UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF CALIFORNIA

NATURAL RESOURCES DEFENSE COUNCIL, *et al.*, **Plaintiffs,** **v.** **DIRK KEMPTHORNE, in his official capacity as Secretary of the Interior, *et al.*,** **Defendants,** **CALIFORNIA DEPARTMENT OF WATER RESOURCES,** **Defendant-Intervenor,** **STATE WATER CONTRACTORS** **Defendant-Intervenor,** **SAN LUIS & DELTA-MENDOTA WATER AUTHORITY, *et al.*,** **Defendant-Intervenors,**	**1:05-CV-01207 OWW (TAG)** **ORDER GRANTING IN PART AND DENYING IN PART PLAINTIFFS' MOTION FOR SUMMARY JUDGMENT (DOC. 231/232)**

I. INTRODUCTION

This case concerns the effect on a threatened species of fish, the Delta smelt (*Hypomesus transpacificus*)[1], of the coordinated operation of the federally-managed Central Valley Project ("CVP") and the State of California's State Water Project

[1] The Delta smelt was listed as a threatened species under the ESA, March 5, 1992, 58 Fed.Reg. 12863.

("SWP"), among the world's largest water diversion projects. Both projects divert large volumes of water from the California Bay (Sacramento-San Joaquin) Delta ("Delta") and use the Delta to store water.

For over thirty years, the projects have been operated pursuant to a series of cooperation agreements. In addition, the projects are subject to ever-evolving statutory, regulatory, contractual, and judicially-imposed requirements. The Long-Term Central Valley Project and State Water Project Operations Criteria and Plan ("2004 OCAP" or "OCAP") surveys how the projects are currently managed in light of these evolving circumstances. At issue in this case is a 2005[2] biological opinion ("BiOp"), issued by the United States Fish and Wildlife Service ("FWS" or "Service") pursuant to the Endangered Species Act ("ESA"), which concludes that current project operations described in the OCAP and certain planned future actions will not jeopardize the continued existence of the Delta smelt or adversely modify its critical habitat.

The Delta smelt is a small, slender-bodied fish endemic to the Delta. Historically, Delta smelt could be found throughout the Delta. Although abundance data on the smelt indicates that the population has fluctuated wildly in the past, it is undisputed that, overall, the population has declined significantly in recent years, to its lowest reported volume in fall 2004.

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[2] The biological opinion was first issued in July 2004. Then, after reconsultation, was reissued in February 2005.

In this case, Plaintiffs, a coalition of environmental and sportfishing organizations, challenge the 2005 BiOp's no jeopardy and no adverse modification findings as arbitrary, capricious, and contrary to law under the Administrative Procedure Act, 5 U.S.C. §§ 702 et seq. Before the court for decision is Plaintiffs' motion for summary judgment. Among other things, Plaintiffs allege that the BiOp fails to consider the best available science, relies upon uncertain (and allegedly inadequate) adaptive management processes to monitor and mitigate the potential impacts of the OCAP, fails to meaningfully analyze whether the 2004 OCAP will jeopardize the continued existence of the Delta smelt, fails to consider the OCAP's impact upon previously designated critical habitat, and fails to address the impacts of the entire project.

Separate opposition briefs were filed by the Federal Defendants (Doc. 242), the Department of Water Resources ("DWR")(Doc. 246), and the State Water Contractors ("SWC") (Doc. 241), along with a final brief filed collectively by San Luis & Delta-Mendota Water Authority, Westlands Water District, and the California Farm Bureau Federation ("the San Luis Parties")(Doc. 247).

II. THE ENDANGERED SPECIES ACT

A recent Ninth Circuit opinion in *National Wildlife Federation v. National Marine Fisheries Service*, 481 F.3d 1224 (9th Cir. 2007)[hereinafter "*NWF v. NMFS*"], succinctly summarizes the relevant provisions of the ESA:

> The ESA requires federal agencies to "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 [designated critical] habitat....” 15 U.S.C. § 1536(a)(2). The ESA imposes a procedural consultation duty whenever a federal action may affect an ESA-listed species. *Thomas v. Peterson*, 753 F.2d 754, 763 (9th Cir.1985). To that end, the agency planning the action, usually known as the “action agency,” must consult with the consulting agency. This process is known as a “Section 7” consultation. The process is usually initiated by a formal written request by the action agency to the consulting agency. After consultation, investigation, and analysis, the consulting agency then prepares a biological opinion. *See generally Ariz. Cattle Growers' Ass'n v. U.S. Fish & Wildlife Serv.*, 273 F.3d 1229, 1239 (9th Cir.2001). In this case, the action agencies are the U.S. Army Corps of Engineers and the Bureau of Reclamation, while the consulting agency is NMFS.

The consulting agency evaluates the effects of the proposed action on the survival of species and any potential destruction or adverse modification of critical habitat in a biological opinion, 16 U.S.C. § 1536(b), based on “the best scientific and commercial data available,” *id.* § 1536(a)(2). The biological opinion includes a summary of the information upon which the opinion is based, a discussion of the effects of the action on listed species or critical habitat, and the consulting agency's opinion on “whether the action is likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat....” 50 C.F.R. § 402.14(h)(3). In making its jeopardy determination, the consulting agency evaluates “the current status of the listed species or critical habitat,” the “effects of the action,” and “cumulative effects.” *Id.* § 402.14(g)(2)-(3). “Effects of the action” include both direct and indirect effects of an action “that will be added to the environmental baseline.” *Id.* § 402.02. The environmental baseline includes “the past and present impacts of all Federal, State or private actions and other human activities in the action area” and “the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation.” *Id.* If the biological opinion concludes that jeopardy is not likely and that there will not be adverse modification of critical habitat, or that there is a “reasonable and prudent alternative[ ]” to the agency action that avoids jeopardy and adverse modification and that the incidental taking of endangered or threatened species will not violate section 7(a)(2), the consulting agency can issue an “Incidental Take Statement” which, if followed, exempts the action agency from the

> prohibition on takings found in Section 9 of the ESA. 16 U.S.C. § 1536(b)(4); *ALCOA v. BPA*, 175 F.3d 1156, 1159 (9th Cir.1999).
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> The issuance of a biological opinion is considered a final agency action, and therefore subject to judicial review. *Bennett v. Spear*, 520 U.S. 154, 178, 117 S.Ct. 1154, 137 L.Ed.2d 281 (1997); *Ariz. Cattle Growers' Ass'n*, 273 F.3d at 1235.

Id. at *2-*3.

III. FACTUAL BACKGROUND

For over thirty years the state and federal agencies charged with management of the CVP and SWP have operated the projects in an increasingly coordinated manner pursuant to a Coordinated Operating Agreement ("COA"). The COA, which dates to 1986, has evolved over time to reflect, among other things, changing facilities, delivery requirements, and regulatory restrictions. The most recent document surveying how the COA is implemented in light of these evolving circumstances is the 2004 Operating Criteria and Plan ("2004 OCAP" or "OCAP") issued June 30, 2004. (AR 489-728.)[3]

A. Overview of the 2004 OCAP.

The OCAP begins with a "Purpose of Document" section which states:

> This document has been prepared to serve as a baseline description of the facilities and operating environment of the Central Valley Project (CVP) and State Water Project (SWP). The Central Valley Project - Operations and Criteria Plan (CVP-OCAP) identifies the many factors influencing the physical and institutional conditions and decision-making process under which the

[3] All "AR" references are to the administrative record provided by the U.S. Fish and Wildlife Service..

> project currently operates. Regulatory and legal instruments are explained, alternative operating models and strategies described.
>
> The immediate objective is to provide operations information for the Endangered Species Act, Section 7, consultation. The long range objective is to integrate CVP-OCAP into the proposed Central Valley document. It is envisioned that CVP-OCAP will be used as a reference by technical specialists and policymakers in and outside the Bureau of Reclamation (Reclamation) in understanding how the CVP is operated. The CVP-OCAP includes numeric and nonnumeric criteria and operating strategies. Emphasis is given to explaining the analyses used to develop typical operating plans for simulated hydrologic conditions.
>
> All divisions of CVP are covered by this document, including the Trinity River Division, Shasta and Sacramento Divisions, American River Division and Friant Division.

(AR 506.)[4]

The introductory chapter provides an overview of all of the physical components of the CVP and SWP (AR 507-520), as well as all of the relevant legal authorities affecting CVP operations (508-512).

Chapter 2, explains, among other things, that water needs assessments have been performed for each CVP water contractor, to confirm each contractor's past beneficial use in order to anticipate future demands. (AR 521.) Chapter 2 also reviews the 1986 COA and how it is implemented on a daily basis by Reclamation and DWR. (AR 523-25.) Also provided is a detailed overview of the "changes in [the] operations coordination

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[4] Whether the 2004 OCAP is a "final agency action" for the purposes of the National Environmental Policy Act is at issue in a related lawsuit, *Pacific Coast Federation of Fishermen's Associations v. Gutierrez*, 1:06-cv-00245 OWW (TAG) ("*PCFFA*"). This overview of the OCAP does not prejudge the merits of the pending motion to dismiss in *PCFFA*.

environment since 1986," which include:

- Changes due to temperature control operations on the Sacramento River;
- Increases in the minimum release requirements on the Trinity River;
- Implementation of CVPIA 3406(b)(2) and Refuge Water Supply contracts;
- Commitments made by the CVP and SWP pursuant to the Bay-Delta Accord and the subsequent implementation of State Water Resources Control Board ("SWRCB") Decision-1641;
- The Monterey Agreement;
- The Operation of the North Bay Aqueduct (which was not included in the 1986 COA).
- The SWP's commitment to make up for 195,000 acre-feet of pumping lost to the CVP due to SWRCB Decision 1485;
- Implementation of the Environmental Water Account; and
- Constraints imposed by various endangered species act listings, including that of the Sacramento River Winter-Run Chinook Salmon, the Sacramento River Spring-Run Chinook Salmon, the Steelhead Trout, and the Delta Smelt (which resulted in the issuance of biological opinions in 1993, 1994, and 1995 concerning CVP/SWP operations and the South Delta Temporary Barriers Biological Opinion in 2001)

(AR 525-28.) The OCAP also reviews the regulatory standards imposed by SWRCB D-1641, which include water quality standards based on the geographic position of the 2-parts-per-thousand

isohale (otherwise known as "X2"), a Delta export restriction standard known as the export/inflow (E/I) ratio, minimum Delta outflow requirements, and Sacramento River and San Joaquin River flow standards. (AR 530-537.) In addition to imposing requirements, D-1641 granted the Bureau and DWR permission to use each project's capabilities in a coordinated manner. (AR 537-38.)

This is not a complete overview of the projects' operations covered in the OCAP. Numerous regulatory and operational changes have taken place in recent years. As the OCAP's "Purpose of Document" section explains, the immediate objective of the OCAP is to lay out all such regulatory and other operational information so that ESA Section 7 consultation can proceed to evaluate how project operations will effect the Delta smelt under various projected future conditions.

B. Applying the ESA to Project Operations.

Because endangered and/or threatened species, including the Delta smelt, reside in the area affected by the CVP and SWP, the 2004 OCAP, administered on behalf of the federal government by the Bureau of Reclamation ("Bureau"), must comply with various provisions of the ESA. Specifically, prior to authorizing, funding, or carrying out any action, the acting federal agency (in this case, the Bureau) must first consult with FWS and/or NMFS to "insure that [the] action...is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined...to be critical...." 16 U.S.C. § 1536(a)(2) [ESA § 7(a)(2)]. This form of

consultation is called "formal consultation," and concludes with the issuance of a biological opinion. 50 C.F.R. § 402.02.

Alternatively, under certain circumstances, a federal agency may pursue "early consultation," on behalf of an agency or private party (referred to as a "prospective applicant") who will require formal approval or authorization to undertake a project. *Id.* Early consultation may be requested when the prospective applicant "has reason to believe that an endangered species or a threatened species may be present in the area affected by this project and that implementation of such action will likely affect such species." 50 C.F.R. § 402.11(b). The result of early consultation is a "preliminary biological opinion," the contents of which are "the same as for a biological opinion issued after formal consultation except that the incidental take statement provided with a preliminary biological opinion does not constitute authority to take listed species." § 402.11(e). Subsequently, the preliminary biological opinion may be "confirmed" after the prospective applicant applies to the federal agency for a permit or licence. Once a request for confirmation is received, the FWS must either confirm that the preliminary biological opinion stands as the final biological opinion or must request that the federal agency initiate formal consultation. § 402.11(f).

In this case, the 2004 OCAP BiOp[5] contemplates increases in

[5] The OCAP itself does not plan for increased pumping or the construction or operation of any new facilities, nor does it describe or model flow regimes under any of these future plans. These planned operational changes are set forth in the BA and the BiOp. (*See* AR 381-423 (describing the effects of those actions

water diversions and the construction of new facilities in the Delta. (AR 256-271.) The maximum daily diversion rate in Clifton Court Forebay will increase from 6,680 cubic feet per second (CFS) to 8,500 CFS (27% increase in pumping) and eventually to 10,300 CFS (54% increase). Permanent barriers within the south Delta will be constructed and operated. An intertie between the California Aqueduct and the Delta-Mendota Canal will be constructed and operated. Water deliveries from the American River will be doubled. New deliveries of CVP water to the Freeport Regional Water Project will be made. Water transfers resulting in an annual 200,000 to 600,000 acre-feet increase in Delta exports will result. (AR 256, 339-40, 357-59, 371, 382-83, 465.)

The Bureau submitted some of these operational changes for formal consultation with FWS concerning their impact on the Delta smelt, while other changes were subject only to early consultation:

> This biological opinion covers formal and early consultation for the operations of the CVP and SWP. The formal consultation effects described in this biological opinion cover the proposed 2020 operations of the CVP including the Trinity River Mainstem ROD (Trinity ROD) flows on the Trinity River, the increased

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included in formal consultation, including re-operation of the Trinity River, increased demands on the American River, operation of the Freeport Regional Water Project ("FRWP"), and operation of an intertie between the Delta-Mendota Canal and the California Aqueduct); AR 357-61 (describing the "items for early consultation," including operation of components of the South Delta Improvement Project, which calls for pumping at Banks to increase to 8500 cfs, operation of permanent barriers in various places within the Delta, the operation of a long term EWA, the use of CVP/SWP capacity to facilitate expanded water transfers, and further integration of CVP/SWP operations.)

> water demands on the American River, the delivery of CVP water to the proposed Freeport Regional Water Project (FRWP), water transfers, the long term Environmental Water Account (EWA), the operation of the Tracy Fish Facility, and the operation of the SWP-CVP intertie. The effects of operations of the SWP are also included in this opinion and include the operations of the North Bay Aqueduct, the Suisun Marsh Salinity Control Gates, the Skinner Fish Facility and water transfers.
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> Early consultation effects include the effects of operations of components of the South Delta Improvement Program (SDIP). These operations include pumping of 8500 cubic feet per second (cfs) at the SWP and Banks Pumping Plant (hereafter referred to as 8500 Banks), permanent barrier operations in the South Delta, the long term EWA, water transfers, and CVP and SWP operational integration. There are two separate effects sections in this biological opinion, one for Formal Consultation and one for Early Consultation. In addition, there is an incidental take for formal consultation and a preliminary incidental take for early consultation.

(AR 2, 248.)[6]

C. History of This Lawsuit.

On July 30, 2004, FWS issued a Biological Opinion (the "2004 OCAP BiOp"), addressing both formal and early consultation for the above-described OCAP actions. (AR 1.)[7]

On August 4, 2004, the Ninth Circuit decided *Gifford Pinchot*

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[6] The first step in the consultation process is usually the preparation of a Biological Assessment ("BA") by the action agency (in this case, the Bureau), the purpose of which is to "evaluate the potential effects of the action on listed [] species and designated [] critical habitat and determine whether any such species or habitat are likely to be adversely affected by the action...." 50 C.F.R. § 402.12(a). In this case, the Bureau issued its BA regarding the "Long-Term Central Valley Project and State Water Project Operations and Criteria Plan" on June 30, 2004. (AR 729.) The BA describes the project on which consultation is being held, both early and formal, in much the same terms as are used in the BiOp.

[7] Prior to 2004, the OCAP operated under Biological Opinions issued in 1993 and 1995.

Task Force v. United States Fish & Wildlife Serv., 378 F.3d 1059, 1069 (9th Cir. 2004), which held that the FWS's definition of "adverse modification" to critical habitat is an impermissible interpretation of the ESA because it focuses on whether critical habitat modifications would impact the survival of a species, effectively ignoring the statutorily-mandated goal of "recovery." On November 4, 2004, in response to this ruling, the Bureau requested reinitiation of consultation to address critical habitat issues.

Plaintiffs in this case, a coalition of non-profit conservation organizations, filed suit on February 15, 2005, alleging that the 2004 OCAP BiOp was legally inadequate in light of *Gifford Pinchot* and should be invalidated. (Doc. 1.) Plaintiffs named as defendants the Department of the Interior and the FWS. (*Id.*)

On February 16, 2005, FWS issued an amended BiOp (the "2005 OCAP BiOp," "OCAP BiOp," or "BiOp"), which superceded the 2004 OCAP BiOp. (AR 247.) The 2005 OCAP BiOp concludes that the coordinated operation of the SWP and CVP, including the proposed future actions, will not jeopardize the Delta smelt's continued existence. (AR at 469.) Although the BiOp recognizes that existing protective measures may be inadequate, the FWS concluded that certain proposed protective measures, including the EWA and a proposed "adaptive management" protocol would provide adequate protection. (*Id.*)

Since the filing of this complaint, Federal Defendants have reinitiated § 7 consultation and contend this case should be dismissed as moot, or stayed for a voluntary remand of the 2005

BiOp without vacatur.

Plaintiffs filed a supplemental complaint on May 20, 2005, challenging the amended BiOp on various grounds. (Doc. 128 pt. 8.)

D. Delta Smelt Abundance.

Smelt once were one of the most common pelagic[8] fish in the Delta, having previously occupied the waters from "Suisun Bay and Montezuma Slough, upstream to at least Verona on the Sacramento River, and Mossdale on the San Joaquin River." (AR 365.) Smelt abundance has "declined irregularly" for at least the past 20 years. (AR 365-67.) FWS relies primarily upon two indices to monitor Delta smelt abundance, calculated from the Summer Tow Net Survey ("TNS") and the Fall Midwater Trawl ("FMWT"). (AR 366-67, 1022.) The TNS index, which measures the abundance and distribution of juvenile Delta smelt, constitutes "one of the more representative indices because the data have been collected over a wide geographic area (from San Pablo Bay upstream through most of the Delta) for the longest period of time (since 1959)." (AR 370.) Since 1983, except for three years (1986, 1993, and 1994), the TNS has remained consistently lower than ever previously recorded. (*Id.*)

The FMWT index, which measures the abundance and distribution of late juveniles and adult Delta smelt from San Pablo Bay to Rio Vista on the Sacramento River and Stockton on the San Joaquin River, is the second longest running survey

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[8] Pelagic fish live in open water, generally away from vegetation or the bottom. (AR 365.) A significant amount of the smelt's habitat are the Delta waters and waters of surrounding areas.

(since 1967). The BiOp reviewed the FMWT trends as follows:

> Although this index has fluctuated widely (AR 9201-02, 9222), it has "declined irregularly over the past 20 years." (AR 370-71.) Since 1983, the FMWT has registered more low indices for more consecutive years than previously recorded. Until recently, except for 1991, this index has declined irregularly over the past 20 years. Since 1983, the delta smelt population has exhibited more low fall midwater trawl abundance indices, for more consecutive years, than previously recorded. The 1994 FMWT index of 101.7 is a continuation of this trend. This occurred despite the high 1994 summer townet index for reasons unknown. The 1995 summer townet was a low index value of 319 but resulted in a high FMWT index of 898.7 reflecting the benefits of large transport and habitat maintenance flows with the Bay-Delta Accord in place and a wet year. The abundance index of 128.3 for 1996 represented the fourth lowest on record. The abundance index of 305.6 for 1997 demonstrated that the relative abundance of delta smelt almost tripled over last years results, and delta smelt abundance continued to rise, peaking in 1999 to an abundance index of 863, only to fall back down to the low abundance indexes of 139 for 2002 and 213 for 2003.

(AR at 371.)

The 2004 FMWT index, which was not discussed in the BiOp, was calculated to be 74, the lowest ever recorded. (AR 9202.) (This omission forms the basis of one of Plaintiffs' challenges to the BiOp.) The survey was apparently released in December 2004, and was specifically cited to FWS in February 2005.

At the hearing on the summary judgment motions, Federal Defendants in substance argued that despite years of study, the abundance data for the annual Delta smelt population is fraught with uncertainties and "not enough is known about the species" to accurately and finitely measure with certainty the project's effects on Delta smelt. FWS maintains the one to two year life expectancy of the smelt also contribute to this lack of certainty.

E. Relationship Between Abundance and Project Operations.

The BiOp cites several reasons for the smelt's decline. First, since the mid 1800s, mining, agricultural use, and levee construction caused the loss of a large portion of smelt habitat. (AR at 365.) Second, recreational boating in the Delta has resulted in the presence and propagation of "predatory non-native fish" and an increase in the rate of smelt erosion resulting from boat wakes. (*Id.*) Third, reduced water quality "from agricultural runoff, effluent discharge and boat effluent has the potential to harm the pelagic larvae and reduce the availability of the planctonic food source." (*Id.* at 366.) Finally, the BiOp acknowledges that "delta smelt have been increasingly subject to entrainment, upstream or reverse flows of waters in the Delta and San Joaquin River, and constriction of low salinity habitat to deep-water river channels of the interior Delta." (*Id.*) The BiOp acknowledges that these final adverse effects are "primarily a result of the steadily increasing proportion of river flow being diverted from the Delta by the Projects, and occasional droughts." (*Id.* (emphasis added).) The BiOp in no way quantifies the contribution of each of these factors to the smelt's decline. The parties dispute the extent to which project operations jeopardize the smelt.

