

[PUBLISH]

IN THE UNITED STATES COURT OF APPEALS

FOR THE ELEVENTH CIRCUIT

No. 08-10799

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D. C. Docket No. 05-23045-CIV-KMM

MICCOSUKEE TRIBE OF INDIANS OF FLORIDA,
a federally-recognized Indian tribe,

Plaintiff-Appellant,

versus

UNITED STATES OF AMERICA,
U.S. FISH AND WILDLIFE SERVICE, et al.

Defendants-Appellees,

NATURAL RESOURCES DEFENSE COUNCIL,

Intervenor-Appellee.

Appeal from the United States District Court
for the Southern District of Florida

(May 5, 2009)

Before TJOFLAT and CARNES, Circuit Judges, and BOWEN,* District Judge.

* Honorable Dudley H. Bowen, Jr., United States District Judge for the Southern District of Georgia, sitting by designation.

CARNES, Circuit Judge:

For centuries, a broad, shallow sheet of fresh water that covered most of South Florida flowed south from Lake Okeechobee to the Florida Bay. This phenomenon was the “river of grass” or Everglades, which supported unique and fragile flora and fauna. As so often happens with natural treasures, people sought to control and manipulate the Everglades for their own ends. After the State of Florida’s efforts to tame the Everglades failed, in 1948 the Army Corps of Engineers got involved.

The Corps undertook the Central & Southern Florida Flood Project, which it hoped would control flooding, divert water away from developing areas, provide a source for irrigating crops, facilitate recreation, and “enhance” wildlife. See Miccosukee Tribe of Indians v. United States, 980 F. Supp. 448, 454 (S.D. Fla. 1997). In order to bend the water to its will, the Corps created thousands of miles of canals and levees supported by scores of pumps, gates, and dams. This massive plumbing project drained the northern portion of the original Everglades for agricultural use and diverted water into distinct, deeper Water Conservation Areas for controlled release into the southern part of the original area, which became Everglades National Park. There followed what the government artfully calls

“unplanned environmental consequences.” This case involves one of those consequences, which pits a sparrow against a hawk.

I.

The Cape Sable seaside sparrow, which we will refer to as simply “the sparrow,” lives primarily in and around Everglades National Park. It was listed as endangered in 1967 and received critical habitat designation in 1977. The fragility of the sparrow as a species stems from two of its attributes. It has a short lifespan and its nesting success depends on specific kinds of vegetation and water levels. If it is to survive, this species must have favorable breeding conditions without long periods of interruption. The sparrow exists in six subpopulations, all of which live in or around the Everglades. One of them is located apart from the others, which might provide the species with a measure of protection against extinction if some calamity were to wipe out the other five subpopulations. This important outlying group, called “Subpopulation A,” lives directly south of the S-12 gates—outside of the bird’s designated critical habitat—and it decreased from more than 2,600 birds in 1992 to 112 birds in 2006. The Corps’ method of releasing water into the Everglades, specifically at its S-12 gates, has been blamed for that decline.

The Everglade Snail Kite, a type of hawk, lives in the marshes of Florida and Cuba. Like the sparrow, the kite was also listed as endangered in 1967 and received critical habitat designation in 1977. And like the sparrow, the kite's survival depends on specific water levels. Kites feed primarily on apple snails, which require periods of inundation to reproduce, but the birds nest in woody vegetation that dies off if that inundation lasts too long or if the water level goes too high. It is, in that respect, a Goldilocks kind of bird when it comes to water levels—not too low, not too high. During a period of regional drought, Florida's total kite population declined from 3,400 birds in 1999 to 1,700 in 2002, but it appears to have stabilized since then. The kite's designated critical habitat includes more than 841,000 acres, of which just over a third are directly north of the S-12 gates in Water Conservation Area 3A (WCA-3A).

The problem, then, is that the kites prefer steady and moderate to low water levels above the S-12 gates, while the sparrows prefer low water below the S-12 gates.¹ Both birds are protected by the 1973 Endangered Species Act, 16 U.S.C. § 1531 et seq. The Act outlaws the “take” of any endangered species and it defines

¹ A third endangered bird, the wood stork, is also affected by the Corps' operation of the S-12 gates. The wood stork's range is much broader than that of the kite and sparrow, covering much of the southeastern United States. As of 2006, the wood stork population included more than 11,000 breeding pairs. The Tribe's only contention that involves the wood stork is its challenge to the Service's incidental take statement, which will be addressed in Part VI of this opinion.

“take” to include “harm,” which in turn includes “significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.” 16 U.S.C. § 1532(19); 50 C.F.R. § 17.3.

Section 7(a)(2) requires every federal agency to ensure that its actions will not jeopardize the continued existence of any endangered species. 16 U.S.C. § 1536(a)(2). To coordinate their efforts to comply with section 7(a)(2), the agencies involved, here the Army Corps of Engineers and the Fish & Wildlife Service, consult with each other. When a proposed agency action may adversely affect an endangered species or its critical habitat, the Service creates a “biological opinion” determining whether the action would jeopardize the species. 50 C.F.R. § 402.14. If the proposed action would not jeopardize the species but still might result in incidental harm to it, the Service attaches to the biological opinion an incidental take statement establishing the terms and conditions under which the incidental take may occur. 50 C.F.R. § 402.14(i).

