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1 **I. INTRODUCTION**

2 Before the 20th century, wild Chinook salmon, steelhead and green sturgeon thrived in
3 California's Central Valley. Now their populations have dwindled down so drastically that urgent,
4 and effective action must be taken to bring these species back from the edge of extinction.

5 Habitat loss is largely responsible for the decline of these anadromous fish species. Of the
6 original 2,000 miles of salmon habitat in the Central Valley, at least eighty percent has been lost.
7 Declaration of Patricia Weisselberg in Support of Plaintiffs' Motion for Partial Summary Judgment
8 ("Weisselberg Decl."), Ex. 1 (Biological Opinion for Operation of Englebright and Daguerre Point
9 Dams on the Yuba River, California, November 21, 2007) ("BiOp") BiOp at 17. Impassable dams
10 have restricted access to most historical spawning and rearing habitat, and the remaining accessible
11 habitat is degraded and inferior in quality to that lost. AR 2736/2740.¹ Moreover, California's
12 current drought conditions are compounding these problems by decreasing flows and increasing
13 water temperatures in these fishes' river habitat.

14 The National Marine Fisheries Service ("NMFS") has listed the three anadromous fish species
15 at issue in this case, the Evolutionarily Significant Unit ("ESU")² of Central Valley spring-run
16 Chinook salmon ("spring Chinook"); the Distinct Population Segment of Central Valley steelhead
17 ("steelhead"); and the southern Distinct Population Segment of North American green sturgeon
18 ("green sturgeon") (collectively the "Listed Species") under the Endangered Species Act ("ESA") as
19 threatened species.³ Two dams on the Yuba River constructed by the United States Army Corps of
20 Engineers ("Corps"), and a water diversion operated by the Yuba County Water Agency ("YCWA")

21
22 ¹ Citations to the NMFS administrative record are identified as "AR [page]." Citations to the Corps
23 administrative record are identified as "COE [page]." Some documents in the administrative record are
24 numbered with two different bates stamps, in which case both page numbers are cited, separated by a
25 "p".

26 ² An ESU can be comprised of a single population within a species, multiple populations within a
27 species, or all of the individuals within a species. As defined by NMFS, "[a] population must satisfy
28 two criteria to be considered an ESU: 1) It must be substantially reproductively isolated from other
conspicuous population units, and 2) It must represent an important component in the evolutionary legacy
of the species." The ESU concept was developed by NMFS scientists and published as both a NOAA
Technical Memorandum (Waples 1991a) and as a peer reviewed scientific journal article (Waples
1991b). The terms "species" and "ESU" are used interchangeably herein.

³ BiOp at 5- 6; 50 C.F.R. §§ 223.102(c)(1), (4), (17); 70 Fed. Reg. 37160 (June 28, 2005); 71 Fed. Reg.
834 (Jan. 5, 2006); 71 Fed. Reg. 17757 (Apr. 7, 2006)

1 and licensed by the Corps, have contributed to the Listed Species' decline and are obstacles to these
2 fishes' recovery. These dams block the Listed Species access to the Upper Yuba River, and the dams
3 and the water diversion have severely degraded the available downstream Yuba River habitat,
4 causing a near total collapse of the Yuba River's populations of the Listed Species. BiOp at 19
5 (Table 2).

6 As explained below, NMFS and the Corps have utterly failed to ensure that the Corps'
7 operations on the Yuba River do not jeopardize the Listed Species' survival, recovery or critical
8 habitat. NMFS issued its November 2007 BiOp for the dams and the water diversion without
9 considering the best available scientific data or considering all of the relevant factors, and concluded
10 that the dams and the water diversion are not jeopardizing the Listed Species' survival or recovery.
11 This conclusion is contradicted by ample evidence in the record, and even by the BiOp's own
12 analysis, that establish that the Listed Species are not currently viable, are not recovering given the
13 current status of their habitat, and face serious extinction risk--and that the Corps' operations on the
14 Yuba River are both substantially adding to the Listed Species' precarious condition and impeding
15 the ability of the Yuba River to provide the improved habitat that would aid the species' recovery.
16 The BiOp has unlawfully failed to mandate that the Corps alter the dams and the water diversion such
17 that these facilities' taking of the Listed Species is limited to no more than an incidental level, i.e., a
18 level that will not diminish the Listed Species' survival and recovery or further harm the species'
19 critical habitat.

20 Plaintiffs seek a summary judgment: (1) granting declaratory judgment that the BiOp is
21 arbitrary and capricious, (2) vacating the BiOp, (3) ordering NMFS and the Corps to reinstate formal
22 ESA section 7 consultation, (4) ordering NMFS to issue a new biological opinion that uses the best
23 scientific information available and thoroughly considers all important aspects of the problem, and
24 (5) granting declaratory judgment that the Corps is taking the Listed Species in violation of ESA
25 section 9.

26 **II STATEMENT OF FACTS**

27 **A. The Project**

28

1 The Yuba River flows from the Sierra Nevada Mountains to the Feather River near
2 Marysville. The Corps operates two dams on the Yuba River: Englebright Dam (“Englebright”) and
3 Daguerre Point Dam (“Daguerre”).⁴ Englebright, located 24 miles upstream of the Yuba’s
4 confluence with the Feather, is considered the dividing point between the Upper and Lower Yuba
5 Rivers. Englebright is 260 feet tall and has no fish ladders, and thus completely blocks fish passage
6 to the upper Yuba River. BiOp at 2. Daguerre is a 25 foot tall debris dam located approximately 12
7 miles downstream of Englebright. *Id.* at 3. Daguerre is impassable to fish except through two
8 rudimentary fish ladders. *Id.* at 4. The Corps permits several water diversions along the Yuba River
9 on its land, including the South Yuba-Brophy Diversion (“Brophy Diversion”), which is owned and
10 operated by YCWA. *Id.* at 3. Englebright, Daguerre and the Brophy Diversion (collectively, “the
11 Project”) adversely affect spring Chinook, steelhead and green sturgeon in several ways.

12 The Corps has issued two biological assessments (BAs) and NMFS has issued three biological
13 opinions concerning the Project, in 2002, April 2007, and November 2007. All of these biological
14 opinions and BAs framed the relevant Project to include Englebright and Daguerre Dams and the
15 Brophy Diversion. *Id.* at 2-3; AR 9417-21; AR 9529-32; AR 6223-6227; AR 7227-45. Further, the
16 biological opinions and BAs have all analyzed the adverse impacts to the Listed Species that stem
17 from Englebright, Daguerre, and the Brophy Diversion’s existence as impacts of the Project. BiOp at
18 24-28; AR 7227-44; AR 9438-43. Thus, the Corps and NMFS have always seen Englebright and
19 Daguerre Dams and the Brophy Diversion as the Project at issue.

20 **B. The Listed Species**

21 Adult spring Chinook generally begin their freshwater migration in January, reach their natal
22 streams from March to July, hold in the river over summer, and spawn from August to October. BiOp
23 at 6-7. Spawning adults require clean, loose gravel in swift, relatively shallow riffles, suitable water
24 temperatures, depths, and velocities for redd⁵ construction, and adequate oxygenation for incubating
25 eggs. *Id.* at 7. Juveniles typically emerge from the gravels from November to March and spend a

26 _____
27 ⁴ Maps of the Yuba and other Central Valley rivers are available at AR 3945, AR 2684, and COE 1181.

28 ⁵ Redds are shallow depressions dug by spawning salmon or steelhead in gravel or cobble substrates. Eggs are deposited in the depression, fertilized and then buried. Within redds, salmon or steelhead eggs may develop without interference from predators. AR 10532.

1 year or more in freshwater habitats before migrating downstream to the ocean from November to
2 May. *Id.* at 6-7. Juveniles need bank cover such as overhanging and submerged vegetation, root
3 wads, and fallen woody debris for successful rearing. *Id.* at 7. Because both adult and rearing
4 juvenile spring Chinook must pass the summer in the river, adequate stream flows and cool water
5 temperatures in the summer are critical for their survival. *Id.* at 6.

6 Adult steelhead generally enter freshwater from August through April with most spawning
7 occurring between late December and April. *Id.* at 8. Spawning steelhead require cool, clear streams
8 with suitable gravel size, depth, and current velocity. *Id.* Steelhead juveniles generally spend two
9 years in freshwater before emigrating downstream primarily in the spring. *Id.* at 8-9. Rearing
10 juveniles require cool water with adequate flows and large and small woody debris for refuge from
11 predators. *Id.* at 8. Emigrating juveniles use the lower reaches of the Sacramento River and Delta for
12 rearing and as a migration corridor to the sea. *Id.* at 9.

13 Adult green sturgeon reach up to 7 feet in length. *Id.* Adults generally migrate upstream
14 beginning in February and spawn between March and July. *Id.* Spawning requires deep, turbulent,
15 cold-water pools with large cobble substrate. *Id.* Juveniles spend from one to four years in fresh and
16 estuarine waters before dispersing to marine waters. *Id.* at 10. The mainstem Sacramento River
17 population is the only remaining green sturgeon spawning population. *Id.* at 9.

18 NMFS has designated critical habitat for spring Chinook to include part of the Sacramento
19 River and several of its tributaries, the lower Yuba River below Englebright, and areas in the
20 Sacramento Delta. 70 Fed. Reg. 52488, 52531, 52594-96, 52598 (Sept. 2, 2005). NMFS has
21 designated critical habitat for steelhead to include these areas plus part of the San Joaquin Delta. *Id.*
22 at 52531, 52609-10, 52614, 52627. NMFS has not designated critical habitat for green sturgeon, but
23 has proposed critical habitat to include part of the Sacramento River, the lower Yuba River below
24 Daguerre, and areas in both the Sacramento and San Joaquin Deltas. 73 Fed. Reg. 52084, 52091,
25 52110 (Sept. 8, 2008).

26 Although NMFS has not designated the Upper Yuba River above Englebright as critical
27 habitat for spring Chinook or steelhead, the NMFS scientists charged with proposing critical habitat
28 for spring Chinook and steelhead have concluded that the Upper Yuba may be essential to these

1 species' conservation because "it provides one of the largest areas of suitable habitat in the Central
2 Valley that can be accessed by providing passage at one relatively small dam." Weisselberg Decl.,
3 Ex. 6 (Appendix F & G to the Final Assessment of the National Marine Fisheries Service's Critical
4 Habitat Analytical Review Teams (CHARTS) for Seven Salmon and Steelhead Evolutionarily
5 Significant Units (ESUs) in California, July 2005), Appendix F at 7, Appendix G at 8.⁶

6 **C. The Listed Species Are In Jeopardy.**

7 NMFS considers four objective criteria to evaluate the viability or extinction risk of a fish
8 species: abundance (the number of fish); productivity (trends in their abundance); spatial structure
9 (whether fish populations exist in different areas to enable the species to survive a catastrophic event
10 in one area); and genetic or life history diversity (enabling the species to tolerate variations in
11 environmental conditions). BiOp at 32. All four factors are essential to a species' viability.

