in some cases reaching the brink of extinction, species will be pushed further toward extinction—that is, further and more severely jeopardized.[12] The independent scientific peer reviews of these biological opinions similarly recognized the lack of reasoned explanation between the fact that the species have been declining over the past decade and the agencies' conclusions that weakening existing protections would not jeopardize the species. For instance, one of the independent scientific peer reviewers noted that, "it seems the overall logic in the BiOp is COS [Continuing Operating Scenario, i.e., the 2008 and 2009 BiOps] is part of baseline and th[at] with COS the populations have been declining. Therefore, if PA has similar effects as COS, then the populations will continue on their trajectories." Similarly, another of the independent peer reviewers noted that, "Two observations stand out in the current BiOp: (1) Delta Smelt abundance is the lowest ever

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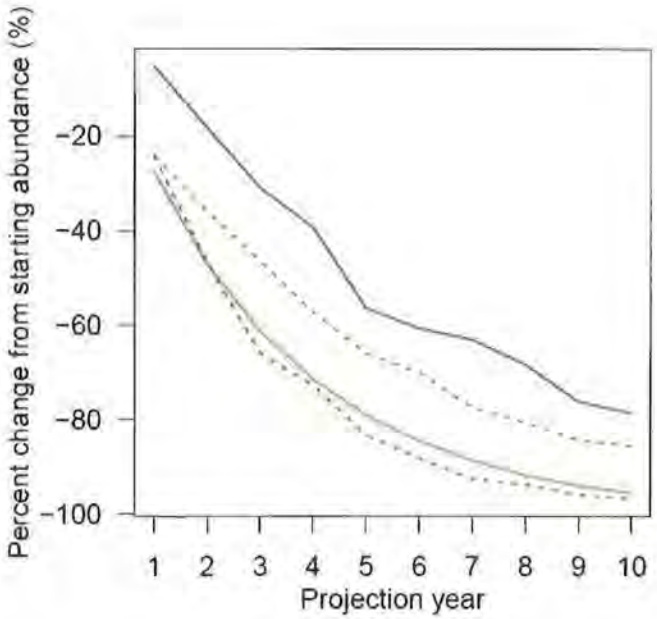
[12] The 2019 BiOps suggest without justification that they will maintain the same level of protective measures as are currently in place. This not the correct legal standard under the ESA, particularly where the species are at grave risk of extinction. *See, e.g., Aluminum Co. of America v. Administrator, Bonneville Power Admin.*, 175 F.3d 1156, 1162 (9th Cir. 1999) (given imperiled status of the species, minor improvements in survival compared to prior operations may be insufficient to avoid jeopardy). In addition, this assertion is directly contradicted by the fact that the biological opinions eliminate many of the existing protections in the 2008 and 2009 biological opinions, and the incidental take statements increase the amount of take lawfully permitted by CVP operations, indicating that the proposed CVP operations are anticipated to take more individuals than do current operations, i.e., offer species fewer protections. Modeling in the 2019 BiOps likewise documents increased harm to the species under these new operations, including increased salvage and take, reduced survival, and reduced abundance. In addition, all (or nearly all) of the habitat restoration and other measures on which these new biological opinions rely, including restoration of Battle Creek or Yolo Bypass restoration, were already required to be implemented under the 2008 and 2009 biological opinions.

Yet even crediting the BiOps' conclusions that the protections to be provided are sufficient to maintain the existing level of protection, the BiOps fail to explain why the existing level of protection is sufficient to avoid jeopardy. As demonstrated in the last several years, given the status of the species, simply maintaining the status quo will lead to further declines and increased risk of extinction.

observed and is expected to continue to decline, and (2) the Proposed Action includes an annual increase in water exports from the ecosystem."

Similarly, the FWS 2019 biological opinion admits that even without weakening protections for Delta Smelt as authorized in the 2019 biological opinion, over the next decade, the population of Delta Smelt is anticipated to decline by 70-100% from the record low abundance in 2018.



The FWS 2019 BiOp fails to provide a reasoned explanation why these continued declines would not jeopardize the species under the protections required by the 2008 BiOp, let alone under the weakened protections provided by the 2019 FWS BiOp.

In addition, the NMFS 2019 biological opinion admits that the proposed action will worsen conditions for salmon and other endangered species as compared to the 2008/2009 biological opinions. For instance, the results of the Winter Run Life Cycle Model in the NMFS 2019 biological opinion show that under the new biological opinions:

- The abundance of endangered winter-run Chinook salmon will be lower than under the 2009 NMFS BiOp, *see* NMFS 2019 BiOp at 696;
- Survival of juvenile winter-run Chinook salmon migrating through the Delta will be lower than under the 2009 NMFS BiOp, *see id.* at 702–03; and
- There is a higher risk of large population declines that threaten extinction than under the 2009 NMFS BiOp, *see id.* at 707.