In the early 1980s Congress authorized a restructuring of the Corps’ water management system in order to restore wildlife in the Everglades. Someone decided that the best way to figure out how to correct the unplanned environmental consequences was to undertake a series of trial-and-error tests, each

lasting several years. During each test, water would be released from various gates in varying amounts. Under one of these, “Test 7,” the Corps began releasing large amounts of water through the S-12 gates. Those gates are located just to the north of the Everglades between the habitats of the endangered kites and the endangered sparrows. Test 7, which began in 1995, was scheduled to continue until 1999.

In 1998 the Service and the Corps, whose eyes were on the sparrow, began to modify their water releases in response to a dramatic decline in the sparrow’s population below the S-12 gates. To avoid flooding the little bird into extinction, the Corps created an “Interim Structural and Operational Plan” that altered Test 7 by closing the gates during sparrow breeding season. In 1999 the Service issued a biological opinion concluding that continued flooding through S-12 would lead to the extinction of the sparrow, but also warning that “stacking” high water above the S-12 gates might adversely impact the kite.

Between 1999 and 2002, the Corps and the Service consulted and developed the “Interim Operational Plan for the Protection of the Cape Sable Seaside Sparrow” (Interim Plan). During the same period, a regional drought cut the number of kites statewide in half, from 3,400 to 1,700 birds. The Service issued a second biological opinion in 2002, this time analyzing the Interim Plan and

concluding it would not jeopardize the kite or adversely modify its habitat. The Corps then implemented the Interim Plan, which changed the S-12 water release schedule to create at least 60 continuous days each year, during sparrow breeding season, in which water below the gates would remain under 6.0 feet above sea level. Water began to back up north of the gates—in the kites’ critical habitat and on Miccosukee tribal land. Birds cannot sue, but a tribe can and this one did.²

II.

In November 2005 the Miccosukee Tribe filed a lawsuit against the Fish & Wildlife Service, challenging its 2002 approval of the Interim Plan. Meanwhile, in a separate case involving the same area that was filed under the National Environmental Policy Act, the district court ordered the Service to prepare a Supplemental Environmental Impact Statement based on the Interim Plan.

Miccosukee Tribe of Indians v. United States (Miccosukee III), 420 F. Supp. 2d 1324, 1345 (S.D. Fla. 2006). The Service and the Corps then consulted again to assess the impacts of continuing the Interim Plan. In November 2006 the Service

² In fact, this particular tribe sues quite a bit, often on behalf of an environmental interest, as is its right. See, e.g., Friends of the Everglades v. S. Fla. Water Mgmt. Dist., 2006 WL 3635465 (S.D. Fla. Dec. 11, 2006), appeal docketed, No. 07-13829 (11th Cir. Aug. 13, 2007) (including the Miccosukee Tribe as a plaintiff); Miccosukee Tribe v. S. Fla. Water Mgmt. Dist., 559 F.3d 1191 (11th Cir. 2009); Miccosukee Tribe of Indians of Fla. v. So. Everglades Restoration Alliance, 304 F.3d 1076 (11th Cir. 2002); Miccosukee Tribe v. United States, 105 F.3d 599 (11th Cir. 1997).

issued another biological opinion, this time including the Supplemental Environmental Impact Statement, but it still found that the kite would not be jeopardized by allowing the Interim Plan to continue until 2010 or 2011 for the good of the sparrow.

The Miccosukee Tribe, whose eye was on the kite and on tribal lands in WCA-3A, believed that they were jeopardized by the Service's actions. As a result, the Tribe filed a second amended complaint in February 2007, claiming that the Service's 2006 biological opinion violated the Act and that the Service's consultation with the Corps was deficient under section 7 of the Act. The parties filed cross motions for summary judgment, and the district court granted the government's motion. This is the Tribe's appeal.

III.

We review de novo the district court's grant of summary judgment and use the same standard of review utilized by the district court. Sierra Club Inc. v. Leavitt, 488 F.3d 904, 911 (11th Cir. 2007). Biological opinions are final agency actions subject to judicial review under the Administrative Procedure Act, 5 U.S.C. § 706(2)(A). Bennett v. Spear, 520 U.S. 154, 178, 117 S. Ct. 1154, 1169 (1997). Specifically, the standard is whether the biological opinion is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5

U.S.C. § 706(2)(A); Fund for Animals, Inc. v. Rice, 85 F.3d 535, 541 (11th Cir. 1996) (“On appeal, this court, in reviewing the administrative record, applies the . . . arbitrary and capricious standard of review.”).

The arbitrary and capricious standard is “exceedingly deferential.” Sierra Club v. Van Antwerp, 526 F.3d 1353, 1360 (11th Cir. 2008) (quotation marks omitted). We are not authorized to substitute our judgment for the agency’s, as long as its conclusions are rational. Id. We may, however, find an agency action

arbitrary and capricious where 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.

Alabama-Tombigbee Rivers Coal. v. Kempthorne, 477 F.3d 1250, 1254 (11th Cir. 2007) (citing Motor Vehicles Mfrs. Ass’n v. State Farm Mut. Auto Ins. Co., 463 U.S. 29, 43, 103 S. Ct. 2856, 2867 (1983)). The Supreme Court has instructed us that when an agency “is making predictions, within its area of special expertise, at the frontiers of science as opposed to simple findings of fact, a reviewing court must generally be at its most deferential.” Baltimore Gas & Elec. Co. v. Natural Res. Def. Council, 462 U.S. 87, 103, 103 S. Ct. 2246, 2255 (1983).

IV.