12 **1. Spring Chinook**

13 In the late 19th Century, the Central Valley provided spring Chinook over 2,000 miles of
14 habitat and spring Chinook runs exceeded 600,000 annually. AR 3870; AR 11333. Even after the
15 environmental devastation of rivers during the gold rush, spring Chinook runs on the Yuba River
16 remained large. AR 2735-36/2739-40. The Yuba River above Englebright contained a minimum of
17 80 miles of habitat which supported 6,000 to 10,000 spring Chinook annually. AR 11334; AR
18 3871-72 (Table 2); AR 3788.

19 The subsequent development of mining operations, dams, and water diversion facilities
20 throughout the Central Valley profoundly affected spring Chinook, cutting off access to over 80% of
21 spring Chinook habitat. BiOp at 17. Development has blocked spring Chinook upstream migration
22 and forced the fish to oversummer in lower reaches with inadequate habitat. *Id.* Spring Chinook

23 _____
24 ⁶ This document was produced by NMFS on July 25, 2008 pursuant to Plaintiffs' Freedom of
25 Information Act ("FOIA") request of May 1, 2008. Although the document was produced after
26 Plaintiffs filed their September 9, 2008 Motion for Reconsideration (Docket Doc. 166) and submitted
27 their lists of FOIA documents to be included in the administrative record, under the reasoning of the
28 Court's December 23, 2008 Order granting in part Plaintiffs Motion (Docket Doc. 184 ("Order")), this
document should also be part of the administrative record. In the Order the Court included in the
administrative record all documents produced by NMFS in response to FOIA requests and likely to have
been relied upon by NMFS. Order at 27. Moreover, this document should be part of the administrative
record because it was authored by NMFS staff (the NMFS Critical Habitat Analytical Review Teams)
prior to issuance of the BiOp, and therefore falls under the Court's ruling that documents produced by
NMFS staff are part of the administrative record. *See* Order at 27-28.

1 were unable to survive on many rivers; “more than 20 ‘historically large populations’ of spring run
2 chinook have been extirpated or reduced nearly to zero since 1940.” AR 11334-35. The Sacramento
3 River population has declined by 97% and only remnant populations of spring Chinook remain,
4 primarily concentrated on three streams on the east side of the Sacramento basin—Butte, Mill, and
5 Deer Creeks—with smaller populations on the Yuba River. *E.g.*, BiOp at 11; AR 11098. In 2006,
6 the combined total of all spring Chinook in these streams was 8,930—less than 1.5% of the historical
7 abundance of this species. BiOp at 11 (Table 1), 19 (Table 2); AR 11333. The Yuba River
8 population now numbers a mere 242 adults, down 96%–98% from historical abundance of 6,000 to
9 10,000. *Compare* AR 11334 with BiOp at 19 (Table 2).

10 In February 2007, a group of NMFS scientists, the Central Valley Technical Recovery Team
11 (“CVTRT”), published a study evaluating spring Chinook and steelhead’s status and recommending
12 measures for their survival and recovery.⁷ As discussed in Section IV-A below, this CVTRT study
13 (hereinafter “Lindley (2007)”), should have been considered by NMFS and included in the
14 administrative record for the BiOp. The CVTRT concluded in the February 2007 study that while the
15 abundance of some spring Chinook populations has recently increased, *the best available evidence*
16 *indicates that the species as a whole is not viable.* Weisselberg Decl., Ex. 2 at 1. The CVTRT
17 concluded that current spring Chinook abundance is way below historic levels, and the loss of so
18 many populations and the important spatial and genetic diversity they provide has rendered spring
19 Chinook “in jeopardy of extinction.” Weisselberg Decl., Ex. 2 at 19. The present very limited spatial
20 distribution of the species has made them highly vulnerable to catastrophic disturbance, such as a
21 drought, wildfire, or other natural or man-made disaster. *Id.* at 11. As a result, the CVTRT
22 recommended that all extant populations be considered essential for the species’ recovery, and
23 wherever possible, the status of all populations should be improved. *Id.* at 20.

24
25 ⁷“Framework for Assessing Viability of Threatened and Endangered Chinook Salmon
26 and Steelhead in the Sacramento-San Joaquin Basin,” published by the NMFS Central Valley
27 Technical Recovery Team, in February 2007, lead author Steven T. Lindley. Mr. Lindley is a NMFS
28 staff member employed as an Ecologist at the NMFS Southwest Fisheries Science Center in Santa Cruz,
California (*see* <http://swfsc.noaa.gov/staff.aspx?&id=702>), and this article was published by the NMFS
CVTRT pursuant to, and in furtherance of, NMFS’s statutory duty to develop and issue recovery plans
to ensure the conservation of listed species (*see* 16 U.S.C. § 1533(f)). The article is available on NMFS’
website at <http://swfsc.noaa.gov/textblock.aspx?Division=FED&id=2260>.

1 **2. Steelhead**

2 Historically, steelhead were even more widely distributed than spring Chinook, and the loss of
3 steelhead habitat has been even greater. AR 3870. Although steelhead abundance is not well
4 monitored, NMFS scientists on the CVTRT and others have repeatedly concluded that the best
5 available evidence indicates that steelhead are already in jeopardy of extinction and moving in a
6 downward trajectory. Weisselberg Decl., Ex. 2 at 13, 19.

7 The BiOp echoes these conclusions. It notes a decline in steelhead abundance from 1 to 2
8 million adults historically, to about 40,000 in the early 1960s, to a spawning population of only about
9 3,600 female steelhead in 2005. BiOp at 12; *see also id.* at 11. For these reasons, the CVTRT
10 concluded that steelhead are “far short of being viable” and that recovering the species requires
11 “secur[ing] all extant populations.” Weisselberg Decl., Ex. 2 at 20.

12 **3. Green Sturgeon**

13 The best available evidence indicates that green sturgeon abundance is currently declining,
14 mainly due to loss of historical habitat caused by impassable dams. BiOp at 12; 70 Fed. Reg. 17386,
15 17391 (Apr. 6, 2005). Daguerre creates an impassable barrier to green sturgeon which cannot ascend
16 fish ladders. BiOp at 21. By cutting off green sturgeon migration, Daguerre blocks access to
17 approximately 4 kilometers of suitable green sturgeon habitat in the Yuba River. Weisselberg Decl.
18 Ex. 13 (“Do impassable dams and flow regulation constrain the distribution of green sturgeon in the
19 Sacramento River, California?”) at 12, 15⁸. As noted, only a single spawning population of green
20 sturgeon remains in the entire Central Valley. *Id.* at 13. This lack of spatial diversity also renders the
21 species vulnerable to extinction through catastrophic disturbance. 70 Fed. Reg. at 17386.

22 NMFS scientists have concluded that the Yuba above Daguerre represents the single best
23 source of potential new habitat for green sturgeon in the entire Central Valley. Specifically, the
24 NMFS Critical Habitat Review Team (“CHRT”), charged with identifying green sturgeon critical
25 habitat, found that: (1) current Yuba River habitat above Daguerre would be likely to support green
26

27 ⁸ On information and belief this study was authored in approximately November 2008. Although it was
28 not available until after the BiOp was issued, the Court should consider it because it shows that NMFS
failed to consider all relevant factors in reaching its decision. *See* Order at 28. Nowhere in the BiOp
does NMFS conclude that green sturgeon habitat exists above Daguerre.

1 sturgeon spawning if the fish's access to this area could be secured; (2) establishing a Yuba River
2 population of green sturgeon would provide the spatial diversity needed to avoid the species'
3 extinction in the event of catastrophic disturbance to the single existing population; and (3) there is
4 potential for removing Daguerre in the near future. Weisselberg Decl., Ex. 3 ("Proposed Designation
5 of Critical Habitat for the Southern Distinct Population Segment of North American Green
6 Sturgeon") at 39.⁹ For these reasons, the CHRT concluded that providing green sturgeon access to
7 the reach above Daguerre may be essential to avoid "the high risk of extirpation due to catastrophic
8 events." *Id.*

9 **D. The Project Is Worsening The Species' Jeopardy**

10 **1. Project Impacts on Spring Chinook and Steelhead**

11 NMFS's own review, in the BiOp and in other documents, well establishes that the Project is
12 severely impacting spring Chinook and steelhead, adding to the species' jeopardy.

13 One, as NMFS has acknowledged, the Project's greatest adverse impact on spring Chinook
14 and steelhead has been Englebright's total blockage of access to the Upper Yuba's abundant,
15 high-quality habitat. BiOp at 17, 31; Weisselberg Decl., Ex. 2 at 19; AR 2740; Weisselberg Decl.,
16 Ex. 7 (Corps' First Supplemental Response to Plaintiffs' Second Set of Requests for Admission,
17 February 17, 2009) at No. 1. Spring Chinook and steelhead (often collectively referred to as
18 "salmonids") are now forced to spawn and rear in the reach below Englebright, which is inferior to
19 the upper Yuba River because it contains less spawning space, poorer diversity of smaller spawning
20 gravels, lower gradient, lower pool-to-riffle ratios, lower quantity of gravel sizes used by spawning
21 salmonids, less suitable holding water, and less woody debris. AR 2742. For these reasons, the
22 NMFS scientists charged with identifying critical habitat for spring Chinook and steelhead concluded
23 that providing access to the upper Yuba above Englebright may be essential to the conservation of the
24 species because "it provides one of the largest areas of suitable habitat in the Central Valley that can
25

26 ⁹ This study, prepared by NMFS in 2008, was not included in the administrative record but should be
27 considered by the Court because it shows that NMFS failed to consider all relevant factors in reaching
28 its decision. *See* Order at 28. Nowhere does the BiOp consider the above factors addressed by CHRT
in reaching the BiOp's decision although studies relied upon by CHRT were included in the
administrative record or available prior to the issuance of the BiOp. Weisselberg Decl. Ex. 3 at 3, 60-
66. .

1 be accessed by providing passage at one relatively small dam.” Weisselberg Decl., Ex. 6, Appendix
2 F at 7 & G at 8; *see also* Weisselberg Decl., Ex. 2 at 20.

