

FOR PUBLICATION

**UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT**

CENTER FOR BIOLOGICAL
DIVERSITY,

Plaintiff-Appellant,

v.

U.S. FISH & WILDLIFE SERVICE;
SALLY JEWELL, Secretary of the
Interior,

Defendants-Appellees,

SOUTHERN NEVADA WATER
AUTHORITY; COYOTE SPRINGS
INVESTMENT, LLC,

Intervenor-Defendants-Appellees.

No. 12-17530

D.C. No.
3:10-cv-00521-
ECR-WGC

OPINION

Appeal from the United States District Court
for the District of Nevada
Edward C. Reed, Jr., Senior District Judge, Presiding

Argued and Submitted
April 11, 2014—San Francisco, California
Submission Vacated June 24, 2014
Resubmitted for Decision September 9, 2015

Filed September 17, 2015

2 CTR. FOR BIOLOGICAL DIVERSITY V. USFWS

Before: Mary M. Schroeder and Consuelo M. Callahan,
Circuit Judges, and Robert W. Pratt, Senior District Judge.*

Opinion by Judge Pratt

SUMMARY**

Environmental Law

The panel affirmed the district court's summary judgment in favor of the U.S. Fish and Wildlife Service and intervenors Southern Nevada Water Authority and Coyote Springs Investment, LLC in an action brought by the Center for Biological Diversity challenging the Fish and Wildlife Service's Biological Opinion which determined that the execution of a Memorandum of Agreement, concerning a groundwater pump test in Nevada, would not jeopardize the Moapa dace, an endangered species.

The panel held that the Center for Biological Diversity had standing.

The panel rejected the Center for Biological Diversity's challenges to the Biological Opinion. Specifically, the panel found no evidence in the record that the Fish and Wildlife Service relied on improper factors, failed to consider

* The Honorable Robert W. Pratt, Senior District Judge for the U.S. District Court for the Southern District of Iowa, sitting by designation.

** This summary constitutes no part of the opinion of the court. It has been prepared by court staff for the convenience of the reader.

important aspects of the problem, offered explanations for its decision that were counter to the evidence before it, or offered implausible explanations for its decision. The panel held that the Fish and Wildlife Service's determination that its participation in the Memorandum of Agreement would not cause jeopardy to the Moapa dace was not arbitrary, capricious, or in violation of the Endangered Species Act.

COUNSEL

John Buse (argued) and Lisa Belenky, Center for Biological Diversity, San Francisco, California; William J. Snape, III, Center for Biological Diversity, Washington, D.C., for Plaintiff-Appellant.

Ignacia S. Moreno, Assistant Attorney General, James J. Dubois, Coby Howell, Ellen J. Durkee, and Nina C. Robertson (argued), United States Department of Justice, Environment & Natural Resources Division, Washington, D.C., for Defendants-Appellees United States Fish & Wildlife Service and Sally Jewell.

Murray D. Feldman (argued), Holland & Hart, Boise, Idaho; Craig D. Galli, Holland & Hart, Salt Lake City, Utah; Dana R. Walsh, Southern Nevada Water Authority, Las Vegas, Nevada, for Intervenor-Defendant-Appellee Southern Nevada Water Authority.

Kirk B. Lenhard, Scott M. Schoenwald, and Bradley J. Herrema, Brownstein Hyatt Farber Schreck, LLP, Las Vegas, Nevada, for Intervenor-Defendant-Appellee Coyote Springs Investment, LLC.

OPINION

PRATT, District Judge:

This case concerns Defendant-Appellee U.S. Fish and Wildlife Service's ("FWS") decision to enter into a Memorandum of Agreement ("MOA") with several non-federal entities who were subject to a Nevada State Order mandating a groundwater pump test. FWS anticipated that the pump test may affect an endangered species, the Moapa dace, and worked with the parties to obtain an agreement to implement a variety of conservation measures in advance of the groundwater pump test. FWS conducted a formal consultation under the Endangered Species Act ("ESA"), 16 U.S.C. § 1531 et seq., and determined in a Biological Opinion ("Biop") that FWS's execution of the MOA would not jeopardize the Moapa dace. Plaintiff-Appellant Center for Biological Diversity ("CBD") challenged the Biop and the district court granted summary judgment in favor of FWS and Intervenor-Defendants-Appellees Southern Nevada Water Authority ("SNWA") and Coyote Springs Investment, LLC ("CSI").

In this opinion, we resolve a challenge by FWS and Intervenor to CBD's standing. Because we conclude that CBD does have standing, we also resolve CBD's claims that the Biop was arbitrary and capricious because: (1) it unlawfully relies on conservation measures that are inadequate and unenforceable; (2) it was not based on the best available scientific information; and (3) it failed to evaluate all foreseeable consequences of the proposed action. We reject CBD's challenges to the Biop and affirm the district court's grant of summary judgment.

I. BACKGROUND

A. The Statutory Scheme

The ESA “is a comprehensive scheme with the broad purpose of protecting endangered and threatened species.” *Ctr. for Biological Diversity v. U.S. Bureau of Land Mgmt.*, 698 F.3d 1101, 1106 (9th Cir. 2012) (hereinafter “*BLM*”) (citation and internal quotation marks omitted). This case centers on two provisions central to the ESA’s protections: section 9, which imposes a blanket prohibition on the “take” of any endangered species,¹ 16 U.S.C. § 1538(a)(1)(B), and section 7, which “imposes an affirmative duty to prevent violations of Section 9 upon federal agencies.” *Ariz. Cattle Growers’ Ass’n v. FWS*, 273 F.3d 1229, 1238 (9th Cir. 2001) (citing 16 U.S.C. § 1536(a)(2)).

Section 7(a)(2) of the ESA requires every federal agency to “insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence² of any endangered species or threatened species or result in the destruction or adverse modification of [critical]

¹ “The term ‘take’ means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” 16 U.S.C. § 1532(19). The ESA’s implementing regulations define “harm” as “an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.” 50 C.F.R. § 17.3.

² “Jeopardize the continued existence of means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.” 50 C.F.R. § 402.02.

habitat of such species.” 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(a). To achieve this substantive requirement, section 7 and its implementing regulations impose specific procedural duties on federal agencies. “Each Federal agency shall review its actions at the earliest possible time to determine whether any action may affect listed species or critical habitats.” 50 C.F.R. § 402.14(a). If the agency determines that its action “may affect” a listed species or habitat, it must engage in informal or formal consultation with the Secretary of the Interior or his designee—in this case, FWS.³ *San Luis & Delta-Mendota Water Auth. v. Jewell*, 747 F.3d 581, 596 (9th Cir. 2014); *see also* 16 U.S.C. § 1536(a)(4); 50 C.F.R. § 402.14. If informal consultation results in a written agreement between the action agency and the consultation agency that the proposed action “is not likely to adversely affect” any endangered or threatened species, no further action is necessary. 50 C.F.R. § 402.14(b)(1). However, if at any point FWS concludes that the proposed action is “likely to adversely affect” a listed species or critical habitat, formal consultation is required. *Jewell*, 747 F.3d at 596; 50 C.F.R. §§ 402.13, 402.14.