Other models and analyses used in the NMFS 2019 biological opinion find that operations under the new biological opinions are anticipated to reduce survival of salmon migrating through the Delta, including:

- Perry Survival Model: reduced through-Delta survival of winter-run and yearling spring-run, *see* NMFS 2019 BiOp at 402;

- Delta Passage Model: reductions in survival through the Delta for winter-run Chinook salmon (*id.* at 382), spring-run Chinook salmon (1.4%: *id.* at 382–83), fall-run Chinook salmon (1.1%: *id.* at 383), and late-fall run Chinook salmon (*id.* at 383–84).

Similarly, the NMFS 2019 biological opinion finds that the CVP operations it authorizes would likely result in significant increases in salvage of winter-run Chinook salmon, spring-run Chinook salmon, fall-run Chinook salmon, and late fall-run Chinook salmon. Overall, the NMFS 2019 BiOp admits that, "Based on the analyses of expected effects of the proposed action to ESA-listed CV Chinook salmon populations, reductions in the survival and productivity of all CV Chinook salmon populations (including fall-run and late fall-run Chinook salmon) are expected to occur throughout the proposed action, and the greatest effects will occur during the drier water years when effects of the proposed action are most pronounced." NMFS 2019 BiOp at 683. The IOS life cycle modeling in the 2019 NMFS BiOp indicates that the abundance of winter-run Chinook salmon is expected to significantly decline under these weakened protections (the model's initial population of 5,000 salmon is reduced to a median population of less than 4,000 salmon under the proposed operations). Particularly given the imperiled state of the Chinook salmon species and the abundant evidence that even the status quo under the prior 2008/2009 biological opinions was not adequate to provide the conditions needed to prevent extinction, the NMFS BiOp's no-jeopardy conclusion is irreconcilable with these findings. A species on the brink of extinction will be further jeopardized by additional reductions in survival and productivity, particularly when the best available science demonstrates that the species requires serious and significant protections and improvement in conditions in order to have any chance at recovery. *See* 50 C.F.R. §402.02 ("Jeopardize the continued existence of means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species."). Indeed, NMFS' recovery plan finds that significant increases in survival through the Delta—not further reductions in survival—are necessary for winter-run Chinook salmon and other salmon species to recover.[13]

The agencies' failure to follow this basic reasoning rendered their decisions irrational based on the record and best available science. There is a clear disconnect between the no-jeopardy conclusions of the biological opinions and the analyses of the agencies' experts that are contained in and underlie the analysis. In other words, the BiOps' conclusions are not rationally connected to the analyses, expert findings, and science upon which they are supposedly based.

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[13] The biological opinions fail to consider impacts to recovery, including with respect to reduced survival through the Delta.

In light of all the above-described findings, the agencies failed to adequately justify why the proposed operations would not jeopardize the listed species.

With respect to operations of Shasta Dam, NMFS has repeatedly found that dramatically increased protections below Shasta Dam are needed to protect salmon, and yet the final biological opinion fails to provide the protections that NMFS has previously found were needed, and fails to explain why the lack of those protections will not lead to jeopardy or adverse modification of critical habitat. For instance, in 2017 NMFS proposed an amendment to the 2009 NMFS BiOp to strengthen water temperature protections below Shasta Dam, including by setting maximum mortality levels by water year type. Those maximum mortality estimates are not achieved in the new NMFS BiOp. In fact, modeling in the BA shows that the proposed action blessed by the 2019 NMFS biological opinion would result in mortality that is up to twice the levels proposed by NMFS in 2017:

Water Year Type	**Temperature Dependent Mortality – 2017 Shasta RPA Amendment**	**Temperature Dependent Mortality: 2019 Final Biological Assessment Modeling**
Wet	Less than 3%	5%
Above normal	Less than 3%	4%
Below Normal	Less than 3%	11%
Dry	Less than 8%	10%
Critical	Less than 30%	61%

Similarly, in July 2019 NMFS scientists concluded that the proposed project would jeopardize listed salmonids, and included in their July BiOp a proposed reasonable and prudent alternative that included limits on temperature mortality below Shasta Dam that are dramatically stronger than the protections required under the final NMFS biological opinion:

	July 2019 NMFS Jeopardy Biological Opinion (*See* page 945)	**Final NMFS Biological Opinion** (*See* page 802)
Tier 1		
Required frequency of years in which this management tier must be applied	At least 2 out of 3 years	None required
Maximum temperature dependent mortality	2%	15% in two consecutive years (Take would be exceeded if, in 2 consecutive years, temperature dependent mortality exceeds 15% and egg to fry survival is less than 29%)