The Miccosukee Tribe launches a three-front assault on the 2006 biological opinion and the incidental take statement. The Tribe's first contention is that the 2006 biological opinion is 'not in accordance with law' because it fails to follow proper procedures, which require using the best available scientific data, giving the benefit of the doubt to the species, analyzing the environmental baseline and cumulative effects, and issuing a proper incidental take statement. See 5 U.S.C. § 706(2)(A). The Tribe's second contention is that the 2006 biological opinion is arbitrary and capricious because it arrives at conclusions that are counter to the scientific data in the record or are so implausible that they go beyond an acceptable difference of expert opinion. See Alabama-Tombigbee, 477 F.3d at 1254. The tribe's third contention is that the incidental take statement is deficient because it improperly quantifies incidental take in terms of habitat markers and fails to provide a meaningful trigger for re-consultation.

A.

The Endangered Species Act requires the Fish & Wildlife Service, in preparing its biological opinions, to use "the best scientific and commercial data available." 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(g)(8). The general view is that the agency decides which data and studies are the "best available" because that decision is itself a scientific determination deserving deference. See Marsh v.

Oregon Natural Res. Council, 490 U.S. 360, 377–78, 109 S. Ct. 1851, 1861 (1989) (“When specialists express conflicting views, an agency must have discretion to rely on the reasonable opinions of its own qualified experts even if, as an original matter, the court might find contrary views more persuasive.”); Baltimore Gas & Elec., 462 U.S. at 103, 103 S.Ct. at 2255; San Luis v. Badgley, 136 F. Supp. 2d 1136, 1151 (E.D. Cal. 2000) (explaining that under the Endangered Species Act, “[a]n agency has wide latitude to determine what is the best scientific and commercial data available”) (quotation marks omitted). In deciding what is “best available” the Service is required to seek out and consider all existing scientific data. Heartwood, Inc. v. United States Forest Serv., 380 F.3d 428, 436 (8th Cir. 2004).

The Tribe argues that we should not afford the usual deference to the Service’s decision about whether the kite is jeopardized because in reaching that decision it irrationally excluded certain scientific data from consideration. The Tribe argues that the Service ignored a number of studies and scientists’ statements that show “alarming” and dramatic declines in the kite population. But the Tribe’s arguments do not hold water.

First, the Tribe argues that the Service ignored the Snail Kite Demography Reports for 2002, 2003, and 2004 that were created by Dr. Wiley Kitchens and

Julien Martin. However, as the Tribe concedes, the 2005 report was used, and indeed, the biological opinion cites it repeatedly. Because each year's report is cumulative and includes all the data from the previous years, the 2005 report encompasses the others.

Second, the Tribe argues that the Service ignored a 2003 Population Viability Analysis performed by Dr. Kitchens that contained a sharp warning about snail kites vanishing from Florida. However, far from ignoring that report, the Service sent it for peer review, where other scientists questioned it because of its failure to disclose its methodology or model inputs. One reviewer commented in 2004 that the report had a "very high ratio . . . of speculation to actual data, I think the highest I have ever seen!" Because that peer review came two years before the biological opinion was issued in 2006, it was not, as the Tribe charges, a "post hoc rationalization" for excluding the report from the opinion. In fact, despite the negative peer reviews, some of the report's factual findings were included in the biological opinion; among them were the report's estimate that the kite population had dropped by fifty percent between 1999 and 2002.

The rest of the Tribe's arguments that the Service did not use the "best scientific and commercial data available" all stem from the exclusion of specific numerical details, or even specific words, from the biological opinion. For

instance, the Tribe plays up the failure of the opinion to mention the 2005 Kite Report's statement that WCA-3A did not support a single successful kite fledgling in 2005. However, the biological opinion does note "poor reproduction years," and it includes charts showing the low survival rate for all kite fledglings, regardless of location, from 2004 through 2005. Nor is the biological opinion's statement that "southern WCA-3A continues to support large numbers of snail kites and snail kite nesting" inconsistent with no known fledglings surviving in one particular year. What makes the two facts consistent is that during successful breeding years WCA-3A can produce hundreds of fledgling kites.

Similarly, the Tribe complains that the Service did not "analyze" a statement made by Dr. Phil Darby to the effect that more high water above the S-12 gates would lead to continued low densities of the apple snails that kites eat. The biological opinion, however, does cite Dr. Darby's statement and it also specifies that apple snail density declined eighty-two percent between 2003 and 2004.

The Tribe argues that the Service failed to consider a 2006 analysis, performed by Martin, that indicates degradation of the kite habitat and notes the zero-success 2005 breeding season. Although the Service did not use Martin's self-described "preliminary" conclusions, it did use his data and in fact reproduced two tables directly from his report.

The Tribe submits that the Service failed to “analyze” another recent Kitchens and Martin study concluding that kites do not move to other areas in search of food as readily as was previously believed. The Tribe admits, however, that the biological opinion “mentions” this issue. Consistent with the new report, the biological opinion concludes that kites do move less frequently between isolated wetlands than scientists once believed.

Finally, the Tribe grouses that the Service ignored an e-mail from Dr. Kitchens in which he described the habitat degradation as “rapid” and the kites’ nesting failure in 2005 as “alarming.” The biological opinion, however, contains all of the relevant data upon which Dr. Kitchens’ conclusions were based. All that seems to be missing is the word “alarming.”

While the 2006 biological opinion’s predictions do differ from those of some scientists who have studied the kite, the basic data is not in dispute and was taken into account by the Service when it drafted the opinion. That is all the Endangered Species Act requires the Service to do with the “best scientific and commercial data available.” 16 U.S.C. § 1536(a)(2); Marsh, 490 U.S. at 377–78, 109 S. Ct. at 1861.