F. Relationship Between Smelt and "X2."

Smelt are euryhaline (tolerant of a wide range of salinities), but generally occur in water with less than 10-12 parts per thousand (ppt) salinity. (AR at 362.) For a large part of its life span, Delta smelt are thought to be associated with the "freshwater edge of the mixing zone," where the salinity

is approximately 2 parts per thousand (often referred to as "X2"). (AR at 366.) The summer TNS index increases dramatically whenever X2 is located between Chipps and Roe islands. (*Id.*) Whenever the location of X2 shifts upstream of the confluence of the Sacramento and San Joaquin, either as a result of water diversions or natural conditions, smelt abundance decreases. (*Id.* at 371.)

G. The Concept of "Salvage."

The BiOp's "no jeopardy" conclusion relies on the concept of "salvage," which refers generally to the process of using mechanical devices to screen fish that would otherwise be entrained in project facilities (e.g., pumps) into holding tanks for transport to other parts of the Delta. (*See e.g.*, AR 321.) Unlike many other fish species in the Delta, Delta smelt do not survive the salvage process, "either due to stress and injury from handling, trucking and release, or from predation in or near the salvage facilities, the release sites, or in Clifton Court Forebay." (AR at 413.) As a result, for Delta smelt, FWS uses the terms salvage and entrainment essentially interchangeably. (*See id.* ("To simplify predictions of the difference in salvage (and by extension entrainment) between model scenarios....")[9]

Previous BiOps regarding CVP and SWP operations used salvage to set take limits. For example, the 1995 BiOp's incidental take statement set take exceedence levels for Delta smelt based on "[m]onthly average delta smelt salvage at the Federal and State

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[9] The BiOp contradictorily acknowledges that "although salvage is used to index delta smelt take, it does not reliably index delta smelt entrainment." (AR 419.)

Fish Facilities from 1980 to 1992 by water year type." (AR at 11765.) Essentially, take limits were set according to how much salvage had occurred in the past.

More recently, project managers, fisheries officials, and other experts came to the consensus that the salvage approach was insufficient on its own. For example, one DWR biologist noted that the singular focus on historic salvage had problems:

> Higher levels of take are allowed in below normal years merely because this is what the projects "took" historically. However, the population is more condensed in below normal years and possibly more vulnerable to entrainment.

(AR 5532.) Experts advocated (a) further research into the relationship between the position of the Delta smelt and environmental conditions (AR 4881); and (b) the adoption of a flexible management approach, which would allow new information to be "folded back into the operation and conservation strategies." (AR 4870.) The result was a "layered" approach to managing the smelt, made up of more protective take limits than previously imposed along with the implementation of an adaptive management protocol.

I. Revised Take Exceedence Levels Used In the BiOp.

The BiOp includes "hard" take limits,[10] based on historic "salvage density estimates," adjusted to account for operational constraints under the 2004 OCAP and presumed increased environmental water flows. Separate take limits were established for formal and early consultation purposes.

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[10] These "hard" take limits, as the Defendants and Defendant Intervenors referred to them during oral argument are different from a separate take trigger that is part of the DSRAM process described below.

The revision of the take limits began with historic catch data from periodic samples of salvaged fish. (*See* AR 413.) Data about the volume of water diverted during the collection period is then used to estimate the fish per volume of water diverted. This is referred to as the "salvage density."[11] (*Id.*) Historically, salvage density varied greatly depending on whether the year was wet (above normal), dry (below normal, dry, or critical) year. Wet and dry year data were analyzed separately. (*Id.*) The estimates were then inputted into a computer modeling system, CALSIM II, to estimate take under varying assumptions about future project operations, including programs designed to improve environmental conditions, such as the Environmental Water Account. (AR 413-14.)

Several different scenarios or "Studies" were run through CALSIM II and included in the BiOp. For example, Study No. 1 reflects the 1995 regulatory base case, without any changes in project operations and without the addition of any environmental water programs. Study No. 4a estimates a take level for flow conditions planned under the operations subject to final consultation (changes to flows in the Trinity River, future development levels, and the operation of the Freeport Regional Water Project and the Intertie). Study 4a included flow adjustments required by D-1641 and VAMP, along with projected CVPIA (b)(2) flows, but did not include operation of the EWA.

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[11] DWR insisted during oral argument that the data used to run the CALSIM II models was not "salvage" data but was rather "density data." The BiOp is explicit that the models were run using a "salvage density" estimate generated from periodic samplings of salvaged fish.

Study No. 5a was similar to 4a, except that it added projected EWA flows. Separately, in Study No. 5, CALSIM II simulated flow modifications projected to occur as a result of "those projects subject to early consultation," specifically the increased pumping and permanent barriers called for in the planned South Delta Improvement Project ("SDIP"). (AR 374, 414-19; Sommer Decl. ¶5.) Each modeling scenario was run separately for various water year types (Wet, Above Normal, Below Normal, Dry, and Critically Dry) and independently estimated take at CVP and SWP facilities.

The BiOp based its conclusions for formal consultation on the results of the Study No. 5a, and for early consultation on the results of Study No. 5. The results of the modeling scenarios for Study No. 5a are set forth in several tables at pages 414 through 419 of the AR. The following table summarizes the changes in estimated take for Study No. 5a, for each type of water year, relative to the 1995 base case. In other words, the positive figures represent the number of additional smelt that will be taken per month under formal consultation relative to the 1995 base case (Study No. 1) while negative numbers represent how many fewer smelt will be taken per month relative to the 1995 base case.[12]

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[12] The information contained in these tables was derived by the court from the BiOp but was not presented in this form in the BiOp.

Table 1:
Summary of Results for CVP Salvage Under Study No. 5a

Month	Wet Year	Above Normal Year	Below Normal Year	Dry Year	Critically Dry Year
Adults					
December	-1	-1	-3	-3	-41
January	-13	-13	-12	-10	-98
February	-33	-36	+63	-60	+9
March	+29	-40	-83	-19	+1
Largely Juveniles					
April	0	0	-16	+5	0
May	0	0	-9017	-14469	-11652
June	0	0	0	-2910	0
July	0	+11	+7	-74	0
Net: December-March	-17	-89	-35	+28	-130
Net: April-July	0	+11	-9025	-17448	-11652

Table 2:
Summary of Results for SWP Salvage Under Study No. 5a

Month	Wet Year	Above Normal Year	Below Normal Year	Dry Year	Critically Dry Year
Adults					
December	-6	-6	-16	-15	-11
January	-76	-87	-82	-87	-104
February	+86	-94	0	0	+51
March	+98	+91	+63	0	+2
Largely Juveniles					
April	-60	-77	-365	-144	0
May	-27188	-25933	-31122	-32083	-7269
June	-1096	-129	-53	1267	0
July	0	+282	+318	+493	+175
Net: December-March	+102	-95	-35	-102	-62
Net: April-July	-28346	-25857	-31213	-33000	-7095

For the CVP, CALSIM II predicts significant reductions in smelt salvage during the months of December through July in below normal and dry years, when compared to the regulatory base

case.[13] However, under certain scenarios, CVP salvage increases during other months of the year relative to the regulatory base case, because pumping is predicted to increase during these months to make up for water released from storage for fish protection purposes. For the SWP, salvage stays relatively level for the months of December through March. However, salvage decreases for the months of April through July relative to the regulatory base case.

Based on CALSIM II Study 5a, FWS calculated the amount of "combined salvage" (i.e., for both projects) estimated under the formal consultation scenario, for each month, according to water year type. The BiOp rounded the numbers up to the nearest 100 and used those figures to set incidental take limits by water year type. (AR 471-472.)

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[13] The tables at pages 414 and 419 of the AR do not list the absolute number of smelt estimated to be taken in any given month under the 1995 regulatory base case (Study No. 1). However, the incidental take limits (set forth in the Table 3 below) were based on the absolute numbers of smelt that are projected to be taken under Study No. 5a. For example, the take limit for the month of May in a Critically Dry year, set at 30,500, under the CALSIM II results in a reduction of the 30,500 to 18,921 (representing 11,652 reduction in CVP salvage plus 7,269 reduction in SWP salvage) lower than the 1995 regulatory base case.

Table 3:
Incidental Take Limits by Water Year Type
(For Both CVP and SWP)

	Water Year Type		
	Month	Wet or Above Normal	Below Normal, Dry, or Critical
Monthly Incidental Take	October	100	100
	November	100	100
	December	700	400
	January	3000	1900
	February	2300	1700
	March	1300	1300
	April	1000	1100
	May	37800	30500
	June	45300	31700
	July	3500	2500
	August	100	100
	September	100	100

Because these incidental take levels are based on predictions produced by CALSIM II Study 5a, they do not assume any smelt protection actions under the DSRAM, but do assume continued availability of the EWA water. (AR 374, 471.)

FWS determined that the level of anticipated take "is not likely to result in jeopardy to the smelt because this level of take is at or below historical levels of take." (AR 474.)

However, the BiOp also acknowledges that "the operations of the Projects under formal consultation as described in the Project Description will result in adverse effects to delta smelt through entrainment at the CVP and SWP and by drawing delta smelt into poorer quality habitat in the south delta." (AR 422 (emphasis added).) The BiOp concludes that "with the inclusion of [certain] conservation measures described [in the BiOp] and the implementation of the [Delta Smelt Risk Assessment Matrix], these adverse effects would be avoided or minimized." (*Id.*

(emphasis added).) "[W]ith these conservation measures in place, the re-operation of the Trinity River, the increased level of development on the American River, the Freeport Diversion, the Suisun Marsh Salinity Control Gates, the Barker Slough Diversion, or due to changes to X2...are not expected to result in adverse effects to delta smelt." (AR 423.)

FWS' conclusions admit project operations will result in adverse effects to delta smelt, which are unquantified, and can only be avoided by conservation measures and implementation of the DSRAM.

H. "Conservation Measures."

The "conservation measures" contemplated are listed in the Summary of Effects section of the BiOp and include: (1) the Environmental Water Account ("EWA"); (2) Central Valley Project Improvement Act (b)(2) water; (3) State Water Resource Control Board's Water Rights Decision 1641; (4) the Vernalis Adaptive Management Plan ("VAMP"); and (5) the DSRAM adaptive management plan. (AR 466-68.)

1. CVPIA(b)(2) Water.

According to the 1992 Central Valley Project Improvement Act, the CVP must "dedicate and manage annually 800,000 acre-feet of Central Valley Project yield for the primary purpose of implementing the fish, wildlife, and habitat restoration purposes and measures authorized by this title; to assist the State of California in its efforts to protect the waters of the San Francisco Bay/Sacramento-San Joaquin Delta Estuary; and to help to meet such obligations as may be legally imposed upon the

Central Valley Project under State or Federal law following the date of enactment of this title, including but not limited to additional obligations under the Federal Endangered Species Act." Title XXXXIV of the Reclamation Projects Authorization and Adjustment Act of 1992, Pub. L. 102-575, 106 Stat. 4600, 4706 (1992). (*See* AR 372.)

FWS, in consultation with the Bureau and other agencies, may use this "(b)(2) water" to meet Water Quality Control Plan (WQCP) obligations and any other requirements imposed by law after 1992. "For example, (b)(2) water has been used to maintain flows on Clear Creek to provide adequate spawning and rearing habitat for Chinook salmon. Water exports at the CVP have also been reduced using (b)(2) water to reduce entrainment of salmon or delta smelt at the salvage facilities. This ongoing action provides a benefit to delta smelt in most years." (AR 372.)

The base CVP yield committed to fish restoration is fixed by statute and is mandatory. This fixed supply is subject to reduction up to 25% in critically dry years under CVPIA § 3406(b)(2)(C).

2. Environmental Water Account.

The Environmental Water Account ("EWA") is "an adaptive management tool that aims to protect both fish and water users as it modifies water project operations in the Bay-Delta." (AR 373.)

> The EWA provides water for the protection and recovery of fish beyond that which would be available through the existing baseline of regulatory protection related to project operations. The EWA buys water from willing sellers or diverts surplus water when safe for fish,

> then banks, stores, transfers and releases it as needed to protect fish and compensate water users for deferred diversions.

(*Id.*)

The EWA has been used to benefit smelt by allowing for the curtailment of project export pumping during critical time periods. (*Id.*) The EWA could also be used to increase in-stream flows or increase outflows in the Delta, both of which would benefit the smelt. (*Id.*) The EWA is not fixed by statute nor is annual funding assured, and the water supply it provides, though reasonably anticipated, is not immutable.

3. Water Rights Decision 1641.

State Water Resource Control Board Decision 1641 (D-1641) imposes certain minimum flow and water quality objectives upon the projects:

> D-1641 includes specific outflow requirements throughout the year, specific export restraints in the spring, and export limits based on a percentage of estuary inflow throughout the year. D-1641 obligates the SWP and CVP to comply with the objectives in the 1995 Bay-Delta Plan. The Service issued a biological opinion on the Bay-Delta plan to the Environmental Protection Agency on November 2, 1994. The water quality objectives in the 1995 Bay-Delta Plan and in D-1641 are designed to protect in-Delta agricultural, municipal and industrial, and fishery uses and vary throughout the year and by water year type.... D-1641 will also protect delta smelt by providing transport, habitat and attraction flows.

(AR 373 (citations omitted).)

The D-1641 requirements are mandatory under the projects' operating permits. The water to satisfy D-1641 comes from 3406(b)(2) yield and supplemental sources the Bureau utilizes.

4. Vernalis Adaptive Management Plan (VAMP).

The Vernalis Adaptive Management Plan (VAMP) is an experimental program that had its origin in D-1641. (AR 373.) It provides for flows on the lower San Joaquin River and export curtailments at the projects. (*Id.*) VAMP's purpose is to "provide pulse flows on the San Joaquin River and improve habitat conditions in the Delta by reducing exports at the CVP and SWP" over a 31 day period in April and May for the benefit of Chinook salmon and Delta smelt. (*Id.*) Currently, water used to reduce exports at the CVP under VAMP is accounted for as CVPIA (b)(2) water. (*Id.*) If export reductions are taken, the EWA is used to supply contractors to make up for the transfers. VAMP flows "allow larval and juvenile smelt to avoid becoming entrained at the export facilities and to move downstream to Suisun Bay." (*Id.*)

The VAMP water supply is not irrevocably fixed or assured.

I. Delta Smelt Risk Assessment Matrix (DSRAM).

The BiOp's other, primary protection for the smelt is the implementation of a new adaptive management protocol, known as the Delta Smelt Risk Assessment Matrix ("DSRAM"). The DSRAM utilizes a list of trigger criteria to precipitate responses. (AR at 344.) The criteria are:

(1) the previous year's FMWT index;

(2) the risk of smelt entrainment based upon the location of X2;

(3) the estimated duration of the smelt spawning period,

based on water temperature;

(4) the presence of spawning female smelt;

(5) the proximity of the smelt to project pumping facilities; and

(6) a salvage trigger for adult and juvenile smelt.

(AR 346.)

1. The DSRAM Process.

If any trigger criteria is met or exceeded, a Delta Smelt Working Group ("DSWG") is convened. The DSWG consists of representatives from FWS, the California Department of Fish and Game, DWR, the United States Environmental Protection Agency, the Bureau, and the California Bay-Delta Authority. (*See* AR 344-45.) The DSWG then recommends corrective actions to a Water Operations Management Team ("WOMT"). (*Id.*) The OCAP BiOp identifies four specific actions that the DSWG and WOMT must consider taking if one or more trigger criteria occur: (1) export reductions at one or both of the projects; (2) changes in the south Delta barrier operations; (3) changes in San Joaquin River flows; and (4) changes in the operation of the Delta cross channel.[14] The DSRAM does not contain defined action criteria, but instead leaves any response wholly to the discretion of the two groups who administer the DSRAM (DSWG and WOMT).

2. DSRAM Implementation.

The BiOp acknowledges although FWS is "confident that use of

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[14] The DSRAM also includes a chart illustrating when during the year each of these actions will be available. (AR 346.)

the DSRAM will reduce the frequency with which actual salvage exceeds the median predicted salvage, the exceedence frequency could be as high as 50%." (AR 471.) There is no analysis of the duration or consequences from such exceedence. The DSRAM provides no operating criteria or action schedule, specifying when mitigation actions must be taken. It is not possible to predict what, how and when DSRAM measures will be implemented.

J. Recent Experience with DSRAM.

DWR offered post-record evidence regarding the manner in which DSRAM has actually been implemented since its inception. This post-record activity could not have been considered by the agency. A motion to strike the proffered evidence was sustained. The offer of proof includes two "fish actions" that were taken in 2005 in response to "triggers" and a third that was planned but avoided when project water increased in early 2006, a wet year. DWR's offer of proof is to show positive experience in operation of the DSRAM.

K. Recent Procedural History.

The Federal Defendants acknowledge that "[s]hortly before the 2005 OCAP BiOP was completed, a fall midwater trawl survey of delta smelt revealed a substantial decline in the population index for the species" to the lowest ever. (Doc. 242-1, at 4.) The Federal Defendants do not concede that the existence of this data renders the BiOp arbitrary and capricious, because "limited analysis of this data existed, and the Service relied on the raw data, and its own professional judgments as the best available scientific and commercial data available." (*Id.*) Nevertheless,

"the CALFED agencies have continued to assemble and analyze new data and information." (*Id.*) For example, scientists from CALFED agencies "recently" developed a document based upon the new data: the Interagency Ecological Program Synthesis of 2005 Work to Evaluate the Pelagic Organism Decline (POD) in the Upper San Francisco Estuary (the "IEP POD Synthesis"). This document led the Federal Defendants to conclude that the OCAP for the CVP and SWP may affect Delta smelt in a manner or to an extent not previously considered. (IEP POD Synthesis, Doc. 240, Attachment 1.)

On July 6, 2006, the Bureau requested that the FWS re-initiate consultation concerning the impact of the OCAP on the Delta smelt. (Doc. 240.) In a July 6, 2006 letter to the FWS, the Bureau acknowledged that "emerging data indicates an apparent substantial decline in the Delta smelt population index." (Doc. 240-2.)

1. No Dismissal or Stay.

In light of the second re-initiation of consultation, federal defendants sought dismissal on prudential mootness grounds, a voluntarily remand without vacatur, or a stay pending the completion of reconsultation. (*See* Docs. 242-1, 273.) The motion for stay was joined by the DWR (Doc. 277), and various Defendant-Intervenors (Doc. 274). Plaintiffs opposed because Federal Defendants refused to withdraw the challenged BiOp and stated their intent to continue CVP and SWP operations under the disputed BiOp and its incidental take statements during the time period necessary to complete re-consultation, now projected to be

July 2008, more than two and one-half water years following the effective date of the disputed BiOp. (*See* Doc. 279.)

Defendants' motion to dismiss on prudential mootness grounds was denied:

> Plaintiffs' concerns have not been fully addressed by the reinitation of consultation. Federal Defendants are relying in part on the challenged BiOps in operating the CVP and intend to continue to do so. The controversy over whether the BiOps and OCAP should have continued viability is real and substantial. and this court could provide relief, in the form of a decision invalidating the BiOps followed by hearings on interim remedies. Under these circumstances, it is not appropriate to deem this case prudentially moot.

(Doc. 301 at 18 (footnotes omitted).)

The motion for voluntary remand without vacatur was denied based on the general standard for vacatur set forth in *Natural Resources Defense Council v. U.S. Dept. of the Interior*, 275 F. Supp. 2d 1136, 1143 (C.D. Cal. 2002), which considers "the seriousness of the order's deficiencies" and "the disruptive consequences of an interim change that may itself be changed." No evidence or argument was presented regarding the nature of the prejudice that might result from invalidating the BiOp (*id.* at 20), and numerous factual and legal disputes exist regarding the seriousness of the order's deficiencies (*see id.* at 27). The court was left to speculate what consequences to the species would result if injunctive relief were ordered against continued implementation of the disputed BiOp.

The stay motion, based on the primary jurisdiction doctrine, was denied on the authority of *Lockyer v. Mirant Corp.*, 398 F.3d 1098, 1109 (9th Cir. 2005)(a party seeking a stay "must make out a clear case of hardship or inequity in being required to go

forward, if there is even a fair possibility that the stay for which he prays will work damage to someone else."). The order held: "Plaintiffs are entitled to have their complaint decided on the merits, particularly given the fact that Defendants continue to rely on the challenged BiOps as if they were lawfully enacted." (Doc. 301 at 33.) The apparent increasing jeopardy to the smelt by and after February of 2005 militates against further delay while FWS continue "to study" the issue of jeopardy, an exercise that has continued for almost a decade.

IV. POST-RECORD EVIDENTIARY DISPUTES

A. Objections to Declaration of Ted Sommer.

DWR offers the post-record declaration of Ted Sommer, Ph.D, to explain (1) the concept of salvage and its relationship to the take exceedence levels in the BiOp; (2) the operation of DSRAM; (3) and the manner in which DSRAM has been implemented since its inception.

Generally, "the focal point for judicial review should be the administrative record already in existence, not some new record made initially in the reviewing court." *Camp v. Pitts*, 411 U.S. 138, 142 (1973). However, the Ninth Circuit recognizes three main exceptions to this rule, allowing courts to consider extra-record evidence:

> (1) if necessary to determine "whether the agency has considered all relevant factors and has explained its decision," (2) "when the agency has relied on documents not in the record," or (3) "when supplementing the record is necessary to explain technical terms or complex subject matter."

Southwest Ctr. for Biological Diversity v. U.S. Forest Service,

100 F.3d 1443, 1450 (9th Cir. 1996). A court may also consider extra-record evidence "when plaintiffs make a showing of agency bad faith." *Nat'l Audubon Soc. v. U.S. Forest Serv.*, 46 F.3d 1437, 1447 n.9 (9th Cir. 1993).