Minimum egg to fry survival	32%	29% in two consecutive years (see above)
Tier 2		
Required frequency of years in which this management tier must be applied	No more than 1 out of 4 years	None required
Maximum temperature dependent mortality	12%	31% in two consecutive years (Take would be exceeded if, in 2 consecutive years, temperature dependent mortality exceeds 31% and egg to fry survival is less than 21%)
Minimum egg to fry survival	27%	21% in two consecutive years (see above)
Tier 3		
Required frequency of years in which this management tier must be applied	No more than 1 out of 4 years	None required
Maximum temperature dependent mortality	12%	65% in two consecutive years (take would be exceeded if, in 2 consecutive years, temperature dependent mortality exceeds 65% and egg to fry survival is less than 21%)
Minimum egg to fry survival	27%	21% in two consecutive years (see above)
Tier 4		
Required frequency of years in which this management tier must be applied	No more than 1 out of 10 years	None required
Minimum egg to fry survival	Target 15%	"Two consecutive years of egg-to-fry survival of less than 15 percent followed by a third year of less than 21 percent based on fry production at Red Bluff Diversion Dam." (page 801)

Moreover, NMFS's 2017 draft RPA amendment explains how end of September and end of April carryover storage requirements are necessary to ensure that an adequate cold water pool is maintained to meet temperature control; yet the new BiOp eliminates carryover storage requirements without any reasoned explanation or evidence in support of its conclusion. NMFS fails to rationally explain why protections it previously determined were necessary are now left out even though winter-run Chinook are in peril. The final biological opinions fail to provide

any explanation, let alone a reasoned explanation, why these higher levels of mortality below Shasta Dam would not jeopardize the species.

In addition, the 2019 NMFS BiOp eliminates the -5,000 cfs maximum OMR limit, eliminates the 2009 BiOp's salvage density triggers that require reductions in OMR flows, and limits reductions in OMR flows to annual salvage limits. In 2017 NMFS reiterated that increased OMR more negative than -5,000 cfs results in increased entrainment and reduced survival through the Delta. The 2019 NMFS BiOp admits that OMR storm flexibility is likely to increase harm to listed salmonids migrating through the Delta. *See* NMFS 2019 BiOp at 529–31. While OMR management in the 2019 BiOp is based on hitting salvage and loss limits at the pumps, NMFS concluded in the 2009 BiOp that, "If less take occurs from the Proposed Action than is anticipated, this does not indicate that the actions comprising the RPA are not necessary to avoid jeopardizing listed species." NMFS fails to provide a reasoned explanation for this radical change in OMR management between the 2009 BiOp and the 2019 BiOp.[14]

Finally, while the agencies have previously concluded that the reinitiation of consultation should result in strengthened protections, Reclamation has identified that the stated purpose for the reinitiation of consultation is to "maximize water deliveries." 82 Fed. Reg. 61789 (December 29, 2017). In addition, the October 19, 2018 Presidential Memorandum on Promoting the Reliable Supply and Delivery of Water in the West directed the agencies to identify and suspend regulations that burdened water supply, imposed a very short timeline for completing the biological opinions (despite concerns from the agencies that they had inadequate time and resources to adequately assess the impacts of operations on listed species), and directed that Paul Souza of the U.S. Fish and Wildlife Service manage the preparation of both the FWS and NMFS biological opinions. And on July 1, 2019, scientists with the National Marine Fisheries Service concluded that the proposed operations would jeopardize listed salmon and violate the ESA, but the Trump Administration refused to sign the biological opinion. Instead, the Trump Administration replaced the team of scientists working on the biological opinion, in order to rewrite its conclusion, and a NMFS political appointee in Washington D.C. signed the final biological opinion, which concluded that the proposed operations would not jeopardize listed species. As noted above, we understand that there are numerous documents in the administrative record that document political interference and scientific misconduct in the consultation process. Taken together, these facts indicate that the conclusions of the biological opinions were pretextual and based on political ends rather than the best available science. *See Dept. of Commerce v. New York*, 139 S. Ct. 2251, 2574–75 (2019).

Ultimately, the biological opinions fail to provide a reasoned explanation between the facts found by the agencies and their conclusions that the proposed project would not jeopardize listed species or adversely modify designated critical habitat.

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[14] NMFS also concluded in its WaterFix biological opinion that assumptions that real time operations would minimize impacts to migrating salmon underestimate the reductions in survival caused by operations because of inaccuracy in sampling and fish movement patterns.

B. The Incidental Take Limits Violate the Endangered Species Act

The incidental take limits in the 2019 BiOps blatantly violate the requirements of the ESA. First, the BiOps set the incidental take limit at levels that would jeopardize listed species, and fail to provide a reasoned explanation why those limits would not jeopardize listed species. Second, the BiOps fail to adequately justify the use of surrogates. Third, the BiOps fail to ensure that the incidental take limits provide a clear indication of when reinitiation of consultation is required, including unlawfully deferring development of the incidental take limits for juvenile Delta Smelt. Fourth, the incidental take statements unlawfully authorize levels of allowable take beyond the levels of take that are actually analyzed and anticipated in the BiOps. Each of these issues is discussed briefly below.