3 Two, by cutting off access to the numerous upstream tributaries which would otherwise
4 provide refuge during catastrophic events in the Yuba River, Englebright makes it more likely that a
5 singular adverse event could “significantly reduce or completely decimate” the Yuba River’s
6 surviving population of spring Chinook and steelhead, further reducing the species’ spatial and
7 genetic diversity. BiOp at 25. As noted, spring Chinook and steelhead are especially vulnerable to
8 catastrophic events such as wildfires, chemical spills or major floods due to the species’ low
9 population numbers, long periods of residency in the river, and their confinement to just a few stream
10 reaches. *Id.*; *see* Weisselberg Decl., Ex. 2 at 11.

11 Three, Daguerre impedes upstream immigration of adult spring Chinook and steelhead on
12 their way to spawn. While Daguerre has fish ladders, numerous design deficiencies in these fish
13 ladders reduce the ability of these adult salmonids to pass the dam:

- 14 (a) at low, moderate, and high flows, sheet flows pouring over the face of the dam either
15 obscure or completely wash out the attraction flows coming out of the entrances to the fish
16 ladders, greatly reducing the ability of spring Chinook and steelhead to find and
17 successfully navigate the ladders. AR 12791-92; AR 1629-30/1625-26; AR 4614; AR
18 1640/1644; Weisselberg Decl., Ex. 8 (Corps Second Supplemental Response to Plaintiffs’
19 First Set of Requests for Admission, February 17, 2007) at No. 1;
- 20 (b) the ladder’s entrances being situated at 90 degree angles to the main channel’s flow
21 pattern further worsens the poor attraction flows from the ladders; AR 4216.
- 22 (c) fish ladders are designed to have appropriate hydraulic conditions under a specific range
23 of flows, and when flows within a ladder do not fall within the designed operating range,
24 incorrect hydraulic cues may fail to lead fish quickly and safely through the ladder. AR
25 1628/1624. The ladders at Daguerre are designed to be operated primarily during low
26 flows, and higher flows create a standing wave and excessive water levels in the ladders
27 that have killed migrating salmon. *Id.* Moreover, flows in excess of 15,000 cfs require
28 closure of the ladders. (AR 12793; AR 4614), and these closures can occur for over a
month at a time during flow conditions under which spring Chinook and steelhead
generally migrate upstream to spawn, causing significant delays in upstream migration.
BiOp at 26; *see also* AR 4614; AR 12792; AR 4216.
- (d) debris in the fish ladders often delays or blocks upstream passage of spring Chinook and
steelhead. BiOp at 22; AR 4216; AR 1628/1624; AR 7570; AR 7580; AR 12793. Under
heavy flow conditions, logs and other large pieces of debris often clog the ladders for
extensive periods of time until officials can bring heavy equipment to clear the debris. AR
9113; Weisselberg Decl., Ex. 8 at No. 4.
- (e) the ladder design allows for the poaching of spring Chinook and steelhead from the
ladders. AR 12794; AR 1644/1640; AR 4614.

1 Four, Daguerre has caused a large gravel and sediment bar to form upstream of the dam which
2 chokes off flows through Daguerre's rudimentary fish ladders and greatly reduces the ability of
3 migrating fish to reach the main channel of the river. AR 6017.

4 Delays or impediments to adult spring Chinook and steelhead immigration can significantly
5 reduce the spawning success of the species. Spring Chinook adults and juveniles trapped below
6 Daguerre are likely to be killed by adverse conditions created by inadequate flows, warm water
7 temperatures, and abundant warm water predators. AR 1626; AR 1644; AR 4614. Yet Daguerre
8 forces an average of 36% of the Chinook salmon in the Yuba to spawn below the dam, and as much
9 as 50% of the run in some years. AR 4215. Even if they are able to pass Daguerre, adults cease
10 eating once they enter freshwater, and can use up precious energy stores needed for oversummering
11 and spawning while waiting to successfully pass the dam. BiOp at 27; AR 11331. And obscured fish
12 ladders cause physical injury, delayed spawning, and stress as adults leap against the dam in a vain
13 attempt to ascend its face, or search for another passage alternative. AR 12791-92.

14 Five, Daguerre harms juvenile spring Chinook and steelhead during downstream migration.
15 Daguerre's hydrodynamics have formed a large plunge pool at the base of Daguerre which creates
16 conditions that promote predation on juvenile spring Chinook and steelhead. BiOp at 27; AR 12795.
17 Predator fish species flourish in this pool and juvenile spring Chinook are often easy prey in this pool
18 because they are disoriented or injured after plunging over the face of the Daguerre dam into the
19 turbulent waters at the dam's base. BiOp at 27; *see also, e.g.*, AR 4217. In addition, juvenile passage
20 over Daguerre may be impeded at low flows. AR 12795. These downstream impacts on juveniles
21 may be an even greater threat to the species than the blockage of upstream passage for adults. AR
22 135. As a result, Michael Tucker, the NMFS biologist who drafted the BiOp, stated that it was
23 "imperative" that any fish passage improvements at Daguerre address downstream passage for
24 juveniles. AR 5030.

25 Six, the fish screen at the Brophy Diversion fails to meet NMFS and California Department of
26 Fish and Game ("CDFG") fish screening criteria or to provide adequate sweeping flows through the
27 diversion, resulting in impingement of juveniles within the diversion's rock weir and entrainment of
28 juveniles in the diversion pool behind the weir. BiOp at 28; Weisselberg Decl., Ex. 8 at Nos. 27, 31-

1 33. Approximately 50% of the juveniles entering the Brophy Diversion are killed (AR 10470), and
2 the BiOp anticipates that the expansion of water diversion under the Wheatland Project (discussed
3 further below) would increase this take by 40%. BiOp at 30. Under an agreement with CDFG,
4 YCWA is required to provide adequate sweeping flows along the weir and facilitate fish's escape
5 from the Brophy Diversion channel by ensuring that 10% of the water diverted from the Yuba River
6 bypasses the weir and is returned to the Yuba River. BiOp at 28; AR 4584. However, YCWA has
7 failed at times to provide these 10% return flows, with the outlet channel sometimes running
8 completely dry. BiOp at 28; Weisselberg Decl., Ex. 9 (NMFS's Second Supplemental Response to
9 Plaintiffs' First Set of Interrogatories, February 17, 2009) at No. 29. At other times, the return
10 channel from the Brophy Diversion back to the Yuba River has been blocked with debris, impeding
11 the ability of spring Chinook and steelhead to return to the river.¹⁰

12 Seven, the hydrodynamics at the Brophy Diversion have also created a deep, slow-moving
13 pool next to the diversion's weir which promotes predation on emigrating juvenile salmonids. AR
14 10470; AR 1027-28; AR 5036.

15 Eight, the Brophy Diversion and the other water diversions result in the removal of flows that
16 would otherwise pass downstream to contribute to the primary constituent elements of critical habitat
17 below Daguerre, resulting in increased warming in the lower reaches and causing a portion of the
18 habitat to become dewatered. BiOp at 29.

19 **2. Additional Project Impacts on Spring Chinook**

20 In addition to the above impacts on spring Chinook and steelhead, Englebright is reducing the
21 genetic diversity and reproductive success of spring Chinook. Spring Chinook enter freshwater
22 earlier in the year than fall-run Chinook, which historically allowed the species to maintain a spatial
23 separation as the spring run migrated high into the upper Yuba River before spawning. BiOp at 25;
24 AR 11337. But by blocking access to upstream areas, Englebright has forced overlapping use of the
25 same spawning areas by both spring Chinook and fall-run Chinook, causing the two species to

26
27 ¹⁰ The Corps included in the 2000 BA and NMFS included in the 2002 Biological Opinion more regular
28 clearing of debris and maintenance of unimpeded flow through the diversion return channel as a
conservation and restoration measure—thus implying that the channel was sometimes blocked by debris.
AR 2734/2730; AR 6227. Without explanation, NMFS eliminated this measure from the 2007 BiOp.

1 interbreed and diluting the genetics of the much smaller spring Chinook population. BiOp at 25; *see*
2 *also, e.g.*, AR 3837; AR 6130. This hybridization of spring Chinook threatens their continued
3 survival on the Yuba River as a genetically distinct ESU. Furthermore, the crowding of the two
4 species into the diminished habitat area below Englebright causes fall-run Chinook to superimpose
5 their redds on top of spring Chinook redds, reducing the survival of spring Chinook eggs and thus the
6 species' reproductive success and long-term viability. *Id.*; BiOp at 25; *see also, e.g.*, AR 13652-53.

7 **3. Project Impacts on Green Sturgeon**

8 Because green sturgeon cannot ascend the fish ladders at Daguerre, the dam completely
9 blocks
10 green sturgeon access to approximately 4 kilometers of suitable habitat in the Yuba River. BiOp at
11 21;
12 Weisselberg Decl., Ex. 13 at 12. NMFS has acknowledged that Daguerre prevents green sturgeon
13 from accessing “a large amount of apparently suitable spawning and rearing habitat, which may be
14 limiting the abundance, spatial structure and productivity of the population.” BiOp at 26; *see also id.*
15 at 13 (the “principal factor for the decline” of green sturgeon is the loss of available spawning
16 habitat). And the BiOp concludes that existing mitigation measures will do nothing to prevent green
17 sturgeon from becoming endangered in the foreseeable future. BiOp at 16-17.

18 **III. STANDARD OF REVIEW**

19 Summary judgment is appropriate where there is no genuine issue of material fact and the
20 moving party is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(c). Plaintiffs' challenge to
21 the lawfulness of the biological opinion is brought under the ESA and the Administrative Procedure
22 Act (“APA”). The ESA should be construed in light of the statute's purpose “to provide
23 comprehensive protection for endangered and threatened species.” *Babbitt v. Sweet Home Chapter of*
24 *Communities for a Greater Oregon*, 515 U.S. 687, 699 (1995). Agency decisions made under the
25 ESA are subject to judicial review under the standards of the APA. *Natural Res. Def. Council v.*
26 *Houston*, 146 F.3d 1118, 1125 (9th Cir. 1998); *Natural Res. Def. Council v. Kempthorne*, 506 F.
27 Supp. 2d 322, 347 (E.D. Cal. 2007). The APA provides that the court shall “hold unlawful” agency
28

1 action that is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law,”
2 or “without observance of procedure required by law.” 5 U.S.C. § 706(2)(A), (D).