B.

The Tribe contends that the legislative history of the Endangered Species Act demonstrates that Congress generally wished to “give the benefit of the doubt to the species.” H.R. Rep. No. 96-697, at 12 (1979) (Conf. Rep.), as reprinted in 1979 U.S.C.C.A.N. 2572, 2576. The Tribe argues that those nine words from the Joint Explanatory Statement of the Conference Committee, quoted in the House Conference Report, demand a presumption in favor of the species if the evidence is balanced between likely jeopardy and no jeopardy.

To begin with, we are reluctant to read into the words that Congress has enacted as law, words that it did not enact as law. See Miedema v. Maytag Corp., 450 F.3d 1322, 1328 (11th Cir. 2006); Harris v. Garner, 216 F.3d 970, 976–77 (11th Cir. 2000) (en banc); CBS Broadcasting, Inc. v. EchoStar Communications, 265 F.3d 1193, 1213–14 (11th Cir. 2001).

Putting that reluctance aside for the time being, the context of the benefit of the doubt language in the conference report suggests only that agencies, including the Service, cannot hide behind uncertain scientific data to shirk their duties under the Act. The Report states:

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.

This language continues to give the benefit of the doubt to the species, 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 . . . developing adequate information on which to base a biological opinion.

H.R. Rep. No. 96-697, at 12 (Conf. Rep.), as reprinted in 1979 U.S.C.C.A.N. at 2576. The Ninth Circuit is the only court of appeals that has analyzed this benefit of the doubt language. In Conner v. Burford, 848 F.2d 1441, 1454 (9th Cir. 1988), the Court stated:

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 To hold otherwise would eviscerate Congress' intent to give the benefit of the doubt to the species.

848 F.2d at 1454. The Conner opinion does not suggest that there is any presumption in favor of the species if, as in this case, there is abundant data. In Conner the Service violated the Act by issuing a biological opinion without using the best available data. Because that is not the case here the Tribe's reliance on Conner is misplaced.

The Tribe also relies on Natural Res. Defense Council v. Kempthorne, 506 F. Supp. 2d 322, 360 (E.D. Cal. 2007), but in that case the court used the "benefit of the doubt" language only to force the agency to perform its obligation, not to dictate the conclusions it should reach. The court stated 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 agencies ‘give the benefit of the doubt to the species.’” Id.

One district court, however, seems to take the position the Tribe advocates. See Rock Creek Alliance v. United States Fish & Wildlife Serv., 390 F. Supp. 2d 993, 1008 (D. Mont. 2005) (“[A] tie in the evidence should go to the species.”). The conclusion in Rock Creek was based in part on significant scientific blunders by the Service. Those blunders included using a study designed for a population of 300 to 400 bears to determine acceptable mortality rates for a population of 30 to 40, against the explicit advice of the study’s author. Id. at 1008–09. The record reveals no similar mistakes in the Service’s use of scientific data or studies in the present case. Even if we were to adopt the Rock Creek position that a tie in the evidence goes to the species, there is no tie here. The scientific data before the Service does not compel the conclusion that the evidentiary needle points straight up.

In any event, no court decision has ever relied solely on Committee Report’s benefit of the doubt language to find that a biological opinion was arbitrary and capricious. The need to give a species the benefit of the doubt cannot stand alone as a challenge to a biological opinion.

C.

Under section 7(a)(2) of the Endangered Species Act, the Fish & Wildlife Service's consultation process must "[e]valuate the effects of the action and cumulative effects on the listed species or critical habitat." 50 C.F.R. § 402.14(g)(3). That requires the Service to define an environmental baseline. 50 C.F.R. § 402.02. That, in turn, requires a description of "the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area . . . and the impact of State or private actions which are contemporaneous with the consultation in progress." Id.

There are two current state projects within the 841,000 acres of the kites' critical habitat. These initiatives, called ACCELER8, are intended to assist the federal plan of restoring the Everglades. The ACCELER8 projects are not mentioned in the Service's 2006 biological opinion, and the Tribe argues that this omission means that the Service failed to meet its obligation to create a complete environmental baseline for the kite. The Service responds that it relied on its own scientific conclusions, reached during the Clean Water Act permitting process for ACCELER8, to support its biological opinion's finding that the projects would not adversely impact the kite. Those conclusions, memorialized in letters, were not

part of the administrative record in this case and were struck by the district court, though the court did consider the Service's belief that the ACCELER8 projects would have no adverse impact on the kite.

The Tribe's argument that the environmental baseline is inadequate fails. The regulations do require the biological opinion to include the "impacts" of any past or present state projects on the species. 50 C.F.R. § 402.02. It does not follow, however, that the regulations require each biological opinion to thoroughly discuss state actions that the Service in other consultations has already analyzed and determined do not impact the species. The Tribe is unable to show that the two ACCELER8 projects located within the 841,000 acres of the kites' critical habitat have any adverse impact on the kite, or that anyone believes that they do. In August and December 2005 the Service determined that ACCELER8 does not adversely impact the kite and recorded that decision in letters that are a matter of public record. The Tribe's argument that an environmental baseline requiring a discussion of impacts must rehash an earlier explanation of why a project has no impacts is not convincing.