First, the incidental take limit for winter-run Chinook salmon would result in jeopardy to the species from temperature-dependent mortality; nowhere does the take statement provide a reasoned explanation why such take would not jeopardize the species. Most notably, the incidental takes statement in the 2019 NMFS BiOp would allow for 3 years of 0% egg to fry survival of winter-run Chinook salmon below Shasta Dam before reinitiation of consultation is required. *See* NMFS 2019 BiOp at 801. This means that high temperatures could result in extinction of winter-run Chinook salmon in the wild before reinitiation of consultation would be required, which would plainly jeopardize the continued existence and recovery of the species. The 2019 NMFS BiOp also appears to increase the allowable take of winter-run Chinook salmon at the Delta pumps, without any explanation, and the levels of incidental take from water temperatures in Clear Creek likewise are inconsistent with the biological needs of the species. In addition, the incidental take limit for loss of steelhead in the Delta is completely untethered from the size of the existing population; it would apply whether there are 500 or 5 fish remaining, which fails to ensure that incidental take will not jeopardize the species. Similarly, the NMFS BiOp does not provide a reasoned explanation why the allowable incidental take of steelhead was increased compared to take over the past decade, despite the fact that the best available science indicates that wild steelhead populations are declining: whereas the 2009 NMFS BiOp limited incidental take at the Delta pumps to salvage of 3,000 steelhead in a year, and never resulted in loss of more than 1,119 in any year over the past decade, the 2019 NMFS BiOp allows for loss of 2,760 steelhead between December 1 and March 31 of each year and 3,040 steelhead from April 1 to June 15 of each year, for a total of well over 5,000 a year.

Second, the incidental take limits in both 2019 BiOps fail to adequately justify the use of surrogates, and the surrogates used are inconsistent with the requirements of the ESA and its implementing regulations. For instance, the NMFS BiOp fails to justify or articulate a rational connection between using salvage of hatchery *late fall*-run salmon as a surrogate for take of *spring*-run salmon, *see* NMFS 2019 BiOp at 810, even though spring-run Chinook are typically migrating through the Central Valley at different times of year. There is no analysis to demonstrate that this level of incidental take of hatchery late fall-run Chinook salmon will not jeopardize the spring-run Chinook salmon species, because the level of permitted take is wholly disconnected from the size of the spring-run Chinook salmon population. Similarly, the NMFS BiOp fails to justify or articulate a rational connection between using temperature-related mortality of winter-run Chinook salmon as a surrogate for incidental take of spring-run Chinook salmon and Central Valley steelhead. *See* NMFS 2019 BiOp at 802. Spring-run Chinook

salmon spawn much later in the year, a concern that has been raised by the California Department of Fish and Wildlife, and steelhead spawn at different times and locations. As a result, there is not a causal link between the incidental take limit and the impact on these species. The incidental take limit for redd dewatering uses an unlawful surrogate, because the BiOp fails to demonstrate that monitoring of redd dewatering is not practical. *See* NMFS 2019 BiOp at 803. In fact, there already is ongoing monitoring of dewatered redds. The incidental take limit for spring-run Chinook salmon in Clear Creek likewise does not apply in all years in which take would occur, and it does not provide a limit on incidental take from flow effects in critically dry years. NMFS 2019 BiOp at 804–05.

In addition, the FWS 2019 BiOp fails to provide a reasoned explanation for eliminating any limit on the number of adult Delta Smelt that can be killed at the pumps, and instead using turbidity as a surrogate for take of adult Delta Smelt, particularly because it is clear that take of adult Delta Smelt occurs even during low turbidity events.

Third, the incidental take statements fail to provide clear measures of when reinitiation of consultation is required. For instance, the FWS BiOp unlawfully defers to the future how to calculate a limit on the number of larval and juvenile Delta Smelt that can be killed at the pumps. *See* FWS 2019 BiOp at 42–47; *Wild Fish Conservancy*, 628 F.3d at 532 (requiring that an incidental take statement "establish a meaningful trigger for renewed consultation," such that the action agency is "capable of quantifying take to determine when the trigger has been met"). Similarly, the NMFS 2019 BiOp allows for instances when exceeding the incidental take limit does not necessarily result in reinitiation of consultation, which is contrary to law. *See, e.g.*, NMFS 2019 BiOp at 807 ("The anticipated level of take will be exceeded if temperatures at Orange Blossom Bridge exceed 68°F between May 15 to October 31 for more than seven consecutive days **unless** Reclamation and NMFS agree that it is an acceptable exceedance given the hydrologic and meteorological conditions for that year." (emphasis added)).

Fourth, the incidental take statements increase the amount of authorized take beyond the levels of take that are anticipated or analyzed in the biological opinion, which is contrary to law. *See, e.g.*, NMFS 2019 BiOp at 801–02 (water temperatures), 810 (entrainment in the Delta). In other words, the breadth of the take statements are not adequately supported by analysis in the BiOps.