3 A biological opinion is arbitrary and capricious if it fails to consider all relevant factors, fails
4 to consider an important aspect of the problem presented, fails to explain its conclusions
5 satisfactorily, or fails to demonstrate a rational connection between the facts found and the choice
6 made. *Pac. Coast Fed’n of Fishermen’s Ass’ns v. Nat’l Marine Fisheries Serv.*, 265 F.3d 1028, 1034
7 (9th Cir. 2001); *Greenpeace v. Nat’l Marine Fisheries Serv.*, 80 F. Supp. 2d 1137, 1147 (W.D. Wash.
8 2000). Alternatively, a biological opinion is invalid if it fails to use the best available scientific
9 information as required by ESA section 7(a)(2), 16 U.S.C. § 1536(a)(2). *Pac. Coast Fed’n of*
10 *Fishermen’s Ass’ns v. Gutierrez*, 1:06-cv-00245-OWW-GSA, 2008 U.S. Dist. LEXIS 98568, at *56
11 (E.D. Cal. May 2, 2008).

12 In applying these standards, the Court must perform a “thorough, probing, in-depth review.”
13 *Northern Spotted Owl v. Hodel*, 716 F. Supp. 479, 481-82 (W.D. Wash. 1988). “While courts must
14 defer to an agency’s reasonable interpretation of equivocal scientific evidence, such deference is not
15 unlimited. The presumption of agency expertise may be rebutted if its decisions, even though based
16 on scientific expertise, are not reasoned.” *Greenpeace*, 80 F. Supp.2d at 1147; *see also Nat’l Wildlife*
17 *Fed’n v. Nat’l Marine Fisheries Serv.*, 422 F. 3d 782, 798 (9 Cir. 2005) (“Deference is not owed
18 when the agency has completely failed to address some factor, consideration of which was essential
19 to [making an] informed decision.” (internal citations and quotations omitted); *Ctr. for Biological*
20 *Diversity v. Bureau of Land Mgt.*, 422 F. Supp. 2d 1115, 1127-28 (N.D. Cal. 2006) (“while a
21 reviewing court must show deference to the reasonable decisions of an agency, such deference is
22 ‘warranted only when the agency utilizes, rather than ignores, the analysis of its experts’”), *quoting*
23 *Ctr. for Biological Diversity v. Lohn*, 296 F. Supp. 2d 1223, 1239 (W.D. Wash. 2003).

24 The appropriate remedy following a finding that a biological opinion is arbitrary and
25 capricious is an order vacating the biological opinion and remanding the matter to NMFS to reinitiate
26 ESA section 7 consultation and issue a new biological opinion that comports with the ESA, considers
27 all relevant factors, and all important aspects of the problem presented, explains its conclusions
28

1 satisfactorily, and demonstrates a rational connection between the facts found and the choice made.
2 *See NWF v. NMFS*, 524 F.3d 917, 925, 927 (9th Cir. 2008).

3
4 **IV. ARGUMENT**

5 **A. The BiOp is Invalid Because NMFS Failed to Use the Best Available Scientific**
6 **Information and Failed to Consider All Relevant Factors**

7 In formulating the BiOp, NMFS was required to use the “best scientific and commercial data
8 available.” 16 U.S.C. § 1536(a)(2). However, NMFS did not use the best scientific data available
9 because it ignored the Lindley (2007) study, done by its own scientists on the CVTRT, which
10 evaluated spring Chinook and steelhead’s status, and which recommended measures for their survival
11 and recovery. Although the Lindley (2007) study was available a full nine months before the BiOp
12 was issued, NMFS omitted the study from its administrative record and did not use this vitally
13 important data from its own scientists when it wrote the BiOp. NMFS’s failure to consider the study
14 was highly improper and invalidates the BiOp.

15 Although NMFS failed to include the Lindley (2007) study in the administrative record, the
16 report should be considered part of the record in this case under the reasoning of the Court’s
17 December 23, 2008 Order granting in part Plaintiffs’ Motion for Reconsideration because the study
18 was authored by NMFS, is clearly pertinent to any reasoned analysis of the Listed Species’ status and
19 the impacts of the Project on the species, and was available prior to the issuance of the BiOp. Order
20 at 27-28. Alternatively, if for any reason the Lindley (2007) study is not deemed to have been part of
21 the administrative record, the Court should nevertheless consider it because the study shows that
22 NMFS failed to consider a number of relevant factors in reaching its decision. *See* Order at 28.

23 These factors include:

- 24
- 25 • the fact that while some of the remaining populations of spring Chinook have
26 exhibited increased abundance in recent years, the best available evidence indicates
27 that the species as a whole is not viable because current species abundance is a
28 fraction
of the historical norm and the present spatial distribution of the species on three
streams in close proximity has made them highly vulnerable to catastrophic
disturbance, such as a drought, wildfire, or other natural or man-made disaster
(Lindley
(2007) at 1, 11, 19);
 - that for these reasons, spring Chinook are “in jeopardy of extinction” (*id.* at 19);

- 1 • that all extant populations must be considered essential to the recovery of the spring
2 Chinook species (*id.* at 20);
- 3 • that available qualitative data “suggest[s] that the Central Valley steelhead ESU is at
4 moderate or high risk of extinction,” and for streams for which quantitative data exists,
5 the naturally-spawning populations are at “high risk of extinction” (*id.* at 13);
- 6 • that “[t]here is no evidence to suggest that . . . there are viable populations of steelhead
7 anywhere in the ESU” (*id.*);
- 8 • that steelhead are “far short of being viable” and that recovering the species requires
9 “secur[ing] all extant populations” (*id.* at 20);
- 10 • that climate change is expected to dramatically affect the hydrology of California’s
11 rivers and the species that inhabit them by causing a shift in the timing of stream flows
12 from spring and summer to earlier periods in the water year, decreased precipitation,
13 increased occurrence of both extreme droughts and extreme floods, and reduced
14 spawning habitat in the Central Valley (*id.* at 17-18).

15 For these reasons, the Lindley (2007) study is highly relevant and must be considered by the
16 Court to ensure that NMFS considered the relevant factors in reaching its BiOp decision.

17 **B. The BiOp Is Arbitrary and Capricious Because It Fails To Show a Rational**
18 **Connection Between the Facts Found and the Conclusions Reached.**

19 **1. The BiOp’s Survival Conclusion Is Arbitrary and Capricious.**

20 The BiOp found that the Project is reducing all four viability criteria for the Listed Species
21 and that if the Project’s operations were not altered, the Project would cause continued declines in the
22 species’ viability and the value of their critical habitat. BiOp at 32. The BiOp nonetheless found that
23 the Project would not jeopardize the species’ survival because the following six specific Project
24 changes would improve conditions for the species in the Yuba River:

- 25 (1) construction of a state-of-the-art fish screen at one of the water diversions on the river (the
26 Browns Valley diversion); (2) a refurbishment of the fish screen at another water diversion on
27 the River (the Hallwood-Cordua diversion); (3) attachment of adjustable flash boards at
28 Daguerre to divert flow from the center of the spillway to the edges near the fish ladders; (4)
initiation of weekly or bi-weekly inspections of the fish ladders at Daguerre; (5)
implementation of a sediment management plan above Daguerre; and (6) construction of a
flow-bypass system on the Narrows II hydroelectric facility at Englebright to prevent flow
fluctuations when the powerhouse is down for maintenance or repairs.

29 BiOp at 32-33. The BiOp’s no jeopardy conclusion is arbitrary and capricious, however, because
30 these measures will do nothing to prevent the biggest adverse impacts of the Project from continuing
31 to harm the Listed Species.

1 As noted in the Statement of Facts, the BiOp and the administrative record indicate that the
2 Project is causing a number of adverse impacts, including:

- 3 • One, as NMFS has acknowledged, the Project's greatest adverse impact on spring
4 Chinook and steelhead has been Englebright's total blockage of access to the Upper
5 Yuba's abundant, high-quality habitat;
- 6 • Two, by cutting off access to the numerous upstream tributaries which would
7 otherwise provide refuge during catastrophic events in the Yuba River, Englebright
8 makes it more likely that a singular adverse event could "significantly reduce or
9 completely decimate" the Yuba River's surviving population of spring Chinook and
10 steelhead (BiOp at 25);
- 11 • Three, Daguerre impedes upstream immigration of adult salmonids on their way to
12 spawn because the fish ladders are blocked with debris during the peak migration
13 season;
- 14 • Four, Daguerre further impedes upstream passage because, while Daguerre has fish
15 ladders, numerous design deficiencies in these fish ladders reduce the ability of adult
16 salmonids to pass the dam;
- 17 • Five, Daguerre has caused a large gravel and sediment bar to form upstream of the
18 dam which chokes off flows through Daguerre's rudimentary fish ladders and greatly
19 reduces the ability of migrating fish to reach the main channel of the river;
- 20 • Six, Daguerre harms juvenile spring Chinook and steelhead during downstream
21 migration by creating a large plunge pool at the base of Daguerre where predators prey
22 on juveniles disoriented by their plunge over the face of the dam;
- 23 • Seven, the fish screen at the Brophy Diversion fails to meet NMFS and California
24 Department of Fish and Game fish screening criteria or to provide adequate sweeping
25 flows through the diversion, resulting in impingement of juveniles within the
26 diversion's rock weir and entrainment of juveniles in the diversion pool behind the
27 weir;
- 28 • Eight, the hydrodynamics at the Brophy Diversion have also created a deep,
slow-moving pool next to the diversion's weir which promotes predation on
emigrating juvenile salmonids;
- Nine, the Brophy Diversion and the other water diversions result in the removal of
flows that would otherwise pass downstream to contribute to the primary constituent
elements of critical habitat below Daguerre, resulting in increased warming in the
lower reaches and causing a portion of the habitat to become dewatered;
- Ten, in addition to the above impacts on spring Chinook and steelhead, Englebright is
reducing the genetic diversity and reproductive success of spring Chinook by causing
the forced overlapping use of spawning areas below Englebright by both spring
Chinook and fall Chinook; and
- Eleven, because green sturgeon cannot ascend the fish ladders at Daguerre, Daguerre
prevents green sturgeon from accessing "a large amount of apparently suitable
spawning and rearing habitat, which may be limiting the abundance, spatial structure
and productivity of the population." (BiOp at 26.)

1 Notably, of the eleven Project impacts identified above, the recent changes address only the
2 third and fifth, and only partially at that.^{11 12} Especially noteworthy is that the Project's single most
3 detrimental impact to the Listed Species is the loss of access to abundant high-quality spawning and
4 rearing habitat upstream of Englebright (in the case of spring Chinook and steelhead) and Daguerre
5 (for green sturgeon). The six mitigation measures outlined in the BiOp *will do nothing* to restore
6 these species access to this habitat. Overall, it is plain that there will be many impacts from the
7 Project that the Project changes and the Terms and Conditions of the BiOp's Incidental Take
8 Statement ("ITS") will not address.

