No. 18-2090

IN THE UNITED STATES COURT OF APPEALS
FOR THE FOURTH CIRCUIT

DEFENDERS OF WILDLIFE, SIERRA CLUB, and THE VIRGINIA WILDERNESS COMMITTEE,
Petitioners,

v.

UNITED STATES FISH AND WILDLIFE SERVICE, *et al.*,
Respondents,

and

ATLANTIC COAST PIPELINE, LLC
Respondent-Intervenor.

On Petition for Review

PETITIONERS' OPENING BRIEF

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UNITED STATES COURT OF APPEALS FOR THE FOURTH CIRCUIT
DISCLOSURE OF CORPORATE AFFILIATIONS AND OTHER INTERESTS

Disclosures must be filed on behalf of all parties to a civil, agency, bankruptcy or mandamus case, except that a disclosure statement is **not** required from the United States, from an indigent party, or from a state or local government in a pro se case. In mandamus cases arising from a civil or bankruptcy action, all parties to the action in the district court are considered parties to the mandamus case.

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No. 18-2090 Caption: Defenders of Wildlife v. U.S. Department of the Interior

Pursuant to FRAP 26.1 and Local Rule 26.1,

Defenders of Wildlife
(name of party/amicus)

who is Petitioner, makes the following disclosure:
(appellant/appellee/petitioner/respondent/amicus/intervenor)

1. Is party/amicus a publicly held corporation or other publicly held entity? ☐ YES ☑ NO

2. Does party/amicus have any parent corporations? ☐ YES ☑ NO
If yes, identify all parent corporations, including all generations of parent corporations:

3. Is 10% or more of the stock of a party/amicus owned by a publicly held corporation or other publicly held entity? ☐ YES ☑ NO
If yes, identify all such owners:

4. Is there any other publicly held corporation or other publicly held entity that has a direct financial interest in the outcome of the litigation (Local Rule 26.1(a)(2)(B))? ☐ YES ☑ NO
If yes, identify entity and nature of interest:

5. Is party a trade association? (amici curiae do not complete this question) ☐ YES ☑ NO
If yes, identify any publicly held member whose stock or equity value could be affected substantially by the outcome of the proceeding or whose claims the trade association is pursuing in a representative capacity, or state that there is no such member:

6. Does this case arise out of a bankruptcy proceeding? ☐ YES ☑ NO
If yes, identify any trustee and the members of any creditors' committee:

Signature: /s/ J. Patrick Hunter Date: 10/4/18

Counsel for: Defenders of Wildlife

CERTIFICATE OF SERVICE

****

I certify that on 10/4/18 the foregoing document was served on all parties or their counsel of record through the CM/ECF system if they are registered users or, if they are not, by serving a true and correct copy at the addresses listed below:

Avi Kupfer
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/s/ J. Patrick Hunter
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10/4/18
(date)

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No. 18-2090 Caption: Defenders of Wildlife v. U.S. Department of the Interior

Pursuant to FRAP 26.1 and Local Rule 26.1,

Sierra Club
(name of party/amicus)

who is Petitioner, makes the following disclosure:
(appellant/appellee/petitioner/respondent/amicus/intervenor)

1. Is party/amicus a publicly held corporation or other publicly held entity? ☐ YES ☑ NO

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Counsel for: Sierra Club

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No. 18-2090 Caption: Defenders of Wildlife v. U.S. Department of the Interior

Pursuant to FRAP 26.1 and Local Rule 26.1,

Virginia Wilderness Committee
(name of party/amicus)

who is Petitioner, makes the following disclosure:
(appellant/appellee/petitioner/respondent/amicus/intervenor)

1. Is party/amicus a publicly held corporation or other publicly held entity? ☐ YES ☑ NO

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If yes, identify any trustee and the members of any creditors' committee:

Signature: /s/ J. Patrick Hunter Date: 10/4/18

Counsel for: Virginia Wilderness Committee

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10/4/18
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INTRODUCTION

Defenders of Wildlife, Sierra Club, and the Virginia Wilderness Committee seek review of Fish and Wildlife Service approvals for the Atlantic Coast Pipeline for a second time. This Court vacated the original approvals, which set unenforceable limits on take of protected species. Vacatur stopped construction along portions of the pipeline route in May 2018. The Federal Energy Regulatory Commission stopped all pipeline construction after the Court issued its Opinion in August 2018.

New Fish and Wildlife Service approvals quickly followed and construction recommenced. The new approvals dismiss new information showing that pipeline construction would be more harmful than originally anticipated for some species and that preserving populations of two species is critical to assuring the species' survival and recovery. Instead of protecting those populations by requiring that the pipeline avoid or minimize impacts, the agency's new approvals allow the species to be significantly harmed, jeopardizing their future existence. The agency's rushed reauthorizations also introduced new errors into its incidental take analysis, disregarding this Court's instructions.

JURISDICTIONAL STATEMENT

Petitioners seek review of the Fish and Wildlife Service's ("FWS's") Biological Opinion and Incidental Take Statement authorizing construction and operation of the Atlantic Coast Pipeline ("ACP"). *See* Petition for Review, Ex. A (ECF No. 2-2).

This Court has "original and exclusive jurisdiction" over review of FWS's reauthorization. *See* 15 U.S.C. § 717r(d)(1); *Sierra Club v. U.S. Dep't of the Interior*, 899 F.3d 260, 270 (4th Cir. 2018) (reviewing previous incidental take statement) ("*Sierra Club*").