During formal consultation, the FWS is obligated to use the “best scientific and commercial data available,” 16 U.S.C. § 1536(a)(2), to “evaluate[] the effects of the proposed action on the survival of [the] species and any potential destruction or adverse modification of critical habitat.” *Nat’l Wildlife Fed’n v. Nat’l Marine Fisheries Serv.*, 524 F.3d 917, 924 (9th Cir. 2008) (citing 16 U.S.C. § 1536(b)). At the conclusion of the formal consultation process, FWS must provide a biological opinion setting forth a summary of the information on which the opinion is based, a detailed discussion of the

³ FWS is both the action agency and the consultation agency in this case.

effects of the agency action on the listed species, and an opinion as to whether the proposed agency 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.” 16 U.S.C. § 1536(b)(3)(A); 50 C.F.R. §§ 402.14(g)(4), (h)(1)–(3). “If jeopardy . . . is found, [FWS] shall suggest those reasonable and prudent alternatives which [it] believes would not violate [§ 7(a)(2)] and can be taken by the . . . applicant in implementing the agency action.” 16 U.S.C. § 1536(b)(1)(B)(3)(A). If it is determined that neither jeopardy nor adverse modification is likely, FWS “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.” *Nat’l Wildlife Fed’n*, 524 F.3d at 924–25 (footnote omitted); 16 U.S.C. § 1536(b)(4).

B. The Moapa dace

The Moapa dace is a small, thermophilic fish found only in the Muddy River, and particularly in the warmer waters of the upper springs and tributaries of the Warm Springs area in Southeastern Nevada. Biop at 14–15. Reproduction occurs year-round and is confined to the upper, spring-fed tributaries where water temperatures vary from 84.2 to 89.9 degrees Fahrenheit. *Id.* at 15. Juveniles are found almost exclusively in the spring-fed tributaries, whereas adults, who have the greatest tolerance to cooler water temperatures, are also found in the mainstream of the Muddy River. *Id.*

The Moapa dace, a member of the North American minnow family, *Cyprinidae*, was listed as endangered under the Endangered Species Preservation Act of 1966 on March 11, 1967, and has been protected by the ESA since its

inception in 1973. *Native Fish & Wildlife*, 32 Fed. Reg. 4001. Though critical habitat has not been designated for the species, FWS has assigned the Moapa dace the highest recovery priority because it is the only species in the genus *Moapa*, there is high degree of threat to its continued existence, and there is a high potential for its recovery. Biop at 14. Primary threats to the dace include non-native fishes, parasites, habitat loss from water diversions and impoundments, fire due to encroaching non-native plant species, and reductions to surface spring-flows resulting from groundwater development, which reduces spawning, nursery habitats, and the food base for the dace. *Id.* at 15.

In 1979, 106 acres of springs and wetlands located in the Warm Springs Area of the Upper Moapa Valley were designated as the Moapa Valley National Wildlife Refuge (“MVNWR”) for the protection of the endangered Moapa dace. *Id.* at 17–18. The thermal headwaters of the springs on the MVNWR are some of the most productive Moapa dace spawning habitat in the area. *Id.* at 18. The MVNWR consists of three units encompassing the major spring groups: the Pedersen Unit, the Plummer Unit, and the Apcar Unit (also known as Jones Spring). *Id.* In 2005, it was estimated that throughout the approximately 5.6 miles of habitat in the upper Muddy River system, the population of dace was about 1,300. *Id.* at 24. Approximately 95% of this total population occurs within one major tributary that includes 1.78 miles of spring complexes that emanate from the three major spring groups and their tributaries. *Id.* About 28 percent of the Moapa dace population was located on the MVNWR, while approximately 55 percent occupied the Refuge Stream, which is supplied by the spring complexes emanating from the MVNWR. *Id.* The Refuge Stream reach accounted for the highest density of Moapa dace, with the Plummer, Pedersen,

and Apcar Units containing the second, third, and fourth highest densities, respectively.⁴ *Id.* at 24, 26.

C. The parties, their water rights, and the State pump-test order

CBD is a non-profit corporation actively involved in species and habitat protection issues throughout North America and the Pacific. Its members and staff live, work, visit, and recreate in areas of Nevada that serve as Moapa dace habitat.

FWS is a federal agency that is part of the Department of the Interior. Its responsibilities include implementing the ESA and administering the National Wildlife Refuge System. Pursuant to Permit No. 56668, FWS owns a Nevada State water right certificate (the “FWS Water Right”) for a flow rate of not less than 3.5 cubic feet per second (“cfs”) as measured at the Warm Springs West flume for maintenance of the habitat of the Moapa dace and other wildlife purposes. The priority date for the FWS water right is August 15, 1991.

Several entities own permitted water rights with appropriation priorities senior to the FWS Water Right. SNWA is a political subdivision of the State of Nevada,

⁴ According to the 2005 survey, a total of 1,296 Moapa dace were identified. *Biop* at 26. Of these, 714 were in the Refuge Stream (1 fish per 4 feet of habitat), 177 were in the Plummer Unit (1 fish per 5 feet), 174 were in the Pedersen Unit (1 fish per 11 feet), and 157 were in the Apcar Unit (1 fish per 20 feet). *Id.*

which owns 9,000 acre feet per year (“afy”)⁵ of water rights (the “SNWA Water Rights”) with points of diversion within the Coyote Spring Valley hydrographic basin under Permit Nos. 49414, 49660–49662, and 49978–49987. CSI is a private landowner that owns 4,600 afy of water rights (the “CSI Water Rights”) with points of diversion within the Coyote Spring Valley hydrographic basin under Permit Nos. 70429 and 70430. The Moapa Band of Paiute Indians (the “Tribe”) owns 2,500 afy of water rights (the “Tribe Water Rights”) with a diversion rate of 5.0 cfs within the California Wash hydrographic basin⁶ pursuant to Permit No. 54075.

On March 8, 2002, the Nevada state engineer issued Order 1169, which held in abeyance all applications for additional groundwater appropriation from Coyote Spring Valley pending a study of the impacts of pumping groundwater pursuant to already-existing water rights. In particular, the state engineer ordered that several entities owning water rights in the area, including SNWA, CSI, and the Moapa Valley Water District (“MVWD”),⁷ engage in a minimum five-year study “during which at least 50% of the

⁵ An acre foot of water is the amount of water it would take to cover one acre to a depth of one foot. One acre foot of water comprises approximately 326,000 gallons.

⁶ The California Wash hydrographic basin neighbors the Coyote Spring Valley hydrographic basin.

⁷ The MVWD supplies the municipal water needs of the Upper and Lower Moapa Valley in Clark County, Nevada. It owns several water rights in the Upper Moapa Valley including surface rights to spring flows in the Muddy Springs area and groundwater rights with points of diversion at the Arrow Canyon well under Permit Nos. 52520, 55450, and 58269. It also owns a right to 1.0 cfs of spring flow from the Jones Spring (the “Jones Water Right”). MVWD is not a party to this case.

water rights currently permitted in the Coyote Springs Valley groundwater basin are pumped for at least 2 consecutive years.” Pump test participants were required to provide data on a quarterly basis regarding the rate of water diversion, as well as a report on impacts to groundwater and surface water resources upon conclusion of the study.⁸

D. The Memorandum of Agreement

Prior to and after the issuance of Order 1169, FWS was concerned that groundwater pumping in Arrow Canyon (by MVWD), in the Coyote Springs Valley hydrographic basin (by SNWA and CSI), and in the California Wash hydrographic basin (by the Tribe), was causing or would cause spring flows to decline in the Warm Springs area, creating potentially negative effects for the Moapa dace. In 2004, FWS began meeting with the various water-rights holders to identify conservation measures to aid Moapa dace survival in light of the anticipated pump test. On April 20, 2006, FWS, SNWA, CSI, MVWD, and the Tribe executed the MOA at issue in this case, based on their “share[d] common interest in the conservation and recovery of the Moapa dace and its habitat,” as well as in each signatory’s right to the “use and enjoyment of its water rights and

⁸ The pump test actually began on November 15, 2010, and was declared completed as of December 31, 2012. See Nevada State Engineer Order No. 1169A (Dec. 21, 2012), *available at* <http://images.water.nv.gov/images/Orders/1169Ao.pdf>. Study participants were granted to June 28, 2013, to file a report with the Office of the State Engineer addressing “information obtained from the study/pumping test, impacts of pumping under the pumping test and the availability of water pursuant to the pending applications.” *Id.* We take judicial notice of this document because it is “a record of a state agency not subject to reasonable dispute.” *City of Sausalito v. O’Neill*, 386 F.3d 1186, 1223 n.2 (9th Cir. 2004).

entitlements.” In furtherance of this common interest, the MOA contains a variety of “monitoring, management and conservation measures,” which can loosely be grouped into two categories—measures designed to reduce pumping and dedicate water rights for Moapa dace conservation and measures designed to restore and improve Moapa dace habitat.