C. The Biological Opinions Fail to Consider the Full Extent of the Entire Proposed Agency Action, and Fail to Consider All Relevant Factors

The 2019 BiOps are legally flawed because they fail to consider the entire extent and impact of the proposed action. This failure to model and analyze the actual project that was proposed leads to a gross underestimation of the adverse effects of the proposal on fish and wildlife.[15]

First, part of Reclamation's proposed action includes full implementation of water supply contracts, including Sacramento River Settlement Contracts, that run past the year 2040, but the

[15] A complete assessment of the effects of the proposed action would add to the voluminous existing evidence that the proposed action will cause jeopardy and adverse modification of critical habitat.

BiOps only analyze the effects through the year 2030 (using CALSIM modeling with climate change impacts in 2025), and the BiOps fail to model full water supply contract deliveries—they model only historic deliveries, which are significantly less than total contract amounts. *See* Reclamation BA at 4-11. Increased deliveries up to full contract amounts would result in additional impacts to the species, such as reduced instream flows, reduced Delta outflows, and reduced water storage in upstream reservoirs that would cause additional water temperature impacts. *See id.* In addition, climate change beyond the year 2030 is likely to increase impacts to listed species due to increased water temperatures. As a result, the full implementation of these water supply contracts is likely to cause additional adverse impacts on listed species, which have not been analyzed in this consultation.[16] *See id.* (admitting that Reclamation "has not conducted a quantitative analysis of the various mechanisms for which increased demand would be met.").

Similarly, the CVP and SWP are anticipated to operate for decades to come, and existing modeling from the WaterFix EIS/EIR demonstrates that water temperature and flow impacts from operations in the longer term are likely to result in additional adverse impacts to listed species over the longer term period when the projects are anticipated to be operated. The biological opinions therefore fail to consider the longer term impacts of the project, particularly in light of climate change, and requiring reinitiation of consultation in ten years does not obviate the need for the agencies to consider the longer term effects of the project. *See Wild Fish Conservancy*, 628 F.3d at 521–25.

In addition, the BiOps fail to model or analyze the effects of operations from an enlarged Shasta Dam, even though the proposed action includes the potential operation of an enlarged Shasta Dam. The NMFS BiOp explicitly states, "There are no operational scenarios in the BA to evaluate to confirm beneficial or adverse effects of a raised Shasta Dam and NMFS therefore cannot further evaluate the Shasta Dam raise in this opinion." NMFS 2019 BiOp at 203.

Finally, the biological opinions fail to model and analyze the effects of OMR storm flexibility that is part of the proposed action as authorized in the biological assessment. Instead, the 2019 BiOps assume no OMR storm flexibility in wet years, one 7-day event at -6,000 cfs in January and February of Above Normal and Below Normal water year types, and one 7-day

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[16] Reclamation's proposed action and reliance on the BiOps is further unlawful because both Reclamation and the BiOps rely on an incorrect legal premise, namely that certain deliveries to water contractors are non-discretionary and that Reclamation lacks discretion to modify the terms, including the quantities, of those deliveries. For that reason, Reclamation fails to consider a host of protective measures that would require restrictions of deliveries and diversions to water contractors. Further, Reclamation and the BiOps fail to explain how Reclamation's proposed protective measures, which include a commitment to "meet and confer" with the Sacramento River Settlement Contractors about possible modifications to operations in drought years, including modifications that are beyond Reclamation's asserted discretion, provide any reliable or "expected" protection at all to the listed species. The BiOps may not rely on any such potential future mitigation measures, because they are not reasonably certain to occur—they are not yet defined, not required by the proposed action, and Reclamation (incorrectly) claims that it does not have the discretion to unilaterally impose such measures, meaning that their implementation depends entirely on what Reclamation deems to be entirely voluntary actions by a third party.

event at -6,000 cfs in either January or February of Dry water years. They also assume that salvage limits would have been reached in April, requiring -3,500 cfs OMR for April to June. *See* BA, App'x D, at 36–37. As a result, the 2019 BiOps never model or analyze the effects of an OMR storm waiver that is more negative than -6,000 cfs, that lasts longer than 7 days, or that occurs more than twice per year. The modeling and analyses assume very limited OMR storm flexibility, and more restrictive OMR thereafter, than is actually required by the proposed operations and the biological opinions.

D. The Biological Opinions Fail to Use the Best Available Science.

The BiOps fail to use the best available science in violation of the ESA. This includes a failure to use the best available science regarding the effects of climate change, adequate modeling, and consideration of the effects of Delta outflows on Delta Smelt and effects of Sacramento River flows on survival of migrating salmon in the Winter-Run Life Cycle Model.

Most notably, the 2019 BiOps are legally flawed because they fail to adequately consider the effects of global climate change. The biological opinions admit that they do not use the best scientific data on climate change, instead relying on older climate modeling (CMIP3) that underestimates the anticipated effects of increased air and water temperatures resulting from climate change, and which does not account for more frequent or more severe droughts from climate change. *See* NMFS 2019 BiOp at 48, 51–52. Reclamation failed to provide modeling that incorporates CMIP5—which NMFS has identified as the best available science—such as modeling using CalSIM 3. This model was available to Reclamation, but Reclamation failed to use it or to offer any explanation of its failure to do so.