The Biological Opinion and Incidental Take Statement is a final agency action reviewable under the Administrative Procedure Act ("APA"). 5 U.S.C. §§ 701–706; *see Sierra Club*, 899 F.3d at 270. Petitioners' September 19, 2018, challenge was timely filed within eight days of the agency decision. *See* Petition for Review (ECF No. 2-1). Petitioners are aggrieved by FWS's decisions.

Petitioners are organizations dedicated to the conservation of the natural environment and wildlife. The Sierra Club is dedicated to exploring, enjoying, and protecting wild places and to educating and enlisting humanity to protect and restore the quality of the natural and human environment. Martin Decl. ¶ 3.

Virginia Wilderness Committee's ("VWC's") mission includes protecting the best of Virginia's wild places for future generations. Miller Decl. ¶ 3. To fulfill

that mission, VWC works to protect habitat for threatened and endangered species. Miller Decl. ¶ 12.

Defenders of Wildlife is focused on wildlife and habitat conservation and the safeguarding of biodiversity, including protection of the endangered and threatened species impacted by the Atlantic Coast Pipeline. Rylander Decl. ¶¶ 3, 6.

Petitioners have standing to challenge the Biological Opinion and Incidental Take Statement. Petitioners demonstrate associational standing when their members have standing "to sue in their own right." *Sierra Club*, 899 F.3d at 282 (quoting *Friends of the Earth v. Laidlaw Envtl. Serv. (TOC), Inc.*, 528 U.S. 167, 181 (2000)). For Petitioners' members to establish standing, they "'must show (1) [they have] suffered an 'injury in fact' that is (a) concrete and particularized and (b) actual or imminent, not conjectural or hypothetical; (2) the injury is fairly traceable to the challenged action of the defendant; and (3) it is likely, as opposed to merely speculative, that the injury will be redressed by a favorable decision.'" *Sierra Club*, 899 F.3d at 283 (alteration in original) (internal quotation omitted). Petitioners submit declarations[1] from their members satisfying each of these requirements.

Petitioners' members have aesthetic and recreational interests in viewing threatened and endangered species in the project area. For example, several of

[1] In the absence of record citations, Petitioners cite directly to the declarations, submitted as addenda to this brief.

Petitioners' members live on properties where Rusty patched bumble bees ("RPBB") have been located. G. Robinson Decl. ¶ 15; Limpert Decl. ¶ 17. They, and other members of Petitioners, enjoy photographing and searching for RPBBs on their property and plan to continue doing so in the future. Johnson Decl. ¶¶ 11, 16; G. Robinson Decl. ¶¶ 22-24. Another member played a key role in having the RPBB federally listed and plans to continue photographing and advocating for the species wherever it is found, including in Virginia. Bolt Decl. ¶¶ 11-14, 20. These members' interests are harmed by FWS's erroneous authorization to take RPBBs.

Other members routinely travel to areas impacted by the pipeline to view and monitor endangered bats, including Indiana bats. Lambert Decl. ¶¶ 9, 14. These members will similarly be harmed by impacts to bats, which can only occur with FWS's sign-off.

As demonstrated by these declarants, the interests of Petitioners' members in viewing wildlife will be undermined by take which the Incidental Take Statement fails to properly quantify, or at levels that jeopardize species' survival and recovery, which is prohibited by the provisions of the Endangered Species Act ("ESA") they now seek to enforce. That harm affords them standing to bring this Petition. *See Friends of the Earth*, 528 U.S. at 183 (persons who use area have standing to challenge activity that will lessen "aesthetic and recreational values"); *see also Lujan v. Defs. of Wildlife*, 504 U.S. 555, 562–63 (1992) (observing

"animal species . . . is undeniably a cognizable interest"). The interests of their members in turn provide standing to these organizational Petitioners.[2] *See Am. Canoe Ass'n v. Murphy Farms, Inc.*, 326 F.3d 505, 517 (4th Cir. 2003).

This Court previously exercised review over Petitioners' claims when it ruled on their prior challenge to a decision of FWS for this same project. S*ee Sierra Club*, 899 F.3d 260.

STATEMENT OF ISSUES

1. Was the Fish and Wildlife Service's determination that the Atlantic Coast Pipeline would not jeopardize the Rusty patched bumble bee arbitrary?
2. Was the Fish and Wildlife Service's determination that the Atlantic Coast Pipeline would not jeopardize the Clubshell arbitrary?
3. Did the Fish and Wildlife Service rationally specify the impact of pipeline construction on Indiana bats?
4. Is the habitat surrogate take limit for Madison Cave isopod arbitrary?

STATEMENT OF THE CASE

The Federal Energy Regulatory Commission ("FERC") authorized the ACP under the Natural Gas Act on October 13, 2017. *See* 161 FERC ¶ 61,042, Atlantic Coast Pipeline, Order Issuing Certificates (Oct. 13, 2017) (hereafter "FERC

[2] Petitioners' claims also "fall within the zone of interests protected by the law invoked" in this Petition. *Lexmark Int'l, Inc. v. Static Control Components, Inc.*, 572 U.S. 118, 129 (2014) (internal quotations omitted).