In the first category of conservation measures, the MOA signatories agreed that: (1) MVWD’s Jones Water Right will be dedicated to maintaining in-stream flows in the Apcar Stream; (2) 460 afy of the CSI Water Rights, plus 5% of any future water rights obtained by CSI, will be dedicated to the survival and recovery of the Moapa dace and its habitat; and (3) pumping would be slowed or ceased at various sites if water flow, as measured at the Warm Springs West flume, fell below certain “Trigger Ranges.” In the second category of conservation measures, the MOA signatories agreed to provide funding for Moapa dace habitat restoration and recovery measures, including \$750,000 from SNWA to restore Moapa dace habitat on the Apcar Unit; \$125,000 from both FWS and SNWA to investigate effects of habitat change on the ecology of the Moapa dace; \$50,000 from SNWA to construct fish barriers to help eliminate predatory fish from Moapa dace habitat; \$25,000 from SNWA to implement programs to eradicate non-native fish in the Warm Springs area; and \$50,000 per year for four years from CSI to FWS for restoration of Moapa dace habitat outside the boundaries of the MVNWR. The parties additionally agreed: (1) to establish a Recovery Implementation Program (“RIP”) to identify, prioritize, and fund measures designed to protect the Moapa dace and facilitate its recovery; (2) to establish a Hydrologic Review Team to coordinate and ensure accuracy in monitoring and data collection; (3) that a portion of the

Tribe's greenhouse facility would be dedicated to cultivating native vegetation for use in RIP-approved habitat restoration; (4) that the Tribe would permit access to its reservation for the construction of at least one fish barrier; (5) to identify and obtain additional land and water rights to aid in Moapa dace recovery; and (6) to cooperate in carrying out additional activities targeted at recovery of the Moapa dace as further data becomes available. The MOA also provided that, so long as all parties were in compliance with the MOA's terms, FWS would not assert injury to the FWS Water Rights unless flow rates at the Warm Springs West flume fell below 2.7 cfs. Outside of FWS's agreement in this regard, the MOA explicitly "does not waive any of the authorities or duties" of any of the parties "from complying with any Federal laws, including . . . [the ESA]," nor does it waive any obligation by FWS to "consult or re-consult under the [ESA]."

The MOA provides that the "Parties desire that FWS engage in consultation and prepare a formal biological opinion" under ESA § 7 prior to execution of the MOA. Although the MOA neither authorizes nor approves any groundwater pumping, it nonetheless states that FWS's consultation "shall consider the effects on the Moapa dace from the pumping of 9,000 afy under the SNWA Water Rights, 4,600 afy under the CSI Water Rights, and 2,500 afy by the Tribe . . . together with the implementation of the monitoring, management and conservation measures" identified in the MOA.

E. The FWS Programmatic Biop

On January 30, 2006, FWS issued a document entitled "Intra-Service Programmatic Biop for the Proposed Muddy River Memorandum of Agreement Regarding the

Groundwater Withdrawal of 16,100 Acre-Feet per Year from the Regional Carbonate Aquifer in Coyote Spring Valley and California Wash Basins, and Establish Conservation Measures for the Moapa Dace, Clark County, Nevada” (the “Biop”). The Biop provides:

This biological opinion evaluates, as the proposed action, the execution of the MOA by [FWS]. None of the activities included in the MOA will be implemented absent project or activity specific consultations. Since the MOA contemplates future groundwater development of up to 16,100 [afy], this total withdrawal and the potential effects to the Moapa dace are evaluated in this biological opinion. As part of the proposed action, the following biological opinion will evaluate the effects of the cumulative groundwater withdrawal of 16,100 afy from two basins within the regional carbonate aquifer to the federally listed as endangered Moapa dace at a programmatic level in light of the conservation measures proposed in the MOA.

Biop at 1.

Due to “the number of impending actions by different entities included in the proposed action,” FWS employed a tiered-programmatic approach in preparing its Biop. *Id.* at 2. Thus, the required consultation was intended to take place in two stages: the first stage (the January 30, 2006 Biop) would “evaluate landscape-level effects,” while a series of later second-stage Biops would “result[] in the completion of project-specific documentation that addresses the specific

effects of each individual project.” *Id.* at 2–3. Under this approach, second-stage consultations performed for specific action items in the MOA would “tier” to the first-stage document by incorporating portions of it by reference. *Id.* at 3 (“Thus each action has its own individual consultation document that is supported by the programmatic document.”). Noting that signatories to the MOA “have proposed various minimization/conservation actions to offset effects [of groundwater pumping] to the Moapa dace” the Biop provides that it “will only evaluate the effects of the MOA (cumulative groundwater withdrawal of 16,100 afy and their minimization measures) to the endangered Moapa dace.” Biop at 44.

Consistent with its stated approach, the Biop analyzes anticipated effects on the Moapa dace from the cumulative withdrawal of 16,100 afy from the Coyote Spring Valley and the California Wash, finding that the “Moapa dace will be directly affected by the proposed groundwater withdrawals since those actions are likely to affect the spring flows upon which the dace depends.” *Id.* at 44–55. Among other things, the Biop opines that, if inflow at the Warm Springs gauge drops to 2.7 cfs due to groundwater pumping, the result could be 31% loss of spawning habitat at the important Pedersen Unit, though “much of the available spawning habitat on the Plummer and Apcar Units, and the Refuge Stream would not be as affected by groundwater pumping since they are lower in elevation and would continue to provide adequate spawning habitat.” *Id.* at 54–55. Additionally, reductions in temperature from loss of flow in the Pedersen Unit could also extend downstream and “further impact Moapa dace by restricting its reproductive potential and make it more vulnerable to catastrophic events such as wildfire.” *Id.*

The Biop next analyzes the anticipated effectiveness of the conservation measures in the MOA, noting that such measures “include the removal of non-native fishes, enhancing, and restoring habitat and restoring instream flows (Apcar Unit) to increase the amount of habitat available for use by all life stages of the species.” *Id.* at 55. The Biop predicts that the MOA’s conservation measures will, among other things, “increase thermal habitat and the reproductive potential of the species in the Apcar and Refuge streams,” “reduce potential for fire and restore the overall spawning and rearing habitat sufficient to sustain several hundred Moapa dace on the Apcar Unit of the MVNWR,” “provide more secure habitat should water flows decline from groundwater development activities in the future,” “improve habitat throughout the range of the species,” “reduce the species vulnerability to catastrophic events,” and “expan[d] the species within its range and increase its current population size.” *Id.* at 59–60; *see also id.* at 56 (“The overall expected outcome of these measures is an increase in the species distribution and abundance throughout the range of the species.”). The Biop explains that since the MOA provides that most of the conservation measures would be implemented *before* significant groundwater pumping was to occur, the Moapa dace population would likely “respond positively, increasing in its distribution and abundance above current conditions. Therefore, the conservation benefits to the species would be realized prior to and would off-set the effect of groundwater development.” *Id.* at 126, 130.