In addition, the biological assessment and biological opinions lack accurate modeling in several areas, including hydrologic modeling of OMR storm waivers and modeling of the Fall outflow action in the FWS BiOp. Modeling presented in the BiOps is based on operations proposed in the January 2019 BA, yet no updated modeling was provided by Reclamation or completed by the consulting agencies in response to changes in the proposed action, which results in the hydrological models—and all of the biological models which are based on hydrologic models—providing inaccurate results, which likely underestimate the adverse effects on listed species. In addition, the BiOps do not include any modeling or analysis of the Shasta Dam enlargement. Failure to use accurate modeling is a failure to use best available science.

The 2019 BiOps further fail to use the best available science regarding the effects of instream flows and Delta outflows. The FWS 2019 BiOp fails to adequately consider and take into account the importance of delta outflows for the survival of Delta Smelt throughout the year, particularly the proposed reductions in Delta outflows in the winter, spring and summer. The U.S. Fish and Wildlife Services' August 2016 memorandum agreeing that reinitiation of consultation was required for Delta Smelt explained that, "We recognize that this new information is demonstrating the increasingly imperiled state of the Delta Smelt and its designated critical habitat, and that emerging science shows the importance of outflows to all life stages of Delta Smelt and to maintaining the primary constituent elements of designated critical habitat." However, the FWS 2019 BiOp fails to consider the importance of Delta outflow in the winter and spring months, and the independent scientific peer reviews have found that the

reductions in Delta outflows in certain months would adversely affect critical habitat. FWS fails to justify why it found otherwise in light of the science showing the importance of outflows. In addition, the Winter Run Life Cycle Model in the NMFS 2019 BiOp fails to include the published, peer-reviewed research from NMFS scientists documenting the flow-to-survival relationship for juvenile salmon migrating in the Sacramento River.

Finally, the 2019 FWS BiOp fails to use the best available science because it relies on the Enhanced Delta Smelt Monitoring ("EDSM") program for real time operations, yet independent scientific peer reviews have explicitly concluded that, "resulting abundance and distribution estimates are highly uncertain," and that "it is difficult to see how the EDSM currently can be used to inform water operations in near real time." The 2019 FWS BiOp fails to provide a reasoned explanation of why EDSM is reliable for these purposes, and fails to use the best available science.

As explained above, in reaching their no-jeopardy conclusions, the biological opinions ignored the findings of internal experts, independent peer reviewers, and data regarding the measures necessary to protect the species. In doing so, and in reaching a no-jeopardy conclusion that was instead motivated by improper political pressure,[17] the biological opinions fail to use the best available science to support their conclusions.

E. The Biological Opinions Unlawfully Rely on Conservation and Mitigation Measures that are not Reasonably Certain to Occur

The BiOps unlawfully rely on uncertain mitigation measures in support of their no-jeopardy conclusions.[18]

For example, Shasta storage levels and water temperatures that are modeled in the BA and NMFS 2019 BiOp are not reasonably certain to occur because there are no carryover storage requirements, and modeling in the BiOp is wholly inaccurate (with respect to, among other things, droughts, climate change, Oroville storage below Deadpool, and USBR temperature modeling).

In addition, some protective measures are unlikely to be implemented in droughts, because modeling indicates that implementation of the proposed action would reduce storage in upstream reservoirs below dead pool, and agencies have admitted that drought waivers like those issued in 2014-2015 are reasonably foreseeable. Specifically, according to staff from the U.S. Fish and Wildlife Service, the biological opinions rely on modeling that assumes that water storage in Oroville Reservoir is drained far below dead pool in every major drought in order to

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[17] Among other concerns about political influence, Interior Secretary David Bernhardt is a former water lobbyist who had glaring ethical conflicts of interests concerning this matter. The no-jeopardy findings and increased water exports directly benefit his former clients.

[18] Even if all the mitigation measures on which the BiOps rely were certain to occur, such measures still would not be enough to support the BiOps' conclusions that the proposed action is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of their critical habitat. Nevertheless, the reliance of the BiOps on such uncertain mitigation measures is independently unlawful and further evidence of pretext.

meet water quality and water supply requirements. As a result, in a real drought the water projects would run out of water and could not operate as modeled, resulting in other protections for the species being waived, as they were in 2014 and 2015, causing devastating impacts to the species. Moreover, Reclamation has previously concluded that it is "reasonably foreseeable" that waivers of OMR requirements and Delta outflow requirements would occur in future droughts, yet the BiOps fail to consider that these protections are not reasonably certain to occur in future droughts.