9 Plaintiffs do not assert that there must always be a one-to-one correspondence between
10 mitigation measures and a project's impacts. But what is critically missing from the BiOp is any
11 comparison, even qualitative, of the reduction in impacts to the Listed Species that Project changes
12 and the ITS's Terms and Conditions will bring, versus how much adverse effect on the Listed Species
13 will continue from the impacts left unaddressed. Without such a comparative analysis, the BiOp
14 cannot and does not reach any reasoned conclusions why, on balance, the recent changes to the
15 Project together with the ITS's Terms and Conditions will bring enough benefit to the Listed Species
16 to avoid jeopardy, in light of the continuing loss to the Listed Species from impacts that these
17 changes to the Project and the ITS's Terms and Conditions will not reduce. Indeed, if NMFS were to
18 actually perform such a comparative analysis, the record would appear to support that whatever
19 reduction in loss to the Listed Species that the Project changes and the ITS's Terms and Conditions
20 will bring is *outweighed by* the numerous significant Project impacts left unaddressed by these
21 mitigation measures.

22 Plaintiffs are not second-guessing an agency on a matter of technical expertise. Plaintiffs are
23 merely looking at the facts, looking at the conclusions, and asking whether the conclusions flow from
24

25 ¹¹ The BiOp issued in 2002 required the Corps to implement programs to clear the debris in the Daguerre
26 fish ladders and to reduce the sediment blocking the channel upstream of Daguerre. However, these
27 programs have been largely ineffective and have repeatedly failed to prevent substantial blockage of the
28 fish ladders and resulting delays in migration for the Listed Species. *See* AR 9113.

¹² Impact number four is caused by design deficiencies in the physical structure of the fish ladders themselves rather than by debris build-up in the ladders. Thus, the debris clearing program at Daguerre does not mitigate this impact.

1 a logical, reasoned assessment of the facts. Courts are not required to blindly defer to an agency's
2 conclusion while ignoring substantial flaws in the reasoning by which the agency reached that
3 conclusion. *Ariz. Cattle Growers' Ass'n v. U.S. Fish & Wildlife Serv.*, 273 F.3d 1229, 1236 (9th Cir.
4 *Ariz.* 2001) ("Judicial review is meaningless . . . unless we carefully review the record to ensure that
5 agency decisions are founded on *a reasoned evaluation* of the relevant factors.") (internal quotations
6 omitted) (emphasis added); *Greenpeace*, 80 F. Supp. 2d at 1147 ("The presumption of agency
7 expertise may be rebutted if its decisions, even though based on scientific expertise, are not
8 reasoned.").

9 Notably, NMFS, in a final biological opinion on the Central Valley Project ("CVP") and State
10 Water Project ("SWP") Operating Criteria and Plan ("CVP BiOps") has found the Listed Species to
11 be in jeopardy. Weisselberg Decl., Ex. 14 excerpt of the Biological Opinion and Conference Opinion
12 on the Long-Term Operations of the Central Valley Project and State Water Project, June 4, 2009) at
13 1- 2.¹³ A jeopardy finding is made to the species as a whole, not just the populations located within
14 the action area of a specific BiOp. *See* 50 C.F.R. § 402.14(g)(4). Thus, it would appear arbitrary and
15 capricious for NMFS to conclude that the CVP and SWP jeopardize the Listed Species' survival, but
16 the Project here, which adds to the take of the species and is lessening their abundance, productivity,
17 diversity in spatial distribution, and genetic diversity, does not. Given the jeopardy status of the
18 Listed Species recognized by the CVP BiOp, the only rational conclusion in a valid BiOp for the
19 Project at issue here would also be a jeopardy conclusion.

20 Although NMFS's conclusion in the CVP BiOp that spring Chinook and steelhead are in
21 jeopardy came after the BiOp here was issued, the information that NMFS used in forming its
22 jeopardy opinion in the CVP BiOp *was available at the time NMFS wrote the BiOp at issue here.*
23 Specifically, the CVP BiOp expressly notes that the February 2007 Lindley study, finding that neither
24 spring Chinook or steelhead is presently viable, was "relied on to establish the current status of the
25 listed Central Valley salmon and steelhead species." Weisselberg Decl. Ex. 14 at 43.

26
27 ¹³ The 844 page CVP BiOp is available online at
28 http://swr.nmfs.noaa.gov/ocap/NMFS_Biological_and_Conference_Opinion_on_the_Long-Term_Operations_of_the_CVP_and_SWP.pdf.

1 Although the CVP BiOp is not part of the administrative record in this case it is highly
2 relevant and should be considered by the Court in evaluating whether NMFS considered all relevant
3 factors in issuing the BiOp at issue here—especially given that the key information in the Lindley
4 2007 study, relied on in the CVP BiOp, was available when the BiOp challenged here was issued.
5 *Southwest Ctr. for Biological Diversity v. U.S. Forest Serv.*, 100 F. 3d 1443, 1450 (9th Cir. 1996);
6 *Lands Council v. Forester of Region One of the U.S. Forest Serv.*, 395 F.3d 1019, 1030 (9th Cir.
7 2004) (extra-record materials are admissible if necessary to determine “whether the agency has
8 considered all relevant factors”) (citations omitted); *Kemphorne*, 506 F. Supp. 2d at 346-47; *Rock*
9 *Creek Alliance v. U.S. Fish & Wildlife Serv.*, 390 F. Supp. 2d 993 (D. Mont. 2005) (3 extra-record
10 BiOps for area grizzly bear, written by FWS, were admitted for purpose of showing that agency did
11 not consider all relevant information).

12 The BiOp is arbitrary and capricious in failing to analyze how the most significant adverse
13 impacts of the Project can be allowed to continue unabated and yet not jeopardize the Listed Species’
14 survival. Given evidence that the Listed Species’ abundance, productivity, spatial structure, and
15 genetic diversity are all declining, plus NMFS’s own conclusion that past operational conditions will
16 lead to continued declines, NMFS’s no jeopardy conclusion is arbitrary and capricious.

17 **2. The BiOp’s Recovery Conclusion Is Arbitrary and Capricious.**

18 The BiOp was further required to consider whether the Project would jeopardize the Listed
19 Species’ chances of recovery. *See, e.g., Nat’l Wildlife Fed’n v. Nat’l Marine Fisheries Serv.*, 481
20 F.3d 1224, 1237 (9th Cir. 2007). Under ESA regulations, a project jeopardizes recovery if it would
21 be expected, directly or indirectly, to reduce appreciably the likelihood of the recovery of the species
22 in the wild by reducing the species’ reproduction, numbers, or distribution. 50 C.F.R. § 402.02.

23 However, the BiOp concludes that the Project will not jeopardize the Listed Species’ recovery
24 because of five measures or programs which the BiOp says are expected to improve habitat
25 conditions for the Listed Species: (1) the Yuba Accord fisheries agreement, (2) the Upper Yuba
26 River Studies Program, (3) Brophy Diversion screening; (4) the Daguerre Fish Passage Improvement
27 Project; and (5) the Corps’ gravel augmentation program. BiOp at 33-37. The BiOp concludes these
28 five measures or programs will avoid jeopardy to the species’ recovery because the Corps has “stated

1 and demonstrated their support for the implementation of these actions, and no element of their
2 proposed Yuba River operations would appreciably diminish the likelihood of these recovery actions
3 being implemented on the Yuba River.” *Id.* at 37.

4 This analysis is critically flawed. The relevant question in a recovery analysis is not, as the
5 BiOp asks, whether the Project will interfere with *other, non-Project* mitigation measures, but
6 whether the Project, taking into account the mandatory terms and conditions required by the BiOp,
7 would reduce appreciably the likelihood of the recovery of the species by reducing their reproduction,
8 numbers, or spatial distribution. 50 C.F.R. § 402.02. The BiOp never considers whether the Project
9 jeopardizes recovery in this fashion. If it had, the only rational conclusion would have been that the
10 Project does jeopardize the Listed Species’ recovery.

11 The BiOp itself finds that the Project is reducing the abundance, productivity, spatial
12 distribution, and genetic diversity of the Listed Species. BiOp at 32. As discussed in the Statement
13 of Facts, the Project reduces the distribution of the species by cutting off access to habitat above
14 Englebright (for spring Chinook and steelhead) and above Daguerre (for green sturgeon), which
15 increases the risk that catastrophic events will result in extinction of the species. As also discussed,
16 the Project further kills or injures spring Chinook and steelhead or interferes with their successful
17 reproduction and rearing in several other ways. These impacts substantially reduce the likelihood of
18 the Listed Species’ recovery. NMFS cannot reasonably conclude that the five mitigation measures or
19 programs referred to above will avoid these recovery-reducing impacts.

20 In analyzing whether the Project jeopardizes the Listed Species’ recovery, NMFS can only
21 consider mitigation measures which the Corps is legally bound to implement and has established a
22 “clear, definitive commitment of resources” to perform. *Nat’l Wildlife Fed’n*, 481 F.3d at 1241; *Pac.*
23 *Coast Fed’n of Fishermen’s Ass’ns v. U.S. Bureau of Reclamation*, No. C 02-2006 SBA, 2003 U.S.
24 Dist. LEXIS 12745, at *47 (N.D. Cal. July 16, 2003), *rev’d on other grounds*, 426 F.3d 1082 (9th Cir.
25 2005) (biological opinion arbitrary and capricious when NMFS relied on non-binding commitment to
26 contribute flows for threatened salmon). The five measures or programs fail this test.

27 The first two programs, the Yuba Accord fisheries agreement and the Upper Yuba River
28 Studies Program, are not Corps’ programs and the Corps lacks any legal authority to require their

1 implementation. Indeed, the BiOp could not and does not require their implementation. Moreover,
2 the implementation of these two measures is uncertain, as the BiOp appears to acknowledge. BiOp at
3 33, 37. For example, the latter has run out of funding and involves no mandatory mitigation
4 measures. BiOp at 37.