In conclusion, the Biop states as follows: “It is [FWS’s] biological opinion that [FWS] becoming signatory to the MOA, as proposed and analyzed, is not likely to jeopardize the continued existence of the endangered Moapa dace.” *Id.*

at 61. Regarding an Incidental Take Statement (“ITS”), the Biop provides:

No exemption from Section 9 of the Act is issued through this biological opinion. The cumulative withdrawal of 16,100 afy from Coyote Spring Valley and California Wash is likely to adversely affect listed species. However, the proposed action of signing the MOA, in and of itself, does not result in the pumping of any groundwater, and is one of many steps in the planning process for proposed groundwater withdrawal projects identified in the MOA and in the action area. Therefore, the Service has taken a tiered-programmatic approach in an attempt to analyz[e] the effects of the action. This programmatic biological opinion does not authorize any incidental take for programmatic impacts associated with the activities included in the MOA. The likelihood of incidental take, and the identification of reasonable and prudent measures and terms and conditions to minimize such take, is anticipated to be addressed in future project-specific consultations (second stage). These tiered-consultations would incorporate conservation measures outlined in the MOA at the specific project level. Any incidental take and measures to reduce such cannot be effectively identified at the programmatic level of the proposed action because of the number of impending actions by different entities and its

regional scope. Incidental take and reasonable and prudent measures may be identified adequately through subsequent actions subject to section 7 consultation, and tiered to this programmatic biological opinion. Future site-specific projects that are in the Description of the Proposed Action section and identified in the MOA would require additional section 7 consultation (second stage) that would be tiered to this programmatic biological opinion.”

Id. at 62.

F. Proceedings in District Court

On August 23, 2010, CBD filed a Complaint for Declaratory and Injunctive relief against FWS and Sally Jewell,⁹ asserting claims under § 7 of the ESA, the National Environment Policy Act, the National Wildlife Refuge System Improvement Act, and the Constitution’s Property Clause. SNWA and CSI intervened in the action. On September 27, 2012, the district court granted summary judgment in favor of Defendants on all of CBD’s claims, concluding that “[w]hether the action fails for lack of standing or for lack of merit, the actions simply may not stand because [CBD] challenges an agreement designed to aid, not harm, the Moapa dace.”

CBD appeals *only* the district court’s grant of summary judgment on its ESA claim. In particular, CBD maintains

⁹ Pursuant to Federal Rule of Appellate Procedure 43(c)(2), Sally Jewell has been substituted for Ken Salazar as his successor.

that FWS's Biop violated § 7 of the ESA by: (1) failing to ensure against jeopardizing the continued existence of the Moapa dace; (2) failing to consider the best available scientific information; and (3) failing to evaluate all consequences of the action it purports to review.

II. STANDARD OF REVIEW

The district court's grant of summary judgment is reviewed de novo. *Pac. Coast Fed'n of Fishermen's Ass'ns. v. U.S. Bureau of Reclamation*, 426 F.3d 1082, 1090 (9th Cir. 2005). A Biop is a final agency action within the meaning of the Administrative Procedure Act ("APA") and is reviewed under § 706 of the APA. *Bennett v. Spear*, 520 U.S. 154, 178–79 (1997). Section 706(2)(A) of the APA requires a reviewing court to uphold agency action unless it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A). An agency action is arbitrary and capricious 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.

Pac. Coast Fed'n of Fishermen's Ass'ns, Inc. v. Nat'l Marine Fisheries Serv., 265 F.3d 1028, 1034 (9th Cir. 2001) (quoting *Motor Vehicle Mfrs. Ass'n v. State Farm*, 463 U.S. 29, 43 (1983)). Under this standard, factual determinations must be supported by substantial evidence. *Dickinson v. Zurko*,

527 U.S. 150, 162 (1999). An agency action will be sustained if “the agency has articulated a rational connection between the facts found and the conclusions made.” *Pac. Coast Fed’n of Fishermen’s Ass’ns*, 426 F.3d at 1090.

The arbitrary or capricious standard is a “highly deferential” standard of review, though our inquiry must nonetheless “be searching and careful.” *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 378 (1989); *Jewell*, 747 F.3d at 601. The agency’s decision, however, is “‘entitled to a presumption of regularity,’ and we may not substitute our judgment for that of the agency.” *Id.* (quoting *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 415–16 (1971)). This traditional deference to the agency is at its highest where a court is reviewing an agency action that required a high level of technical expertise. *Marsh*, 490 U.S. at 377.

III. DISCUSSION

A. Standing

FWS, SNWA, and CSI challenge our jurisdiction to hear the present appeal, arguing that CBD lacks standing. As the plaintiff in the underlying action, CBD has the burden of proving the existence of Article III standing at all stages of the litigation. *See Nat’l Org. for Women, Inc. v. Scheidler*, 510 U.S. 249, 255 (1994). To fulfill this obligation, CBD must demonstrate: (1) the existence of an injury-in-fact that is concrete and particularized, and actual or imminent; (2) the injury is fairly traceable to the challenged conduct; and (3) the injury is likely to be redressed by a favorable court decision. *Salmon Spawning & Recovery Alliance v.*

Gutierrez, 545 F.3d 1220, 1224–25 (9th Cir. 2008) (citing *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560–61 (1992)).

To satisfy the injury-in-fact requirement of Article III, “a plaintiff asserting a procedural injury must show that the procedures in question are designed to protect some threatened concrete interest of his that is the ultimate basis of his standing.” *Salmon Spawning*, 545 F.3d at 1225 (quoting *Citizens for Better Forestry v. U.S. Dep’t of Agric.*, 341 F.3d 961, 969 (9th Cir. 2003)). Here, CBD alleges that its members have scientific, aesthetic, personal, spiritual and work-related interests in the continued survival of the Moapa dace and other species with habitats in the MVNWR. They are concerned that if the Moapa dace population is imperiled or permitted to decline, these interests will be harmed. We have previously held that the consultation procedures of ESA § 7 are designed to protect “concrete interests” such as those asserted by CBD by “advanc[ing] the ESA’s overall goal of species preservation, and thus the groups’ specific goals as to [species] preservation, by ensuring agency compliance with the ESA’s substantive provisions.” *Salmon Spawning*, 545 F.3d at 1225–26; *see also Lujan*, 504 U.S. at 526–63 (“Of course, the desire to use or observe an animal species, even for purely esthetic purposes, is undeniably a cognizable interest for purpose[s] of standing.”).

While appellees do not dispute that CBD has alleged an injury-in-fact, they argue that causation and redressability are lacking. Specifically, appellees assert that any threat to the Moapa dace’s survival is caused exclusively by non-federal entities pumping groundwater pursuant to a non-federal pump test order, not by the conservation measures in the MOA, which were designed to protect the species. As to redressability, appellees claim that CBD’s injury is not

redressable because the pump test, and its correspondent negative effects on the Moapa dace, could continue unabated even if the Biop and MOA were vacated.