DWR maintains that the Sommer declaration explains "technical or complex subject matters" admissible under the exception for evidence "necessary to explain technical or complex subject matters." (Doc. 246-1 at 5-6 n.5.) Plaintiffs move to strike the declaration on the ground that subject matters covered by Mr. Sommer are "neither technical nor complex." (Doc. 305 at 4 n.1.) Rather, Plaintiffs contend that the declaration is offered to explain the agency's post-BiOp experience with DSRAM in an effort to counter the Plaintiffs' argument that the DSRAM is wholly discretionary and contains no defined standards or enforceable requirements.

Generally, "post hoc rationalizations of the agency...cannot serve as a sufficient predicate for agency action." *Am. Textile Manuf. Inst. v. Donovan*, 452 U.S. 490, 539 (1981); *see also Sierra Club v. Bosworth*, 199 F. Supp. 2d 971, 986 (N.D. Cal. 2002)(refusing to consider post hoc explanations that were "neither addressed nor supported by the record"). DWR does not disagree with this general principle, but instead insists that the declaration is offered only to explain complex and technical aspects of the incidental take exceedence levels and the DSRAM.

Paragraphs 11 through 15 of the Sommer Declaration concern the implementation measures taken under the DSRAM after the BiOp issued. There is no basis in the law for the admission of this post-record evidence. DWR does not assert otherwise.

Plaintiffs' motion to strike is **GRANTED** as to paragraphs 11 through 15.

The information contained in the remainder of the Sommers declaration is drawn directly from the BiOp itself, explaining in plain language how the incidental take limits were set and how DSRAM operates. Although, much of the same information can be found in the BiOp, the subject matters covered are technical and complex and Dr. Sommer's declaration clarifies or explains them. This exception saves the remaining paragraphs of the Sommers declaration to explain the incidental take limits.

The motion to strike is **DENIED IN PART** as to the past record evidence paragraphs only.[15]

B. Federal Defendants' Renewed Objections to Previously Admitted Extra-Record Documents.

The May 13, 2006 memorandum decision admitted certain extra-record documents, for limited purposes (Doc. 219), including Document 10 (a Powerpoint presentation by Michael Dettinger given to the Bay-Delta Authority on December 8, 2004 entitled "Uncertainties & CALFED Planning What Are Current Observations

[15] In a footnote at the end of Plaintiffs' motion to strike the Sommer Declaration, Plaintiffs also challenge Federal Defendants' reliance on the declaration of Ann Lubas-Williams, which Federal Defendants filed with their response to Plaintiffs' motion for summary judgment/cross motion to dismiss. (*See* Doc. 242-4.) The Lubas-Williams declaration concerns the implementation of DSRAM and the sources from which DWR plans to obtain water to protect Delta smelt in the near future. Federal defendants relied on her declaration primarily to support their motion to dismiss or for voluntary remand. No party has relied upon this declaration in the context of the pending motions; it was not considered by the court. It is unnecessary to rule on this motion to strike.

and Models Saying?") for two purposes. First, "for the limited purpose[] of determining whether []FWS failed to adequately consider the climate change issue and the scientific significance of any such failure....;" but not legal opinions. (Doc. 219 at 25.) Second, to the extent appropriate, all twenty two extra record documents presented by Plaintiffs, including Document 10, may be referenced to aid the court's understanding of various technical concepts under the "technical terms and complex subject matter exception." (*Id.* at 32.)

In the footnote to their opposition brief, Federal Defendants renew their objection to consideration of any of the documents under the technical terms and complex subject matter exception. (Doc. 242-1 at 22 n.12.) The May 13, 2006 memorandum decision notes: "Defendants and Defendant Intervenors suggest that Plaintiff has failed to establish that the existing record is inadequate to explain the technical terms, but point to no authority requiring such a showing." (Doc. 219 at 30.) Federal Defendants now assert: "numerous courts, including the Supreme Court and district courts in this Ninth Circuit, have held that a record may not be supplemented for explanatory purposes unless the existing record has been demonstrated inadequate." (Doc. 242-1 at 22 n.12.), citing an unpublished district court decision, City of *Santa Clarita v. United Stats Dept. Of Interior*, 2005 WL 2972987 at *2 n.3 (C.D. Cal. 2005):

> ...Plaintiffs bear the burden of making an initial showing that the administrative record is inadequate for effective judicial review and that one of the exceptions to record review applies. *Animal Defense Council v. Hodel*, 840 F.2d at 1436-38 (affirming district court order limiting review to administrative record and prohibiting discovery because plaintiffs did

> not show record presented was insufficient for review or that any of the exceptions to record review were applicable)....

(emphasis added).

A district court decision not cited by Defendants, *Karuk Tribe of Cal v. U.S. Forest Serv.*, 379 F. Supp. 2d 1071, 1087 (N.D. Cal. 2005), reiterated this holding:

> The Ninth Circuit allows a reviewing court to consider extra-record materials in an APA case only under four narrow exceptions: (1) when it needs to determine whether the agency has considered all relevant factors and has explained its decision; (2) when the agency has relied upon documents or materials not included in the record; (3) when it is necessary to explain technical terms or complex matters; and (4) when a plaintiff makes a showing of agency bad faith. Southwest Center for Biological Diversity v. United States Forest Service, 100 F.3d 1443, 1450 (9th Cir. 1996). For extra-record material to be considered, a plaintiff must first make a showing that the record is inadequate. *Animal Defense Council v. Hodel*, 840 F.2d 1432, 1437 (9th Cir.1988) ("The [plaintiff] makes no showing that the district court needed to go outside the administrative record to determine whether the [agency] ignored information"). At the *1088 same time, "[a] satisfactory explanation of agency action is essential for adequate judicial review, because the focus of judicial review is not on the wisdom of the agency's decision, but on whether the process employed by the agency to reach its decision took into consideration all the relevant facts." *Asarco, Inc. v. U.S. Environmental Protection Agency*, 616 F.2d 1153, 1160 (9th Cir.1980).

(emphasis added).[16] *Karuk Tribe*, and *Animal Defense Council v.*

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[16] Federal Defendants also cite *Pension Benefit Guar. Corp. v. LTV Corp.*, 496 U.S. 633, 654-655 (1990), in which the Supreme Court reasoned: "Here, unlike in *Overton Park*, the Court of Appeals did not suggest that the administrative record was inadequate to enable the court to fulfill its duties under § 706."

Federal Defendants quote *Pension Benefit* entirely out of context. The quoted language is drawn from a part of the opinion addressing the Second Circuit's ruling about the adequacy of procedures used by the defendant agency. Specifically, that court ruled that the agency acted arbitrarily and capriciously

Hodel, 840 F.2d 1432, 1437 (9th Cir. 1988), on which it relies, do stand for the proposition that, before admitting documents under any exception to the general rule against extra-record evidence, a court should require that a plaintiff make an initial showing that the existing record is insufficient. Here, defendants maintain that those documents plaintiffs have referenced to explain complex or technical matters, are "the cart before the horse," because Plaintiffs have not shown the existing record is inadequate.

First, Federal Defendants objection is arguably untimely. They did not cite cases requiring a preliminary showing of insufficiency when the motion to augment was briefed and heard. Nor did Federal Defendants timely move for reconsideration of the May 13, 2006 ruling on the motion to augment. Striking the

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because it failed to apprise the plaintiff of the material on which it was to base its decision, never gave plaintiff an adequate opportunity to offer contrary evidence, failed to proceed according to ascertainable standards, and failed to provide plaintiff a statement showing its reasoning. *Id.* at 653. One party claimed that *Overton Park* validated a court's order that an agency undertakes additional procedures. *Id.* The Supreme Court rejected this argument, reasoning that, at most, *Overton Park* "imposes a general 'procedural' requirement of sorts by mandating that an agency take whatever steps it needs to provide an explanation that will enable the court to evaluate the agency's rationale at the time of decision." *Id.* at 654. The Supreme Court then distinguished *Overton Park*, reasoning that "[h]ere, unlike in *Overton Park*, the Court of Appeals did not suggest that the administrative record was inadequate to enable the court to fulfill its duties under § 706." *Id.* at 655. This was a specific reference to language in *Overton Park* which criticized the lower courts for relying only on the litigation affidavits, rather than the whole administrative record. *Pension Benefit* sheds absolutely no light on the admissibility of extra-record evidence.

challenged documents now, would cause prejudice to Plaintiffs, who relied upon these rulings to prepare their dispositive motions.

Even assuming a timely and specific objection, on the merits, Plaintiffs' extra-record documents were properly admitted. Of these twenty-two documents, Plaintiffs' papers only referenced eight: Docs. 9, 10, 11, 12, 13, 20, 21 & 22. With the exception of Documents 12 and 22, all were admitted on multiple grounds. (Documents 12 and 22 were admitted for the limited purpose of explaining technical materials.) The documents and the bases for their admission are as follows:

Document 9: Summary of Annual Joint Meeting of California Bay-Delta Authority and Bay-Delta Public Advisory Committee (December 8-9, 2004).

Admitted "for the limited purpose of determining whether USFWS failed to adequately consider the EWA/CVPIA(b)(2) issue," "for the limited purposes of determining whether USFWS failed to adequately consider the climate change issue and the scientific significance of any such failure...," and, as appropriate, to explain complex and technical matters.

Document 10: Climate Change Uncertainties & CALFED Planning: What Are Current Observations and Models Saying? Powerpoint presentation by Michael Dettinger, U.S. Geological Survey at the Scripps Institute for Oceanography, et al. to Bay-Delta Authority (December 8, 2004).

Admitted "for the limited purposes of determining whether USFWS failed to adequately consider the climate change issue and the scientific significance of any such failure," and as appropriate, to explain complex and technical matters.

Document 11: Summary of Annual Joint Meeting of California Bay-Delta Authority and Bay-Delta Public Advisory Committee (February 9-10, 2005).

Admitted for the limited purpose of showing that USFWS failed to consider relevant Delta smelt population data and its scientific significance," and, as appropriate, to explain complex and technical matters.

Document 12: Letter from H. Candee and K. Poole, NRDC, to S. Thompson re Consultation on OCAP: Significant New Delta Smelt Information, Service (Feb. 14, 2005).

Admitted only to explain, as appropriate, complex and technical matters.

Document 13: Delta smelt abundance trends, Powerpoint presentation by Chuck Armor, DFG, to Bay-Delta Authority

Admitted for the limited purpose of showing that USFWS failed to consider relevant Delta smelt population data and its scientific significance," and, as appropriate, to explain complex and technical matters.

Document 20: Supplemental Biological Opinion on CVP and SWP Operations, April 1, 2004 through March 31, 2006 (Feb. 27, 2004).

Admitted "for the limited purpose of determining whether USFWS failed to adequately consider the EWA/CVPIA(b)(2) issue," and, as appropriate, to explain complex and technical matters.

Document 21: Future Water Availability in the West: Will there be enough? Powerpoint presentation by M. Dettinger to 24th Annual Conference on Water, Climate and Uncertainty: Implications for Western Water Law, Policy, and Management (June 11-13, 2003).

Admitted "for the limited purposes of determining whether USFWS failed to adequately consider the climate change issue and the scientific significance of any such failure...," and, as appropriate, to explain complex and technical matters.

Document 22: Letter from John W. Keys, Bureau, to Hon. George Miller, House of Representatives re Bureau's renewal of CVP water contracts (Dec. 23, 2004).

Admitted only to explain, as appropriate, complex and technical matters.

With the exception of Documents 12 and 22, Plaintiffs were permitted to reference these documents to show whether FWS

adequately considered included subject matter to support the BiOp. Although Plaintiffs did not expressly demonstrate that the record was insufficient, a finding of insufficiency can be implied from the rulings admitting the documents. For example, Document 10, the powerpoint presentation regarding "Climate Change Uncertainties & CALFED Planning" presented to the Bay-Delta Authority on December 8, 2004, references climatological information and issues not otherwise discussed in the administrative record, bearing on whether FWS failed to adequately consider the climate change issue. The same reasoning applies to Documents 9, 10, 11, 13, 20 & 21. As for Documents 12 and 22, were which were only admitted under the complex and technical matters exception, no prior showing of insufficiency was made. However, Documents 12 and 22 were only referenced as secondary citations or for context. Even if, any document was admitted in error, no prejudice has resulted.

V. STANDARD OF REVIEW

Summary judgment is appropriate where there are no genuine issues of material fact and the moving party is entitled to judgment as a matter of law. Fed. R. Civ. Pro. 56(c). This is a challenge to the lawfulness of a biological opinion brought under the ESA and the Administrative Procedure Act ("APA"). Agency decisions made under the ESA are governed by the APA, which requires that the agency action be upheld unless it is found to be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law," or "without observance of procedure required by law." 5 U.S.C. § 706(2)(A), (D). The inquiry is

designed to "ensure that the agency considered all of the relevant factors and that its decision contained no clear error of judgment." *Pacific Coast Fed'n of Fishermen's Ass'ns v. NMFS*, 265 F.3d 1028, 1034 (9th Cir. 2001). Agency action should only be overturned if 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." *Id.* In sum, a court must ask "whether the agency considered the relevant factors and articulated a rational connection between the facts found and the choice made." *Id.* "A biological opinion is arbitrary and capricious and will be set aside when it has failed to articulate a satisfactory explanation for its conclusions or when it has entirely failed to consider an important aspect of the problem." *Greenpeace v. NMFS,* 80 F. Supp. 2d 1137, 1147 (W.D. Wash. 2000). Alternatively, a biological opinion may also be invalid if it fails to use the best available scientific information as required by 16 U.S.C. § 1536(a)(2). *Id.* at 1150.

As a general rule, a court must defer to the agency on matters within its expertise. *See National Wildlife Federation v. National Marine Fisheries Service,* 422 F.3d 782, 798 (9th Cir. 2005). However, "[t]he deference accorded an agency's scientific or technical expertise is not unlimited." *Id.* "Deference is not owed when the agency has completely failed to address some factor consideration of which was essential to [making an] informed decision." *Id.* (internal citations and

quotations omitted).

A final BiOp is final agency action for judicial review purposes. *American Rivers, infra*, 126 F.3d at 1124-25.

VI. SUMMARY OF PLAINTIFFS' MOTION

Plaintiffs move for summary judgment on the following grounds:

(1) First, the BiOp did not utilize the Best Available Science by: (a) failing to reference the "most recent Delta Smelt abundance data," namely the 2004 Fall Midwater Trawl Data; and (b) failing to consider the possible effects that climate change might have on the smelt's habitat.

(2) Second, the BiOp unlawfully relies upon the DSRAM as a mitigation measure because the DSRAM process is "entirely discretionary, uncertain, and unenforceable." In addition, Plaintiffs allege that Federal Defendants acted arbitrarily and capriciously by relying upon the EWA, CVPIA(b)(2), and/or VAMP programs as water sources necessary to implement the DSRAM. Plaintiffs allege that Federal Defendants have (a) failed to demonstrate that EWA, CVPIA and/or VAMP will continue to be available over the 20-year term of the BiOp and (b) failed to demonstrate that DSRAM can reliably operate without water assets from those programs.

(3) Third, there is no rational connection between the evidence in the record and the BiOp's "no jeopardy" conclusion. Specifically, Plaintiffs allege (a) that the BiOp's focus on salvage as the measure of harm to the species underestimates project impacts and results in a meaningless take limit; and (b)

that the BiOp fails to explain how its no jeopardy conclusion can be justified in light of the identified adverse effects of the project, along with indirect and cumulative effects.

(4) Fourth, the BiOp failed to adequately analyze whether the OCAP's impacts on the Delta smelt's critical habitat are consistent with the smelt's recovery. In addition, the Federal Defendants failed to adequately take into account smelt habitat areas other than defined by X2.

(5) Finally, the BiOp is unlawfully narrow in its scope because it (a) fails to provide a comprehensive analysis of the effects of constructing facilities required to carry out long term CVP and SWP operations and (b) fails to analyze the impacts of the projects delivering the full amount of water authorized under CVP and SWP water service contracts.

VII. DISCUSSION

A. Threshold Issues.

1. ESA 60-day notice requirement.

The San Luis Parties argue that Plaintiffs have not complied with the ESA's citizen suit notice requirement, 16 U.S.C. § 1540(g)(2)(A)(I), that written notice be given to "the Secretary, and to any alleged violator" at least sixty days in advance of filing suit. Failure to give this notice is a bar to bringing suit under the ESA. *Southwest Ctr. for Biological Diversity v. U.S. Bureau of Reclamation*, 143 F.3d 515, 520 (9th Cir. 1998).

In *American Rivers v. National Marine Fisheries Serv.*, 126 F.3d 1118, 1124-25 (9th Cir. 1997), the Ninth Circuit held that issuance of a biological opinion is a final agency action that is

properly pled as a challenge under the APA, rather than as a citizen suit claim under the ESA. Failure to comply with the 60-day notice requirement does not deprive the court of jurisdiction. *Id.*

The San Luis Parties advocate an approach that ignores *American Rivers*,[17] taken in an unpublished district court opinion, *Pacific Coast Fed' of Fishermen's Ass'ns v. U.S. Bureau of Reclamation*, 2006 WL 1469390 at 27 n.8 (N.D. Cal. 2006). *Pacific Coast Federation* declined to apply *American Rivers'* general rule because the injunctive relief the Plaintiffs sought went beyond simply having the biological opinion invalidated. The *Pacific Coast Federation* Plaintiffs sought to have any new biological opinion first reviewed by the court. This requested relief, fell outside the scope of the APA but was "within the scope of the ESA and thus trigger[ed] the notice period requirement." *Id.* Here, the requested relief is invalidation of the BiOp, a remedy undeniably available under the APA. *American Rivers* controls. There was no need to comply with the ESA 60-day notice requirement. The district court has jurisdiction over APA review of the BiOp.

2. Jurisdiction to Review Challenges to Early Consultation and Preliminary Biological Opinion.

Defendants contend the case is not ripe for decision. The BiOp covers not only current operations, but also a variety of future actions, some subject to formal consultation, others to

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[17] At least one district court has followed the holding in *American Rivers*. *See NRDC v. Rodgers*, 381 F. Supp. 2d 1212, 1230 (E.D. Cal. 2005).

early consultation:

> This biological opinion covers formal and early consultation for the operations of the CVP and SWP. The formal consultation effects described in this biological opinion cover the proposed 2020 operations of the CVP including the Trinity River Mainstem ROD (Trinity ROD) flows on the Trinity River, the increased water demands on the American River, the delivery of CVP water to the proposed Freeport Regional Water Project (FRWP), water transfers, the long term Environmental Water Account (EWA), the operation of the Tracy Fish Facility, and the operation of the SWP-CVP intertie. The effects of operations of the SWP are also included in this opinion and include the operations of the North Bay Aqueduct, the Suisun Marsh Salinity Control Gates, the Skinner Fish Facility and water transfers.
>
> Early consultation [issues address] the effects of operations of components of the South Delta Improvement Program (SDIP). These operations include pumping of 8500 cubic feet per second (cfs) at the SWP and Banks Pumping Plant (hereafter referred to as 8500 Banks), permanent barrier operations in the South Delta, the long term EWA, water transfers, and CVP and SWP operational integration. There are two separate effects sections in this biological opinion, one for Formal Consultation and one for Early Consultation. In addition, there is an incidental take for formal consultation and a preliminary incidental take for early consultation.

(AR 2, 248.)

The San Luis Parties object that the early consultation portions of the BiOp are not final agency action and any challenges to the early consultation process are not subject to judicial review. Early consultation, by definition, results in only a "preliminary opinion" and in a preliminary incidental take statement that "does not constitute authority to take listed species." 50 C.F.R. § 402.11(e). Upon request for "confirmation" of a preliminary biological opinion, FWS will review the proposed action to determine if there have been "significant changes in the action as planned or in the

information used during early consultation." § 402.11(f). Within 45 days of such request, FWS must either confirm the preliminary biological opinion or request formal consultation. *Id.*

Plaintiffs concede that they "are not challenging the validity of FWS's early consultation or its preliminary biological opinion regarding certain segregated components of the 2004 OCAP." (Doc. 306 at 37.) Rather, Plaintiffs argue that the portion of the BiOp covering formal consultation is flawed because it fails to examine the full impacts of all aspects of the 2004 OCAP. (Doc. 306 at 37.) Plaintiffs maintain the formal consultation should have covered certain planned actions included in the early consultation that are interdependent with other planned actions not included in either consultation. This claim is cognizable, as it challenges the scope of the formal consultation and the completeness of evaluation of overall OCAP operations on jeopardy to the smelt, not the lawfulness of the early consultation on future actions.

B. The Biological Opinion Unlawfully Relies Upon Uncertain, Unenforceable Mitigation Measures.

The BiOp concludes that the "operations of the Projects under formal consultation...will result in adverse effects to the delta smelt through entrainment at the CVP and SWP facilities and by drawing delta smelt into poorer quality habitat in the south delta. However with the inclusion of the conservation measures described above and the implementation of the DSRAM, these adverse effects would be avoided or minimized." (AR 467 (emphasis added).) The "conservation measures" mentioned in the

BiOp's conclusion are various regulatory mechanisms already in place to "provide protection to delta smelt and/or their habitats," including D-1641, the EWA, CVPIA (b)(2) water, and VAMP. (AR 421-22, 466-67.)

1. Law Governing Mitigation Measures.

Mitigation measures 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." *Ctr. for Biological Diversity v. Rumsfeld*, 198 F. Supp. 2d 1139, 1152 (D. Ariz. 2002)(citing *Sierra Club v. Marsh*, 816 F.2d 1376 (9th Cir. 1987)); *see also NWF v. NMFS*, 481 F.3d 1224 at *12 & n.16 ("Although the record does reflect a general desire to install structural improvements [to benefit fish] where feasible, it does not show a clear, definite commitment of resources for future improvements.").

Plaintiffs allege that, in depending on the DSRAM and the other "conservation measures" to support its no jeopardy conclusion, the BiOp unlawfully relies upon uncertain, unenforceable mitigation measures which do not constitute a clear, definite commitment of resources. Specifically, Plaintiffs argue: (a) the DSRAM process is "entirely discretionary, uncertain, and unenforceable and (b) the biological opinion unjustifiably assumes that the other, currently operational "conservation measures" (e.g., the EWA and CVPIA(b)(2) water) will continue to be available for use by DSRAM in the future.