Similarly, protective restrictions on Delta pumping are not reasonably certain to be implemented. As noted above, the OMR conditions that are modeled and analyzed in the BiOps are not reasonably certain to occur because they fail to account for OMR storm flexibility. In addition, reductions in pumping and OMR reverse flows after salvage limits are hit are not reasonably certain to occur, because such reductions are not mandatory. *See* Reclamation BA at 4-70. Over the past decade, FWS and NMFS have repeatedly rejected scientific recommendations to reduce pumping issued by the Delta Operations for Salmonids and Sturgeon technical advisory team and the Smelt Working Group, and the agencies have waived implementation of OMR requirements and other RPA actions. Implementation of fall outflow is also not reasonably certain to occur in light of numerous off-ramps in the 2019 FWS BiOp. Finally, as summarized in the table below, habitat restoration, adaptive management, and similar measures are not reasonably certain in light of the failure to implement those measures from 2009-2019.

RPA Requirements imposed in 2008/2009	**Status**
Restoration of approximately 20,000 acres of floodplain habitat in the Yolo Bypass by 2019	Construction may begin in 2020 or 2021
Improve Lisbon weir to enable fish passage by December 2015	Incomplete
Restoration of 8,000 acres of tidal marsh habitat in the Delta by 2019	Incomplete –far less than one third of the required acreage has been restored or is in construction
Complete Battle Creek restoration by 2019	Phase 2 significantly delayed
Shasta Reservoir temperature compliance	Violated performance measures and exceeded incidental take limit. Bureau of Reclamation rejected NMFS' proposed revision of temperature requirements in 2017.
Salmon passage and reintroduction program at Shasta Dam and other reservoirs	Reintroduction program completely stopped by the Bureau of Reclamation in 2018

For reasons including but not limited to all of these deficiencies, the 2019 BiOps are arbitrary and capricious, an abuse of discretion, and not in accordance with law within the meaning of 5 U.S.C. §706(2)(A). The analysis, reasoning, and conclusions of both the NMFS and FWS 2019 BiOps, and the agencies' politically-motivated actions described herein—including their adoption of the flawed BiOps—are arbitrary, capricious, an abuse of discretion,

not in accordance with law, in excess of statutory authority, and without observance of procedure required by law, in violation of ESA section 7 and its implementing regulations and the standards of the Administrative Procedure Act, 5 U.S.C. §706.

V. RECLAMATION'S VIOLATIONS OF THE ESA

Reclamation's own Biological Assessment, which was incorporated into and served as the basis for the 2019 BiOps, suffers from the same legal and scientific deficiencies described above with respect to the BiOps, and is arbitrary and capricious and violates the ESA. As a result, that Assessment does not satisfy Reclamation's section 7 duties under the ESA. Moreover, because Reclamation knowingly failed to provide NMFS and FWS with the best available scientific and commercial data as required by the ESA, any reliance by Reclamation on the biological opinions that assess the provided information is arbitrary and capricious and violates section 7. Any reliance by Reclamation on those biological opinions is also arbitrary and capricious and in violation of Reclamation's own section 7 duties, including its duty to "use the best scientific and commercial data available"[19] and its substantive duty to insure that its actions are not likely to jeopardize the continued existence of any threatened or endangered species or result in the destruction or adverse modification of designated critical habitat, because the 2019 BiOps themselves are arbitrary and capricious, do not meet the requirements of the ESA and its implementing regulations, and are insufficient to protect listed species.[20] *See* 16 U.S.C. §1536(a)(2). Notwithstanding the 2019 BiOps and Reclamation's Biological Assessment, adopting and implementing the proposed CVP operations will violate Reclamation's independent section 7 duties. In addition, because the incidental take statements included in the biological opinions are invalid and contrary to law, relying on those statements to take listed species is arbitrary and capricious, and—particularly at the levels of take purportedly authorized by the take statements—will cause Reclamation to violate section 9 of the ESA. Similarly, to the extent that the incidental take statements contain vague or yet-to-be-defined limits on take, any take beyond that explicitly authorized by the terms of the take statements will also violate section 9 of the ESA.

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[19] Although preparation and issuance of a lawful biological opinion was the consulting agency's duty under ESA section 7(b), Reclamation, as the federal action agency, has a duty under ESA section 7(a)(2) to "use the best scientific and commercial data available." Neither Reclamation's own Biological Assessment nor the 2019 BiOps are based on the best available scientific and commercial data.

[20] The substantive goal of consultation under section 7(a)(2) of the ESA is to ensure that federal actions do not jeopardize the continued existence of listed species or adversely modify their critical habitat. Federal agencies may not take action that could harm a listed species until they have completed the ESA section 7(a)(2) consultation process and have received a valid biological opinion. For the reasons stated above, the 2019 BiOps are not valid and consequently Reclamation may not rely on them to conclude that its actions will avoid jeopardy to listed species.

Under these circumstances, the ESA requires that Reclamation avoid any action that causes harm to listed species or designated critical habitat pending valid compliance with the procedural requirements of section 7(a)(2) of the ESA.