5 The remaining three measures are among the reasonable and prudent measures and related
6 terms and conditions in the BiOp's ITS, but it remains unreasonable for NMFS to conclude that these
7 measures will ever be implemented, much less in time to avoid jeopardizing the species' recovery.
8 One, the Brophy Diversion screening project will require YCWA's participation and it remains
9 highly uncertain whether or when this project will be implemented. The BiOp merely requires the
10 Corps to "diligently pursue" efforts to screen the Brophy Diversion in a manner that complies with all
11 relevant fish screening criteria, but *does not* require actual implementation of a new fish screen.
12 YCWA is awaiting a decision on fish passage improvements at Daguerre before implementing a new
13 fish screen, and the project remains therefore effectively halted. *See* COE 555 (2002 BiOp T&C No.
14 2-B). Two, the BiOp requires the Corps to complete a study of feasible fish passage alternatives at
15 Daguerre within five years and then "commence implementation" of the preferred alternative for
16 securing fish passage within ten years. BiOp at 41. The ITS fails, however, to require the Corps ever
17 to complete this fish passage improvement project, or otherwise specify any performance goals for
18 this project, including allowing the passage of green sturgeon which are unable to navigate fish
19 ladders. It remains uncertain when or even if this fish passage project will be implemented; the Corps
20 has continually delayed any effective action to advance this project. AR 9229; Weisselberg Decl.,
21 Ex. 4 (March 13, 2008 email communication between California Department of Water Resources
22 official and NMFS officials, subject: "Yuba River fish passage studies support and recovery plans")
23 (noting lack of funding and support from Corps halted Daguerre Fish Passage Improvement
24 Project).¹⁴

25
26
27 ¹⁴ The Court should consider this document, not included in the administrative record, because it shows
28 that NMFS failed to consider all relevant factors in reaching its decision. *See* Order at 28. Although
NMFS relies on the Upper Yuba River Studies Program and the Daguerre Fish Passage Improvement
Project in the BiOp's analysis of the Project impacts on the recovery of the listed species, as shown in
this email, NMFS failed to consider the fact that these programs are effectively halted.

1 Three, while the BiOp requires commencement of the Corps' long-term gravel augmentation
2 program in three years, the BiOp fails to specify any meaningful criteria for what constitutes an
3 adequate gravel augmentation program. Additionally, the BiOp omits any analysis of how a three
4 year delay in starting this program is commensurate with recovery of spring Chinook and steelhead.
5 Notably, NMFS's 2002 BiOp did not allow for such a delay in implementation of the gravel
6 augmentation program. COE 555 (2002 BiOp T&C No. 3-A). The BiOp provides no explanation
7 why NMFS changed its views to allow for substantial delay in this program.

8 3. The BiOp's Critical Habitat Conclusion Is Arbitrary and Capricious.

9 The BiOp was required to consider whether the Project would be expected, directly or
10 indirectly, to appreciably diminish the value of critical habitat for either the survival or recovery of
11 the Listed Species. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.02; *Gifford Pinchot Task Force v. U.S.*
12 *Fish & Wildlife Serv.*, 378 F.3d 1059, 1069-70 (9th Cir. 2004). The BiOp concludes that the Project
13 will not appreciably diminish critical habitat because "many" of the five non-project programs relied
14 upon in the recovery analysis are also designed to improve critical habitat. BiOp at 37. However, for
15 the reasons discussed above with respect to recovery, this conclusion rests on the expected benefit of
16 programs that cannot be validly included in the proposed action and are not otherwise reasonably
17 certain to occur, and is therefore arbitrary and capricious.

18 Even if these programs could be relied upon to support the BiOp's critical habitat conclusion,
19 this conclusion is contradicted by record evidence showing substantial habitat degradation caused by
20 aspects of the Project that these five programs will not address. Specifically, the BiOp notes that
21 "predation is also a significant factor affecting critical habitat for spring-run Chinook salmon and
22 steelhead," yet none of the measures relied upon in the BiOp are assured to have any impact on this
23 predation. BiOp at 17. Similarly, by blocking recruitment of woody debris and nutrients as well as
24 gravel from upstream sources, Englebright "has greatly diminished the value of critical habitat" in the
25 lower Yuba River, yet none of the measures will counter this threat either. AR 6239. Moreover,
26 none of the measures will prevent water diversions from reducing Yuba River flows and causing
27 harm to the Listed Species' critical habitat by warming water temperatures and causing dewatering of
28

1 sections of the River. BiOp at 29. And this harm is expected to increase with the 40% increase in
2 diversions under the Wheatland Project. *Id.* at 30-31.

3 **4. The BiOp's Cumulative Impacts Analysis is Arbitrary and Capricious.**

4 ESA regulations require a biological opinion to consider cumulative effects of the proposed
5 action on the listed species and critical habitat. *See* 50 C.F.R. §§ 402.02, 402.14(g)(4); BiOp at 29.
6 To meet this obligation, the BiOp must have analyzed the cumulative impacts of the Wheatland
7 Project, a proposal by YCWA to increase water diversions out of the Yuba by 40% over the next five
8 years. *See* BiOp at 29. The BiOp concludes that the Wheatland Project will not jeopardize the Listed
9 Species because the Project will involve increased flow releases in the primary spawning and rearing
10 reaches above Daguerre, which could offset the negative impacts of reduced flows in the reaches
11 below Daguerre that the Wheatland Project will cause. *Id.* at 30.

12 The BiOp failed to consider the impacts of the Wheatland Project's increased diversions on
13 Yuba water temperatures below Daguerre, however. Yuba water temperatures below Daguerre are
14 already too warm for spring Chinook and steelhead during the summer and fall irrigation seasons, in
15 part due to existing water diversions. AR 6719; AR 4614; AR 6099; AR 12793. Increasing
16 diversions by 40% would exacerbate this temperature problem, further reducing habitat value of the
17 Yuba below Daguerre for these salmonids. AR 6982. And the anticipated benefits of increased flows
18 above Daguerre are illusory since water flows and temperatures in the reaches upstream of Daguerre
19 are already in the optimum range for spawning and rearing salmonids. AR 6099; AR 6101; *see also*
20 AR 7876. Moreover, whatever water flow and temperature benefits the Wheatland Project may bring
21 to habitat above Daguerre is irrelevant to green sturgeon because they cannot ascend the Daguerre
22 dam. The BiOp fails to explain why lower flows and higher temperatures in the only Yuba reaches
23 used by green sturgeon will not adversely affect the species and its proposed critical habitat.

24 The BiOp further failed to adequately consider the Wheatland Project's impacts on juvenile
25 spring Chinook and steelhead at the Brophy Diversion. The BiOp notes that the Wheatland Project is
26 expected to increase entrainment of juvenile spring Chinook and steelhead at the Brophy Diversion
27 by 40%. BiOp at 30. The BiOp fails to explain why this entrainment and resulting increase in kill of
28 the species would not adversely impact their survival and recovery or adversely modify their critical

1 habitat. The BiOp notes that the impacts to juveniles would be avoided if a fish screen meeting all
2 CDFG and NMFS criteria were installed prior to the onset of diversions, but the BiOp does not
3 require this, and therefore provides no reasonable basis to conclude that the losses will be avoided.

4 Outside of the BiOp, NMFS actually objected to YCWA's finding that the Wheatland Project
5 would not have significant impacts, finding that the Project was "likely to adversely affect" spring
6 Chinook and steelhead. AR 6982. NMFS's unexplained contrary conclusion in the BiOp is arbitrary
7 and capricious.

8 **C. The Incidental Take Statement Is Arbitrary and Capricious.**

9 **1. The Terms and Conditions Fail to Ensure That No More Than Incidental
10 Take Is Occurring.**

11 After consultation, if NMFS concludes that a federal project will not jeopardize or adversely
12 modify critical habitat, but will nonetheless result in some "incidental take" of a listed species, it
13 must provide the federal action agency with an incidental take statement. 16 U.S.C. § 1536(b)(4).
14 The ITS must specify the reasonable and prudent measures and related terms and conditions that are
15 necessary or appropriate to minimize the impact of the incidental take, and that must be complied
16 with. 16 U.S.C. § 1536(b)(4)(C)(ii),(iv).

17 NMFS included five reasonable and prudent measures (and related terms and conditions) in
18 the BiOp's ITS, but NMFS had no reasonable basis to conclude that these reasonable and prudent
19 measures and terms and conditions would minimize the level of taking of the Listed Species to no
20 more than an incidental level. As discussed, the BiOp requires the Corps to commence *but never*
21 *complete* implementation of one of these terms and conditions: securing improved fish passage past
22 Daguerre. BiOp at 41. The ITS further fails to specify any performance goals for this Daguerre fish
23 passage project, including allowing the passage of green sturgeon which are unable to navigate fish
24 ladders. The BiOp does not even require the Corps to commence another of these terms and
25 conditions by any date certain: securing a new, effective Brophy Diversion fish screen. *Id.* The BiOp
26 itself says that these terms and conditions are necessary to ensure that no more than incidental take of
27 the Listed Species is occurring. *Id.* at 39. It is arbitrary and capricious for NMFS to conclude that
28 securing an improved fish screen at the Brophy Diversion and fish passage past Daguerre *are*
necessary to limit take of the Listed Species to an incidental level and promote their survival and

1 recovery (as NMFS did by specifying these as terms and conditions of the BiOp's ITS), *but not*
2 *actually require implementation of these measures.* *Kemphorne*, 506 F. Supp. 2d at 355 (holding
3 "mitigation measures must incorporate some definite and certain requirements that ensure needed
4 mitigation measures will be implemented."); *Ctr. for Biological Diversity v. Rumsfeld*, 198 F. Supp.
5 2d 1139, 1152 (D. Ariz. 2002) ("Mitigation measures must be reasonably specific, certain to occur,
6 and capable of implementation; they must be subject to deadlines or otherwise-enforceable
7 obligations . . .").

8 As discussed, the ITS also allows a three year delay for the Corps' implementation of a
9 long-term gravel augmentation project, even though the 2002 BiOp required the Corps to commence
10 implementation of a gravel program forthwith. COE 555 (2002 BiOp T&C No. 3-A). The BiOp's
11 ITS further allows a four year delay for the Corps to implement a woody debris augmentation project.