Certificate"), JA0816.[3] FERC's approval recognizes that the project requires independent permits and approvals from other agencies, including FWS. *See, e.g.*, FERC, Final Environmental Impact Statement ("FEIS"), 1-25-32, Table 1.4-1 (listing required approvals), JA0618-JA0625. Petitioners challenge the agency action of FWS.

A. Procedural History

On July 21, 2017, FERC requested formal consultation with FWS under Section 7 of the ESA. FWS, Biological Opinion (Oct. 16, 2017), 2, JA0822. Formal consultation is required if a federal agency "action may affect listed species or critical habitat." 50 C.F.R. § 402.14(a). On October 16, 2017, FWS concluded consultation by issuing a Biological Opinion ("2017 BiOp") and Incidental Take Statement ("2017 ITS"). 2017 BiOp, 1, JA0821. Petitioners challenged the 2017 ITS on January 19, 2018. This court vacated the ITS on May 5, 2018, and issued a full opinion on August 6, 2018. *Sierra Club*, 899 F.3d 260. On August 23, 2018, FERC reinitiated formal consultation on the project. FWS, Biological Opinion (Sept. 11, 2018), 108, JA1267. FWS issued a new Biological Opinion ("2018 BiOp") and Incidental Take Statement ("2018 ITS") on September 11, 2018. *Id*. at

[3] FWS incorporated into this administrative record the record from Case No. 18-1083, but the two records are not consecutively numbered. We noted records from Case No. 18-1083 with "FWS1" and records provided separately with Case No. 18-2090 with "FWS2." *See* Certified List of Administrative Record, Entry 1 (ECF No. 28).

1, JA1160. On September 19, 2018, Petitioners sought review of FWS's 2018 approvals. *See* Petition for Review, (ECF No. 2-1).

B. Statement of Facts

Construction of the ACP, which stretches 600 miles from West Virginia to North Carolina, will adversely affect species FWS is charged with protecting under the ESA. *See* FERC Certificate ¶ 1, JA0816. As early as 2014, FWS "highly recommend[ed]" that project developer Atlantic Coast Pipeline, LLC ("Atlantic") "avoid sensitive areas such as Hackers Creek," Letter from John Schmidt, FWS, to William Scarpinato, Dominion (Dec. 9, 2014) (JA0315), and was clear that additional assessment would be necessary once a route was finalized, *see* Letter from Cindy Schulz, FWS, to William Scarpinato, Dominion (Jan. 23, 2015), JA0317. Both early letters included instruction on surveying for species. JA0315, JA0317-JA0318.

FERC indicates it "evaluated 27 major pipeline route alternatives," "four route variations," and "reviewed over 201 variations." FEIS, ES-15, JA0617. As late as September 2017 – a month before the 2017 BiOp – FWS remained uncertain whether the route information underlying its ongoing analysis was current. Email from Spencer Trichell, Dominion, to Troy Andersen, FWS (Sept. 5, 2017), JA0712.

To complete its analysis, FWS needed to know where species were located. FWS indicated to FERC on November 7, 2016, that it "will be requiring that all surveys be completed prior to development of the Biological Opinion" and reiterated that in its March 2017 comments on the Draft Environmental Impact Statement ("DEIS"). FWS-FERC Meeting Notes (Nov.7, 2016), JA0493; Letter from Jon Schmidt, FWS, to Nathan Davis, FERC (Mar. 30, 2017), JA0540-JA0541 (FWS "continu[ing] to recommend surveys be completed prior to initiating formal consultation").

Those comments were shared with Virginia Johnson, then Special Assistant to the Secretary of the Department of the Interior ("DOI"), who chastised FWS staff for "not provid[ing] an opportunity to review [the comments] prior to submission" because "the Administration and Secretary Zinke are interested in projects of this nature." Email from Virginia Johnson, DOI, to Jim Kurth, FWS (Apr. 6, 2017) [FERC eLibrary Document No. 20180911-5098], JA0559.[4]

[4] FERC reinitiated ESA Section 7 consultation with FWS on August 23, 2018. 2018 BiOp, 108, JA1267. Petitioners submitted comments with attachments to FWS while consultation was reopened. Petitioners' letter was included in the administrative record, FWS2-001445, but the attachments were not originally. The attachments were also submitted to the FERC docket. *See* FERC eLibrary No. 20180911-5098. FWS incorporated FERC Docket Nos. CP15-554, CP15-555, and CP15-556 into this administrative record. *See* Certified List of Administrative Record, Entry 1 (ECF No. 28). Petitioners initially cited to the FERC eLibrary number for documents included in the FERC docket but without an administrative record cite.

The next day, FWS field staff were told:

> "[E]xtensive conversations [are] taking place between ACP and the Secretary's office, and…there is a new expectation that any significant correspondence, formal or informal, relating to directions, decisions, comments, recommendations, policy, response to ACP/FERC policy or procedure questions, etc., needs to be cleared through DOI prior to releasing to ACP or FERC.

Email from Glenn Smith, FWS, to Christine Willis, *et al.*, FWS (Apr. 7, 2017), JA0564-JA0565.

Preceding FWS's DEIS comments, Dominion Energy officials[5] met with Associate Deputy Secretary of DOI James Cason on March 14, 2017, to discuss the pipeline.[6] Days later, when FWS staff reached out to an Atlantic consultant for "more information or details on ACP's concerns," the consultant relayed to FWS that the "key is to complete the [Biological Opinion] by August" and that "[t]he Dept will most likely want a weekly update of progress toward that goal." Email from William Hartwig, Atlantic Consultant, to Glenn Smith, FWS (March 23, 2017), JA0535.