“A showing of procedural injury lessens a plaintiff’s burden on the last two prongs of the Article III standing inquiry, causation and redressibility.” *Salmon Spawning*, 545 F.3d at 1226 (citing *Lujan*, 504 U.S. at 572 n.7). Thus, because CBD is asserting a procedural injury, it “‘must show only that [it has] a procedural right that, if exercised, *could* protect [its] concrete interests.’” *Id.* (emphasis in original) (quoting *Defenders of Wildlife v. U.S. EPA*, 420 F.3d 946, 957 (9th Cir. 2005)). “Plaintiffs alleging procedural injury can often establish redressibility with little difficulty, because they need to show only that the relief requested—that the agency follow the correct procedures—may influence the agency’s ultimate decision of whether to take or refrain from taking a certain action. This is not a high bar to meet.” *Id.* at 1226–27 (internal citation omitted). Nonetheless, “the redressibility requirement is not toothless in procedural injury cases.” *Id.* at 1227.

While we agree that state-ordered groundwater pumping is *an* ultimate cause of CBD’s injury, CBD more broadly claims that a legally deficient Biop caused FWS to execute an MOA that contained inadequate conservation, monitoring, and mitigation measures to ensure the continued existence of the Moapa dace in the face of such groundwater pumping. CBD contends its injury is redressable because if the Biop and MOA are vacated, FWS would be obligated to reinitiate consultation. According to CBD, this consultation, if conducted in compliance with the ESA § 7 procedures here challenged, “may influence [FWS’s] ultimate decision as to whether to participate in the MOA,” and on what terms.

Moreover, CBD contends that the MOA federalizes groundwater withdrawals by non-federal parties and that those withdrawals harm the Moapa dace and its members' interests in the species. We agree with CBD that it has sufficiently demonstrated standing under these circumstances. See *Natural Res. Def. Council v. Jewell*, 749 F.3d 776, 783 (9th Cir. 2014) (en banc) ("Because Plaintiffs allege a procedural violation under Section 7 of the ESA, they need only show that, if the Bureau engages in adequate consultation, the DMC Contracts *could* better protect Plaintiffs' concrete interest in the delta smelt than the contracts do currently."); *Alliance for the Wild Rockies v. U.S. Dep't of Agric.*, 772 F.3d 592, 598–99 (9th Cir. 2014) (concluding that an environmental group had standing to challenge federal agencies' approval of non-federal helicopter flights that might harass Yellowstone grizzly bears).

B. Challenges to the Biop

1. Enforceability of conservation measures

CBD contends that the MOA fails to ensure against jeopardy to the Moapa dace because the conservation measures outlined in the agreement are not enforceable under the ESA. During formal consultation, FWS is required, among other things, to "[e]valuate the effects of the action and cumulative effects on the listed species," and "[f]ormulate its biological opinion as to whether the action, taken together with cumulative effects, is likely to jeopardize the continued existence of listed species." 50 C.F.R. § 402.14(g). An "action" refers to all activities and programs "carried out, in whole or in part, by Federal agencies in the United States," whereas the "[e]ffects of the action" refers to the 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.” *Id.* § 402.02. “Interrelated actions are those that are part of a larger action and depend on the larger action for their justification.” *Id.* “‘Interrelated actions’ include ‘conservation measures,’ which the *ESA Handbook* defines as ‘actions to benefit or promote the recovery of listed species.’” *BLM*, 698 F.3d at 1113. “Cumulative effects” are “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.

In *BLM*, we held that the ESA’s statutory scheme requires that “a conservation agreement entered into by the action agency to mitigate the impact of a contemplated action on listed species must be enforceable *under the ESA*” to factor into a biological opinion’s jeopardy determination. *BLM*, 698 F.3d at 1117. In that case, Ruby Pipeline L.L.C. (“Ruby”) sought a right-of-way to build a gas pipeline that would cross several thousand acres of federal land supporting numerous endangered and threatened fish species. *Id.* at 1106. FWS’s analysis of the pipeline project determined it would adversely affect multiple endangered species and critical habitats. *Id.* FWS then evaluated “several ‘voluntary’ conservation actions Ruby had indicated it would facilitate implementing,” which were contained in a Conservation Action Plan (the “CAP measures”). *Id.* at 1109. Although the CAP measures contained no binding time line for implementation and were expressly *not* incorporated into the

pipeline project plan,¹⁰ FWS deemed them “cumulative effects” that were “reasonably certain to occur” and found that they would “eventually contribute to the conservation and recovery of these fishes.” *Id.* In reliance on the CAP measures, FWS concluded that the pipeline project was “not likely to jeopardize the continued existence” or “adversely modify or destroy designated critical habitat” of listed species and it issued an ITS exempting the take of certain species from liability under ESA § 9. *Id.* at 1109–12, 1119.

We concluded that the CAP measures were not cumulative effects; instead, they were “unequivocally interrelated” to the pipeline project “in that the promises regarding the conservation measures were dependant on approval of the project.” *Id.* at 1118. In fact, the CAP measures “fit squarely within the definition of ‘conservation measures’ in the *ESA Handbook*.” *Id.* at 1118. Since interrelated actions are, by definition, part of the “effects of the action,” we set aside the biological opinion as arbitrary and capricious:

[M]iscategorizing mitigation measures as ‘cumulative effects’ rather than conservation measures incorporated in the proposed project profoundly affects the ESA scheme. Any such miscategorization sidetracks the FWS, the primary ESA enforcement agency; precludes reopening the consultation process when promised conservation measures do not

¹⁰ Ruby’s final Letter of Commitment to the CAP measures specifically provided that they were “entirely independent of the requirements of section 7 of the ESA” and that the pipeline project itself was “not dependent on the[] conservation actions.” *BLM*, 698 F.3d at 1110.

occur; and eliminates the possibility of criminal penalties and exposure to citizen suit enforcement incorporated in the ESA to assure that listed species are protected. . . .

Severing the Conservation Action Plan measures from the proposed action and instead treating their anticipated benefits as ‘cumulative effects’ of independent origin insulated the action agencies from consultation requirements under section 7, and Ruby from the ESA’s penalties for unlawful take under section 9 in the event that the measures never materialized.

The Biological Opinion therefore unreasonably relied on the [CAP] measures as “cumulative effects” and took them into account in the jeopardy determination, when reliance on them would have been proper only if they were included as part of the project and so subject to the ESA’s consultation and enforcement provisions.

Id. at 1116, 1119.¹¹

The present case is plainly distinguishable from *BLM*. Here, the conservation measures in the MOA are not only “included as part of the project” consulted upon; they actually

¹¹ Since cumulative effects encompass only “future non-federal actions” that are neither interrelated nor interdependent with the federal action, they are not enforceable under the ESA. *See BLM*, 698 F.3d at 1117–18; 50 C.F.R. § 402.02.

are the project consulted upon. Indeed, pursuant to the ESA regulations, the only activity reviewed in the Biop that even arguably qualifies as an “action” is FWS becoming signatory to the MOA. *See* 50 C.F.R. § 402.02 (“Action means all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States Examples include, but are not limited to: (a) actions intended to conserve listed species or their habitat.”). Moreover, the Biop expressly provides that “reinitiation of formal consultation is required where . . . there is a failure to meet any of the measures or stipulations in the MOA.” Biop at 63. Thus, this is simply not a case where there is no ESA recourse whatsoever if a non-federal party fails to implement its promised conservation actions. *See BLM*, 698 F.3d at 1114. Under these circumstances, it is apparent that the MOA is enforceable “*under the ESA*,” as required by *BLM*.¹² *Id.* at 1117.