The Tribe urges that the entire environmental baseline analysis in the 2006 biological opinion is inadequate because it fails to analyze the cumulative impact of all past and present actions on the kite. The Tribe argues that the biological

opinion does not consider the effect on the kite of the nine years of sparrow protection undertaken between 1997 and 2006, and that it does not analyze aggregate impacts on the kite from problems in other parts of its more than 841,000 acre range. To the contrary, pages 38 to 43 of the biological opinion discuss the history of the kite population through 2006, with significant focus on the population crash between 1999 and 2002. Further, at pages 61 to 63, the opinion discusses the effects of environmental problems in Lake Okeechobee and the Kissimmee Chain of Lakes, which are the other parts of kite territory.

Finally, the Tribe argues that the biological opinion contains an insufficient “cumulative effects analysis” under 50 C.F.R. § 402.02 and § 402.14. A proper cumulative effects analysis must “take into account ‘future state or private activities, not involving Federal activities, that are reasonably certain to occur in the action area.’” 50 C.F.R. § 402.02. Federal actions, and those involving federal agencies, are excluded from cumulative effects analysis because they are subject to their own consultation process. Department of the Interior, Rules and Regulations, 51 Fed. Reg. 19926, 19933 (June 3, 1986). This matters because state and private projects in the affected area fall within the jurisdiction of the Army Corps of Engineers, and thereby involve a federal agency. Therefore, the actions would be exempt from consideration in the current cumulative effects

analysis. Even so, the biological opinion briefly considers the possibility of there being some development outside of the Corps' control. It concludes that "based on the status of the species discussed previously and the status of the species in the action area, we believe that this . . . is not expected to affect the recovery or survival of the wood stork or snail kite." That is enough analysis.

Because the Tribe has not demonstrated that the Service failed to consider any major scientific work or any material fact when it rendered the 2006 biological opinion, we reject its procedural attack on the 2006 biological opinion. We turn now to the Tribe's challenge to the conclusions that the Service drew from the scientific works and material facts.

V.

The Tribe contends that the conclusions contained in the 2006 biological opinion are arbitrary and capricious. See generally Alabama-Tombigbee, 477 F.3d at 1254 (noting that it is arbitrary and capricious for an agency to "offer[] an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise").

The 2006 biological opinion concedes that the Interim Plan will continue to harm the kite habitat by flooding it. It acknowledges that water levels above

10.5 feet above sea level degrade kite habitat and that water levels have exceeded 10.5 feet in ten of the past thirteen years, compared with only four times during the forty years before any sparrow protection was undertaken. The Service expects 184,000 acres, which amounts to twenty percent of the kites' critical habitat, to be flooded to 10.5 feet each year that the Interim Plan continues.

The biological opinion acknowledges that the Interim Plan may also cause water levels to decline rapidly in kite habitat during the spring, threatening its nests. That problem is addressed in the incidental take statement. The opinion also explains, however, that in "most years, the nest failure rate within WCA-3A is expected to be less" than what would occur with the maximum allowable water drop discussed in the incidental take statement. Finally, the opinion notes that under some hydrological conditions the operation of the Interim Plan may actually be favorable to kite nesting conditions, though it does not specify what conditions or how. The opinion concludes:

Continued [Interim Plan] operations are expected to result in continued habitat degradation within WCA-3A, which has been one of the most significant areas of kite habitat within the past 30 years. In addition, [Interim Plan] operations are expected to result in reduced nest success of kites within WCA-3A, reduced foraging habitat suitability, and reduced abundance of the kite's primary prey. These impacts are expected to limit population growth in WCA-3A and possibly cause further reductions in the overall kite population. However, because snail kites are long-lived, have high rates of adult survival, and continue to successfully nest in other portions of their range in southern Florida, these impacts are not anticipated

to appreciably reduce the likelihood of survival and recovery of the species in the wild.

Degradation of designated critical habitat within WCA-3A is expected to continue under [the Interim Plan], but this is reversible with improved hydrologic conditions. No permanent loss of critical habitat is expected.

In other words, despite all of the harm that it will cause the kite and kite habitat, the Service believes that Interim Plan's S-12 closings during sparrow breeding season will not jeopardize the continued existence of the kite or adversely modify its critical habitat within the meaning of the Act. See generally 16 U.S.C. § 1536(a)(2) (federal agency action must not be likely to "jeopardize the continued existence of any endangered species or result in the destruction or adverse modification of [the critical] habitat of such species"). Evidently the Service is under the impression that flooding twenty percent of the kites' critical habitat to a depth that kills the woody vegetation the bird likes to perch on, that drives off the apple snails it likes to eat, and that reduces its nesting success is not "adverse modification" of critical habitat within the meaning of the Act. The Service asserts that "no *permanent* loss of critical habitat is expected." (emphasis added) But the Service does not cite, and we are unable to find, any decision holding that negative impacts on a species' critical habitat must be permanent to amount to "adverse modification." Nor did the Service rely on its own regulation

defining “adverse modification,” 50 C.F.R. § 402.02, to reach that conclusion, which is understandable since that regulation has been invalidated by two federal courts of appeals. Gifford Pinchot Task Force v. United States Fish & Wildlife Serv., 378 F.3d 1059, 1069–70 (9th Cir. 2004) (striking down the “adverse modification” definition contained in 50 C.F.R. § 402.02); Sierra Club v. United States Fish & Wildlife Serv., 245 F.3d 434, 441–42 (5th Cir. 2001) (same).