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[5] ACP is a joint project of Dominion Energy, Duke Energy, and Southern Company. FERC Certificate, ¶ 5, JA0818.

[6] Petitioners request judicial notice of Mr. Cason's March and April 2017 calendars. *See* James Cason official calendar available at https://www.doi.gov/sites/doi.gov/files/uploads/cason_march_1_-_31_2017_redacted.pdf (last visited Dec. 3, 2018). Courts "may properly take judicial notice of matters of public record." *Philips v. Pitt Cty. Mem'l Hosp.*, 572 F.3d 176, 180 (4th Cir. 2009) (reviewing Rule 12(b)(6) dismissal).

On April 4, 2017, FWS officials also met with Cason about ACP.[7] After the meeting, FWS acknowledged that their March 30 DEIS Comments "stat[ed] the Service could not initiate formal consultation…because it lacked sufficient information for multiple species and suggest[ed] that surveys must be completed," but FWS "clarif[ied] with [FERC] and ACP that we will be able to initiate consultation…prior to completion of all the surveys." Email from Jim Kurth, FWS, to Virginia Johnson, DOI (Apr. 5, 2017), JA0551, JA0555.[8]

That direction was relayed to FWS field staff:

> For some unexplained reason, these [FAST-41 interstate pipeline] projects no longer plan on completing species surveys for *significant* portions of project alignment before initiating formal consultation. **Our internal direction is that we can't require surveys and will not make further requests for surveys that interfere with applicant's project schedule** since these are priority fast track projects, and **we will not state that we have insufficient information to initiate consultation** and **will not delay initiation of consultation based on lack of baseline/species survey data**. So that is what it is and [*sic*] need to move on from there.

[7] *See supra* note 6. Mr. Cason's April schedule is available at https://www.doi.gov/sites/doi.gov/files/uploads/cason_april_1_-_28_2017_redacted.pdf (last visited Dec. 3, 2018).

[8] FWS has agreed to include the cited document in the Joint Appendix with the following statement and citation to any relevant arguments in the parties' response or reply briefs: "The parties disagree whether this document is properly before the Court, but have agreed to include the document in the Joint Appendix subject to and without waiving their respective arguments."

Email from Glenn Smith, FWS, to Jerry Ziewitz, *et al.*, FWS (April 14, 2017) (italics original; bold added), JA0567.[9]

Following those instructions, on June 7, 2017, a third party contractor identified, by happenstance, an endangered RPBB along a project access road. Email from Rob Jean, Consultant, to Sumalee Hoskin, FWS (June 7, 2017), JA0606. Prior to that, the species' presence was not known to occur in the area. Atlantic informed FERC on June 13, 2017. Letter from Robert Bisha, Atlantic, to Kimberly Bose, FERC, JA0612. FERC declined to include that information in its forthcoming FEIS, released July 21, 2017, which it submitted to initiate ESA Section 7 formal consultation. 2018 BiOp, 107, JA1266; *see* FEIS, 4-314, JA0636.

Within two weeks, Atlantic requested that FWS complete the BiOp even faster – "75 days from the start [of consultation] where we usually have 135." Email from Paul Phifer, FWS, to Deborah Rocque, FWS (Aug. 3, 2017) [Supp_AR_033604]. FWS issued the BiOp 75 days later on October 16, 2017. 2017 BiOp, 1, JA0821.

This timeframe was so compressed that FWS had to ask the Forest Service to complete a habitat assessment for RPBB – which it had not realized was present – so FWS could "conduct a more informed effects/jeopardy analysis." Email from Troy Andersen, FWS, to Jennifer Adams, Forest Service (Aug. 15, 2017), JA0706.

[9] *See supra* note 8.

The Forest Service refused because it too was "under serious time constraints for our reviews of other documents for…ACP," Email from Jennifer Adams to Troy Andersen (Aug. 16, 2017) (JA0704), even though it had previously acknowledged that without "surveys…[we] really can't say whether there is suitable habitat or individual[RPBBs] present." Email from Catherine Johnson, Forest Service, to Elizabeth Stout, FWS (July 25, 2017) (parenthesis omitted), JA0654.

FWS also asked Atlantic to abandon use of the road where the RPBB was found and instead use a different road previously proposed. Atlantic refused: "using the [other] access road instead of the RPBB access road doesn't address our needs." Email from Spencer Trichell, Dominion, to Paul Phifer, FWS (Aug. 3, 2017), JA0689.

FWS moved forward with the BiOp, finding that the project was "likely to adversely affect" eight listed species, including RPBB, but jeopardize none. *See* 2017 BiOp, 48-50, JA0868-JA0870. Petitioners challenged the 2017 ITS limits for take of species, which FWS argued were reasonable, in part, because FWS "lacked current survey information about many of the species or ACP had not completed the necessary surveys" – the very information DOI had forbid FWS from requesting. *See Sierra Club*, 899 F.3d at 272. This Court rejected that rationale and vacated the ITS in May 2018. The Court's August 6, 2018 Opinion, which also vacated a right-of-way from the National Park Service, prompted an Order

from FERC stopping all pipeline construction. *See* FERC, Order (Aug. 10, 2018) [FERC eLibrary No. 20180810-4011].