2. The DSRAM is Unlawfully Uncertain and Unenforceable.

All Defendants argue that the DSRAM is an effective adaptive management program that provides the agency the necessary remedial flexibility that makes the BiOp lawful. The BiOp describes the DSRAM as follows:

> The delta smelt risk assessment matrix (DSRAM) consists of month by month criteria which, when exceeded will trigger a meeting of the Delta Smelt Working Group (Working Group). The purpose of the DSRAM is to take actions to protect delta smelt in a proactive manner prior to salvage events....The DSRAM is an adaptive management tool which may be further modified by the Working Group/WOMT as new information becomes available, without undergoing formal reconsultation.... Data will be updated at least weekly to determine the need for a meeting.
>
> Should a triggering criterion be met or exceeded, Reclamation and/or DWR will inform the members of the Working Group and the Working Group will determine the need to meet. Any member of the Working Group may set up a meeting of the Working Group at any time. A meeting of the Working Group may consist of an in-person meeting, a conference call, or a discussion by email. If needed, the Working Group will meet prior to the weekly meetings of the DAT and the WOMT and information will be shared with these groups.
>
> Should a meeting of the Working Group prove necessary, the group will decide whether to recommend a change in exports, change in south delta barrier operations, San Joaquin River flows, or a change in delta cross channel operations, and the extent and duration of the potential action. These potential actions are listed in the DSRAM by the months wherein each of these tools generally become available. The group will recommend actions which will be shared with the DAT and forwarded to the WOMT for discussion and potential implementation. This recommendation will include a discussion of the level of concern for delta smelt and will include who participated in the working group discussions. All dissenting opinions and/or discussion points will also be forwarded to the WOMT. The Working Group will meet at least weekly throughout the period in which the triggering criteria are met or exceeded, to determine the need to provide further recommendations to the WOMT.
>
> Notes and findings of Working Group meeting will be

> submitted to the Service and members of the WOMT for their records. The WOMT will respond to the Working Group's recommendations and the actions taken by the WOMT will be summarized by Reclamation and/or DWR annually and submitted to all WOMT agencies.
>
> If an action is taken, the Working Group will follow up on the action to attempt to ascertain its effectiveness. An assessment of effectiveness will be attached to the notes from the Working Group's discussion concerning the action.

(AR 344-45 (emphasis added).)

The trigger criteria, which vary slightly from month to month, are set forth in a table (or matrix) at page 100 of the BiOp. (AR 346.) The criteria include: (1) the previous year's fall midwater trawl recovery index; (2) the risk of smelt entrainment based upon the location of X2; (3) the estimated duration of the smelt spawning period based upon water temperature; (4) the presence of spawning female smelt; (5) the proximity of the smelt to the Project pumping facilities; and, (6) a salvage trigger for adult smelt (calculated as the ratio of adult smelt salvage to the FMWT index) and juvenile smelt (set at zero for May and June, the months of the year during which salvage of smelt is highest). (AR 346-49.)

Plaintiffs argue that the DSRAM is not "reasonably specific, certain to occur, and capable of implementation" because: (1) the DSWG has complete discretion over whether to meet and whether to recommend mitigation measures; (2) even if the DSWG meets and recommends mitigation measures, the WOMT group is free to reject any recommendations; (3) there are no standards to measure the effectiveness of actions taken; (4) reconsultation is not required should mitigation measures prove ineffective; and (5) ultimately, no action is ever required.

DWR responds that implementation of the DSRAM process is "mandatory." For example, the incidental take statement requires that the projects shall be implemented "as described" in the BiOp. (AR 475.) Because the BiOp "describes" operation of the DSRAM, DWR asserts that its implementation is made mandatory by the incidental take statement's command that the project shall be implemented "as described;" if a DSRAM triggering criteria is met, the DSWG "will determine the need to meet." (AR 344 (emphasis added).) If circumstances warrant action, the DSWG will recommend fish protection actions and forward those recommendations to the WOMT. (*Id.*) The BiOp provides that the DSWG "will meet at least weekly throughout the period in which the triggering criteria are met or exceeded, to determine the need to provide further recommendations to the WOMT." (*Id.* at 345 (emphasis added).) The WOMT must then "respond" to DSWG's recommendations. (*Id.*) If actions are taken, the DSWG will monitor the action to determine its effectiveness. (*Id.*)

DWR correctly asserts that the DSRAM process must be followed; this does not address Plaintiffs' argument: that the DSRAM process itself does not require any mitigation actions be taken. Nothing in DSRAM requires the DSWG to make action recommendations, whatever the circumstances, and no criteria prescribe when the WOMT must act to effect DSWG's recommendations.

DWR responds that as adaptive management, "DSRAM is intentionally flexible, taking into consideration the uncertainties surrounding delta smelt population abundance and dynamics...[D]elta smelt abundance has fluctuated widely, without

a clear explanation why. While experts can monitor trends in delta smelt populations, estimating overall population abundance presently is 'not possible,' nor are the sources of year-to-year variability in abundance well understood." (Doc. 246-1 at 12.) DWR suggests that "hard-wiring" the DSRAM to require specific actions be taken when triggering criteria occur would impair the DSRAM's flexibility. For example, the trigger for salvage of juvenile smelt is set at zero. This trigger was designed not to precipitate a meeting every time that standard is exceeded, but to cause heightened awareness of conditions that might require protective action. (Doc. 246-1, at 12, citing AR at 8217-18.)

The conflict between Defendants' choice of a flexible management approach and Plaintiffs' concern to ensure enforceable protective actions are taken when necessary, highlights the extent to which overly flexible adaptive management may be incompatible with the requirements of the ESA. Commentators recognize that adaptive management schemes do not fit neatly within the ESA's existing regulatory structure. *See J.B. Ruhl*, Taking Adaptive Management Seriously: A Case Study of the Endangered Species Act, 52 U. Kan. L. Rev. 1249, 1284 (2004)("The [ESA] as a whole lacks a cohesive adaptive management architecture...."). H. Doremus, *Adaptive Management, The Endangered Species Act, and the Institutional Challenges of "New Age" Environmental Protection*, 41 Washburn. L. J. 50, 52 (2000)("Adaptive Management...runs counter to human nature and the current structure of our management institutions."); ("One key institutional challenge is to combine the flexibility required by adaptive management with the long-term certainty we

often seek through our legal and political institutions.") 41 Washburn L. J. at 55.

The case law sheds little light on how to harmonize these competing objectives. The parties cite no cases applying the "reasonably specific, certain to occur, and capable of implementation" concept (or any closely related doctrine) to mitigation measures employed under an adaptive management protocol. Most cases the parties cite are either wholly inapplicable or factually distinguishable.

For example, mitigation measures have been found unlawfully uncertain because their implementation was not within the control of the relevant federal agencies. *National Wildlife Federation v. NMFS*, 254 F. Supp. 2d 1196, 1213 (D. Or. 2003), invalidated a 2000 biological opinion addressing the effects of the operation of the Federal Columbia River Power System ("FCRPS") on several listed fish species. A 2000 biological opinion concluded that continued operation of the FCRPS would jeopardize several of the species and adversely modify their critical habitat and adapted mitigation measures to avoid jeopardy. The mitigation measures included a variety of short- and long-term state, regional, tribal, and private off-site mitigation actions. The plaintiffs argued that reliance on such "uncertain and vaguely defined actions of third parties to protect and restore salmon habitat," violated the "reasonably certain to occur" standard. *Id.* at 1209. The district court agreed, concluding that the no jeopardy determination unlawfully relied on "non-federal off-site mitigation actions that are not reasonably certain to occur." *Id.* at 1214. *See also Sierra Club v. Marsh*, 816 F.2d 1376, 1385

(9th Cir. 1987)(invalidating biological opinion that relied on mitigation measure involving the transfer of 188 acres of marshland from private ownership to a publicly owned wildlife refuge; land remained under private control and subject to easements that rendered the land valueless for mitigation purposes, and private owners and local government indicated intent to increase use of one of the easements); *Oregon Natural Desert Ass'n v. Lohn*, --- F. Supp. 2d ---, 2007 WL 1170629 (D. Or. 2007)(setting aside biological opinion in part because it overly relied on the actions of private individuals who had a poor past record of compliance with standards); *Florida Key Deer v. Brown*, 364 F. Supp. 2d 1345, 1355-56 (S.D. Fla. 2005)(setting aside biological opinion that relied on mitigation measures to be implemented by private landowners; nothing compelled the landowners to act and "the record indicate[d] that some landowners entirely disregarded [prior mitigation measures]").

Here, the BiOp's mitigation measures are largely under the control of the action agency (the Bureau), which, operating in concert with the DWR, directly regulates water pumping and releases from upstream reservoirs. *Natural Resources Defense Council v. Rodgers*, 381 F. Supp. 2d 1212, 1241 (E.D. Cal. 2004), does not provide guidance. In that case, plaintiffs contended a BiOp's mitigation measures were not reasonably certain to occur because the action agency had a poor track record of following through on prior commitments. The acknowledging that the agency's track record was "discouraging" district court recognized that the agency had made some progress toward implementing its prior commitments, *id.*, and declined to find

that the new commitments were not certain to occur. *Id.* However, the *Rogers* plaintiffs did not attack the efficacy of the mitigation measures themselves, only the likelihood that the agency would not satisfy its commitment to implement them. Here, Plaintiffs challenge the inherent uncertainty and unenforceability of the DSRAM and the other conservation measures.

Plaintiffs cite *American Rivers v. U.S. Army Corps of Engineers*, 271 F. Supp. 2d 230, 252 (D.D.C. 2003), where, despite the fact that a prior biological opinion required the Corps to implement flow restrictions to mitigate impacts to listed species, the Corps "made it perfectly clear" to the district court "that it ha[d] no intention of ensuring that its future operations will be consistent" with the mitigation requirements. *Id.* at 253. A motion for preliminary injunction was granted: "Plaintiffs will be likely to prove that the 2003 Supplemental BiOp violated the ESA and APA by improperly and unreasonably relying on future actions by the Corps that are virtually certain not to occur." *Id.* at 254 (emphasis added). Here, in contrast, there is no such "smoking gun" evidence of the agency's intent to disregard its mitigation responsibilities, just no definite, certain, or enforceable measures.

Center for Biological Diversity v. Rumsfeld, 198 F. Supp. 2d 1139, 1151-53 (D. Ariz. 2002) addressed a biological opinion that concluded the Army's continued operations at Fort Huachuca, Arizona would not cause jeopardy to listed species that relied on flows from the Upper San Pedro River, even though rapid development in the area and uncontrolled groundwater pumping at

the Fort posed threats to the species. The "no jeopardy" finding was premised on several required mitigation measures.

First, the Army had to develop and implement an on-base plan to protect and maintain populations of listed species and habitats; *id.* at 1148, even though the on-base plan was not designed to address the underlying problem of diminishing flows in the San Pedro River, *see id.* at 1153. Second, the Army had to develop a regional water resources plan, sufficient to maintain flows in the San Pedro River to sustain the protected species and their habitats. *Id.* at 1148. The biological opinion acknowledged, that the Army had no authority over the implementation of the regional plan and was only required to participate along with other stakeholders. *Id.* at 1153. Third, the Army had to monitor progress and report on the implementation of the various projects. *Id.* at 1149. Fourth, the biological opinion assumed the operation of a water recharge facility designed to temporarily delay the impact of groundwater overdraft, which the *Rumsfeld* court acknowledged was "subject to substantial uncertainty." *Id.* at 1145.

Leaving it to the Army and other interested parties to develop a regional water management plan "enables the Army to sidestep any direct responsibility for addressing deficit groundwater pumping," and was "an admission that what is currently on the table as far as mitigation measures is inadequate to support the [] 'no jeopardy' decision." 198 F.

Supp. 2d at 1153-54.[18]

DWR distinguishes *Rumsfeld*, claiming it is like *NWF v. NMFS*, 254 F. Supp. 2d 1196, where mitigation measures were unlawful because they depended upon third parties without any guarantee that those parties would implement the measures. Here, the DSRAM does not depend on actions by outsiders. *Rumsfeld* further found that the Army's on-base mitigation measures were insufficient because they did not require any measurable goals or an implementation schedule:

> There are no requirements in the Final BO to reduce reliance on groundwater pumping by any particular

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[18] *Rumsfeld* also found fault with the biological opinion's monitoring plan, characterizing it as a means of delaying the implementation of necessary mitigation measures:

> The Army may not delay identifying the measures necessary to mitigate the effects of its ten-year plan based on the monitoring provisions in the Final BO....
>
> The Final BO's monitoring requirements do not measure the success or failure of the on-base and/or regional mitigation measures to reduce the groundwater deficit. It only requires the Army to develop "a monitoring program designed to assess progress," and requires an annual review of the AWRMP, as to which projects have been implemented the past year and which are to be implemented in the coming year. Especially since the Final BO and the AWRMP fail to quantify the remedial value of the proposed projects, simply reporting project implementation is not a meaningful assessment of the success or failure of the mitigation measures in protecting the water umbel, willow flycatcher, and critical habitat from adverse impact. Such an assessment would require systematic monitoring of either San Pedro baseflows or the groundwater aquifer.

198 F. Supp. 2d at 1154 (internal record citations omitted). No such failure is alleged here. Plaintiffs do not suggest that the monitoring called for by the DSRAM is flawed.

> amount or to achieve any measurable goals with respect to water recharge. There is no date certain implementation requirement. The MOA includes a laundry list of possible mitigation measures related to water conservation and recharge that the Army may implement, but it does not establish which projects have to be undertaken, when, nor what the conservation objectives are for the respective projects. Without such specificity, the mitigation measures in the Final BO are merely suggestions.

Id. at 1153 (emphasis added). *Rumsfeld* stands for the proposition that, at a minimum, a mitigation strategy must have some form of measurable goals, action measures, and a certain implementation schedule; i.e., that mitigation measures must incorporate some definite and certain requirements that ensure needed mitigation measures will be implemented.

Here, the agency's BiOp admits that mitigation measures are essential. The no jeopardy finding is conditioned on conservation measures and the DSRAM. (*See* AR 422.)

DWR's protestations that hard-wiring the DSRAM would cripple its effectiveness ignore the ESA's requirements of reasonable certainty, timetables, and enforceability standards for mitigation measures. The existing DSRAM process provides absolutely no certainty that any needed smelt protection actions will be taken at any time by DSWG or WOMT. The DSRAM is in substance an organizational flow chart that prescribes that certain administrative processes (meetings) will be held whenever a trigger criteria is met or exceeded. Although mitigation measures are identified, no defined mitigation goals are required, nor is any time for implementation prescribed. Incorporating some ascertainable mitigation standards and enforceable mitigation measures is not inconsistent with avoiding

unduly restrictive "hard-wiring" of the DSRAM.

National Wildlife Federation v. Babbit, 128 F. Supp. 2d 1274 (E.D. Cal. 2000) ("*NWF v. Babbit*"), addresses an adaptive management approach that accommodated uncertainty by allowing regulators to apply new information gathered through monitoring to adjust and employ well-defined mitigation measures. There, a Habitat Conservation Plan ("HCP") called for a development fee to be collected on all acreage developed in the Natomas Basin, north of Sacramento, home to a number of endangered species. The HCP also incorporated adaptive management provisions designed to allow the mitigation fee to be modified if new information justified an adjustment:

> The [HCP] recognizes that the current state of knowledge as to the conservation needs of protected species is imperfect, and that its assumptions as to the amount, location, and pace of development in the Basin and as to the adequacy of the mitigation fee to accommodate increased expenses may prove inaccurate. The Plan addresses these uncertainties through its "adaptive management" provisions, which permit the Plan's conservation strategy to be adjusted based on new information. The HCP's conservation program can be modified under the adaptive management provisions if: (1) new information results from ongoing research on the GGS or other covered species; (2) recovery strategies under Fish and Wildlife Service recovery plans for the GGS or the Swainson's hawk differ from the measures contemplated by the HCP; (3) certain of the HCP's mitigation measures are shown through monitoring to require modification; or (4) the HCP's required minimum block sizes for reserve lands are shown to require revision. The Plan anticipates that the NBC will make discretionary decisions in future years based upon new information. The NBC will decide, for example, which lands to purchase, depending on a variety of future considerations difficult now to predict, and whether to change the mix of in and out of Basin reserve lands and agricultural as opposed to marsh reserve lands.

Id. at 1281-82.[19]

Here, the adaptive management process has no quantified objectives or required mitigation measures. Although the process must be implemented by holding meetings and making recommendations, nothing requires that any actions ever be taken.[20] The BiOp asks the court to trust the agency to protect the species and its habitat. Notwithstanding any required deference to expertise, the ESA requires more.

All parties agree that adaptive management can be beneficial and that flexibility is a necessary incident of adaptive management. The law requires that a balance be struck between the dual needs of flexibility and certainty. The DSRAM, as currently structured, does not provide the required reasonable certainty to assure appropriate and necessary mitigation measures will be implemented. The DSRAM does not provide reasonable assurance admitted adverse impacts of the 2004 OCAP will be mitigated. This aspect of the BiOp is arbitrary and capricious

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[19] In *NWF v. Babbit,* the district court expressly approved the design of the HCP as a whole, but invalidated the permit issued in connection with the plan on grounds wholly independent from the design of the HCP and/or the adaptive management plan. *See 128 F. Supp. 2d* at 1298-99.

[20] The only clearly enforceable standard or benchmark in the BiOp is compliance with the BiOp's "hard" take exceedence limits. But, the existence of enforceable take limits does not shield the DSRAM from scrutiny. There is no provision to allow the "hard" take exceedence limits to be adjusted to reflect new information about the species. Moreover, the BiOp expressly recognizes that the take limits alone are not enough to prevent jeopardy, requiring, among other things, implementation of the DSRAM as a reasonable and prudent measure. (*See* AR 475 ("The Project shall be implemented as described.") This is exactly the reason why the DSRAM must be made more certain and enforceable.

and contrary to law. Plaintiffs' motion for summary adjudication as to this claim is **GRANTED.** The agency has not provided a reasonable explanation showing the DSRAM will satisfy ESA requirements to assure survival and recovery of the Delta smelt.

The Ninth Circuit's *recent NWF v. NMFS* decision suggests that mitigation measures that are not reasonably certain to occur should be excluded from the agency's no jeopardy analysis. *See* 481 F.3d 1224 at *12 n.16.[21] Because mitigation is insufficiently certain to occur under the DSRAM, the DSRAM cannot cure other shortcomings of the BiOp.

3. Plaintiffs' Alternative Argument that the BiOp is Arbitrary and Capricious Because DSRAM Depends Upon EWA, VAMP, CVPIA(b)(2) Water, Programs that are Uncertain in Terms of Funding and Effectiveness.

Plaintiffs maintain that the DSRAM cannot feasibly be implemented without adequate water assets from the EWA, CVPIA(b)(2), and VAMP programs. Plaintiffs allege that Defendants have not demonstrated that adequate assets from these programs will be available during the 20 year term of the BiOp. (*See* Doc. 306 at 17.)

Plaintiffs correctly observe that the BiOp does not assure that adequate water assets from these programs will be available for future use under DSRAM. The BiOp itself acknowledges that "[a]lthough VAMP and [EWA] have helped to ameliorate these threats, it is unclear how effective these will continue to be over time based on available funding and future demands for

[21] As of the date of oral argument, the mandate has not yet issued in *NWF v. NMFS*.

water." (AR 367-68.) The BiOp recognizes that the "EWA Agencies envision implementation of a long-term EWA as part of the operation of the Project." (AR 335.) However, the BiOp cannot and does not commit to implement the EWA in the long run. (*Id.*)

The record reveals that the loss of EWA assets will "reduce the ability of the EWA agencies to provide [] fish protections...." (SAR 20.) Plaintiffs refer to statements made by FWS's D. Harlow during an annual joint meeting of CALFED and the Bay-Delta Public Advisory Committee, that a proposal to change CVPIA(b)(2) policy would "change fish protection envisioned in the Record of Decision (ROD)." (Doc. 9 at 4.) At the same time, Mr. Harlow also noted that this would "not necessarily diminish fish protection." (*Id.*) However, he opined that such a change would "necessitate an increase in the size of the EWA." (*Id.*) National Oceanic and Atmospheric Administration ("NOAA") staff questioned FWS's reliance on the EWA in the BiOp, noting that EWA assets would likely be used up for protective actions during the winter, before the peak months for Delta smelt salvage (May and June). (AR 8574.)

Plaintiffs' claim rests in part on the assumption that the EWA, CVPIA(b)(2), and VAMP programs are the only mechanisms by which DSRAM may be implemented. The record does not support this assumption. Under the BiOp, the DSWG is tasked to make recommendations regarding fish protection actions by selecting from a list of "tools for change," which include: (1) "export reduction[s] at one or both facilities"; (2) "change[s] in barrier operations"; (3) "change[s] in San Joaquin River flows"; and (4) "change[s] [in the] position of cross channel gates." (AR 346 and 348 n.7.) No mention is made of the EWA,

CVPIA(b)(2), or VAMP in the DSRAM or its description of the "tools for change." DWR rejoins that, regardless of whether these programs are fully funded and/or remain functional mechanisms to provide water to the Delta, "the burden....falls on the Projects, not the smelt." (Doc. 246 at 10.)

The EWA is simply a means by which the SWP and CVP can obtain water by purchasing it from willing sellers. (AR 373.) EWA water may be used either to protect fish or to compensate project water users for reduced exports at the project pumps. (*Id.*) If money is unavailable to fund the EWA, Defendants are nonetheless required to prevent smelt take from exceeding permissible take limits.