12 The BiOp omits analysis of the impacts of delaying implementation of the terms and
13 conditions of the ITS given the Listed Species' short life cycle. For example, the ITS does not require
14 commencement of fish passage improvements at Daguerre for 10 years. Since spring Chinook and
15 steelhead generally exhibit a three to four year life cycle (BiOp at 19), this means that approximately
16 7 generations of these species will come into contact with the Project before the Corps even starts
17 implementing this term and condition. In addition, the BiOp does not explain why it concluded in
18 2002 that gravel augmentation should begin forthwith to limit take of the species to an acceptable
19 level, but concluded in 2007 that a three year delay in gravel augmentation would be acceptable.
20 NMFS has thus violated its duty to ensure that its terms and conditions will be implemented in
21 sufficient time to avoid jeopardy to the affected species. *Nat'l Wildlife Fed'n*, 481 F.3d at 1240
22 (reversing district court and invalidating BiOp which "disregarded our clear instruction that NMFS
23 'must consider near-term habitat loss to populations with short life cycles,'" namely two species of
24 anadromous fish), citing *Pac. Coast Fed'n of Fishermens' Ass'ns*, 426 F.3d at 1092 (same); *Pac.*
25 *Coast Fed'n of Fishermens' Ass'ns*, 265 F.3d at 1037; *Or. Natural Desert Ass'n v. Lohn*, 485 F.
26 Supp. 2d 1190, 1200 (D. Or. 2007).

27 The ITS's remaining term and condition requires the Corps to maintain the current fish
28 passage facilities at Daguerre to prevent "avoidable impairment" of passage for listed salmonids.

1 BiOp at 41. However, the ITS provides no analysis why avoidable impairment is an appropriate
2 standard for ensuring that no more than incidental take occurs. In addition, enforcement is illusory
3 because the ITS never specifies what “avoidable impairment” means. Although the term and
4 condition refers to the Corps’ existing fish ladder and sediment management program, record
5 evidence shows that the current program is ineffective and has repeatedly failed to prevent substantial
6 blockage of the fish ladders and resulting delays in migration for the Listed Species. AR 9113.
7 Imposing such a vague and unenforceable mitigation measure was arbitrary and capricious. *Ctr. for*
8 *Biological Diversity*, 198 F. Supp. 2d at 1152.

9 **2. The Ecological Surrogates Fail To Adequately Specify The Impact of**
10 **Incidental Take On The Listed Species.**

11 An incidental take statement must specify the amount of allowable take of the species and
12 the impact this take will have. 50 C.F.R. § 402.14(i). When a numerical limit on take cannot be
13 practically obtained, the incidental take statement may require the maintenance of certain ecological
14 conditions as a proxy, but these so-called “ecological surrogates” must be specific enough to “provide
15 a clear standard for determining when the authorized level of take has been exceeded.” *Ariz. Cattle*
16 *Growers’ Ass’n*, 273 F.3d at 1249.

17 The ITS fails to adequately specify the impact of the Project’s incidental taking on the Listed
18 Species. The ITS relies on three ecological surrogates for the measure of allowable take: “flow
19 releases from Englebright Dam, the availability of spawning gravel below Englebright Dam and the
20 maintenance of clear passage through the ladders on Daguerre Point Dam.” BiOp at 39. The ITS,
21 however, lacks analysis of the amount of take that will result if these ecological surrogates are
22 maintained, or any analysis of how that level of take will impact the species and is thus arbitrary and
23 capricious. *See Swan View Coalition v. Barbouletos*, No. CV 06-73-M-DWM, 2008 U.S. Dist.
24 LEXIS 108211, at *61 (D. Mont. June 13, 2008) (ITS must provide “a scientifically supported link
25 between the ecological surrogate and the take of the protected species”)(internal quotations
26 omitted.).

27 These ecological surrogates are utterly unrelated to, and thus cannot serve as a reasonable
28 surrogate for measuring and appropriately limiting one of the greatest sources of take associated with
the Project: take at the Brophy Diversion. As noted, the Brophy Diversion takes spring Chinook and

1 steelhead by entraining juveniles and promoting predation on these species. *See, e.g.*, BiOp at 28, 30.
2 The BiOp's failure to specify the impact of this taking was arbitrary and capricious. *See Or. Nat'l*
3 *Desert Ass'n*, 485 F. Supp. 2d at 1204 (failure to consider incidental take associated with grazing
4 renders ITS invalid in absence of finding no such take occurring).

5 Moreover, the ecological conditions are too vague and unenforceable even to serve as
6 appropriate surrogates for impacts from Englebright and Daguerre. The BiOp says that the surrogate
7 requirement to maintain clear passage at Daguerre means clearing the ladders of debris "as
8 necessary." BiOp at 39. This fails to specify how frequently the Corps must check the ladders, how
9 long a blockage can exist before it constitutes a failure to maintain clear passage, or whether the level
10 of take has been exceeded when the fish ladders are closed due to high flow conditions, as they
11 frequently have been. AR 4614; AR 9113. Without such specificity, this surrogate is essentially
12 meaningless. The surrogate to maintain flow releases from Englebright fails to specify how often, or
13 over what period of time, a major flow fluctuation may occur before exceeding the amount of
14 allowable take. Again, the lack of such specificity leaves this surrogate essentially meaningless.
15 Accordingly, these ecological surrogates are invalid because they fail to provide the Corps, the
16 public, or the Court with any way to measure whether the ecological surrogates are being met. *See*
17 *Ariz. Cattle Growers' Ass'n*, 273 F. 3d at 1250. Furthermore, they are invalid because it is
18 impossible to determine the amount of take they will result in if "implemented," given the lack of any
19 meaning to what implementation of these measures constitutes. 50 C.F.R. § 402.14(i).

20 **3. The November 2007 ITS and Conservation and Restoration Measures Are**
21 **Inconsistent With Earlier ITSs and Conservation Measures.**

22 The terms and conditions in the November 2007 BiOp are inconsistent with terms and
23 conditions in earlier BiOps but there is no explanation for these inconsistencies. For example, among
24 other conditions, the 2002 BiOp required:

25 *implementation* of interim actions to improve conditions for juvenile salmonids at the
26 Brophy Diversion, specifically, clearing debris from the feeder channel and
eliminating the large pool directly in front of the diversion weir;

27 *implementation* of long-term improvements to the Brophy diversion;

28 *implementation* of a full scale gravel augmentation program to commence no later than
March 2003 (one year from the issuance date of the biological opinion).

1 AR 6259

2 In addition, the 2002 and April 2007 BiOps included a commitment by the Corps:

3 pending funding and approval, to coordinate with YCWA to construct a temperature
4 control device on the intake for Narrows II Powerhouse on Englebright.

5 AR 5999; AR 9532.

6 In contrast, the November 2007 BiOp:

7 eliminated the 2002 BiOp's requirement that YCWA or the Corps keep the feeder
8 channel clear of debris and fill in the large pool in front of the weir;

9 eliminated the 2002 BiOp's requirement that the Corps *implement* long-term
10 improvements to the Brophy diversion, replacing it instead with a requirement that the
11 Corps *diligently pursue* the ongoing effort to fully screen the Brophy diversion

12 eliminated the April 2007 BiOp conservation and restoration measure committing the
13 Corps, pending funding and approval, to coordinate with YCWA to construct a
14 temperature control device on the Narrows II Powerhouse intake

15 allowed the Corps to delay commencing implementation of a full scale gravel
16 augmentation program until November 2010, more than 7 years after the deadline in
17 the 2002 BiOp.

18 BiOp at 40-41.

19 Eliminating or delaying the terms and conditions, and conservation and restoration measures,
20 included in previous BiOps, without any analysis or explanation as to why these measures are no
21 longer necessary or appropriate to avoid or minimize project impacts, or can be delayed, is arbitrary
22 and capricious. *See* 50 C.F.R. § 402.14(iv).

23 **D. The BiOp is Arbitrary and Capricious Because It Failed to Consider Important
24 Aspects of the Problem.**

25 **1. The BiOp Failed to Adequately Consider The Impact Of Adverse Delta
26 Conditions On The Listed Species.**

27 As part of the jeopardy analysis in the BiOp, NMFS was required to consider the impacts of
28 the Project "within the context of other existing human activities that impact the listed species. . . .
[NMFS may not] conduct the bulk of its jeopardy analysis in a vacuum." *Nat'l Wildlife Fed'n*, 481
F.3d at 1235-36; see 50 C.F.R. § 402.02 (defining environmental baseline). Otherwise, "a listed
species could be gradually destroyed, so long as each step on the path to destruction is sufficiently
modest. This type of slow slide into oblivion is one of the very ills the ESA seeks to prevent." *Nat'l
Wildlife Fed'n*, 481 F.3d at 1235.

1 The BiOp fails to adequately analyze the impacts of the Project in the context of the adverse
2 conditions in the Sacramento-San Joaquin Delta. Widespread development has severely degraded the
3 Delta's historic habitat for the Listed Species, causing: (1) death of juvenile spring Chinook,
4 steelhead, and green sturgeon at export facilities through impingement on fish screens and
5 entrainment in pumping forebays; (2) longer migration routes; (3) altered flow patterns, including
6 reverse flows which confuse migrating fish relying on flow direction for migratory cues; (4) very
7 high predation losses; (5) food supply limitations; (6) loss of shallow water and shaded riverine
8 habitat; (7) habitat contamination; and (8) introduction of non-native species. Weisselberg Decl., Ex.
9 11 ("Administrative Draft Environmental Impact Report/Environmental Impact Statement for the
10 Proposed Lower Yuba River Accord") at 10-30 to 10-33; AR 13518-19; AR 13019; AR 13029; AR
11 4635-38; AR 11337. "Cumulatively, these changes have diminished the suitability of the Delta as
12 juvenile salmon rearing habitat and have reduced the survival of young salmon migrating through the
13 Delta to the Pacific Ocean." AR 4620.

14 In *Pac. Coast Fed'n of Fishermen's Ass'ns v. Gutierrez*, 1:06-CV-00245 OWW GSA, 2008
15 U.S. Dist. LEXIS 75944 (E.D. Cal. July 18, 2008), another judge of this Court considered the impacts
16 of two major Delta water diversion projects, the CVP and SWP, on spring Chinook and steelhead.
17 The Court held that these water projects were causing death to spring Chinook and steelhead and
18 indirect harm to these species via increased predation, toxics loading, temperatures, and other
19 hazards. *Id.* at *132, 135, 138. Due to these and other impacts, the Court held that both spring
20 Chinook and steelhead are "*unquestionably in jeopardy*" and that the CVP and SWP were
21 appreciably increasing that jeopardy. *Id.* at *159. Following this decision, NMFS, in the CVP and
22 SWP BiOp, now concludes that the projects will cause jeopardy to spring Chinook, steelhead, and
23 green sturgeon. Weisselberg Decl., Ex. 14 at 1- 2.