FWS obtained new information in summer 2018 showing that the project would impact RPBBs more severely than predicted in 2017 (in the absence of surveys) and that the impacted populations of both RPBB and clubshell were more important to the species' long-term survival. *See infra* pp. 14-23. Following the Court's opinion, however, FWS was again under pressure to move quickly: "[n]ow that the court's opinion has been released timelines have ramped up." Email from Elizabeth Stout, FWS, to Casey Swecker, Consultant (Aug. 15, 2018), JA1088.

FERC reinitiated formal consultation on August 23, 2018, to correct the ITS and because of "new information…for some of the species." Letter from David Swearingen, FERC, to Paul Phifer, FWS, JA1101. FWS field staff compiled their proposed revisions by September 5, 2018, and a new BiOp and ITS issued September 11, 2018, retaining FWS's original no jeopardy findings. Email from Paul Phifer, FWS, to Tim Abing, Forest Service (Sept. 5, 2018), JA1142; 2018 BiOp, 1, 61-63, JA1160, JA1220-JA1222. FERC lifted its stop-work order days later. FERC, Order (Sept. 17, 2018) [FERC eLibrary No. 20180917-3025]. This Petition is relevant to four species.

1. Rusty Patched Bumble Bee

RPBB populations have plummeted eighty-eight percent since the early 1990s. RPBB Listing, 82 Fed. Reg. 3,186, 3,188 (Jan. 11, 2017). It is now "likely to be present in only 0.1% of its historical range."[10] Ninety-six percent of known populations are documented by five or fewer individual bees. 82 Fed. Reg. at 3,205. No RPBBs have been observed at seventy-three percent of the known population locations since 2015. *Id*. at 3,188. "[T]he species is vulnerable to extinction even without further external stressors acting upon the populations." *Id*. Without affirmative protections, RPBB risks extinction in the next thirty years. FWS, RPBB Species Status Assessment (June 2016), 4 ("RPBB Status Assessment"), JA0394. According to FWS-wide RPBB guidance, the species "is so imperiled that every remaining population is important for the continued existence of the species." Survey Protocols for RPBB (June 6, 2017), 1, JA0572.

Despite the precarious state of the species, neither FWS nor Atlantic purposely surveyed for RPBBs. FWS RPBB survey guidance recommends that "'presence-absence' survey[s] for Section 7[ ] Consultation" consist of "1 person-hr" of surveying "per 3 acres of best habitat" spread over "4 equally spaced sampling periods from mid-June to mid-August," but that guidance went unused.

[10] FWS, Rusty Patched Bumble Bee webpage, *available at* https://www.fws.gov/midwest/endangered/insects/rpbb/ (last visited Dec. 3, 2018).

FWS, Survey Protocols for RPBB (Feb. 28, 2018), 6 [FWS2-001704 (Dec. Supp. AR)].[11] In November 2016, before a RPBB was found, FWS articulated why this is problematic: "Without survey effort data it's difficult to tell if RPBB are truly absent, or just that no one has looked." Email from Sarah Nystrom, FWS, to Steve Roble, Virginia DCR (Nov. 14, 2016) [FWS2-001633 (Dec. Supp. AR)].

The Virginia Department of Conservation and Recreation ("DCR") looked in the summer of 2018. It informed FWS of "an additional 22 RPBB findings" near the pipeline corridor "from July 19 to August 20, 2018." 2018 BiOp, 23, JA1182. Some of those RPBBs were "closer to the construction ROW than the 2017 RPBB location and [] near 3 project access roads." *Id*. Even after this notification – after its 2017 ITS was vacated but before reinitiating consultation – FWS did not survey for RPBBs or, apparently, ask FERC or Atlantic to survey.

The RPBB population documented by DCR is one of only five reported outside the Midwest in the last decade and the only such population with confirmed observations across multiple years. *See* Letter from Leif Richardson, University of Vermont, to Cindy Schulz, FWS (Oct. 30, 2018).[12] The population is

[11] The 2017 Survey Protocols included similar instruction. *See* FWS, Survey Protocols for RPBB (June 6, 2017), 16, JA0587.

[12] Preceding a request to this Court, Petitioners asked FWS on November 9, 2018, to stay implementation of its 2018 BiOp. To support their request, Petitioners attached multiple letters from experts questioning FWS's RPBB analysis. *See* Attachments to Petr's' Mot. for Stay (ECF No. 33-2).

"of global significance in our efforts to prevent extinction of the rusty-patched bumble bee." *Id*. Its "importance…to the long-term existence of this species cannot be overstated; it is essential." *See* Letter from Rich Hatfield, Xerces Society, to Cindy Schulz, FWS (Sept. 24, 2018).[13]

Pipeline construction will have severe impacts on this globally significant population. "RPBB nests are expected to be crushed by machinery during vegetation removal and construction" of the ACP. 2018 BiOp, 41, JA1200. Project activities will "affect the ability of [worker bees] to provide sufficient resources to a colony,[14] resulting in reduced health of some individual workers, reduced reproductive capacity of the queen, and reduced production of foundress queens and males." *Id*. "[R]oad widening and culvert replacement will crush any nests or queens overwintering along the access roads." *Id*. at 42, JA1201. FWS predicts as many as eight overwintering queens may be crushed. *Id*. at 56, JA1215.