The BiOp sets forth a three-tier process to supply water to protect the smelt:

> • Tier 1 (Regulatory Baseline). Tier 1 is baseline water and consists of currently existing BOs, water right decisions and orders, CVPIA Section 3406(b)(2) water, and other regulatory actions affecting operations of the CVP and SWP. Also included in Tier 1 are other environmental statutory requirements such as Level 2 refuge water supplies.
>
> • Tier 2 (EWA). Tier 2 is the EWA and provides fish protection actions supplemental to the baseline level of protection (Tier 1). Tier 2 consists of EWA assets, which combined with the benefits of CALFED's ERP, will allow water to be provided for fish actions when needed without reducing deliveries to water users. EWA assets will include purchased (fixed) assets, operational (variable) assets, and other water management tools and agreements to provide for specified level of fish protection. Fixed assets are those water supplies that are purchased by the EWA Agencies. These purchased quantities are approximations and subject to some variability. Operational assets are those water supplies made available through CVP and SWP operational flexibility. Some examples include the flexing of the export-to-inflow ratio standard required [] for meeting Delta water quality and flows, and ERP water resulting from upstream releases pumped at the SWP Banks Pumping Plant. Water management tools provide the ability to

> convey, store, and manage water that has been secured through other means. Examples include dedicated pumping capacity, borrowing, banking, and entering into exchange agreements with water contractors. Chapter 8 of this BA contains a more detailed description of EWA operations, as characterized in the CALSIM II modeling for the CVP OCAP.
>
> • Tier 3 (Additional Assets). In the event the EWA Agencies deem Tiers 1 and 2 levels of protection insufficient to protect at-risk fish species in accordance with the Act, Tier 3 would be initiated. Tier 3 sets in motion a process based upon the commitment and ability of the EWA Agencies to make additional water available, should it be needed. This Tier may consist of additional purchased or operational assets, funding to secure additional assets if needed, or project water if funding or assets are unavailable. It is unlikely that protection beyond those described in Tiers 1 and 2 will be needed to meet requirements of the Act.

(*Id.* at 336-37.) DWR emphasizes that, if all else fails, Tier 3 assets may be brought to bear, which include "additional purchased or operational assets, funding to secure additional assets if needed, or project water if funding or assets are unavailable." (*Id.* (emphasis added).)

There is a difference between the DSRAM's failure to require mitigation actions in response to trigger events, designed to assure the commitment of necessary resources to smelt protection, and the duty to have available or acquire those necessary resources. A court must leave to the agency the application of its expertise and authority to manage the complex hydrologic, legal, financial, physical, and logistical aspects of protecting the delta smelt. Plaintiffs motion for summary adjudication is **DENIED** as to the issue of the insufficiency of the EWA, VAMP, and CVPIA(b)(2) programs.

C. Best Available Science.

The § 7 formal consultation process is designed to "insure"

that any agency action "is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined...to be critical...." 16 U.S.C. § 1536(a)(2). "In fulfilling the requirements of this paragraph each agency shall use the best scientific and commercial data available." *Id.*

An agency has wide discretion to determine what is "the best scientific and commercial data available." *San Luis v. Badgley*, 136 F. Supp. 2d 1136, 1151 (E.D. Cal. 2000). Yet, an agency must make its decision about jeopardy based on the best science available at the time of the decision, and may not defer that jeopardy analysis by promising future studies to assess whether jeopardy is occurring. *Rumsfeld*, 198 F. Supp. 2d at 1156. While uncertainty is not necessarily fatal to an agency decision, *e.g.*, *Greenpeace Action v. Franklin*, 14 F.3d 1324, 1337 (9th Cir. 1992)("*Greenpeace I*")(upholding agency decision even though there was uncertainty about the effectiveness of management measures because agency premised its decision on a reasonable evaluation of all available data), an agency may not entirely fail to develop appropriate projections where data "was available but [was] simply not analyzed," *Greenpeace v. NMFS*, 80 F. Supp. 2d 1137, 1149-50 (W.D. Wash. 2000) ("*Greenpeace II*") (where agency totally failed to develop any projections regarding population viability, it could not use as an excuse the fact that relevant data had not been analyzed). Here, EWS maintains the necessary data cannot be obtained.

1. Does a "Benefit of the Doubt to the Species" Presumption Apply?

The parties debate at length whether the best available scientific information principle includes a requirement that the agency "give the benefit of the doubt to the species." This language has its origins in the legislative history of the ESA, H.R. Conf. Rep. No. 96-697, 96th Cong., 1st Sess. 12, reprinted in 1979 U.S.C.C.A.N. 2572, 2576:

> Section 7(b) of the act requires the fish and wildlife service and the national marine fisheries service to render biological opinions which advise whether or not proposed agency actions would violate section 7(a)(2). Courts have given substantial weight to these biological opinions as evidence of an agency's compliance with section 7(a). The amendment would not alter this state of the law or lessen in any way an agency's obligation under section 7(a)(2).
>
> As currently written, however, the law could be interpreted to force the fish and wildlife service and the national marine fisheries service to issue negative biological opinions whenever the action agency cannot guarantee with certainty that the agency action will not jeopardize the continued existence of the listed species or adversely modify its critical habitat. The amendment will permit the wildlife agencies to frame their section 7(b) opinions on the best evidence that is available or can be developed during consultation. If the biological opinion is rendered on the basis of inadequate information then the federal agency has a continuing obligation to make a reasonable effort to develop that information.
>
> <u>This language continues to give the benefit of the doubt to the species</u>, and it would continue to place the burden on the action agency to demonstrate to the consulting agency that its action will not violate section 7(a)(2). Furthermore, the language will not absolve federal agencies from the responsibility of cooperating with the wildlife agencies in developing adequate information upon which to base a biological opinion. If a federal agency proceeds with the action in the face of inadequate knowledge or information, the agency does so with the risk that it has not satisfied the standard of section 7(a)(2) and that new information might reveal that the agency has not satisfied the standard of section 7(a)(2).

(emphasis added).

In *Conner v. Burford*, 848 F.2d 1441, 1454 (9th Cir. 1988), the Ninth Circuit applied this "benefit of the doubt" language to hold that FWS violated the ESA by "failing to use the best information available to prepare comprehensive biological opinions considering all stages of the agency action...." At dispute in *Conner* was a biological opinion reviewing the proposed sale of oil and gas leases on National Forest land. The biological opinion analyzed the impact of the "initial lease phase," but failed to address the potential impact of post leasing activities, such as oil and gas development. FWS reasoned that there was "insufficient information available to render a comprehensive biological opinion beyond the initial lease phase," relying instead on "incremental-step consultation." *Id.* at 1452. The Ninth Circuit recognized that "the precise location and extent of future oil and gas activities were unknown at the time," but, "extensive information about the behavior and habitat of the species in the areas covered by the leases was available." *Id.* at 1453. With this information, "FWS could have determined whether post-leasing activities in particular areas were fundamentally incompatible with the continued existence of the species." *Id.* at 1454.

> In light of the ESA requirement that the agencies use the best scientific and commercial data available to insure that protected species are not jeopardized, 16 U.S.C. § 1536(a)(2), the FWS cannot ignore available biological information or fail to develop projections of oil and gas activities which may indicate potential conflicts between development and the preservation of protected species. We hold that the FWS violated the ESA by failing to use the best information available to prepare comprehensive biological opinions considering all stages of the agency action, and thus failing to

> adequately assess whether the agency action was likely to jeopardize the continued existence of any threatened or endangered species, as required by section 7(a)(2). To hold otherwise would eviscerate Congress' intent to "give the benefit of the doubt to the species."

Id. (emphasis added). *Conner* does not directly support the broader interpretation urged by Plaintiffs, that the agency should err on the side of the species when evaluating uncertain evidence. *Conner* stands for the proposition that an agency cannot abdicate its responsibility to evaluate the impacts of an action on a species by labeling available information "uncertain," because doing so violates Congress' intent that the agencies "give the benefit of the doubt to the species."

Center for Biological Diversity v. Lohn, 296 F. Supp. 2d 1223, 1239 (W.D. Wash. 2003)(rev'd on other grounds, --- F.3d ---, 2007 WL 1217738 (9th Cir.)), applied the *Conner* holding in conformity with Plaintiffs' interpretation. *Lohn* addressed the listing under the ESA of a population of orca whales. Despite considerable record evidence suggesting the Orca whales should be considered a separate species, the Orca population had not yet been identified as a separate taxon. NMFS decided not to list the species based on the scientific uncertainty that existed in the field of taxonomy, relying on the fact that the new taxon had not yet been designated. The district court ruled this decision was arbitrary and capricious:

> Given the considerable morphological, behavioral, and genetic evidence that the global Orcinus orca taxon is inaccurate and that residents and transients do not belong to the same taxon, the decision not to list the Southern Residents cannot be based upon a lack of consensus in the field of taxonomy regarding the precise, formal taxonomic redefinition of killer whales, particularly when that lack of agreement is compounded by the extreme difficulty in gathering

> evidence to achieve consensus. The best available science standard gives "the benefit of the doubt to the species." Conner v. Burford, 848 F.2d 1441, 1454 (9th Cir.1988) (observing one of the purposes of the best available science standard in review of whether agency action may result in destruction or adverse modification of listed species' habitat pursuant to 16 U.S.C. § 1536(a)(2)). To deny listing of a species simply because one scientific field has not caught up with the knowledge in other fields does not give the benefit of the doubt to the species and fails to meet the best available science requirement.

Id. at 1239 (emphasis added).[22]

In response, Defendant Intervenors cite *Oceana, Inc. v.*

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[22] Plaintiffs cite another district court decision that applied the benefit of the doubt language: "To the extent that there is any uncertainty as to what constitutes the best scientific information, Congress intended for the agency to 'give the benefit of the doubt to the species.'" *Ctr. for Biological Diversity v. Bureau of Land Mgmt.*, 422 F. Supp. 2d 1115, 1127 (N.D. Cal. 2006)(citing *Conner*, 848 F.2d at 1454). However, that district court did not apply the "benefit of the doubt" concept in its analysis in any way, let alone as a presumption governing the agency's analysis of scientific information.

Another case Plaintiffs cite, *Rock Creek Alliance v. U.S. Fish & Wildlife Service*, 390 F. Supp. 2d 993, 1003 (D. Mont. 2005), does not support imposing a "benefit of the doubt" presumption to uncertain scientific evidence:

> Though the agency has discretion to make decisions based in its expertise, the ESA expresses a legislative mandate "to require agencies to afford first priority to the declared national policy of saving endangered species.... Congress has spoken in the plainest of words, making it abundantly clear that the balance has been struck in favor of affording endangered species the highest of priorities, thereby adopting a policy which it described as 'institutionalized caution.'"

Id. (quoting *Tennessee Valley Authority v. Hill*, 437 U.S. 153, 185 (1978)). However, as in *Center for Biological Diversity*, this language was part of a general discussion of the legal framework; the *Rock Creek* court never applied a benefit of the doubt presumption in the manner Plaintiffs suggest it should be applied here.

Evans, 384 F. Supp. 2d 203 (D.D.C. 2003), a challenge to NMFS's choice between two estimates of how much take a particular type of fishing gear would cause. The agency chose the lower estimate, reasoning that it was the "best estimate possible." The plaintiff argued that this estimate failed to give the "benefit of the doubt" to the species. *Id.* at 228. Although the lower estimate was uncertain, the district court reasoned that "the ESA does not require the agency to reject the 'best estimate possible' in favor of a more 'conservative' estimate that, according to the scientists, would be lacking in support." *Id.*

Lohn and *Oceana* appear irreconcilable, but, they can be harmonized. *Lohn* rejected an agency's decision to follow the taxonomy in the face of significant and compelling scientific evidence favoring a different conclusion. To side with the agency under such circumstances would "not give the benefit of the doubt to the species...." *Id.* at 1239. In contrast, *Oceana*, concerned an agency's choice of the "best estimate possible" over a more "conservative" estimate that lacked scientific support. The *Oceana* court refused to ignore the general rule that an agency must choose the best available science, simply because the ESA commands that the agency give the "benefit of the doubt" to the species. Both cases stand for the proposition that the agency must carefully examine the available scientific data and models and rationally choose the most reliable.

2. The BiOp's Failure to Address the 2004 Fall Midwater Trawl Data.

Plaintiffs assert that "one of the most egregious errors in the [BiOp] is its failure to consider available fall 2004 Delta

smelt abundance data, which evoked grave concern among agencies involved in smelt management."[23] (Doc. 232 at 5.) On February 9, 2005, FWS and other CALFED members met to discuss Delta smelt abundance. Among other things, participants discussed data from the 2004 fall midwater trawl ("FMWT") survey, which revealed that "estimates of Delta smelt appear to be their lowest since 1964." (Doc. 11 at 5; AR 9199-9200, 9202; Doc. 12.) The February 16, 2005, BiOp, contained no mention of the 2004 FMWT data.

Plaintiffs assert that FWS acted arbitrarily, capriciously and unlawfully by "ignoring" the 2004 FMWT data and relying instead on the more favorable abundance data from earlier abundance surveys. (AR 366-67 (noting that the 2003 FMWT results were more favorable than those from 2002, while simultaneously acknowledging that the 2003 summer townet index (1.6) was "well below the pre-decline average of 20.4 in (1959).").) Despite the receipt of the new, even less favorable 2004 FMWT data, FWS made no substantive changes to its jeopardy analysis in the biological opinion and did not use or address the new data in any way, not even to explain why the data was not discussed. At oral argument, the agency maintained that ESA analysis cannot go on forever, that there must be a cutoff.

Plaintiffs note that the low population numbers revealed by the FMWT data were "not unexpected," as smelt abundance had been on a downward trend for at least two years prior. (AR 370-71;

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[23] Defendants and Defendant-Intervenors dispute whether the data "evoked grave concern." The degree of concern is irrelevant to the inquiry, as it is undisputed that the 2004 FMWT data showed the lowest smelt abundance on record.

9199-9200, 9202.) One prominent smelt biologist warned at a June 2003 OCAP symposium that managers should expect very low smelt abundance data in the near future and that water exports were a key factor in the population decline, noting that the "cumulative proportion of the population lost to exports relative to abundance" could be as high as 30 percent. (AR 5069.)

Federal Defendants suggest that Plaintiffs' entire argument should be rejected as internally inconsistent. (Doc. 242 at 26-27.) Plaintiffs contend that FWS should have revised the BiOp in light of the 2004 FMWT data and that additional evidence of a downward trend was "not unexpected." These contentions are consistent with the central premise of Plaintiffs' position -- that the 2004 FMWT data reflected a record low abundance (the data showed "estimates of Delta smelt appear to be at their lowest since 1964" (Doc. 11 at 5)); so low that the data should have been addressed in the BiOp, even if the agency already knew that smelt abundance was trending downward.

The State Water Contractors suggest that Plaintiffs' acknowledgment that the downward trend was "not unexpected," establishes that the BiOp fully recognizes the dire situation of the smelt. (Doc. 241 at 4.) The BiOp reflects that FWS had knowledge that smelt population levels were at extremely low levels, "[s]ince 1983, the delta smelt population has exhibited more low FMWT abundance indices, for more consecutive years, than previously recorded." (AR 367.)

> The results of seven surveys conducted by the Interagency Ecological Program (IEP) corroborate the dramatic decline in delta smelt....According to seven abundance indices designed to record trends in the status of the delta smelt, this species was

> consistently at low population levels during the last ten years (Stevens et al. 1990). These same indices also show a pronounced decline from historical levels of abundance (Stevens et al. 1990).

(AR at 370.) The State Water Contractors' argument ignores that the 2004 FMWT data evidences record low (the lowest) smelt abundance. Plaintiffs maintain that FWS' acknowledgment of a downward trend is inadequate as it does not address or analyze in survival and recovery terms, that smelt abundance levels had reached the lowest ever recorded.

The State Water Contractors argue that, although the BiOp admits the fact of the smelt's declining population, it does not and cannot explain the cause of the decline, because there is no scientific consensus as to causation. (Doc. 241 at 5.) "Contributing to [this] uncertainty," "is the fact that SWP and CVP operations have been ongoing for decades - a period during which Delta smelt abundance has increased as well as declined." (*Id.* at 6.) The State Water Contractors assert that the DSRAM was adopted in part to protect the smelt while further monitoring and research is carried out to resolve these uncertainties. They conclude that even if the 2004 FMWT data had been addressed in the BiOp, the ultimate opinion reached would not have differed; i.e., that operation of the projects under the 2004 OCAP BiOp would not jeopardize the smelt because, among other things, take will remain at or below historic levels and the DSRAM will protect smelt from salvage at project facilities.[24] But, this is

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[24] The State Water Contractors maintain that CVP/SWP operations have been on-going for decades, during which time Delta smelt abundance has fluctuated greatly.

post hoc argument; neither the agency or the biological opinion addressed the 2004 FMWT data and available scientific information opined that Project operations contributed to the decline of the smelt.

The cases the parties cite do not answer whether FWS did not have to analyze most recent data because it would not have altered the ultimate conclusion. Some cases suggest that FWS must use all available information to ensure that a biological opinion analyzes the threats to a species in a comprehensive manner. Plaintiffs refer to *Greenpeace II*, 80 F. Supp. 2d at 1149-50, for the proposition that failure to analyze and incorporate available data is fatal to a biological opinion. In that case, NMFS concluded in a biological opinion that the total groundfish catch authorized in the Bering Sea and Gulf of Alaska in a single fishing season (1999) would not jeopardize the endangered Stellar sea lion. NMFS limited the scope of the biological opinion to that single year of fisheries management activities. The district court ruled that the agency should have broadened the scope of the biological opinion to consider the overall fishery management regime, including relevant regulations and specifications. *Id.* at 1146-47. This failure to produce a comprehensive biological opinion permeated all other aspects of the agency's decision. The district court found fault with the BiOp's superficial analysis, emphasizing the agency's failure to address the overall effects of the fisheries upon the sea lion:

> As far as the Court can ascertain, the focus of BiOp2 is limited to analyzing whether the fisheries compete with the sea lion for prey. In particular, BiOp2 focuses on the potential for localized depletions of prey caused by the fisheries. BiOp2 at 90, 112. Even

> with respect to this limited topic of discussion, meaningful analysis is virtually non-existent. NMFS itself repeatedly concludes in BiOp2 that it simply lacks the information to make any determination one way or the other. See BiOp2 at 111-118. Thus, NMFS's analysis is admittedly incomplete and its conclusions inconclusive. Although inconclusive data does not necessarily render a particular scientific conclusion invalid, the limited scope and quality of analysis that is contained in BiOp2 serves to highlight its overall inadequacy. For example, NMFS relies substantially on its conclusion that many of the target groundfish species are not important sea lion prey, despite uncertain evidence. BiOp2 at 114. That many of the target species may not individually constitute a major prey source, however, does not mean the cumulative impact of these fisheries is insignificant. In other words, limited analysis which suggests the fisheries do not jeopardize the sea lion does not obviate the requirement that NMFS address the full scope of the FMPs in order to ascertain their overall effects.
>
> In sum, BiOp2 is limited in scope, heavy on general background information, and deficient in focused and meaningful discussion and analysis of how these large fisheries, and the complex management measures which regulate them, affect endangered Steller sea lions. That NMFS now finds it necessary to undertake yet another "comprehensive consultation" is a final indication to this Court that BiOp2 is not the broad and in-depth consultation it was purported to be by NMFS, much less coextensive in scope with the FMPs as required under the ESA.
>
> A biological opinion which is not coextensive in scope with the identified agency action necessarily fails to consider important aspects of the problem and is, therefore, arbitrary and capricious. Here, BiOp2 not only fails to consider important aspects of the problem, the analysis it does contain is simply not adequate. Although an agency need not rely on conclusive scientific proof in a biological opinion, its conclusions must be based on "the best scientific and commercial data available." 16 U.S.C. § 1536(a)(2). Thus, an agency "cannot ignore available biological information or fail to develop projections" which may indicate potential conflicts between the proposed action and the preservation of endangered species. Conner, 848 F.2d at 1454.

Id. at 1149-50 (emphasis added).

In *Greenpeace II*, NMFS admitted that the information it needed to perform a more comprehensive review was available, but

argued that it "could not have been analyzed in the time allowed." *Id.* at 1150. The district court rejected this argument:

> A federal agency...is not "excused from [fulfilling the dictates of the ESA] if, in its judgment, there is insufficient information available to complete a comprehensive opinion and it takes upon itself [a more limited analysis]." Conner, 848 F.2d at 1455. This is not a situation where NMFS fully addressed the problem based on uncertain scientific data. *See Greenpeace Action v. Franklin*, 14 F.3d 1324, 1337 (9th Cir.1992). Rather, NMFS entirely ignored relevant factors and admittedly failed to analyze and develop projections based on information that was available.

Id. at 1150 (emphasis added); *see also Conner*, 848 F.2d at 1454 (biological opinion invalidated because agency failed to "use best information available to prepare comprehensive biological opinions considering all stages of agency action").

Plaintiffs analogize this case to *Greenpeace II*, because the agency has ignored available biological information. Here, Plaintiffs complain that FWS failed to incorporate into existing models and analyses that already reflected concern over an overall declining trend in smelt, the most recent survey information, evidencing a more pronounced decline in smelt populations than ever before recorded. In *Greenpeace II*, the agency entirely failed to perform a comprehensive review of threats to the sea lion. The difference in degree is not significant.

Federal Defendants cite *Oceana*, 384 F. Supp. 2d 203, where NMFS concluded that an amendment to the Atlantic Sea Scallop Fishery Management Plan would not jeopardize the protected loggerhead sea turtle, based on a population model that involved a degree of uncertainty, but that the agency determined was the

"most reliable method." *Id.* at 215. The *Oceana* plaintiffs did not dispute that the model represented the "best available science," instead arguing that the model was "so ill-suited to the purpose for which it was used, and so fraught with uncertainties," that the agency could not rationally reach its no jeopardy conclusion. *Id.* at 218. The district court upheld the agency's use of the model, reasoning "[t]ime and again courts have upheld agency action based on the 'best available' science, recognizing that some degree of speculation and uncertainty is inherent in agency decisionmaking, even in the precautionary context of the ESA." *Id.* at 219. Though the ESA should not be implemented "haphazardly, on the basis of speculation, *id.* at 219, the model "bears a rational relationship to the reality it purports to represent" and no other alternative model was available, *id.* at 221.