Whether short-term impacts on critical habitat amount to “adverse modification” depends to a large extent on the life cycle of the species. Some species may be eradicated if their habitats are negatively affected even for a relatively short time. Restoration of a habitat cannot resurrect the dead. In Pacific Coast Federation of Fishermen’s Ass’ns v. United States Bureau of Reclamation, 426 F.3d 1082, 1094 (9th Cir. 2005), the National Marine Fisheries Service suggested a multi-phase project to restore adequate water flow to the endangered coho salmon. The problem was that the coho had only a three-year life cycle and under the agency’s plan, eight years would pass before water flows were restored to meet the coho’s need. Id. Understandably, the Court noted that “all the water in the world in 2010 and 2011 will not protect the coho, for there will be none [left] to protect. It is not sufficient for the agency to impose these flows without explaining how the flows will protect critical habitat and ensure that sufficient

water is in the main stem for coho to survive during these first five generations.”

Id.; see also Pacific Coast Fed’n of Fishermen’s Ass’ns v. Nat’l Marine Fisheries Serv., 265 F.3d 1028, 1038 (9th Cir. 2001) (“Given the importance of the near-term period on the listed species’ survival it is difficult to justify [the agency’s] choice not to assess degradation over a time frame that takes into account the actual behavior of the species in danger.”).

The point of the two Pacific Coast decisions is that adverse modification must be measured by taking into account the life cycle and behavioral pattern of the endangered species in question. Any biological opinion that plans to allow short-term habitat degradation—presumably, as part of a longer-term plan that anticipates the species’ future recovery—must carefully consider the life cycles and behavioral patterns of the species to avoid crippling that recovery. It is not enough that the habitat will recover in the future if there is a serious risk that when that future arrives the species will be history.

That principle, however, is not fatal to the 2006 biological opinion’s conclusion. The opinion does not focus solely on whether the loss of critical habitat will be permanent; it also determines effect on the species by taking into account the kite’s life cycle and behavior. The opinion states, and the Tribe does not dispute, that the kite is a long-lived bird with a high adult survival rate and an

enormous range covering 841,000 acres—more than 1,300 square miles—of designated critical habitat. Nor does the Tribe contend that the kite will be extinct after several more years of high water covering twenty percent of this critical habitat. Indeed, S-12 closings have occurred since 1998, and the kite population, though also afflicted by a drought between 1999 and 2002, appears to have stabilized since 2002. So far the kite has survived the adverse impact of the gate closings, making this case distinguishable from the Pacific Coast cases. See Pacific Coast, 426 F.3d at 1094 (observing that no coho salmon could possibly survive to enjoy their restored habitat after five generations without enough water).

Moreover, as we pointed out earlier, we do owe a high level of deference to the Service’s scientific determinations. The deference owed the 2006 biological opinion is especially strong because the agency had to predict future hydrologic conditions and estimate the likelihood, extent, and duration of injury to a species. Baltimore Gas & Elec., 462 U.S. at 103, 103 S.Ct. at 2255 (noting that when an agency “is making predictions, within its area of special expertise, at the frontiers of science . . . as opposed to simple findings of fact, a reviewing court must generally be at its most deferential”).

We limit our conclusion, of course, to the facts of this case. Those facts involve a long-term program for restoring the Everglades' natural flow in a way that would cause temporary flooding of twenty percent of the critical habitat of a long-lived species of kite with a high adult survival rate and a wide range. The flooding is being done in an effort to avoid the extinction of an endangered sparrow in the area. The aim is to eventually restore the natural flow of the Everglades, a restoration which hopefully will benefit both endangered birds. In light of these facts, the Service's determination in its 2006 biological opinion that the action will not jeopardize the kite or adversely modify its habitat within the meaning of the Endangered Species Act is not arbitrary and capricious.

VI.

The Tribe's last contention is that the Fish & Wildlife Service's incidental take statement is defective because it fails to specify, in numbers of birds, how much "take" is permissible. An incidental take statement may lawfully authorize harm to an endangered species as long as the statement sets a 'trigger' for further consultation at the point where the allowed incidental take is exceeded, a point at which there is a risk of jeopardizing the species. 50 C.F.R. § 402.14(i)(4). To provide the required trigger the incidental take statement must "[s]pecif[y] the impact of such incidental taking on the species," 16 U.S.C. § 1536(b)(4)(i), in a

way that will alert the agency when the allowed incidental take has been exceeded. The regulations do not clarify how this incidental take “impact” should be quantified. See 50 C.F.R. § 402.14(i)(1)(i) (noting that the incidental take statement must “[s]pecif[y] the impact, i.e. the amount or extent, of such incidental taking on the species”).

The Service’s “Final ESA Section 7 Consultation Handbook,” however, does provide guidance about how impact on the species may be measured. United States Fish & Wildlife Serv. & Nat’l Marine Fisheries Serv., Final ESA Section 7 Consultation Handbook, 4-47 (1998), available at <http://www.fws.gov/endangered/consultations/s7hndbk/s7hndbk.htm>.¹ The Handbook states that incidental take of a species may be “expressed as [either] the number of individuals taken or the extent of habitat likely to be destroyed or disturbed When preparing an incidental take statement, a specific number . . . or level of disturbance to habitat must be described.” Id. The Handbook thus allows the Service to use, without specific justification, habitat impact measurements (also called “habitat markers”) to express take instead of using actual head counts of members of the species.

¹ Copies of the internet materials cited in this opinion are on file in the Clerk’s Office. See 11th Cir. R. 36, I.O.P. 10.