¹² While CBD admits in its Reply brief that the MOA’s conservation measures “are part of [FWS’s] action,” it nonetheless staunchly maintains that an ITS is *required* to make the measures enforceable under the ESA pursuant to *BLM*. This position is not consistent with *BLM*’s statement that noncompliance with “mitigation measures incorporated as part of the action project” is subject to enforcement via citizen action suits under the ESA. 698 F.3d at 1115. It is also incompatible with language in *BLM* indicating that, had the conservation measures in that case simply been included as part of the proposed action and biological opinion, they likely would have been enforceable. *Id.* (“FWS requested that Ruby file the final Conservation Action Plan with FERC so it could ‘be included as part of the final biological assessment.’ This approach, it appears, would have rendered the Conservation Action Plan part of the proposed action, and so enforceable under the ESA.”). Moreover, as discussed *supra*, the conservation measures in this action are not just “incorporated as part of the action project”; they *are* the action project.

In applying *BLM* to the present case, we also reject CBD's unsupported assertions that FWS "federalized" the groundwater extraction and made it a "part of the action" consulted upon merely by entering into an MOA in an attempt to proactively offset potential negative effects to the Moapa dace from groundwater pumping. The pump test does not fit within the definition of "action" because it is not "authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States." 50 C.F.R. § 402.02. Because the groundwater pumping is not an "action," as defined by the ESA, its negative effects on the Moapa dace are not considered "effects of the action" because they are not "direct [or] indirect effects *of an action* on the species." *Id.* (emphasis added).

The negative effects of groundwater pumping also do not qualify as "effects of the action" by virtue of being "interrelated or interdependent with [the action]." Indeed, the record does not support a conclusion that would satisfy the "but for" test of interrelatedness, i.e., "but for the federal project [(execution of the MOA)] these activities [(groundwater pumping)] would not occur." *BLM*, 698 F.3d at 1113 (quoting *Sierra Club v. Marsh*, 816 F.2d 1376, 1387 (9th Cir. 1987)); 50 C.F.R. § 402.02 ("Interrelated actions are those that are part of a larger action and depend on the larger action for their justification."). Neither is there any evidence that the groundwater pumping has "no independent utility apart from the action under consideration," as required to be interdependent. 50 C.F.R. § 402.02. It appears then, perhaps somewhat ironically in light of CBD's reliance on *BLM*, that the effects of groundwater pumping are best characterized as "cumulative effects," i.e., they are "effects of future State or private activities, not involving federal action, that are

reasonably certain to occur within the action area of the Federal action subject to consultation.”¹³ *Id.*

2. Best available science

The ESA requires an agency to use “the best scientific and commercial data available” when formulating a Biop. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(g)(8). This standard does not require the agency to “conduct new tests or make decisions on data that does not yet exist.” *San Luis & Delta-Mendota Water Authority v. Locke*, 776 F.3d 971, 996 (9th Cir. 2014) (citing *Am. Wildlands v. Kempthorne*, 530 F.3d 991, 998–99 (D.C. Cir. 2008)). Rather, “[t]he best available data requirement ‘merely prohibits [an agency] from disregarding available scientific evidence that is in some way better than the evidence [it] relies on.’” *Kern Cnty. Farm Bureau v. Allen*, 450 F.3d 1072, 1080 (9th Cir. 2006) (quoting *Sw. Ctr. for Biological Diversity v. Babbitt*, 215 F.3d

¹³ We acknowledge that the Biop considers groundwater pumping as “part of the proposed action” rather than as “cumulative effects.” See Biop at 1 (“As part of the proposed action, the following biological opinion will evaluate the effects of the cumulative groundwater withdrawal of 16,100 afy from two basins within the regional carbonate aquifer to the federally listed as endangered Moapa dace at a programmatic level in light of the conservation measures proposed in the MOA.”). Inartful use of language in a Biop, however, does not have the effect of transforming a non-federal action into a federal action. In any event, we do not believe this discrepancy, standing alone, is a reversible error, given that FWS is required in its biological opinion to determine “whether the action, taken together with cumulative effects, is likely to jeopardize the continued existence of listed species.” 50 C.F.R. § 402.14(g)(3); see also *BLM*, 698 F.3d at 1113–14 (stating that cumulative effects “are essentially background considerations, relevant to the jeopardy determination but not constituting federal actions and so beyond the action agency’s power to effectuate”).

58, 60 (D.C. Cir. 2000)); *see also Locke*, 776 F.3d at 995 (“Moreover, if the only available data is weak, and thus not dispositive, an agency’s reliance on such data does not render the agency’s determination arbitrary and capricious” (quotations and citations omitted)). “An agency complies with the best available science standard so long as it does not ignore available studies, even if it disagrees with or discredits them.” *Locke*, 776 F.3d at 995; *Kern Cnty.*, 450 F.3d at 1080–81 (“Essentially, FWS ‘cannot ignore available biological information.’”) (quoting *Conner v. Burford*, 848 F.2d 1441, 1454 (9th Cir. 1988)).

CBD argues that the Biop fails to satisfy the best science requirement because FWS has “conceded that the Conservation Measures’ flow reduction trigger scheme—the foundation for the [Biop’s] no jeopardy finding—is based not on science but on expediency.” In support of this claim, CBD cites a statement by FWS Office Field Supervisor Bob Williams that the flow reduction triggers in the MOA “were negotiated, not biologically based, and believed to be reasonable for the purpose of off-setting the affects to the species.”¹⁴ We reject this argument because it fails to

¹⁴ When read in full context, Williams’s comment does not actually appear to support CBD’s claim that the “flow reduction trigger scheme—the foundation for the Biological Opinion’s no jeopardy finding—is based not on science but on expediency.” His observation that the “reduction in pumping corresponding to flow decreases (triggers) were negotiated, not biologically based” refers to the flow triggers as defined *in the MOA*. In fact, Williams’s very next sentence states that the triggers used in the MOA (3.5 to 2.7 cfs) “are the *minimums* that flows can be reduced, based on available data, without jeopardizing the species when considering the status of the species and the direct and indirect effects of this action.” Williams further states that it “should be recognized that the 3.5 cfs is a State permitted water right *not a biological minimum flow established for the survival or recovery of the species.*” (emphasis added).

differentiate between FWS's role as the action agency and FWS's role as the consulting agency. The ESA does not require that a federal agency design or plan its projects using the best science possible. Rather, the ESA requires that, once a federal action is submitted for formal consultation, the consulting agency must use the best scientific and commercial evidence available in *analyzing* the potential effects of that action on endangered species in its biological opinion. *See* 16 U.S.C. § 1536(a)(2). Thus, CBD's objection that the *terms* of the MOA were negotiated simply cannot support a conclusion that the Biop's analysis of those terms failed to satisfy the requirements of the ESA. *See, e.g., Selkirk Conservation Alliance v. Forsgren*, 336 F.3d 944, 955–56 (9th Cir. 2002) (holding that FWS did not violate its duty to rely on the best scientific data available when it concluded that negotiated conservation terms would sufficiently mitigate expected harm to a species).

3. Effectiveness of conservation measures

CBD argues that the Biop is arbitrary and capricious because the record does not support a conclusion that the MOA's conservation measures are effective or adequate to insure against jeopardy to the Moapa dace. CBD also asserts that we owe no deference to the Biop's conclusions because FWS failed to address its own "scientists' unanswered and uncontroverted concerns" regarding the effectiveness of the MOA's conservation measures in avoiding jeopardy to the Moapa dace.¹⁵ Before conducting our analysis, we briefly

¹⁵ While fashioned as a "best science" claim, we consider CBD's assertion that FWS ignored its own scientists' concerns in this section because the issue is closely related to CBD's argument regarding the effectiveness of the conservation measures.

recount CBD's criticisms of the Biop's no jeopardy conclusion.