VI. CONCLUSION

For the foregoing reasons, after at least sixty days from the date of this notice, if Reclamation violates the ESA as described herein by adopting the proposed action, the undersigned plan to bring suit against Reclamation under the ESA's citizen suit provision on behalf of Natural Resources Defense Council, Defenders of Wildlife, Golden State Salmon Association, Pacific Coast Federation of Fishermen's Associations, Institute for Fisheries Resources, and the Bay Institute.

Sincerely,

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CC (by email):

Paul Souza, U.S. Fish & Wildlife Service
Barry Thom, National Oceanic and Atmospheric Administration – Fisheries
Ernest Conant, Bureau of Reclamation

EXHIBIT 1

Obegi, Doug

From:
Sent: Wednesday, July 10, 2019 12:56 PM
To: Obegi, Doug
Subject: FW: Federal Team for CVP and ESA - Meet on Tuesday in Sacramento

---------- Forwarded message ---------
From: **Souza, Paul** <paul_souza@fws.gov>
Date: Wed, Jul 3, 2019 at 2:09 PM
Subject: Federal Team for CVP and ESA - Meet on Tuesday in Sacramento
To: Cheryll Dobson <cheryll.dobson@sol.doi.gov>, Allen, Kaylee <kaylee_allen@fws.gov>, Jana Affonso <jana_affonso@fws.gov>, Mary Grim <mary_grim@fws.gov>, Kristin White <knwhite@usbr.gov>, Joshua Israel <jaisrael@usbr.gov>, David Trimpe <dtrimpe@usbr.gov>, Gary Stern <gary.stern@noaa.gov>, Kris Petersen <kristine.petersen@noaa.gov>, John Luce <john.luce@noaa.gov>, Howard Brown - NOAA Federal <Howard.Brown@noaa.gov>, Caramanian, Lori <lori.caramanian@sol.doi.gov>
Cc: Barry Thom <barry.thom@noaa.gov>, Ernest Conant <econant@usbr.gov>, Harrison, Katrina <kharrison@usbr.gov>

Folks,

I would like to sincerely thank you for agreeing to join our team focused on further refining documents associated with the Bureau of Reclamation's proposed operations of the Central Valley Project, and the related Endangered Species Act reviews completed by the National Marine Fisheries Service and Fish and Wildlife Service.

I am very proud of the work our teams have done to date. They have produced nearly complete drafts of the Proposed Action and Biological Opinions, which you will be able to review. To this end, you will separately receive an email from Katrina Harrison, who will connect you with a site where you can access the documents. The software used is called Kiteworks, and if you don't yet have an account, you'll need to sign up. It is free and simple. The site also includes some comments on previous versions that will be useful to us. Please note that these documents are draft, internal, and deliberative, and we ask you to protect them as such.

We now have the chance to improve these important documents even more. We will also have the chance to look at the big picture and comprehensively understand how they work together. Our task includes the following actions:

1) To ensure that the best available science is used in all documents and analysis consistent with Federal laws, policies, and regulations;
2) To address peer review, water agency, Bureau of Reclamation, and State comments as appropriate in the Biological Opinions;
3) To complete final agency drafts of the Proposed Action, Biological Opinions, and supporting documents to ensure they are consistent and accurate; and
4) To maintain a comprehensive administrative record of the process.

As we enter this final phase of preparing documents, we believed that creating this multi-agency team would be extraordinarily helpful. We have a rich history of using agency teams to help us address complex issues in river basins such as the Missouri, Colorado, and Everglades.

We have representation from each of our local offices to ensure continuity with the amazing work completed to date, and also an important mix of new people who have a wealth of relevant expertise -- science, law, policy, and regulation.

These "fresh eyes" -- in concert with our local experts -- will help ensure the highest quality of our respective documents and ultimate individual agency decisions. Furthermore, this team will have the ability to tap into all of the expertise outside of the team as needed.

Over the next two months, we will take steps to ensure the highest scientific integrity and legal sufficiency reviews. To this end, we plan on embarking upon another independent scientific review (our second), and will have the benefit of considering this important feedback as we develop our final draft documents. When complete, these draft documents will go through the final internal review processes that each of our agencies requires before we make our respective decisions.

Now for some logistics . . . Please arrive at the Bureau of Reclamation's Bay-Delta Office at 8:30 am on Tuesday, July 9 (801 I Street, Suite 140 [BDO-100] Sacramento, CA 95814). I've already heard that a couple of you will have some logistical issues next week, and please let me know if additional needs arise. As possible, please try to familiarize yourself with the documents on the site before you arrive. We know there is a lot of material. Not to worry, we will also provide time for you to review the information.

I look forward to seeing you all next week and, again, sincerely thank you for your service. Please see my contact information below and don't hesitate to call my cell anytime.

Best,

Paul Souza
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U.S. Fish and Wildlife Service
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916-414-6469
916-208-2457 Cell
https://www.fws.gov/cno/