The circumstances here are not analogous to those in *Oceana*, where the plaintiffs admitted that the challenged model was the best, albeit uncertain, available science. Here, Plaintiffs maintain the agency's failure to analyze the most recent smelt population information prevented consideration of the best available, consequential scientific information.

Federal Defendants also rely on *Greenpeace I,* 14 F.3d at 1337, an earlier challenge to a Stellar sea lion biological opinion. The *Greenpeace I* plaintiffs argued that the agency acted arbitrarily and capriciously by approving certain fishery management measures despite uncertainty about the effects of the measures on the sea lion. The Ninth Circuit concluded that the presence of some uncertainty did not violate the best available

science requirement in part because that BiOp analyzed all the available data:

> We hold that the Service has fulfilled its substantive duties as well. Despite Greenpeace's assertions to the contrary, the Service supported its conclusions with ample data and analysis. The June biological opinion indicates that the Service, the Alaska Fisheries Science Center, and the National Marine Mammal Laboratory "analyzed all the available data on the pollock fishery and Steller sea lions" in the Gulf of Alaska. The Service also sought the recommendations of the Steller Sea Lion Recovery Team. The opinion demonstrates that the Service evaluated the spatial and temporal distribution of commercial fishing across the Gulf of Alaska. It then addressed not only the total biomass of pollock in the Gulf and the effects of fishery removals on that biomass, but also the spatial and temporal distribution of pollock across the Gulf. And despite Greenpeace's claims to the contrary, the Service did not ignore hydroacoustic surveys of pollock biomass, but considered and compared them to bottom trawl surveys. Finally, while the Service has repeatedly conceded that it was uncertain about the effectiveness of its management measures, it premised these measures on a reasonable evaluation of available data, not on pure speculation.
>
> The biological opinions indicate that the Service, an expert agency, consulted with other teams of experts to consider all relevant factors pertaining to the effects of the Gulf fishery on the Steller sea lion. And they indicate that the Service did not ignore data, as Greenpeace suggests. The Service's decision to go ahead with the 1991 fishery under the proposed restrictions, despite some uncertainty about the effects of commercial pollock fishing on the Steller sea lion, was not a clear error of judgment.

(Emphasis added.) *Id.* at 1337. Here, unlike *Greenpeace I*, FWS failed to analyze all of the available data on the Delta smelt, as the 2004 FMWT data is not mentioned in the BiOp. Nor has FWS resolved uncertainties about the identified causes of the serious decline in Delta smelt abundance by adopting unenforceable management measures.

"Although a decision of less than ideal clarity may be upheld if the agency's path may reasonably be discerned, [a

court] cannot infer an agency's reasoning from mere silence. Rather, an agency's action must be upheld, if at all, on the basis articulated by the agency itself." *Pacific Coast Fed'n of Fishermen's Ass'ns v. United States Bureau of Reclamation*, 426 F.3d 1082, 1091 (9th Cir. 2005)(internal citations and quotations omitted). "[W]hen reviewing a biological opinion, [a court may] rely only 'on what the agency actually said'...." *Id.* (quoting *Gifford Pinchot Task Force*, 378 F.3d at 1072 & n. 9). Had FWS examined the FMWT 2004 data in the BiOp, the weight it gave to that data would have been entitled to deference. The agency's silence cannot be afforded deference.

a. The timing of the 2004 FMWT Data relative to the issuance of the BiOp.

Federal Defendants complain the timing of the release of the 2004 FMWT data did not leave enough time to address the data before issuance of the biological opinion. The record shows at the very latest, the 2004 FMWT data was presented to FWS and other CALFED members on February 9, 2005, less than a week before the February 16, 2005, issuance of the biological opinion. Federal Defendants assert they were not required to rewrite the BiOp at the "eleventh hour." (Doc. 242 at 27).

Although the record shows the 2004 FMWT data was presented at the February 9, 2005 CALFED meeting, it is unclear when FWS first saw this data. Plaintiffs' claim that the data was available in December 2004, is not supported.[25] However, even assuming FWS was not aware of the 2004 FMWT data until February

[25] Plaintiffs' record citations, AR 9199--9202, are print-outs of the FMWT data which post date the issuance of the BiOp.

9, 2005, the agency was not operating under a deadline. As in *Greenpeace II*, where the agency's statutory duty was not excused because the data could not be "analyzed in the time allowed," 80 F. Supp. 2d at 1150, here, FWS could have delayed releasing the biological opinion until it had reviewed and analyzed the new abundance data, which was especially significant as it showed Delta smelt abundance at its nadir.

Defendants and Defendant-Intervenors rejoin that the failure of the BiOp to directly address the 2004 FMWT is harmless, because one of the DSRAM's trigger criteria is an index based upon the previous years' FMWT results, calling for any new abundance data to be incorporated into the adaptive management process. However, even if the data were considered later in the DSRAM process, no designated protective actions are required to be taken in response to any of the triggering criteria.[26]

Federal Defendants raise a legitimate concern about having to prolong completion of the BiOp on the eve of its release. In theory, new scientific information could arrive on FWS's doorstep on a daily basis. If FWS was required to consider and address every new piece of information it received prior to publication of its decision, it would be effectively impossible for the

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[26] Abundance data is relevant to aspects of the BiOp that are independent of the DSRAM process. For example, the agency's conclusion that the level of anticipated take "is not likely to result in jeopardy to the smelt because this level of take is at or below historical levels of take" (AR 474), is irrational because no consideration is given to the current decline in smelt abundance nor any explanation provided how the further decline of the smelt does not exacerbate jeopardy to the species' survival and recovery.

agency to complete a biological opinion. But, this is not such a case. The FMWT is a credible and reliable Delta smelt population abundance survey, regularly compiled on an annual basis, and relied upon by the agency in the past. There is no rational reason to ignore such important data. The BiOp places great weight on the FMWT as "the second longest running survey." (AR 366, 370). The agency does not suggest the time of receipt of the 2004 FMWT data was unexpected. The agency's failure to acknowledge and analyze the record low abundance levels revealed by the 2004 FMWT is unreasonable and violated its duty to use the best available scientific information. 16 U.S.C. § 1536(a)(2).

Plaintiffs' motion for summary adjudication is **GRANTED** as to this claim.

3. Global Climate Change Evidence.

Plaintiffs next argue that the BiOp ignored data about Global Climate Change that will adversely affect the Delta smelt and its habitat. (Doc. 232 at 7.) This is potentially significant because the BiOp's conclusions are based in part on the assumption that the hydrology of the water bodies affected by the OCAP will follow historical patterns for the next 20 years. (AR 375 (explaining that CALSIM II modeling involved making "adjustments to historic water supplies...by imposing future level land use on historical meteorological and hydrologic conditions").)

In a July 28, 2004 comment letter, Plaintiff NRDC directed FWS's attention to several studies on the potential effects of climate change on water supply reliability, urging that the issue be considered in the BiOp. (AR 8552-56.) The comment letter

stated:

> The best scientific data available today establishes that global climate change is occurring and will affect western hydrology. At least half a dozen models predict warming in the western United States of several degrees Celsius over the next 100 years (Redmond, 2003). Such sophisticated regional climate models must be considered as part of the FWS' consideration of the best available scientific data.
>
> Unfortunately, the Biological Assessment provided by the Bureau to FWS entirely ignores global climate change and existing climate change models. Instead, the BA projects future project impacts in explicit reliance on seventy-two years of historical records. In effect, the Biological Assessment assumes that neither climate nor hydrology will change. This assumption is not supportable.
>
> In California, a significant percentage of annual precipitation falls as snow in the high Sierra Nevada mountains. Snowpack acts as a form of water storage by melting to release water later in the spring and early summer months (Minton, 2001). The effects of global climate change are expected to have a profound effect on this dynamic. Among other things, more precipitation will occur as rain rather than snow, less water will be released slowly from snowpack "storage" during spring and summer months, and flooding is expected to increase (Wilkinson, 2002; Dettinger, 2003). These developments will make it more difficult to fill the large reservoirs in most years, reducing reservoir yields and will magnify the effect of CVP operations on downstream fishes (Roos, 2001). These developments will also dramatically increase the cost of surface storage relative to other water supply options, such as conservation.
>
> While the precise magnitude of these changes remains uncertain, judgments about the likely range of impacts can and have been made. *See e.g.*, U.S. Global Climate Action Report – 2002; Third National Communication of the United States Under the United Nations Framework Convention on Climate Change at 82, 101 (2002). [FN3]. The Service can and must evaluate how that range of likely impacts would affect CVP operations and impacts, including the Bureau's ability to provide water to contractors while complying with environmental standards. We therefore request that the Service review and consider the work cited above, as well as the background and Dettinger presentation at a recent climate change conference held in Sacramento, June 9-11, 2004 [citation omitted] and climate change reports [citation omitted].

(AR at 8554-55 (emphasis added).)

_____A second presentation by Michael Dettinger at a December 8-9, 2004 CALFED meeting, attended by FWS staff, concluded that "warming is already underway..."; that this would result in earlier flows, more floods, and drier summers; and that "California water supplies/ecosystems are likely to experience [] changes earliest and most intensely." (Doc. 10 at 18.) Following Dettinger's presentation, members of CALFED noted "the need to reevaluate water storage policies and ERP [Ecosystem Recovery Program] recovery strategies, all of which would be affected by projected climate changes." (Doc. 9 at 3.) The record reflects that extreme water temperatures can have dramatic impacts upon smelt abundance. (AR 8979-80.)

In addition to the specific studies and data cited by NRDC, FWS scientists recognized the issue of climate change warranted further consideration. At a June 2003 symposium entitled "Framing the issues for Environmental and Ecological Effects of Proposed Changes in Water Operations: Science Symposium on the State of Knowledge," a number of questions regarding climate change were raised, including: "How does the proposed operations plan account for the potential effects of climate change (e.g., El Nino or La Nina, long term changes in precipitation and runoff patters, or increases in water temperature)?" (AR at 4839.)

Plaintiffs argue that, despite this evidence that climate change could seriously impact the smelt by changing Delta hydrology and temperature, the BiOp "did not so much as mention the probable effects of climate change on the delta smelt, its habitat, or the magnitude of impacts that could be expected from

the 2004 OCAP operations, much less analyze those effects." (Doc. 232 at 8.) Defendants and Defendant-Intervenors respond by arguing (1) that the evidence before FWS at the time the BiOp was issued was inconclusive about the impacts of climate change; and (2) that, far from ignoring climate change, the issue is built into the BiOp's analysis through the use of X2 as a proxy for the location and distribution of Delta smelt.

a. *Inconclusive Nature of Available Information Regarding the Impacts of Global Climate Change on Precipitation.*

Federal Defendants and the State Water Contractors characterize Mr. Dettinger's presentation, as reflecting "a great deal of uncertainty that climate change will impact future precipitation." The presentation is entitled "Climate Change Uncertainties and CALFED Planning." (Doc. 10 at 1.) Dettinger acknowledges that, although current climate models "yield consistent warming scenarios for California" (*id.* at 6), there is no similar consensus regarding the impact of warming on future precipitation (*id.* at 7). Federal Defendants suggest that FWS "responsibly refused to engage in sheer guesswork, and properly declined to speculate as to how global warming might affect delta smelt." (Doc. 242 at 23.) But, the NRDC letter cited a number of studies in addition to Mr. Dettinger's presentations, all of which predict that anticipated climate change will adversely impact future water availability in the Western United States.

At the very least, these studies suggest that climate change will be an "important aspect of the problem" meriting analysis in the BiOp. *Pacific Coast Fed'n,* 265 F.3d at 1034. However, as with the 2004 FMWT data, the climate change issue was not

meaningfully discussed in the biological opinion, making it impossible to determine whether the information was rationally discounted because of its inconclusive nature, or arbitrarily ignored.[27]

b. *X2 as a Proxy for Climate Change*.

The State Water Contractors argue that the approaches taken in the DSRAM are "more than adequate to deal with the projected impacts of climate change – assuming they occur." (Doc. 241 at 8.) For example, Plaintiffs' suggestion that climate change will produce earlier flows, more floods, and drier summers is addressed by the DSRAM's X2 trigger. Flow level changes will be

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[27] Plaintiffs argue that "[r]egardless of the uncertainty involved in predicting the consequences of climate change, FWS had an obligation under the ESA to address the probable effects on Delta smelt." (Doc. 232 at 7.) In response, the State Water Contractors quote the following passage from *Bennett v. Spear*, 520 U.S. 154, 176-177 (1997), in support of the proposition that the ESA intended to preclude exactly this kind of argument:

> The obvious purpose of the requirement that each agency "use the best scientific and commercial data available" is to ensure that the ESA not be implemented haphazardly, on the basis of speculation or surmise. While this no doubt serves to advance the ESA's overall goal of species preservation, we think it readily apparent that another objective (if not indeed the primary one) is to avoid needless economic dislocation produced by agency officials zealously but unintelligently pursuing their environmental objectives.

But, this passage from *Bennet* was part of a broader discussion holding that persons who are economically burdened by a decision made under the ESA fall within the zone of interests the statute protects for the purposes of standing. *Bennet* sheds little light on the current inquiry -- whether and to what extent the data that was before the FWS regarding climate change should have been considered and addressed in the BiOp.

reflected in the position of X2. If climate change alters water temperatures, DSRAM also includes a temperature trigger, that monitors the temperature range within which successful Delta smelt spawning occurs.

The DSRAM offers no assurance that any mitigating fish protection actions will be implemented if the X2 criteria is triggered. That X2 indirectly monitors climate change does not assuage Plaintiffs' concerns that the BiOp has not adequately analyzed the potential impact of climate change on the smelt.

The BiOp does not gauge the potential effect of various climate change scenarios on Delta hydrology. Assuming, *arguendo*, a lawful adaptive management approach, there is no discussion when and how climate change impacts will be addressed, whether existing take limits will remain, and the probable impacts on CVP-SWP operations.

FWS acted arbitrarily and capriciously by failing to address the issue of climate change in the BiOp. This absence of <u>any</u> discussion in the BiOp of how to deal with any climate change is a failure to analyze a potentially "important aspect of the problem."[28]

Plaintiffs' motion for summary adjudication is **GRANTED** as to this claim.

D. <u>There is No Rational Connection Between the No Jeopardy Finding and the Status of the Species</u>.

Plaintiffs next allege that there is no rational connection

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[28] There is no basis to determine what weight FWS should ultimately give the climate change issue in its analysis.

between the record evidence and the BiOp's "no jeopardy" conclusion. Plaintiffs first argue that the BiOp's approach to setting take limits is arbitrary and capricious because FWS failed to consider defined take limits in the context of current smelt abundance. Plaintiffs complain that the BiOp does not explain how its no jeopardy conclusion can be justified in light of the admitted adverse effects of the project, along with indirect and cumulative effects on the species.

In a formal consultation, the ESA requires FWS to "[f]ormulate its biological opinion as to whether the action, taken together with cumulative effects, is likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat." 50 C.F.R. § 402.14; *see also* 16 U.S.C. § 1536(a)(2). The phrase "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.

Agency action may be overturned if 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." *Pacific Coast Fed'n*, 265 F.3d at 1034. A court must ask "whether the agency considered the relevant factors and

articulated a rational connection between the facts found and the choice made." *Id.* The agency must "examine the relevant data and articulate a satisfactory explanation for its action including a rational connection between the facts found and the choice made." *Motor Vehicle Mfrs. Ass'n v. State Farm Mutual Ins.*, 463 U.S. 29, 43 (1983).

1. Plaintiffs' Argument that Salvage Underestimates Project Impacts on the Smelt.

Plaintiffs assert that the BiOp's reliance on salvage is arbitrary and capricious because salvage is not a reliable basis for setting Project take limits. Plaintiffs cite record evidence, including statements made by smelt biologists and FWS employees, that salvage does not accurately estimate incidental take of young Delta smelt. (*See* AR 8403, 7578.) The BiOp admits that salvages does not fully account for all smelt losses. (AR 419 ("It should be noted that although salvage is used to index delta smelt take, it does not reliably index delta smelt entrainment. Furthermore, delta smelt salvage is highly variable at all time scales....).") Plaintiffs have not shown that a better measure of smelt take could have been generated from available data. The agency is entitled to rely on this approach as it appears to be the "best estimate possible," no party has suggested an alternative. *See Oceana*, 384 F. Supp. 2d at 228.

This objection standing alone is insufficient to justify summary adjudication.

2. The BiOp's Approach to Estimating Future Take Without Considering the Smelt's Current Abundance Is Arbitrary and Capricious.

The take limits are based on historic sampling from "salvage

density" (number of fish taken per unit of water), which data is adjusted using CALSIM II modeling to reflect water flows anticipated under the circumstances of the final consultation. FWS's no jeopardy determination is based in part on flow modeling for the final consultation scenario that predicted lower than historic salvage levels during critical times. (AR 474 (finding that the level of anticipated take "is not likely to result in jeopardy to the smelt because this level of take is at or below historical levels of take.")

A close examination of the administrative record reveals that this conclusion relies upon an unsupported irrational assumption not justified by the record, i.e., that maintaining salvage at or below historic salvage levels will ensure that the 2004 OCAP is not likely to jeopardize the continued existence of the Delta smelt. First, by focusing only on how proposed operations will either increase or decrease smelt take, FWS effectively limited its analysis to determining whether the magnitude of the OCAP's impact upon the smelt would be different from the Projects' impact under the regulatory historical baseline. FWS did not analyze how the absolute number of smelt taken during any given period of Project operations will impact overall smelt abundance at the time of the 2005 BiOp or in the future. Nor does the finding the smelt "still persists," even at the lowest recorded abundance levels, have any meaning if the smelt's "persistence" is at a level at or near extinction. Evaluating "persistence" instead of smelt population abundance is irrational, arbitrary, and runs counter to the evidence before the agency.

The Ninth Circuit, in *NWF v. NMFS*, 481 F.3d 1224 at *8, invalidated a biological opinion in part because it failed to view the agency action "in the present and future human and natural contexts." Here, the BiOp similarly fails to provide a scientific explanation for why it is appropriate to set incidental take without considering the most current smelt population data. This methodology fails to take most recent available natural conditions (i.e., the smelt's current and/or future population abundance) into consideration. For example, if the smelt's population is currently 600,000, it might be justifiable to permit a monthly take of over 30,000. However, if the smelt's current population is only 60,000, allowing 30,000 to be entrained in the pumps in a single month would represent a 50% reduction in smelt population. Even if the 30,000 figure was significantly lower than historic take, Defendant-Intervenors agree "that salvage impacts cannot be accurately identified without a population estimate." (Doc. 247 at 9 n.13.)

DWR asserts that, in setting the take limits, the BiOp took into consideration concerns expressed by experts that using historic information alone would not create an appropriate take limit. (*See* AR 4880, 5532, 5543). The first of the citations offered by DWR, an email sent by FWS's Wim Kimmerer to several individuals at DWR, EPA and elsewhere, states that there was some discussion at FWS about "getting away from take as the principle criterion governing management and recovery of delta smelt." (AR 4880.) The next page of this email goes on to admit that "determining what level of mortality is acceptable or 'safe' is going to be difficult... Ultimately...this should be done through

some sort of population model or viability analysis." (AR 4881 (emphasis added).) The other cited communications express similar concerns. (*See* AR 5532, 5543.) It is time to do it, yet FWS continues to profess the smelt population cannot be reliably measured.

DWR argues that, together, the take limits and the DSRAM address these concerns by moving the focus of management away from salvage. However, there is no way to know when or what measures will be taken under the DSRAM, which leaves the existing take limits as the only enforceable measures in the BiOp,[29] while the species heads toward extinction. Using flawed take limits and refusing to quantify smelt population and recent viability trends create substantial doubt about the reliability of the BiOp.

Defendants and Defendant-Intervenors suggest that sufficient information was simply not available to accurately determine smelt abundance.[30] Plaintiffs rejoin by referring to an email

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[29] There is no recognized mechanism for introducing any population viability data, collected through the adaptive management process, into the setting of the take limits.

[30] The San Luis Parties mischaracterize Plaintiffs argument as a request for FWS to undertake additional research projects. (Doc. 247.) Defendant Intervenors are correct that FWS is not required to undertake new research, *Greenpeace Action v. Franklin*, 14 F.3d 1324, 1335 (9th Cir. 1992)(agency may proceed despite uncertainty about accuracy of modeling effort); Southwest Ctr for Biological Diversity, 215 F. 3d 58, 60 (D.C. Cir. 2000)(agency could rely on inconclusive data to make decision; not obligated to conduct new independent studies). Plaintiffs do point out that FWS acknowledges in the AR that an accurate determination of non-jeopardy would require knowledge of how many smelt existed, what proportion would be lost due to the projects, and what level of loss would be sustainable. (Doc. 232

sent by Zachary Hymanson to Ryan Olah at FWS, with copies to others at concerned federal and state agencies. Mr. Hymanson opined: "I think we are at the point where we should report and use quantified estimates of the total number of individuals at the various life stages monitories. Quantified population and life stage estimates of fishes around the world are routinely made with A LOT less data than we have for delta smelt." (AR 7542 (emphasis in original).)

The viability of Delta smelt has been under scrutiny for over ten years. No party has shown that producing a reliable population estimate is scientifically unfeasible. Information does not have to be perfect or infallible for the agency to be required to use it to create a population estimate. *See Greenpeace II*, 80 F. Supp. 2d at 1149-50 (finding it unlawful for agency to entirely ignore relevant factor and fail to analyze and develop projections regarding that factor based on information that was available); *see also Conner*, 848 F.2d at 1454 (biological opinion invalidated because agency failed to "use best information available to prepare comprehensive biological opinions considering all stages of agency action."). Without population estimates, it is arbitrary for the agency to conclude that project operations will not result in jeopardy simply because the projects will take relatively fewer smelt than they did in the past, in the face of the undisputed fact that the

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at 23 (citing AR 8221).) However, the crux of Plaintiffs' concern is that FWS has not developed such population data and ignored important existing data on abundance in setting the take limits.

smelt population has been declining steadily in recent years. Failing to incorporate any information about smelt population abundance into the setting of the take limits is a fundamental failure rendering the BiOp arbitrary and capricious.