Loss of queens has profound effects on RPBBs. "A population of RPBB is represented by the number of successful nests or colonies in a given geographical area." 2018 BiOp, 57, JA1216. Each colony is founded by a single queen, which represents one reproductive unit. *Id*. After queens mate at the end of summer, males and non-queen females die (as well as the single queen that started the

[13] *See supra* note 12.

[14] The 2018 BiOp uses "colony" and "nest" interchangeably. 2018 BiOp, 57, JA1216.

colony). RPBB Status Assessment, 15, JA0405. New queens hibernate over winter, emerging in the spring to start a colony. *Id*. Thus loss of a queen represents loss of a potential colony.

These losses are further exacerbated by vulnerability related to RPBB's haplodiploid biology. *Id.* 51, JA0441. Queens with two sets of chromosomes (diploid) mate with males possessing only one set of chromosomes (haploid), producing diploid females, sterile diploid males, and reproductive haploid males. *Id*. As the number of sterile diploid males increases, the population's reproductive success declines, because the queen wastes mating opportunities on sterile males, which in turn creates fewer individuals and lowers the genetic variation of the population. *Id*. This effect compounds: as reduced reproductive success decreases genetic variation, the probability of producing sterile diploid males in the next generation increases. *Id*. This creates an accelerating cycle called the "diploid male vortex," where loss of reproductive queens increases the likelihood of producing sterile diploid males, which further reduces the overall reproductive capacity of the population and the number of queens produced. *Id*.

Collectively, as the reproductive capacity of the population declines fewer reproducing queens are produced, leaving fewer queens available to start the following year's colonies. These small population dynamics are primary stressors

on the species and make RPBB populations particularly vulnerable to loss of reproductive queens. *Id*.

FWS evaluated impacts to RPBB through use of a "high potential zone" ("HPZ"), "modeled based on the 2017 and 2018 RPBB locations," with impacts to RPBB occurring where the HPZ intersects pipeline construction. 2018 BiOp, 23-24, JA1182-JA1183. In part because surveys were never completed, the "[s]tatus of colonies and the population in the HPZ are unknown," so FWS built its RPBB analysis on a series of assumptions. 2018 BiOp, 26, JA1185.

First, in both BiOps FWS assumed RPBBs would not be impacted outside the HPZ. *See* 2018 BiOp, 25, JA1184 ("RPBB activity…is concentrated in the…HPZ…Impacts to RPBB outside of the HPZ are not anticipated."); 2017 BiOp, 20, JA0840. In response to Virginia DCR's 2018 RPBB observations, FWS increased the size of its HPZ from 653 hectares to 969.6 hectares. 2018 BiOp, 24, JA1183.

Second, in its 2017 BiOp FWS assumed that "6-8 new foundress queens are produced at the end of summer" per colony. 2017 BiOp, 20, JA0840. FWS significantly increased this number in 2018, assuming "30 new foundress queens per colony are produced." 2018 BiOp, 25, JA1184.

Third, in both BiOps FWS assumed a nest density of 0.14 nests per hectare, a number it extracted from studies of a different bee, the "common and abundant" buff-tailed bumblebee. 2018 BiOp, 26, JA1185; 2017 BiOp, 20, JA0840.

Relying on these assumptions, FWS concluded not only that the ACP would not jeopardize the continued existence of RPBB as a species, but that it was unlikely to even meaningfully impact the affected population. 2018 BiOp, 57-58, JA1216-JA1217; 2017 BiOp, 45, JA0865. FWS's 2017 BiOp dismissed the projected "loss of 1 colony as a result of crushing" based on its assumption (using nest density for the common and abundant buff-tailed bumble bee) about the "potential presence of an additional 27 colony nests within 0.8 km of the observed RPBB." 2017 BiOp, 44, JA0864. FWS further assumed each of those colonies housed 100 to 1,000 RPBBs, such that the discovery of a single bee, as of that time, was assumed to indicate the presence of 2,700-27,000 RPBBs within 0.8 km of the observed bee. *Id*. at 20, JA0840.

The 2018 BiOp found that the project could cause the loss of one colony and up to eight overwintering queens. 2018 BiOp, 56-57, JA1215-JA1216. Using FWS's newly revised assumption that each colony creates thirty new foundress queens each year, this represents the loss of up to thirty-eight potential nests the following year (thirty queens from the crushed colony plus eight crushed overwintering queens). Again, FWS dismissed these impacts as insignificant,

assuming that there were up to twenty-two nests in the HPZ producing up to 660 overwintering queens. *Id*. With both BiOps, FWS concluded that because "populations of RPBB are unlikely to experience reductions in their fitness, there will be no harmful effects…on the species as a whole." 2018 BiOp, 58, JA1217; 2017 BiOp, 45, JA0865.

2. Clubshell

Clubshell is an endangered mussel. Clubshell Listing, 58 Fed. Reg. 5,639 (Jan. 22, 1993). Habitat disturbances like those caused by ACP's construction are "primary factors influencing the [declining] status" of the species. 2018 BiOp, 13, JA1172. Only thirteen populations remain; seven are successfully reproducing. *Id*. at 55, JA1214.