24 The BiOp fails to adequately consider these impacts on the Listed Species. For example,
25 although the BiOp notes that juveniles of the Listed Species use the Delta as rearing habitat, the BiOp
26 fails to discuss how the CVP and SWP's causing extensive loss and alteration of rearing habitat in the
27 Delta has impacted the Listed Species. In fact, the BiOp contains no discussion of how changed
28 conditions have diminished the suitability of the Delta as juvenile salmon rearing habitat and have

1 reduced the survival of young salmon migrating through the Delta to the Pacific Ocean, such as by
2 increasing entrainment and the length of migration routes.

3 Similarly, although the BiOp notes that some predation is occurring at Delta diversions, it
4 provides no estimation of the significance of this threat to the species. In addition, although the BiOp
5 mentions flows in the Delta might be a “significant threat” to green sturgeon, it fails to mention how
6 reverse flows can confuse migrating fish relying on flow direction for migratory cues. These
7 omissions are especially significant because the threats from adverse Delta conditions are the very
8 same threats posed by the Yuba Project at issue, including increased predation and the loss of
9 available rearing habitat. Overall, the evidence shows that adverse Delta conditions are a key factor
10 in recent declines in the abundance, productivity, and spatial structure of the Listed Species. The
11 failure to analyze the Project in light of these adverse conditions was arbitrary and capricious.

12 **2. The BiOp Ignored the Impacts of Climate Change on the Listed Species.**

13 Again, in formulating the BiOp, NMFS was required to use the “best scientific and
14 commercial data available.” 16 U.S.C. § 1536(a)(2). The best scientific and commercial data
15 available indicates that climate change is likely to have a profound impact on the hydrology of
16 Central Valley rivers. A warming climate in the Central Valley is expected to shift the timing of
17 stream flows from spring and summer to earlier periods in the water year due to dramatic changes in
18 precipitation patterns, including more rain and less snow in the Sierras. Weisselberg Decl., Ex. 11 at
19 21-3; Weisselberg Decl., Ex. 2 at 17. Also, stream flows may become more erratic due to increased
20 frequency of both droughts and floods, but on average lower than today with declines in overall
21 average precipitation. Weisselberg Decl., Ex. 2 at 17.

22 These changes are expected to have a significant adverse impact on the Listed Species and
23 their critical habitat. A shift in stream flows from the spring and summer to earlier periods in the year
24 will adversely impact both adult spring Chinook, which depend on summer stream flows as they
25 spend the summer in the river prior to spawning, and juvenile spring Chinook and juvenile steelhead,
26 which depend on summer flows for rearing and outmigration. BiOp at 6, 8; Weisselberg Decl., Ex. 2
27 at 17. Also, more frequent floods may tend to hamper salmonid reproduction as high flood flows can
28

1 scour out and thus effectively destroy salmonid eggs before they can hatch. Weisselberg Decl., Ex. 2
2 at 19.

3 Climate change is also expected to lead to warmer stream temperatures in the Central Valley,
4 further harming salmonid habitat. Water temperatures are already too warm for juvenile salmonids in
5 the lower reaches of many Central Valley rivers. Weisselberg Decl., Ex. 2 at 18. Additional
6 warming is expected to cause maximum temperatures to move higher upstream, reducing or
7 eliminating available salmonid habitat on many rivers, especially where dams block access to
8 upstream reaches (such as on the Yuba). *Id.* at 17-18; Weisselberg Decl., Ex. 11 at 21-5. Increased
9 temperatures may also delay the onset of spawning and thus reduce overall salmonid reproduction
10 success. Weisselberg Decl., Ex. 2 at 19.

11 The BiOp does not discuss climate change's impacts on the Listed Species and their critical
12 habitat. This constitutes a failure to consider an important aspect of the problem and a failure to
13 consider the best scientific and commercial data available. *Pac. Coast Fed'n of Fishermens' Ass'ns*
14 *v. Gutierrez*, 1:06-cv-00245-OWW-GSA, 2008 U.S. Dist. LEXIS 31462, at *169-70 (E.D. Cal. Apr.
15 16, 2008) (holding biological opinion arbitrary and capricious for failing to consider impacts of
16 climate change on spring Chinook and steelhead resulting from reduced summer stream flows);
17 *Kemphorne*, 506 F. Supp. 2d at 370.

18 **3. The BiOp Ignored the Adverse Impacts of Hatcheries On the Listed** 19 **Species.**

20 The BiOp also unlawfully failed to consider the impacts of non-Project hatchery operations
21 as part of the baseline context for the Yuba Project's impacts. *See Nat'l Wildlife Fed'n*, 481 F.3d at
22 1236; 50 C.F.R. § 402.02. The best scientific and commercial data available indicates that hatcheries
23 are profoundly affecting spring Chinook and steelhead populations by causing the loss of genetic
24 diversity in these populations (and thus increased vulnerability to environmental changes) and
25 increased competition for spawning space, mates, and rearing habitat. AR 11674; AR 999. Poor
26 hatchery management practices have exacerbated these impacts.

27 The Feather River Hatchery releases 40,000 to over 200,000 juvenile "spring Chinook"
28 salmon into the Central Valley each year. AR 4588; AR 4572-77 (Table 15). But these fish are not
pure spring Chinook because poor hatchery management practices have resulted in the genetic

1 mixing of spring Chinook and fall-run Chinook. AR 1677. Although there is no hatchery within the
2 action area, hatchery fish stray into the Yuba River to spawn and are causing hybridization between
3 spring Chinook and these hatchery fish in the Yuba. BiOp at 18-19 (noting presence of hatchery fish
4 in the Yuba River); AR 11335; AR 13383. This compounds the hybridization between spring
5 Chinook and fall-run Chinook that is already occurring due to Englebright's constraining the species'
6 spawning to the Yuba reach below Englebright. BiOp at 25. As NMFS's scientists have concluded
7 outside the BiOp, "without immediate and direct intervention" to curtail this hybridization, the spring
8 Chinook's survival on the Yuba River as a genetically distinct species is doubtful. AR 13383; *see*
9 *also* Weisselberg Decl., Ex. 5 ("Viability of ESUs Containing Multiple Types of Populations,"
10 Independent Scientific Advisory Board, April 8, 2005) at ii¹⁵; AR 11673; AR 11340; Weisselberg
11 Decl., Ex. 2 at 6. Similarly, the extensive production of hatchery steelhead throughout the Central
12 Valley, in combination with widespread recent declines in abundance, threatens steelhead's survival
13 as a genetically distinct species. *See* AR 11731.

14 Ignoring NMFS's own science, the BiOp barely even mentions hatcheries other than to
15 acknowledge that spring Chinook and steelhead do stray from the Feather River Hatchery into the
16 Yuba River. BiOp at 18-19. The BiOp does not analyze the impact of this straying on the wild
17 populations and thus fails to consider the best scientific and commercial data available concerning the
18 Project's impacts in the proper context of existing human activities affecting the species. *Nat'l*
19 *Wildlife Fed'n*, 481 F.3d at 1241 (affirming rejection of biological opinion that failed to consider
20 impacts of hatcheries on listed salmon); *see* Weisselberg Decl., Ex. 10 (*Cal. State Grange v. Nat'l*
21 *Marine Fisheries Serv.*, 1:06-CV-00308 OWW DLB, at p. 81 (E.D. Cal. Oct. 27, 2008) (slip op.)
22 (best available science indicates that hatcheries have significant negative impacts on wild salmonids).

23 For the above reasons, the Court should find the BiOp to be arbitrary and capricious, vacate
24 the biological opinion, and remand the matter to NMFS to reinstate ESA section 7 consultation and

25 ¹⁵This study, prepared for the Northwest Power and Conservation Council, states that "the current
26 science indicates that ESUs dependent upon hatchery production cannot be viable ESUs" and that any
27 policy recognizing such ESUs as viable would have a "questionable" biological basis. However, the
28 BiOp provides no consideration of hatchery influences on the viability of the Yuba River populations
of spring Chinook and steelhead, except to note that some hatchery fish are in fact migrating into the
Yuba River. This study, although not part of the administrative record, is relevant and should be
considered by the Court because NMFS failed to consider this factor in reaching its decision. *See* Order
at 28.

1 issue a new biological opinion that comports with the ESA. *See NWF v. NMFS*, 524 F.3d at 925,

2 927. **E. The Corps Is Violating ESA Section 9.**

3 The Corps is in violation of ESA Section 9 by committing “take” of the Listed Species
4 without the incidental take protection of a valid biological opinion. *See* 16 U.S.C. § 1538(a)(1). The
5 BiOp itself necessarily finds that the Project is causing “take” as it purports to grant authorization for
6 incidental levels of such take to occur. *See* BiOp at 38; *Ariz. Cattle Growers’ Ass’n*, 273 F.3d at
7 1242 (agency must make finding of take before issuing incidental take statement).¹⁶

8 Furthermore, as detailed in the Statement of Facts, the administrative record amply
9 demonstrates that the Project is causing “take” of the Listed Species by: (1) killing juvenile spring
10 Chinook and steelhead that are impinged on the fine mesh inside the Brophy Diversion’s rock weir,
11 entrained in the pool behind the weir, or consumed by predators at the Brophy Diversion and below
12 Daguerre; (2) killing adult spring Chinook and steelhead that are trapped by debris blockages in
13 Daguerre’s fish ladders, jump from the improperly designed fish ladders onto dry land, or succumb to
14 poaching in the ladders; (3) injuring juvenile spring Chinook and steelhead that plunge over the rough
15 face of Daguerre on downstream migration, and adult spring Chinook and steelhead that respond to
16 the false migration signal caused by sheet flow over the dam and attempt to ascend the dam’s face;
17 (4) blocking access to upstream habitat for spring Chinook and steelhead above Englebright, and
18 green sturgeon above Daguerre; (5) forcing overlapping use of spawning areas below Englebright for
19 spring Chinook and fall-run Chinook, resulting in hybridization, loss of spring Chinook genetic traits,
20 and reduced viability of spring Chinook eggs; and (6) delaying spring Chinook and steelhead
21 migration when upstream passage at Daguerre is inadequate due to debris clogging the fish ladders,
22 sediment choking the upstream channel, ladder closure during high flow events, or ladder closure due
23 to design deficiencies—which reduces spawning success for the species. *See supra* Section II.C.

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¹⁶ At this time, in this Motion, Plaintiffs seek to rely solely on the BiOp’s conclusions, well supported
27 by the Administrative Record as shown herein, that the Project is taking the Listed Species. Given that
28 the BiOp and NMFS and the Corps’ records well document this take, Plaintiffs view this as the most
efficient way to proceed. Should the Court find this insufficient basis to establish take, the Plaintiffs
will provide additional extra-record evidence either in another motion for summary adjudication or at
trial that further establish that the Project is taking the Listed Species.