Following its Handbook, the Service elected to use habitat impact measurements for the sparrow, kite, and wood stork² instead of counting the birds. In the incidental take statement attached to the 2006 biological opinion, re-consultation is not triggered by any number of actual deaths or by any amount of population decline, but instead by water levels in WCA-3A. The Service decided that for the sparrow, any flooding interrupting sixty consecutive days of low water and covering more than sixty-six square miles below S-12 would exceed incidental take and trigger re-consultation. For the wood stork, the trigger was an increase in water depth of more than eight inches over an area of over sixteen square miles within the wood stork's core foraging area between December and May of each year. The kite's trigger was any drop in water depth of more than 1.7 feet at gauge 3A-28 between February and May of each year.

The first question is whether the Endangered Species Act allows incidental take statements to express impact in terms of habitat markers rather than actual population declines. The Service argues that the Act is silent on that point, that under its Handbook such habitat markers are acceptable, and that the Handbook is entitled to deference under Chevron U.S.A., Inc. v. Natural Res. Defense Council, 467 U.S. 837, 104 S. Ct. 2778 (1984).

² See supra footnote 1.

The Supreme Court has stated that ordinarily “policy statements, agency manuals, and enforcement guidelines, all of which lack the force of law [] do not warrant Chevron-style deference.” Christensen v. Harris County, 529 U.S. 576, 587, 121 S. Ct. 1655, 1662 (2000) (adopting Skidmore deference instead for an agency opinion letter). However, Christensen explained that the agency opinion letter in that case had not undergone any formal adjudication or notice-and-comment rulemaking, and suggested that the “rigors of the Administrative Procedure Act, including public notice and comment” would warrant greater deference. Id. (quotation marks omitted). In United States v. Mead Corp., the Court added that “a very good indicator of delegation meriting Chevron treatment” is when Congress authorizes an agency to engage in a process of administrative rulemaking regarding the relevant legislation. 533 U.S. 218, 229–30, 121 S. Ct. 2164, 2172–73 (2001). Notice and comment rulemaking is thus “significant . . . in pointing to Chevron authority.” Id.

Here there is no question that the Secretary of the Interior and the Fish & Wildlife Service are authorized by Congress to issue regulations that have the force of law in implementing the Endangered Species Act. Babbitt v. Sweet Home Chapter of Cmty. for a Great Oregon, 515 U.S. 687, 708, 115 S. Ct. 2407, 2418 (1995) (“When it enacted the ESA, Congress delegated broad administrative and

interpretative power to the Secretary.”); see also 16 U.S.C. §§ 1533, 1536. The Handbook was created following the same administrative procedures that official regulations undergo. A preliminary Handbook was published in the Federal Register in 1994, and after a period for public comment was allowed and then extended, the Handbook was finally adopted in 1998. See 60 Fed. Reg. 8729, at 8729–30 (Feb. 15, 1995) (extending the period of public comment from the original notice that was published in the Federal Register at 59 Fed. Reg. 65781, at 65781–82 (Dec. 21, 1994)). Under Mead and Christensen, the Service’s Handbook is entitled to Chevron deference. 533 U.S. at 229–30, 121 S. Ct. at 2172; 529 U.S. at 587, 121 S. Ct. at 1662; see also Nw. Ecosystem Alliance v. United States Fish & Wildlife Serv., 475 F.3d 1136, 1142–43 (9th Cir. 2007) (finding Chevron deference applied to the Service’s policy statements created after public notice and comment).

Under Chevron the Service’s interpretation of how it may measure impact on a species under the Endangered Species Act is subject to a two-pronged analysis. The first question is whether “Congress has directly spoken to the precise question at issue.” Chevron, 467 U.S. at 842, 104 S. Ct. at 2781. “If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress.” Id.

at 842–43, 104 S. Ct. at 2781; see also id. at 843 n.9, 104 S. Ct. at 2782 (“If a court, employing traditional tools of statutory construction, ascertains that Congress had an intention on the precise question at issue, that intention is the law.”). In Chevron the Supreme Court granted deference to the EPA’s interpretation of the term “stationary source” in the Clean Air Act. Id. at 866, 104 S. Ct. at 2793. However, the Court deferred only after finding that neither the language of the Clean Air Act nor its legislative history showed clear congressional intent on the issue. Id. at 861–62, 104 S. Ct. at 2791 (“We are not persuaded that parsing of the general terms in the text of the statute will reveal an actual intent of Congress We [also] find that the legislative history as a whole is silent on the precise issue before us.”); see also Gen. Dynamics Land Sys., Inc. v. Cline, 540 U.S. 581, 600, 124 S. Ct. 1236, 1248 (2004) (noting that the Court need not apply any level of deference because congressional intent, as shown in significant part by legislative history, was clear regarding the meaning of the term “age” in the ADEA).

Despite our concerns about the use of legislative history materials, see supra at 15–16, we recognize that this Court and the Supreme Court have used them to decide whether congressional intent is clear under the first step of Chevron. See Guar. Fin. Servs., Inc. v. Ryan, 928 F.2d 994, 1004 (11th Cir. 1991) (“Therefore,

in order to determine whether Congress has ‘directly addressed the precise question at issue,’ we have undertaken an analysis of the available legislative history”) (citation omitted). In Ryan, we used a House Committee report and the appended dissenting views of certain congressmen to find clear congressional intent regarding the statute being interpreted. Id.; see also Sierra Club v. Johnson, 436 F.3d 1269, 1280 (11th Cir. 2006) (using both the plain language of the statute and the legislative history explaining it to determine congressional intent: “If [the Clean Air Act amendments] were not otherwise clear, the conference report for the 1990 amendments settles it.”).