One of the thirteen populations occurs in Hackers Creek. *Id*. at 21, JA1180. "Approximately 6.4 miles of construction [right-of-way] and 11.9 miles of access roads" will be constructed "in the upstream drainage area" of this population. *Id*. Those activities require clearing over 100 acres in the watershed. *Id*. at 40, JA1199. Clubshell will be impacted by "increased sediment loads" which will affect "the entire length of Hackers Creek." *Id*.

"[T]he increased sedimentation…may result in complete extirpation of [the Hackers Creek] population." Email from Elizabeth Stout, FWS, to Robert Anderson, FWS (Oct. 3, 2017), JA0814. "Loss of Hackers is very bad for the

species…because it meets all the criteria that are considered in the jeopardy definition." Email from Robert Anderson,[15] FWS, to Elizabeth Stout, FWS (Oct. 3, 2017), JA0811. As late as two weeks before the 2017 BiOp, FWS was asking internally if "there is a case for the loss of Hackers Creek pop'n *not* appreciably reducing the likelihood of survival and recovery of the clubshell in the wild given the presence of the other populations?" Email from Elizabeth Stout, FWS, to Robert Anderson, FWS (Oct. 3, 2017) (emphasis original), JA0810.

Eventually, FWS answered yes, resorting to criteria in its Clubshell Recovery Plan. The recovery criteria require establishing "viable populations…in 10 separate drainages." 2018 BiOp, 55, JA1214. "A viable population consists of sufficient numbers of reproducing individuals to maintain a stable or increasing population." FWS, Clubshell Recovery Plan (1994), 29, JA0038. Eight drainages are specifically named; populations must also be established in two unspecified drainages. 2018 BiOp, 55, JA1214. All ten "populations and their drainages…must be permanently protected from all foreseeable and controllable threats, both natural and anthropogenic." *Id*.

The 2017 BiOp found the Hackers Creek population was not "likely to be part of the 2 unspecified additional drainages," and therefore loss of the Hackers Creek population would not jeopardize the species. 2017 BiOp, 43, JA0863. FWS

[15] Robert Anderson is the "species lead" for clubshell. *See* Email from Robert Anderson to Elizabeth Stout (Sept. 12, 2017) [Supp_AR_037298].

premised that finding on "continued decline and no recruitment" in the Hackers Creek population. 2017 BiOp, 18, JA0838. Surveys in 2009 documented twenty-nine individuals while surveys in 2014 only documented nineteen. *Id*.

In 2018 – before formal consultation was reinitiated – FWS documented a reversal in that decline. Two salvage efforts found sixty-eight live clubshell in Hackers Creek. 2018 BiOp, 21, JA1180. Now FWS estimates that there are "up to 94 individuals" within the "585m reach" where FWS originally assumed a population of nineteen or fewer was declining. *Id*. at 65, JA1224. Additionally, FWS concludes that clubshell habitat extends an additional "7.6 km upstream" of the original 585m reach analyzed in the 2017 BiOp, and that this area separately includes "up to 78 individual clubshell." *Id*. at 66, JA1225.

FWS's 2018 BiOp retains the finding that the project will not jeopardize the clubshell. *Id*. at 62, JA1221.

3. Indiana Bat

The endangered Indiana bat is "declining" range wide and the "degree of threat to the continued existence of the species is high." 2018 BiOp, 13, JA1172. Construction will impact 4,448 acres of forested habitat in the Appalachian Mountain Recovery Unit designated by FWS to protect core and peripheral bat populations. 2018 BiOp, 30, JA1189. This acreage is divided into "4 categories of Ibat habitat: suitable unoccupied summer habitat in VA and WV; known use

summer habitat in WV; unknown use spring staging/fall swarming habitat within WV, and known use spring staging/fall swarming habitat in VA and WV." *Id*. at 30-31, JA1189-JA1190. Relevant here, suitable unoccupied summer habitat is habitat in the Recovery Unit where, at the time completed, surveys suggested probable absence during summer months. 2018 BiOp, 31, JA1190.

FWS's 2017 BiOp concluded "the majority of effects to Ibats from tree clearing will occur in suitable unoccupied summer habitat." 2017 BiOp, App'x B, Table 7, JA0920. Those "effects will be greatest to pregnant females that expend additional energy to seek alternate travel corridors as a result of tree clearing." *Id*. "If pregnant females dramatically alter their travel corridor they will divert their energetic demands to seek new corridors and will likely give birth to smaller pups, which could decrease pup survival." *Id*. "Tree removal may fragment the habitat such that Ibats traveling through the area will be more vulnerable to predation, resulting in injury or death." *Id*. Of the 4,448 acres of Indiana bat habitat impacted by pipeline construction, 3,275 are suitable unoccupied summer habitat. 2017 BiOp, 24, JA0844.

The 2018 BiOp reaches the opposite conclusion of the 2017 BiOp: "Removing large areas of trees…in unoccupied summer habitat, is presumed not to result in indirect effects to Ibats" at all. 2018 BiOp, 31, JA1190.

4. Madison Cave Isopod

Madison Cave isopod ("MCI") is a threatened subterranean freshwater crustacean. Madison Cave isopod Recovery Plan (1996), 1, JA0073. "The species is endemic to underground karst aquifer habitats and is [] restricted to the Shenandoah Valley, from Lexington, Virginia to Harpers Ferry, West Virginia." FEIS, 4-293, JA0627. Population size is unknown. *Id*. at 4-294, JA0628.