The San Luis Parties' rationalization of FWS's approach, setting the incidental take limits using a model that does not take current abundance data into consideration, is that historic records reveal "either no, or perhaps a very weak relationship, between juvenile abundance measured by the TNS and adult abundance measured by the FMWT." (Doc. 247 at 5.) This "lack of [a] linear relationship between the two indices, shows that events after the TNS, in late summer and early fall, are probably affecting the number of juveniles that mature into spawners." (Doc. 247 at 6.) From the lack of a linear relationship, San Luis infers that something other than salvage (i.e. entrainment in the pumps) is causing the smelt's decline.[31]

The BiOp interprets the data differently:

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[31] The Administrative Record reflects various explanations for the lack of a linear relationship between the TNS and the FMWT. (AR 1025-26.) One possible explanation for why the number of spawning age smelt (indexed by the FMWT) seems to be a poor predictor of subsequent offspring (indexed by the TNS) is that there is some environmental factor (not directly related to entrainment at the projects) limiting survivability, inferring that there is a carrying capacity for the population. (*Id.*) Alternatively, some scientists question whether it is proper to try to draw statistical conclusions from the entire 1969-2002 data pool, given that the smelt experienced a precipitous decline in 1981. These scientists have postulated that the data "may reflect two different relationships from two time periods with different delta smelt carrying capacities." (*Id.* at 1026.) One study cited in the AR indicates that food supply may be the limiting factor during this time period. (AR 8976.)

> In a near-annual fish like delta smelt, a strong relationship would be expected between number of spawners present in one year and number of recruits to the population the following year. Instead, the stock-recruit relationship for delta smelt is weak, accounting for about a quarter of the variability in recruitment (Sweetnam and Stevens 1993). This relationship does indicate, however, that factors affecting numbers of spawning adults (e.g., entrainment, toxics, and predation) can have an effect on delta smelt numbers the following year.

(AR at 364 (emphasis added).)[32] Plaintiffs refer to other record evidence creating doubt that salvage is not a statistically reliable indicator of smelt abundance, including high entrainment events in the early 1980s and other "extreme events," including the El Niño of 1982-83, which caused significant declines in smelt abundance. (AR 8979.)

The BiOp acknowledges that salvage can have an impact on smelt abundance (although the statistical relationship is non-linear). It is arbitrary and capricious for FWS to base take limits on a projection of future salvage calculated without considering the most current or future smelt abundance and without reliable smelt population estimate.

Plaintiffs' motion for summary adjudication is **GRANTED** as to this issue. The BiOp's approach to setting incidental take limits is arbitrary and capricious because it fails to incorporate reliable smelt population data and the most recent

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[32] The San Luis Parties raise numerous questions regarding FWS's conclusion that there is a statistical relationship between the numbers of spawning adults and Delta smelt abundance the following year, criticizing the statistical analyses referenced in the BiOp. (Doc. 247 at 5.) It is unnecessary to adjudicate these issues, as the San Luis Parties have not separately challenged the conclusions reached in the BiOp on this ground nor have they moved for summary judgment on any issue in this case.

information regarding smelt abundance.

3. Plaintiffs' Argument That the Biop Fails to Explain How its No Jeopardy Conclusion Can Be Justified in Light of the Identified Adverse Effects of the Project, along with Indirect and Cumulative Effects.

In formulating a biological opinion, the ESA requires FWS to determine "whether the action, taken together with cumulative effects, is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat." 50 C.F.R. § 402.14 (emphasis added). "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 (emphasis added).

The BiOp concludes that the 2004 OCAP will have numerous direct and indirect impacts apart from salvage, including habitat loss, increased vulnerability of Delta smelt to predation, and increased vulnerability to adverse temperature effects. (*See* AR 399, 443-44.) Plaintiffs allege that, although the BiOp lists indirect impacts, it fails to explain how they relate to the potential for jeopardy.

Federal Defendants respond to this allegation with a single paragraph, asserting generally that "the biological opinion considers the effects of dozens of project components, each with a multi-layered analysis," and indicating how many times the topics of predation (18), temperature changes (180 references), life cycle impacts (75 references to the term "juveniles") are

discussed in the BiOp. (Doc. 242 at 30.) What Federal Defendants do not do is point to those portions of the BiOp which analyze these issues in a way that demonstrates why these indirect impacts will not cause jeopardy or how they relate to survival and recovery of the smelt. A review of the BiOp does not reveal such an analysis.

The State Water Contractors suggest that the DSRAM trigger criteria were designed to address all of the potential impacts identified in the BiOp. (Doc. 241 at 8.) This leaves for future consideration and speculation the impacts events activating DSRAM triggers will have.

a. *Cumulative Impacts*.

Plaintiffs also argue that the BiOp fails to meaningfully address cumulative impacts, "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." 50 C.F.R. § 402.02. The BiOp highlights a number of predicted cumulative effects:

> Any continuing or future non-Federal diversions of water that may entrain adult or larval fish would have cumulative effects to the smelt. Water diversions through intakes serving numerous small, private agricultural lands contribute to these cumulative effects. These diversions also include municipal and industrial uses. State or local levee maintenance may also destroy or adversely modify spawning or rearing habitat and interfere with natural long term habitat-maintaining processes.
>
> Additional cumulative effects result from the impacts of point and non-point source chemical contaminant discharges. These contaminants include but are not limited to selenium and numerous pesticides and herbicides as well as oil and gasoline products associated with discharges related to agricultural and urban activities. Implicated as potential sources of mortality for smelt, these contaminants may adversely

> affect fish reproductive success and survival rates. Spawning habitat may also be affected if submersed aquatic plants, used a[s] substrates for adhesive egg attachment, are lost due to toxic substances.
>
> Other cumulative effects could include: the dumping of domestic and industrial garbage may present hazards to the fish because they could become trapped in the debris, injure themselves, or ingest the debris; golf courses reduce habitat and introduce pesticides and herbicides into the environment; oil and gas development and production remove habitat and may introduce pollutants into the water; agricultural uses on levees reduce riparian and wetland habitats; and grazing activities may degrade or reduce suitable habitat, which could reduce vegetation in or near waterways.

(AR 468.) There is no quantitative and qualitative analysis of the potential impact of these cumulative effects on the smelt and its habitat, except to identify the causes, the BiOp concludes without explanation, "[t]he cumulative effects of the proposed action [are] not expected to alter the magnitude of cumulative effects on the above described actions upon the critical habitat's conservation function for the smelt." (*Id.*)

The San Luis Parties argue that FWS's no jeopardy conclusion and impacts analysis is "rationally based on its determination that the proposed future changes will not significantly increase the magnitude of the ongoing Project's potential impacts." (Doc. 247 at 9.) This conclusion is the kind of analysis recently rejected by the Ninth Circuit in *NWF v. NMFS*:

> To "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 CFR § 402.02; 16 U.S.C. § 1536(a)(2). NMFS argues that, under this definition, it may satisfy the ESA by comparing the effects of proposed FCRPS operations on listed species to the risk posed by baseline conditions. Only if those effects are

"appreciably" worse than baseline conditions must a full jeopardy analysis be made. Under this approach, 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.

Requiring NMFS to consider the proposed FCRPS operations in their actual context does not, as NMFS argues, effectively expand the "agency action" at issue to include all independent or baseline harms to listed species. Nor does it have the effect of preventing any federal action once background conditions place a species in jeopardy. To "jeopardize"--the action ESA prohibits--means to "expose to loss or injury" or to "imperil." Either of these implies causation, and thus some new risk of harm. Likewise, the suffix "-ize" in "jeopardize" indicates some active change of status: an agency may not "cause [a species] to be or to become" in a state of jeopardy or "subject [a species] to" jeopardy. American Heritage Dictionary of the English Language (4th ed.). Agency action can only "jeopardize" a species' existence if that agency action causes some deterioration in the species' pre-action condition.

Even under the so-called aggregation approach NMFS challenges, then, an agency only "jeopardize[s]" a species if it causes some new jeopardy. An agency may still take action that removes a species from jeopardy entirely, or that lessens the degree of jeopardy. However, an agency may not take action that will tip a species from a state of precarious survival into a state of likely extinction. Likewise, even where baseline conditions already jeopardize a species, an agency may not take action that deepens the jeopardy by causing additional harm.

Our approach does not require NMFS to include the entire environmental baseline in the "agency action" subject to review. It simply requires that NMFS appropriately consider the effects of its actions "within the context of other existing human activities that impact the listed species." *ALCOA*, 175 F.3d at 1162 n. 6 (citing 50 C.F.R. § 402.02's definition of the environmental baseline). This approach is consistent with our instruction (which NMFS does not challenge) that "[t]he proper baseline analysis is not the proportional share of responsibility the federal agency bears for the decline in the species, but what jeopardy might result from the agency's proposed actions in the present and future human and natural contexts." *Pac. Coast Fed'n*, 426 F.3d at 1093 (emphasis added).

481 F.3d 1224 at *7-8 (emphasis added)(footnote omitted).

Here, the BiOp does not consider the cumulative effects of any future DSRAM actions, which it relies on to avoid jeopardy, nor does it meaningfully relate the most current abundance of the species to future OCAP operations to assess jeopardy. The BiOp unlawfully fails to adequately analyze indirect and cumulative impacts of the 2004 OCAP. Summary adjudication on this issue is appropriate.

E. Did the BiOp Fail to Adequately Consider Impacts to Critical Habitat?

Plaintiffs allege that the BiOp fails to adequately consider critical habitat in two respects. First, by failing to analyze the impacts of the 2004 OCAP on the value of critical habitat for the recovery as opposed to just the survival of the smelt. Second, failure to consider impacts to all of the Delta smelt's critical habitat because it focuses only on X2.

1. Did the BiOp Fail to Consider Whether 2004 OCAP Would Diminish Value of Critical Habitat for Recovery?

The ESA requires FWS to determine whether the 2004 OCAP will destroy or adversely affect Delta smelt critical habitat. 16 U.S.C. § 1536(a)(2). "Destruction or adverse modification of critical habitat" means "a direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. Such alterations include, but are not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical." 50 C.F.R. § 402.02

Initially, the critical habitat analysis was conducted

pursuant to agency regulations that defined adverse modification as:

> [A] direct or indirect alteration that appreciably diminishes the value of critical habitat for **both survival and recovery** of a listed species. Such alterations include, but are not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical.

50 C.F.R. § 402.02 (emphasis added).

Following the issuance of the 2004 BiOp, the Ninth Circuit invalidated the adverse modification regulation, based on its own interpretation of the regulation's language, "alteration that appreciably diminish the value of critical habitat for both the survival and recovery of a listed species," "reads the 'recovery' goal out of the adverse modification inquiry." *Gifford Pinchot*, 378 F.3d at 1069-70.

The Bureau requested that FWS reinitiate consultation on the 2004 OCAP to ensure compliance with *Gifford Pinchot*. The result was the disputed 2005 BiOp, which expressly states that it does not rely on the invalidated regulation. (AR 248.) Rather, the BiOp "relied on the statutory provisions of the ESA to complete the analysis with respect to critical habitat." (*Id.*) The ESA defines critical habitat as including "the specific areas ... occupied by the species ... which are ... essential to the conservation of the species" and the "specific areas outside the geographical area occupied by the species ... that ... are essential for the conservation of the species...." 16 U.S.C. § 1532(5)(A). This statutory reference to "conservation" was the premise for the Ninth Circuit's *Gifford Pinchot* reasoning:

> "Conservation" is a much broader concept than mere

> survival. The ESA's definition of "conservation" speaks to the recovery of a threatened or endangered species. Indeed, in a different section of the ESA, the statute distinguishes between "conservation" and "survival." Requiring consultation only where an action affects the value of critical habitat to both the recovery and survival of a species imposes a higher threshold than the statutory language permits

378 F.3d at 1070 (internal citation omitted).

The 2005 BiOp uses the term "conservation," rather than "survival" and/or "recovery," several times in connection with its critical habitat analysis. In the "Critical Habitat Effects" section, the BiOp states that the "primary constituent elements essential to conservation of the species will not be affected by the proposed project." (AR 423.) In addition, after discussing critical habitat, including those areas essential to spawning, transport, rearing and migration, the BiOp acknowledges impacts, but explains that after the proposed diversions in the OCAP are implemented "the primary constituent elements [of critical habitat] essential to the conservation of the species still function." (*Id.* at 371.)[33] What specific effects any DSRAM

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[33] Defendant-Intervenors argue that, because of these mentions of "conservation," FWS is entitled to a "presumption of regularity," and the court must assume that agency considered recovery. (Doc. 247 at 12.) In *Gifford Pinchot*, after invalidating the destruction and adverse modification regulation, the Ninth Circuit considered whether it should presume that the agency followed its own regulation that was valid at the time the biological opinion was issued. The Ninth Circuit concluded that, because the agencies must be afforded a "presumption of regularity," a court must assume that the agency followed the then applicable regulation. *Id.* at 1072. Applying this presumption here, given that the agency specifically applied the statute, not the invalid regulation, there is no evidence the agency applied an invalid regulation. However, Defendant-Intervenors' suggestion that the presumption should be applied to validate the BiOp's analysis of recovery is misplaced. The

measures will have on the smelt are not described, nor is there discussion of how the survival and recovery of the smelt will be accomplished.

The Ninth circuit explained in *NWF v. NFMS*, that the agency must conduct a "full analysis" of risks to recovery.

> The question before us is not whether, on the merits, recovery risks in fact require a jeopardy finding here, but whether, as part of the consultation process, NMFS must conduct a **full analysis** of those risks and their impacts on the listed species' continued existence. Although recovery impacts alone may not often prompt a jeopardy finding, NMFS's analytical omission here may not be dismissed as harmless: the highly precarious status of the listed fishes at issue raises a substantial possibility that considering recovery impacts could change the jeopardy analysis. The only reasonable interpretation of the jeopardy regulation requires NMFS to consider recovery impacts as well as survival.

481 F.3d 1224 at *9-*10 (emphasis added).[34]

Plaintiffs claim that although the BiOp includes generic promises to consider recovery of the smelt, it does not competently analyze nor provide for recovery. Federal Defendants and Defendant Intervenors respond that the BiOp's discussion of critical habitat effects, in conjunction with the BiOp's conclusion that "the smelt's primary constituent elements essential to the conservation of the species [will] still

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agency still has an obligation to thoroughly consider the issue of recovery and to reach a reasoned conclusion based on the evidence in the administrative record.

[34] Although this portion of *NWF v. NMFS* concerned analysis of recovery in the context of the "no jeopardy" determination, as opposed to the "destruction or adverse modification of critical habitat" analysis, the holding is equally applicable to habitat jeopardy.

function" (AR 371) under the 2004 OCAP, is a sufficient analysis of the impacts on recovery.

The BiOp's overarching conclusion is that "the smelt's primary constituent elements essential to the conservation of the species [will] still function." In designating critical habitat for a listed species, FWS must "consider those physical and biological features that are essential to the conservation of [the] species and that may require special management considerations or protection." 50 C.F.R. § 424.12. The features that must be considered include, but are not limited to, the following:

> 1. Space for individual and population growth, and for normal behavior;
>
> 2. Food, water, air, light, minerals, or other nutritional or physiological requirements;
>
> 3. Cover or shelter;
>
> 4. Sites for breeding, reproduction, rearing of offspring, germination, or seed dispersal; and
>
> 5. Habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species.

Id. The BiOp explained that, in designating critical habitat for the Delta smelt, FWS identified the following primary constituent elements "essential to the conservation of the species":

> Physical habitat, water, river flow, and salinity concentrations required to maintain delta smelt habitat for spawning, larval and juvenile transport, rearing, and adult migration.
>
> ***
>
> Specific areas that have been identified as important delta smelt spawning habitat include Barker, Lindsey, Cache, Prospect, Georgiana, Beaver, Hog, and Sycamore sloughs and the Sacramento River in the Delta, and

> tributaries of northern Suisun Bay.
>
> Larval and juvenile transport. Adequate river flow is necessary to allow larvae from upstream spawning areas to move to rearing habitat in Suisun Bay and to ensure that rearing habitat is maintained in Suisun Bay. To ensure this, X2 must be located westward of the confluence of the Sacramento-San Joaquin Rivers, located near Collinsville (Confluence), during the period when larvae or juveniles are being transported, according to historical salinity conditions. X2 is important because the "entrapment zone" or zone where particles, nutrients, and plankton are "trapped," leading to an area of high productivity, is associated with its location. Habitat conditions suitable for transport of larvae and juveniles may be needed by the species as early as February 1 and as late as August 31, because the spawning season varies from year to year and may start as early as December and extend until July.
>
> Rearing habitat. An area extending eastward from Carquinez Strait, including Suisun, Grizzly, and Honker bays, Montezuma Slough and its tributary sloughs, up the Sacramento River to its confluence with Three Mile Slough, and south along the San Joaquin River including Big Break, defines the specific geographic area critical to the maintenance of suitable rearing habitat. Three Mile Slough represents the approximate location of the most upstream extent of historical tidal incursion. Rearing habitat is vulnerable to impacts of export pumping and salinity intrusion from the beginning of February to the end of August.
>
> Adult migration. Adequate flow and suitable water quality is needed to attract migrating adults in the Sacramento and San Joaquin river channels and their associated tributaries, including Cache and Montezuma sloughs and their tributaries. These areas are vulnerable to physical disturbance and flow disruption during migratory periods.

(AR 368-69.)

The BiOp acknowledges that this Delta smelt critical habitat has been adversely affected by numerous activities, but indicates that the 1994 and 1995 OCAP BiOps "provide a substantial part of the necessary riverine flows and estuarine outflows that allow smelt larvae to move downstream to suitable rearing habitat...outside the influence of marinas, agricultural

diversions, and Federal and State pumping plant." (AR 371.) The BiOp also explains that increasing demands for surface water "would likely result in lower delta outflows and increased entrainment," but that the impacts of these demands "have not altered critical habitat's conservation function for the delta smelt, and the smelt's primary constituent elements essential to the conservation of the species still function." (*Id.*) Finally, the BiOp concludes:

> In evaluating the Status of the Species for critical habitat and the Environmental Baseline, while there are current actions that result in adverse effects to delta smelt critical habitat, the primary constituent elements continue to remain functional for the smelt. In the effects section, the Service determined that the primary constituent elements of delta smelt critical habitat would not be affected by the proposed project since there will not be a loss of physical habitat in the delta, river flows will continue to provide habitat, salinity will not be affected by the proposed project, and no breeding habitat will be affected and the sustainability of the food base will not be affected. In the cumulative effects section, we determined that the cumulative effects of the proposed action are not expected to alter the magnitude of future actions' effects on critical habitat's conservation function for the smelt. Based on the analysis in these four areas, it is our conclusion that Critical habitat is not likely to be adversely modified or destroyed as a result of implementing the proposed project.

(AR 469 (emphasis added).)

These conclusions are not supported by most recent smelt data to corroborate that the primary constituent elements of Delta smelt habitat will still function in a manner consistent with conservation (i.e. recovery). The functions and their locations are identified, but impacts upon breeding habitat are not analyzed. Second, although "there will still be water in the Delta....whether the water will be of adequate quality and

quantity to allow the delta smelt to recover is an entirely different question." (Doc. 306 at 25.) The BiOp does not analyze the water supply, temperature, and quality under variable conditions with results that demonstrate the impact on smelt, nor is such an analysis found elsewhere in the administrative record.[35]

The analysis of the predicted movement of X2 is more specific. When X2 is located upstream of Chipps Island, smelt are vulnerable to entrainment and are located in an area that is not ideal for feeding or protection. (*See* AR 424.) FWS opines that smelt reproduce better when X2 remains in a specific area, west of the confluence of the Sacramento and San Joaquin Rivers. That smelt reproduction is increased and the fish may be located where there are better sources of food does not assure that the smelt are on a path to recovery. The DSRAM is to provide the means by which FWS will maintain X2 in the most beneficial location. As the DSRAM is uncertain, speculative, and lacking enforceable action measures, there is no reasonable assurance that X2 will be maintained in the necessary protective location.

DSRAM utilizes other trigger criteria, arguably aimed at the recovery of the smelt. (Doc. 241 at 13-14.) One criteria is the "recovery index trigger," derived from the September and October FMWT sampling. (AR 347; Sommer Decl. at ¶9a.) The number used

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[35] There is also merit to Plaintiffs' argument that "[g]iven that the very same sorts of impacts to critical habitat have contributed to the species decline, one might expect FWS to examine carefully how the continuance and magnification of these kinds of impacts could allow for the survival of the species, much less its recovery." (Doc. 306 at 5.)

to trigger the DSWG is 74, the median value of the recovery index for the 1980-2002 period. Whenever the recovery index falls below this median, the DSWG convenes to decide whether to recommend actions. (AR 346-47.) Use of the term "recovery" in the title of the trigger index, suggests that this index will serve to monitor the potential for the smelt population to recover. This title is inaccurate. All that this trigger criteria monitors is whether the abundance of smelt drops below the 1980-2002 median abundance. As smelt have been in decline throughout the period to February 2005, the opinion that maintaining abundance slightly above this median leads to recovery of the smelt is unjustified.