“When considering the legislative history of enacted legislation, an authoritative source is the official congressional reports on the bill.” Ryan, 928 F.2d at 1004; see also Seneca-Cayuga Tribe v. Nat’l Indian Gaming Comm’n, 327 F.3d 1019, 1033 n.19 (10th Cir. 2003) (“Committee reports represent the most persuasive indicia of Congressional intent, with the exception, of course, of the statute’s language.” (quoting Mills v. United States, 713 F.2d 1249, 1252 (7th Cir. 1983))).

In this case, the legislative history of the Endangered Species Act indicates that Congress did have an “intention on the precise question at issue.” Chevron, 467 U.S. at 842–43, 843 n.9; 104 S. Ct. at 2781–82 & n.9. Congress wanted

incidental take impact to be stated in numbers of animals, where practical, not in terms of habitat markers. Commenting on how incidental take statements were to “[s]pecif[y] the impact . . . on the species,” as required by 16 U.S.C. §

1536(b)(4)(i), the House Report states:

Section 7(b)(4) requires the Secretary to specify the impact on [sic] such incidental taking on the species. The Committee does not intend that the Secretary will, in every instance, interpret the word ‘impact’ to be a precise number. Where possible, the impact should be specified in terms of a numerical limitation. . . . The Committee recognizes, however, that it may not be possible for the Secretary to specify a number in every instance. For example, it may not be possible to determine the number of eggs of an endangered or threatened fish which will be sucked into a power plant when water is used as a cooling mechanism. The Committee intends only that such numbers be established where possible.

H.R. Rep. 97-567, at 27 (1982), as reprinted in 1982 U.S.C.C.A.N. 2807, at 2827.

That part of the House Report recently led the Ninth Circuit to invalidate an incidental take statement. See Oregon Natural Res. Council v. Allen, 476 F.3d 1031, 1037 (9th Cir. 2007) (“Congress has clearly declared a preference for expressing take in numerical form, and an Incidental Take Statement that utilizes a surrogate [measure] instead of a numerical cap on take must explain why it was impracticable to express a numerical measure of take.”). In Allen, the court held that the Service’s incidental take statement, which used acreage of habitat loss instead of bird counts to express the take of owls, was invalid in part because it

failed to explain why counting the owls was impractical. Id. at 1037–38. Other cases show that take is typically expressed in numerical form, even with species that would seem to be as elusive as the birds in this case. See, e.g., Fund for Animals, Inc. v. Rice, 85 F.3d 535, 540 n.8 (11th Cir. 1996) (mentioning an incidental take statement that allowed the take of fifty-two endangered snakes, plus two each ensuing year); Arizona Cattle Growers Ass’n v. United States Fish & Wildlife Serv., 273 F.3d 1229, 1249 (9th Cir. 2001) (listing cases where the Service expressed incidental take in numerical form for wolves, red squirrels, and sea turtles).

In light of the House Report, which distinctly states twice that numerical population counts are to be used where possible, the Handbook’s contrary position fails the first step of Chevron analysis. We apply instead the rule that specific population data is required unless it is impractical. See Allen, 476 F.3d at 1037–38. The rule makes sense. The goal of the Endangered Species Act is to protect populations of species, and using habitat markers when population data is available is like turning on the weather channel to see if it is raining instead of looking out a window.

In this case, the Service’s current incidental take statement justifies its use of habitat markers by explaining that the sparrows have “secretive” behavior and

“cryptic” color. As for the wood storks and kites, the Service notes that they are also secretive and move over expansive and remote areas. The record, however, shows that several Service-employed scientists spend a great deal of time actually counting these particular birds and creating yearly population data based on their efforts. In fact, according to the biological opinion itself, kites have been counted on an annual basis since 1969, and in the 1990s many of them were radio-tagged. In light of these facts the Service’s assertion in its incidental take statement that the birds are “difficult to detect” leaves us unpersuaded that counting them is impractical enough to justify the use of habitat markers instead.

Moreover, even if the Service is able to show that using specific bird population data to measure incidental take and set a trigger for re-consultation is impractical, the habitat markers in the current incidental take statement also appear to be arbitrary and capricious. For instance, the sole trigger for the kite is a water level drop of more than 1.7 feet at gauge 3A-28 between February and May of each year. Although the biological opinion recognizes that water levels above 10.5 feet are a significant problem for the kite given its scavenging and nesting habits, there is no trigger in terms of a high-water mark. Instead, without explanation the Service actually removed from the 2006 incidental take statement a high-water trigger that it had included in its 2002 statement. As the Tribe points

out, this means that no amount of high water in WCA-3A— and no number of dead or vanished kites—will trigger re-consultation. Regardless of what befalls the kites in the meantime, the Service will not reconsider its Interim Plan unless water levels drop more than 1.7 feet at a specific marker during a three-month period each spring. In that respect the incidental take statement is defective.

We do uphold the Fish & Wildlife Service's conclusion that the kite will not be jeopardized by its sparrow-saving Interim Plan. The law, however, requires more. It requires that the incidental take statement contain an adequate trigger for re-consultation, and that a trigger must be expressed in population terms unless it is impractical to do so. Because those requirements are not met, the current incidental take statement must be modified or replaced.

We vacate the district court's judgment to the extent that it upholds the incidental take statement, but we affirm the judgment in all other respects, and we remand for further proceedings consistent with this opinion.

AFFIRMED IN PART, and REVERSED and REMANDED IN PART.