First, CBD criticizes the MOA's flow triggers, and particularly the lowest 2.7 cfs flow trigger, which if reached, requires the MOA signatories to reduce pumping in the Coyote Spring Valley and the California Wash to 724 afy and 1,250 afy, respectively. CBD points out that in a separate § 7 consultation relating to construction of a pipeline (the "pipeline project") in the MVNWR, FWS hydrologist Tim Mayer expressed "strong doubt" about whether even a higher 3.0 cfs minimum flow threshold would adequately protect the Moapa dace or support a non-jeopardy determination, stating: "Biologically, do the flows proposed by SNWA protect the dace (does it support a non-jeopardy opinion)? We have no evidence that they do, since they have not been that low previously. Our proposed flows (of 3.3 cfs) seek to protect existing conditions so we assume that it won't jeopardize the species." CBD also points out that the FWS Water Right was already being impacted by pre-MOA groundwater pumping, and that even the intermediate flow triggers of the MOA, ranging from 2.8 to 3.2 cfs, permit more groundwater to be pumped than was pumped prior to the MOA.

CBD's second critique of the Biop is that it assumes, without any support, that reducing or halting groundwater pumping will address any observed decline in spring flows. According to CBD, this conclusion is the "linchpin" of the Biop's no jeopardy conclusion because if Moapa dace habitat will continue to be lost after the cessation of groundwater pumping, the conservation measures of the MOA are ineffective. CBD points to three draft comments by FWS's scientists in this regard that it claims were not addressed in the final Biop. First, hydrologist Tim Mayer stated: "I don't

want to be put in a position of saying that the flows are going to stop declining at 2.7 cfs—this seems to be the conclusion of our BO and our basis for the non-jeopardy although the hydrological analysis doesn’t say anything like that.” Second, Mayer stated in a comment on the pipeline project that “stopping pumping at 2.7 cfs doesn’t mean the flow reductions cease—springs may continue to decline even without pumping.” Third, Rick Wadell, whose position with FWS is unclear, stated in comments to the Biop that “[i]mpacts to the dace population may occur more rapidly than the water supply can be re-established.”

Finally, CBD urges that the other conservation measures of the MOA, i.e., those unrelated to flow triggers, “are of limited effectiveness in avoiding loss of high quality Moapa dace habitat in the higher elevation Pedersen Unit spring complex.” For instance, one FWS scientist expressed concern that MVWD’s dedication of 1.0 cfs to the Apcar Unit was “being oversold.” Another FWS scientist noted that it was unclear how CSI dedicating 460 afy would benefit the dace unless it could be “transferred to in-stream rights for dace. . . the small reduction in pumping from carbonates that this dedication might represent would only delay the impact a short time.”¹⁶

¹⁶ CBD also refers generally to four pages of comments by Mayer, but does not specify how any of these comments: (1) rely on better science than that ultimately used in the Biop; or (2) undermine the ultimate conclusions of the Biop.

a. The Biop did not ignore the concerns of FWS scientists

We disagree with CBD's assertion that the Biop fails to address or assuage Mayer's concerns that even a 3.0 cfs flow rate would be insufficient to protect the Moapa dace. The comment itself makes clear that FWS did not possess definitive data supporting a conclusion on the matter either way, given that flow levels have never actually fallen so low. *See Locke*, 776 F.3d at 995 (stating that the best science requirement does not "require an agency to conduct new tests or make decisions on data that does not yet exist"). In light of this lack of data, FWS projected the likely effects of a 2.7 cfs flow rate on Moapa dace habitat by: providing an extensive review of known characteristics of the regional carbonate aquifer system and its recharge sources; explaining the location and characteristics of Moapa dace habitat in and around the MVNWR and the varying sensitivities of the Pedersen, Plummer, and Apcar Units to changes in spring flow; and extrapolating from known groundwater/spring discharge relationships and currently observed groundwater impacts and trends "to project the impacts of future groundwater development on the springs" in the MVNWR. Biop at 18–55. It then employed numerical groundwater, hydraulic geometry, and thermal load modeling to project the "worst-case scenario or lower bound of impacts" believed likely to result if the flow rate at the Warm Springs West flume is reduced to 2.7 cfs. *Id.* at 44–55. In this worst-case scenario, the Biop anticipates that adverse effects of anticipated groundwater pumping would most significantly affect the Pedersen Unit—with a 22% reduction in riffle habitat, a 16% reduction in pool habitat, and a loss of thermal load extending downstream—and have a substantially lesser effect on the lower-elevation Plummer and Apcar Units. *Id.*

at 54–55. We defer to FWS’s chosen methodology and find that its conclusions were rationally based on available evidence. *See Locke*, 776 F.3d at 995 (“[W]hat constitutes the best scientific and commercial data available is itself a scientific determination deserving of deference.”).

The Biop also does not, as CBD contends, assume with no support that reducing or ceasing groundwater pumping will slow the decline in spring flow at the Warm Springs West flume. While the Biop explicitly recognizes that “the response of the aquifer to a reduction or cessation of pumping is not known and has not been tested,” Biop at 46, FWS still possessed sufficient data to make an informed prediction. As noted, the Biop provided an extensive evaluation of the regional carbonate aquifer system. Biop at 15–17. In so doing, it explains that “[g]roundwater inflow or recharge” to the system is “primarily through precipitation.” Biop at 16. Consistent with this understanding of the system’s most likely recharge source, the Biop also recognizes that “groundwater levels have generally increased recently, likely in response to the extremely wet winter experienced by the region in 2005.” *Id.* at 48. After exploring the currently observed groundwater impacts and trends and a variety of flow models, the Biop then assumes a correlation between groundwater withdrawals and a decline in water levels in the system. Given this data, there was clearly a rational connection between the data available to FWS and its “assum[ption] that reducing and ceasing the pumping will slow the decline in water levels.” *Id.* at 46–47.

Because the record does not support a conclusion that FWS ignored its own scientists’ concerns, we reject CBD’s best science claim in this regard. The claim additionally fails because CBD has not pointed to any evidence supporting a

conclusion that: (1) the “concerns” of FWS scientists were supported by better science that used in the Biop; or (2) FWS disregarded scientific information that was better than the evidence upon which it relied. *See, e.g., Lands Council v. McNair*, 537 F.3d 981, 993 (9th Cir. 2008) (en banc) (stating that courts may not “impose on the agency [their] own notion of which procedures are best or most likely to further some vague, undefined public good”) (internal quotation marks omitted); *Kern*, 450 F.3d at 1080–81 (stating that “[a]bsent superior data . . . occasional imperfections do not violate [the best scientific data standard]”) and finding that a best science claim fails where the plaintiff “point[s] to no data that was omitted from consideration”) (quoting *Bldg. Indus. Ass’n of Superior Cal. v. Norton*, 247 F.3d 1241, 1246 (D.C. Cir. 2001)); *Greenpeace Action v. Franklin*, 14 F.3d 1324, 1337 (9th Cir. 1992) (rejecting a conclusion that “weak” evidence or uncertainty is fatal to an agency’s decision); *Friends of Endangered Species, Inc. v. Jantzen*, 760 F.2d 976, 985 (9th Cir. 1985) (rejecting a best science claim where “appellant and its two experts did not direct [FWS] to any better available data”).

b. The Biop’s no jeopardy conclusion was proper

In *National Wildlife Federation v. National Marine Fisheries Service*, we stated:

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. . . .

[A]n 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.