The temperature trigger criterion of 12 - 18°C, the range within which the most smelt spawning occurs, is more arguably focused on recovery. (AR 347.) If the number of days falling within the temperature range is 39 days or less by April 15, or 50 days or less by May 1, DSWG is triggered. This trigger is arguably related to the recovery of smelt, because it focuses on spawning. However, no action except a group meeting is required in response to the trigger. Moreover, maximizing the potential for smelt to spawn is only one aspect of recovery. If Project operations and/or other impacts kill more smelt than are produced during spawning, recovery does not occur. The existence of this trigger, alone, does not establish that recovery of smelt was adequately considered or addressed.[36]

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[36] The San Luis Parties correctly note that the CALSIM II models indicate that increased pumping capacity and operational flexibility may actually increase the smelt's prospects vis-a-vis

2. The Biop Does Not Adequately Assess Impacts to All Areas of Critical Habitat.

Plaintiffs also allege that the BiOp arbitrarily ignores impacts to certain areas of critical habitat because it focuses on X2 as a proxy for Delta smelt habitat. Plaintiffs argue that the focus on X2 ignores other areas of designated critical habitat.

The BiOp focuses on the impact project operations have had and will have on the position of X2. Defendants and Defendant-Intervenors argue that critical habitat will be protected, because any impacts to the position of X2 will be addressed by the DSRAM. The State Water Contractors contend that protecting critical habitat outside X2 "makes no sense if they are not the areas in which the fish resides." (Doc. 241 at 17.)

Plaintiffs do not dispute the notion that X2 directly relates to where most smelt are located. Rather, Plaintiffs maintain that critical habitat is not coextensive with X2. The BiOp identifies numerous areas in which smelt occur (AR 362) and acknowledges that X2 "does not necessarily regulate smelt distribution in all years." (*Id.*) Delta smelt critical habitat is defined by physical boundaries:

> California--Areas of all water and all submerged lands below ordinary high water and the entire water column bounded by and contained in Suisun Bay (including the contiguous Grizzly and Honker Bays); the length of Montezuma Slough; and the existing contiguous waters contained within the Delta, as defined by section 12220, of the State of California's Water Code of 1969 (a complex of bays, dead-end sloughs, channels

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the regulatory baseline. However, that the species will fare better than in the past does not assure that the totality of OCAP operations are consistent with the smelt's recovery.

> typically less than 4 meters deep, marshlands, etc.) as follows:
>
> Bounded by a line beginning at the Carquinez Bridge which crosses the Carquinez Strait; thence, northeasterly along the western and northern shoreline of Suisun Bay, including Goodyear, Suisun, Cutoff, First Mallard (Spring Branch), and Montezuma Sloughs; thence, upstream to the intersection of Montezuma Slough with the western boundary of the Delta as delineated in section 12220 of the State of California's Water Code of 1969; thence, following the boundary and including all contiguous water bodies contained within the statutory definition of the Delta, to its intersection with the San Joaquin River at its confluence with Suisun Bay; thence, westerly along the south shore of Suisun Bay to the Carquinez Bridge.

59 Fed. Reg. 65,256, 65,277 (Dec. 19, 1994).

Federal Defendants respond that "the agencies have developed an operating and adaptive management system that adequately protects the existing critical habitat, that reasonably uses X2 as an evaluation tool, and that also ensures that 'additional measures' will be taken in accordance with the DSRAM to affirmatively and proactively manage habitat, as needed." (Doc. 242 at 26.) But, apart from the X2 analyses, Federal Defendants identify no other record evidence that reflects the agency analyzed impacts to critical habitat or that any "additional measures" will be required under DSRAM, as the DSRAM does not require any measure be implemented.

Defendant Intervenors assert that it is unnecessarily costly to accommodate impacts to all of the geographically designated critical habitats because the smelt are not located in the entirety of their critical habitat range all of the time. They argue the focus must be on protecting the habitat occupied by the smelt. Even if more sensible, the law requires that the agency analyze whether project operations will directly or indirectly

alter critical habitat in a way that "appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species." 50 C.F.R. § 402.02. "Such alterations include, but are not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical." *Id.* The statute defines critical habitat to include both "the specific areas within the geographical area occupied by the species...on which are found those physical or biological features...essential to the conservation of the species" and "specific areas outside the geographical area occupied by the species...upon a determination by the Secretary that such areas are essential for the conservation of the species." 16 U.S.C. § 1532(5)(A). The definition of critical habitat is broader than the specific areas of occupation.

Here, the agency defined critical habitat to have a geographic scope. Absent any alterations to the critical habitat designation, the agency must address in the BiOp the full extent of impacts to the currently designated critical habitat,[37] which excluded "already degraded areas." Alternatively, the Delta

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[37] Plaintiffs raise an additional contention why the critical habitat analysis is insufficient; i.e., that the BiOp unlawfully "writes off" areas of critical habitat because they have already been degraded. For example, the BiOp concludes that "[a]n upstream movement of X2 of 0.5 km would not be significant when [X2] is located upstream of the [Sacramento-San Joaquin River] confluence because smelt habitat is already poor and the upstream movement does not result in any substantial additional loss of habitat or increase in adverse effects." (AR 443.) This issue need not be reached, as the critical habitat analysis is insufficient on other grounds. Federal Defendants are already revising the BiOp to reflect new information and new law.

smelt's critical habitat should be redefined to reflect the actual location of the smelt, if such redesignation would be consistent with law.

This has not been done. Plaintiffs motion for summary adjudication is **GRANTED** as to this issue.

F. Did the BiOp Fail to Address the Impacts of the Whole Project?

1. Plaintiffs' Argument That the Biop Should Have Analyzed the Effects of Constructing the SDIP, Intertie, and FRWP.

Plaintiffs complain that the BiOp's scope is unlawfully narrow because it fails to consider all planned actions. The BiOp includes within its formal consultation, "delivery of CVP water to the proposed Freeport Regional Water Project (FRWP)" as well as the "operation of the SWP-CVP intertie." The BiOp designates as an early consultation issue "operations of components of the South Delta Improvement Program (SDIP)," which include "permanent barrier operations in the South Delta." (AR 248.) The effects of constructing the FRWP, the Intertie, and the permanent barriers are to be covered in separate formal consultations. (AR 256, 339, 341, 421.)

The ESA requires FWS to address impacts associated with the entire agency action. *See Conner*, 848 F. 2d at 1453-54 (holding that agency violated ESA by choosing not to analyze the effects of all stages of oil and gas activity on federal lands). According to ESA regulations, the effects of an agency action include "direct and indirect effects of an action on the species or critical habitat, together with the effects of other

activities that are interrelated or interdependent with that action, that will be added to the environmental baseline." 50 C.F.R. § 402.02. "The meaning of 'agency action' is determined as a matter of law by the Court, not by the agency." *Greenpeace II*, 80 F. Supp. 2d at 1146 (citing *Pacific Rivers Council v. Thomas*, 30 F.3d 1050, 1054 (9th Cir. 1994).)

The BiOp explains its approach to scope as follows:

> The proposed action is to continue to operate the CVP and SWP in a coordinated manner. In addition to current day operations, several future actions are to be included in this consultation. These actions are: (1) increased flows in the Trinity River, (2) 8500 Banks, (3) permanent barriers operated in the South Delta, (4) an intertie between the California Aqueduct (CA) and the Delta-Mendota Canal (DMC), (5) a long-term EWA, (6) delivery of CVP water to the FRWP, and (7) various operational changes that are identified in this project description. Some of these items will be part of early consultation including 8500 Banks, permanent barriers and the long-term EWA. These proposed actions will come online at various times in the future. Thus, the proposed action is continued operation of the Project without these actions, and operations as they come online.
>
> The actions listed in the preceding paragraph are not being implemented at present; however, they are part of the future proposed action on which Reclamation is consulting. Only the operations associated with the proposed activities are addressed in this consultation; i.e., the activities do not include construction of any facilities to implement the actions. All site specific/localized activities of the actions such as construction/screening and any other site specific effects will be addressed in separate action specific section 7 consultations.

(AR at 256 (emphasis added).) In sum, only those aspects of the 2004 OCAP that will be implemented without further approval were the subject of formal consultation. However, certain other changes that will be effectuated in the future were the subject of early consultation. With respect to future operational changes, including some subject to formal consultation, full

implementation will require the construction of specified facilities. The impact of the construction activities themselves will be the subject of separate § 7 consultation.

Plaintiffs argue that the BiOp should have addressed the full impacts of construction of the Intertie, Freport diversion, and the SDIP because those projects are within the scope of the agency action as a whole and are "interrelated and interdependent" with the 2004 OCAP.[38]

In response, Federal Defendants cite the Endangered Species Consultation Handbook, which explains, in a hypothetical example, that operation of an existing dam project need not be considered an interrelated or interdependent activity, where the agency action being evaluated in a biological opinion was the addition

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[38] The San Luis Parties cite *Gifford Pinchot* in support of the proposition that this is a properly "tiered" biological opinion. *In Gifford Pinchot*, the Ninth Circuit approved for the the tiering of a biological opinion for timber harvests in specified forest areas. The no jeopardy conclusion contained in that biological opinion relied on compliance with a very thorough, overarching forest management plan that was previously approved by the court. 378 F.3d at 1067-68. *Gifford Pinchot* allowed the agency to tier its BiOp of a timber harvest with a programmatic forest management plan that provided guidelines regarding the harvesting of timber. *Rodgers*, 381 F. Supp. 2d at 1228 n.27, interpreted the holding narrowly to apply tiering only to cases in which the programmatic opinion was particularly thorough. Tiering of future construction projects is not appropriate here, because the BiOp provides no programmatic guidelines regarding construction activities. However, just because the later projects cannot be "tiered" off the current BiOp does not mean they must be included in the current BiOp. The relevant inquiry is whether the construction projects are interrelated to and/or interdependent upon the BiOp and the 2004 OCAP.

of a new turbine to an existing dam.[39] (Handbook at 4-25 to 4-29.) Although not cited by the Federal Defendants for this purpose, the Handbook also describes a general approach FWS should use when determining whether certain actions are "interrelated or interdependent," so as to be considered part of the action:

> Interrelated and interdependent actions: Effects of the action under consultation are analyzed together with the effects of other activities that are interrelated to, or interdependent with, that action. An interrelated activity is an activity that is part of the proposed action and depends on the proposed action for its justification. An interdependent activity is an activity that has no independent utility apart from the action under consultation. (Note: the regulations refer to the action under consultation as the "larger action" [50 CFR § 402.02])....
>
> As a practical matter, the analysis of whether other activities are interrelated to, or interdependent with, the proposed action under consultation should be conducted by applying a "but for" test. The biologist should ask whether another activity in question would occur "but for" the proposed action under consultation. If the answer is "no," that the activity in question would not occur but for the proposed action, then the activity is interrelated or interdependent and should be analyzed with the effects of the action. If the answer is "yes," that the activity in question would occur regardless of the proposed action under consultation, then the activity is not interdependent or interrelated and would not be analyzed with the effects of the action under consultation. There will be times when the answer to this question will not be apparent on its face. The biologist should ask follow-up questions to the relevant parties to determine the relationship of the activity to the proposed action under consultation. It is important to

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[39] Federal Defendants correctly point out that the FWS uses as a guidance document the ESA Section 7 Consultation Handbook (March 1998), available at "http://www.fws.gov/endangered/consultations/s7hndbk/s7hndbk.htm" (last visited Apr. 27, 2006). *See e.g., Oregon Natural Res. Council v.* Allen, 476 F.3d 1031, 1039 n.7 (9th Cir. 2007); Ariz. *Cattle Growers' Ass'n v. U.S. Fish & Wildlife Serv.*, 273 F.3d 1229 (9th Cir. 2001); .

> remember that interrelated or interdependent activities are measured against the proposed action. That is, the relevant inquiry is whether the activity in question should be analyzed with the effects of the action under consultation because it is interrelated to, or interdependent with, the proposed action. Be careful not to reverse the analysis by analyzing the relationship of the proposed action against the other activity. For example, as cited below, if the proposed action is the addition of a second turbine to an existing dam, the question is whether the dam (the other activity) is interrelated to or interdependent with the proposed action (the addition of the turbine), not the reverse.

Section 7 Handbook at 4-26.

Here, applying the Handbook test, the question is whether the other activities (construction and operation of SDIP, Freeport, and the Intertie) are interrelated to or interdependent with the proposed actions subject to formal consultation? The formal consultation, as described in the BiOp, covers

> ...the proposed 2020 operations of the CVP including the Trinity River Mainstem ROD (Trinity ROD) flows on the Trinity River, the increased water demands on the American River, the delivery of CVP water to the proposed Freeport Regional Water Project (FRWP), water transfers, the long term Environmental Water Account (EWA), the operation of the Tracy Fish Facility, and the operation of the SWP-CVP intertie. The effects of operations of the SWP are also included in this opinion and include the operations of the North Bay Aqueduct, the Suisun Marsh Salinity Control Gates, the Skinner Fish Facility and water transfers.

(AR 248 (emphasis added).) The formal consultation admittedly covers delivery of CVP water to the proposed FRWP and operation of the Intertie. But, the BiOp expressly excludes the impacts of construction associated with FRWP or the Intertie:

> The actions listed in the preceding paragraph [including permanent barriers in the South Delta, an intertie, and the FRWP] are not being implemented at present; however, they are part of the future proposed action on which Reclamation is consulting. Only the operations associated with the proposed activities are

> addressed in this consultation; i.e., the activities do not include construction of any facilities to implement the actions. All site specific/localized activities of the actions such as construction/screening and any other site specific effects will be addressed in separate action specific section 7 consultations.

(AR 256 (emphasis added).)

Is there a "but-for" relationship between the 2004 OCAP and the new projects? The FRWP and the Intertie are designed to more effectively distribute CVP and SWP waters. There is no evidence in the record indicating that construction of either project is tied in any way to the pre-approval of delivery of water to the projects. Flow operations could be approved after or simultaneously with the approval of new construction. Under the Handbook test, the construction projects are not considered interdependent and interrelated. These projects may be consulted upon separately. By approving a flow regime before the construction, the Bureau may plann for the possibility that the FRWP will be constructed in the future. The entire OCAP BiOp would not need to be revised should the projects be constructed. This is a reasonable approach.

With respect to the SDIP, the BiOp currently excludes both its operation and related construction coverage under the formal consultation. Plaintiffs allege that both should have been covered by the BiOp because they are interrelated with or interdependent on the agency action. Applying the Handbook analysis, the operation and construction of the SDIP (which includes increased pumping at Banks and operation of permanent barriers) will not occur "but for" the approval of the 2004 OCAP for CVP-SWP operations? Each action is independent of the 2004

OCAP. The SDIP is a separate addition that may or may not be constructed. Project operations under the 2004 OCAP in no way depend upon the SDIP. There is no prohibition to addressing the future operation, if and when the construction of the SDIP will occur, in a separate consultation.

Plaintiffs' motion for summary adjudication is **DENIED** as to the future projects issue.

2. Plaintiffs' Argument that the BiOp Failed to Analyze the Impact of Full Contract Deliveries.

A biological opinion must consider the effects of the entire agency action, meaning "all activities or programs of any kind authorized, funded, or carried out," including "the granting of...contracts." 50 C.F.R. § 402.02. One of the primary purposes of the 2004 OCAP is to "deliver water supplies to affected water rights holders as well as project contractors." (AR 259.) The Bureau delivers water to numerous parties pursuant to long-term contracts ("CVP Contracts"), some of which were renewed shortly after the BiOp was issued. (AR 4732, 4796, 4855.)

The CALSIM II model incorporated water deliveries into its various flow scenarios, but only performed its analysis based on the effects of delivering between 11 and 89 percent of the full CVP Contract allocations. (*See* AR 1067; see also Doc. 242 at 31 (acknowledging that the agency "did not evaluate the impacts of 100% percent delivery of all contracted waters").) This range of delivery scenarios is based on historic average water deliveries.

Plaintiffs allege that, by failing to evaluate the impact of delivering full amount (100%) of contracted water, the BiOp

violates the requirement that the it evaluate the entire agency action. Plaintiffs cite *Rodgers*, 381 F. Supp. 2d at 1237-40, which examined a biological opinion approving long term water contracts in the Friant, Buchanan, and Hidden water units of the CVP. The BiOp only examined the impacts of the amount of historical water deliveries, which amounted to less than half of the water deliveries authorized under the long term water service contracts. *Id.* at 1237-28.

> The Friant long-term contracts cumulatively authorized the Bureau to deliver more than 2.1 million acre-feet of water per year, for twenty-five years. Rather than analyzing the effects of 2.1 million acre-feet of water delivery, FWS explained that its "effects analysis is conducted under the expectation that water will be delivered to CVP service contractors in quantities that approximate historic deliveries (1988 through 1997), as given in Appendix D of the November 21, 2000 programmatic long-term CVP contracts consultation." This assumption was made, the BiOp explained, because "delivery of full contract quantities is unrealistic."

Id. at 1238. *Rodgers* rejected FWS's approach, reasoning that the "ESA requires that all impacts of agency action-both present and future effects-be addressed in the consultation's jeopardy analysis."

> The fact that it was thought by FWS that "delivery of full contract quantities is unrealistic" and that "deliveries continue to be impacted by existing climate, hydrology, actions and statutes, ... socio-economic factors" does not excuse consulting on the "entire agency action," which was the authorized delivery of over 2.1 million acre-feet of water, and nothing less than that.

Id. at 1239.

Federal defendants assert that the *Rodgers* decision was wrong, arguing that "[a]bsent alternative information that the agency failed to consider, and given the fact that the agency did

use the best available information, the *Rodgers* court should have deferred to the agency." (Doc. 242 at 32.) It is not the province of another district court to decide whether *Rodgers* is "wrong." *Rodgers* is distinguishable as it specifically addressed the government authorization of CVP water users' long-term water service contracts. Those contracts authorized 2.1 MAF of water deliveries in total. *Rodgers* found unlawful the biological opinion's limitation in its scope to approximate historic deliveries, instead of the full contract allocations. Here, however, the agency action subject to consultation is not the authorization or merits of the water service contracts, rather, it is the operation of the CVP and SWP under the OCAP and whether those projected operations will cause jeopardy to the survival and recovery of smelt or smelt habitat. The government is entitled to make reasonable assumptions about the operational volume of water flows, water levels, temperature, and quality based on the historical and projected data in the administrative record. The BiOp explains that the delivery of full water service contract entitlements is expected only when excess water conditions exist, i.e., in a wet water year when sufficient water is available to meet all beneficial needs. (AR 259.) Plaintiffs do not suggest that this assumption is factually impossible. (Nor would it be unreasonable for FWS to model a full (100%) water contract delivery scenario, even if it has not happened in the past fifteen years.) The agency model for the worst case scenario is indispensable. Analysis of a "best of the best" case in a wet water year is not indispensable, as such "wet" water year conditions do not present any reasonable likelihood of

jeopardy, absent an additional showing. However, because such a scenario could eventuate, it is not unlawful for the agency to analyze the effects on the smelt of 100% water contract deliveries. However, the 100% delivery analysis is not required. This is a matter committed to the agency's expertise and discretion.

Plaintiffs motion for summary adjudication is **DENIED** as to this issue.

VIII. CONCLUSION

As the history of the many CVP water cases decided in this court evidences, the duty to defer to the agency's expertise is well recognized and honored, when the agency has acted reasonably and lawfully to discharge its statutory responsibilities. The disputed BiOp depends in material measure for its no jeopardy finding on the DSRAM, which is legally insufficient. The agency's recognition the Delta smelt is increasingly in jeopardy; that its operative BiOp is inadequate, as evidenced by its second initiation of reconsultation for the 2004 OCAP, now pending, and its insistence that it will nonetheless operate the Projects under the challenged BiOp is unreasonable. The agency could have, but did not, offer a viable protective alternative. Adaptive management is within the agency's discretion to choose and employ, however, the absence of any definite, certain, or enforceable criteria or standards make its use arbitrary and capricious under the totality of the circumstances.

The agency's failure to reasonably estimate the Delta smelt population and to analyze most recent smelt abundance data make

the take limits based on historical data unreliable and unreasonable. The Delta smelt is undisputedly in jeopardy as to its survival and recovery. The 2005 BiOp's no jeopardy finding is arbitrary, capricious, and contrary to law.

For all the reasons set forth above, the 2005 OCAP BiOp is unlawful and inadequate on the following grounds:

(1) The DSRAM, as currently structured, does not provide a reasonable degree of certainty that mitigation actions will take place, even if the agency retains the discretion to draw upon numerous sources of water, not just the EWA, CVPIA(b)(2), and VAMP programs, to support fish protection.

(2) The agency failed to utilize the best available scientific information by not addressing the 2004 FMWT data and the issue of climate change.

(3) The BiOp's historical approach to setting take limits fails to consider take in the context of most recent overall species abundance and jeopardy.

(4) The BiOp did not adequately consider impacts to critical habitat by (a) failing to analyze how project operations will impact the value of critical habitat for the recovery of the smelt and (b) failing to consider impacts upon the entire extent of known smelt critical habitat.

The Plaintiffs' motions for summary judgment are GRANTED IN PART AND DENIED IN PART, as delineated above.

Based on the legally flawed BiOp, an appropriate interim

remedy must be implemented. All parties agree that it is not prudent to impose a remedy without further input from the parties. A separate remedies hearing will be scheduled within thirty days at the parties' mutual convenience.[40] During oral argument, Federal Defendants and Defendant-Intervenors jointly requested a stay of any order finding the BiOp unlawful to avoid the draconian consequences of operating the CVP-SWP without a lawful take limit. Affording all parties the opportunity to participate in a remedies hearing will not jeopardize the species or the public interest during interim operation of the projects. Plaintiffs did not object to such an approach.

A Scheduling Conference is set for May 30, 2007, at 8:45 a.m. in Courtroom 3 to afford the parties time for discussions to set a remedies hearing, and to consider the entry of a stay, if necessary.

Plaintiffs shall submit a form of order on the motions for summary judgment consistent with this decision within five (5) days following service of this decision.

IT IS SO ORDERED.

Dated: May 25, 2007 **/s/ Oliver W. Wanger**
UNITED STATES DISTRICT JUDGE

[40] The parties stated that they may be able to reach an agreement as to interim remedies, avoiding the need for a remedies hearing.