524 F.3d at 930.

As we explained *supra*, the only “action” in this case, as that term is defined by the ESA and its implementing regulations, is FWS’s participation in the MOA. CBD does not, however, point to a single provision in the MOA that causes even a *de minimus* deterioration in the Moapa dace’s pre-action condition. Indeed, the Biop makes clear that the negative effects to the Moapa dace discussed therein are the result of State-mandated groundwater pumping—which under the facts of this case fit squarely within the ESA’s definition of “cumulative effects.” 50 C.F.R. § 402.02. The conservation measures in the MOA, on the other hand, are

expected to result in an “increase in the species distribution and abundance throughout the range of the species.” Biop at 56. While CBD points to concerns by FWS scientists that some of the measures were being oversold, the Biop’s observation that the conservation measures will improve conditions for the Moapa dace would hold true even assuming that some provisions of the MOA do not ultimately result in as high a level of benefit as anticipated in the Biop.

CBD’s objections to the Biop and MOA in this case can appropriately be characterized as claiming that the MOA *does not do enough* to ensure the survival of the Moapa dace in the face of groundwater pumping.¹⁷ Adopting this position, however, would impermissibly broaden FWS’s obligations, both as the action agency and as the consulting agency. The ESA requires simply that in preparing a biological opinion, the FWS consider “whether the action, taken together with the cumulative effects, is likely to jeopardize the continued existence of listed species.” 50 C.F.R. § 402.14(g)(4); 16 U.S.C. § 1536(a)(2). We do not believe it is consistent with the statutory scheme that jeopardy caused by cumulative effects could obviate the requirement that the federal action itself must cause some incremental deterioration in the species’ pre-action condition. *See Nat’l Wildlife Fed’n*, 524 F.3d at 930 (“Agency action can only ‘jeopardize’ a species’ existence if that agency action causes some deterioration in the species’ pre-action condition.”); *see also Oceana, Inc. v. Pritzker*, 75 F. Supp. 3d 469, 491 (D.D.C. 2014) (“But a Section 7 consultation must determine whether

¹⁷ CBD seems to concede that this is its true claim in its Reply brief, stating that, if required to reconsult, FWS “undoubtedly has the power to persuade, if not compel, the non-federal signatories to adopt more stringent Conservation Measures.”

the specific agency action under review actually causes some additional harm to the species, beyond that which the species may suffer due to other factors.”). Stated another way, it makes little sense that a federal action with entirely positive effects on an endangered species would be barred as causing jeopardy merely because cumulative effects, which are outside the federal agency’s control but required to be considered in the ESA analysis, are anticipated to adversely affect that species. Accordingly, because the federal action provides only benefits to the Moapa dace, we find that the Biop’s no jeopardy conclusion regarding FWS’s participation in the MOA is not arbitrary and capricious.

We additionally conclude that CBD has failed to demonstrate that the Biop’s no jeopardy conclusion is arbitrary and capricious because CBD has not shown that the action, even together with the cumulative effects, causes jeopardy to the “continued existence” of the Moapa dace. 16 U.S.C. § 1536(a)(2). CBD has not challenged the Biop’s conclusions as they relate to the survival of *all* Moapa dace; rather, CBD narrowly and improperly focuses on the claimed ineffectiveness of the conservation measures in only the Pedersen Unit. *See* FWS Consultant Handbook at 4-36 (“The determination of jeopardy or adverse modification is based on the effects of the action on the continued existence of the entire population of the listed species[.]”). In so doing, CBD fails to even acknowledge the Biop’s conclusions that various non-flow related conservation measures are anticipated to “increase [Moapa dace] distribution and abundance over and above current conditions” before any groundwater pumping even occurs. Biop at 56. Such measures, among other things, “would reduce the potential for fire and restore the overall spawning and rearing habitat [at Jones Spring] sufficient to sustain several hundred Moapa dace,” as well as increase the

security of habitat throughout the species range by removing non-native fishes and reducing species vulnerability to catastrophic events. *Id.* at 57–60. It is proper for FWS to rely on mitigation and offsets in its jeopardy analysis, and it may view the effect of all such efforts on the species as a whole, rather than requiring a tit-for-tat offset in every subsection of species habitat. See *Rock Creek Alliance v. FWS*, 663 F.3d 439, 443 (9th Cir. 2011) (approving no jeopardy finding where mitigation plans were expected to offset adverse effects to endangered species, and holding that “[t]he [ESA] does not require that [FWS] replace impacted habitat on an acre for acre basis”); *Selkirk*, 336 F.3d at 955 (finding adverse effects to species outweighed by benefits of mitigation plan sufficient to support no jeopardy finding).

4. Consideration of scope of federal action at issue

CBD argues that, by failing to issue an ITS, FWS acted arbitrarily and capriciously by failing to evaluate all foreseeable consequences of the proposed action. In particular, CBD objects to the Biop’s deferral of analysis of potential take until second stage consultations, contending that “if a jeopardy analysis is possible in a programmatic consultation, analysis and quantification of potential take through an incidental take statement . . . must also be possible.”

Section 1536(b)(4) provides: “*If* after consultation . . . [FWS] concludes that—the taking of an endangered species . . . incidental *to the agency action* will not violate [§ 1536(a)(2)’s requirement that federal agencies avoid jeopardizing the continued existence of any endangered species] . . . [FWS] shall provide the Federal agency . . . with

[an ITS].” (emphasis added). As we have stated, the “agency action” that is evaluated in the Biop is “the execution of the MOA by [FWS].” Biop at 62. While execution of the MOA presumes that groundwater withdrawals, and resultant take of Moapa dace, will occur consistent with Order 1169, the Biop correctly states that the execution of the MOA “in and of itself, does not result in the pumping of any groundwater.” *Id.* CBD points to no evidence that incidental take was likely to occur merely because FWS executed the MOA, and we do not believe the record supports such a conclusion. Thus, there was no necessity that FWS issue an ITS.¹⁸ See *Ariz. Cattle Growers’ Ass’n*, 273 F.3d at 1233 (“We hold, based on the legislative history, case law, prior agency representations, and the plain language of the Endangered Species Act, that an Incidental Take Statement must be predicated on a finding of an incidental take.”). We also conclude that deferral of ITSs to second level analysis was appropriate based on the Biop’s conclusion that “[a]ny incidental take and measures to reduce such take cannot be effectively identified at the programmatic level of the proposed action because of the number of impending actions by different entities and its regional scope.” See *Gifford Pinchot Task Force v. FWS*, 378 F.3d 1059, 1063–68 (9th Cir. 2004) (“We have previously approved programmatic environmental analysis supplemented by later project-specific environmental analysis.”); see also *W. Watersheds Project v. Bureau of Land Mgmt.*, 552 F. Supp. 2d 1113, 1139 (D. Nev. 2008) (finding deferral of an ITS to a tiered biological opinion “reasonable” where “[s]imilar to *Gifford* . . . the biological opinion in this case

¹⁸ The notion that executing the MOA would not, itself, result in take is supported by the first page of the Biop, where it is noted that “[n]one of the activities included in the MOA will be implemented absent project or activity specific consultations.” Biop at 1.

does not contemplate actual action. Because no action is taking place at this time, no ‘take’ is occurring. . . . Thus, FSA will issue an ITS, if necessary, at the time a specific project is authorized.”).

IV. CONCLUSION

We find no evidence in the record that FWS relied on improper factors, failed to consider important aspects of the problem, offered explanations for its decision that were counter to the evidence before it, or offered implausible explanations for its decision. Accordingly, for the reasons explained herein, FWS’s determination that its participation in the MOA would not cause jeopardy to the Moapa dace was not arbitrary, capricious, or in violation of the Endangered Species Act. The district court’s grant of summary judgment to FWS, SNWA, and CSI, is **AFFIRMED**.