FWS assumes the species' presence based on available habitat. 2018 BiOp, 29-30, JA1188-JA1189. The project crosses 1,974 surface acres of potential MCI habitat. *Id*. at 29, JA1188. Ground-disturbing project activities such as "digging, trenching, blasting, grading, constructing/improving access roads, culvert installation, and wetland crossings" are expected to "crush or introduce sediment that smothers MCI, or collapse or fill subsurface features and/or alter subsurface water quality and/or quantity resulting in habitat degradation, fragmentation, and loss." *Id*. at 43, JA1202. "[M]aterials released into surface or subsurface karst features may reach MCI up to 0.5 mile away." *Id*. at 29, JA1188. Atlantic "identified 20 open throat sinkhole features where the presence of [MCI] is assumed, of which 9 are located within 25 feet of the trenchline and could be directly impacted by construction activities." FEIS, 4-298, JA0632.

Nevertheless, in both its 2017 ITS and 2018 ITS, FWS assessed take only in a limited area near Cochran's Cave, Virginia. *See* 2018 BiOp, 68, JA1227 (ITS

take limit is based on the area where the pipeline crosses Cochran's Cave); 2017 BiOp, 52 (the same), JA0872. Both analyses focused on an 11.2-surface acre area, *id*., ignoring the remainder of the 1,974 surface acres of habitat.

SUMMARY OF THE ARGUMENT

The ESA forbids federal agencies from jeopardizing the continued existence of a protected species. If FWS's analysis shows a project will jeopardize a species, the project must be modified or abandoned to avoid jeopardy. Despite new information confirming the critical importance of the affected population, FWS relied on a series of irrational assumptions to downplay impacts to RPBBs, thereby avoiding a jeopardy finding. Its conclusion is unreasoned and arbitrary. Similarly, to avoid finding jeopardy, FWS rejected out-of-hand the significance of the Hackers Creek clubshell population to the recovery potential of the species, despite new information indicating the population is more robust than originally assumed. That finding is also arbitrary.

FWS also failed to comply with this Court's instructions in *Sierra Club* regarding habitat surrogates. Its take limit for Indiana bat omits without explanation habitat destruction FWS previously believed would cause the *majority* of impacts to the bat. The 2018 BiOP also repeats the error of the 2017 BiOp by failing to establish a causal link between FWS's chosen habitat surrogate and take of MCI. These errors allow species to be impacted in ways not contemplated, or authorized, under FWS's approvals. As a result, the Biological Opinion and Incidental Take Statement are unlawful and should be vacated.

ARGUMENT

I. LEGAL BACKGROUND

A. Standard of Review

This Court reviews the BiOp and ITS, final agency actions, under the arbitrary and capricious standard of the APA. *See Sierra Club*, 899 F.3d at 270; 5 U.S.C. § 706(2)(A). Agency decisions are arbitrary and capricious when the agency "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." *Sierra Club v. U.S. Forest Serv*., 897 F.3d 582, 590 (4th Cir. 2018), *reh'g granted in part*, 739 F. App'x 185 (4th Cir. 2018) (citations omitted) ("*Forest Service*").

Courts "must not 'rubber-stamp...administrative decisions that they deem inconsistent with a statutory mandate or that frustrate the congressional policy underlying a statute.'" *Arizona Cattle Growers' Ass'n v. U.S. Fish & Wildlife Serv.*, 273 F.3d 1229, 1236 (9th Cir. 2001) (quoting *N.L.R.B. v. Brown*, 380 U.S. 278, 291 (1965)); *accord Miller v. AT&T Corp*. 250 F.3d 820, 833 (4th Cir. 2001). Deference is only due when the agency can "articulate a satisfactory explanation for its action [that demonstrates] a rational connection between the facts found and

the choice made." *Dow AgroSciences LLC v. Nat'l Marine Fisheries Serv.*, 707 F.3d 462, 471 (4th Cir. 2013) (alteration in original) (internal quotations omitted).

B. The Endangered Species Act

The purpose of the ESA is "to protect and conserve endangered and threatened species and their habitats." *Nat'l Ass'n of Home Builders v. Defs. of Wildlife*, 551 U.S. 644, 651 (2007); *see generally* 16 U.S.C. § 1531 *et. seq.* Its goal "is not just to ensure survival, but to ensure that the species recovers to the point that it can be delisted." *Alaska v. Lubchenco*, 723 F.3d 1043, 1054 (9th Cir. 2013), *as amended on denial of reh'g and reh'g en banc* (Oct. 16, 2013) (citations omitted). With the ESA "Congress [] spoke[] in the plainest of words, making it abundantly clear that the balance has been struck in favor of affording endangered species the highest of priorities." *Tennessee Valley Auth. v. Hill*, 437 U.S. 153, 194 (1978). "The plain intent…was to halt and reverse the trend toward species extinction, *whatever the cost*." *Id*. at 184 (emphasis added). As applied to the federal government, the ESA "reveals a conscious decision by Congress to give endangered species priority over the 'primary missions' of federal agencies." *Id*. at 185.

The ESA furthers these goals through two mechanisms relevant here. First, ESA Section 9 prohibits "take" of listed species.[16] To "take" a species includes activities that "harass, harm,…wound, kill,…or to attempt to engage in any such conduct." 16 U.S.C. § 1532(19). "Harm and harassment include the disruption of normal behavioral patterns and indirect injury caused by habitat modification." *Sierra Club*, 899 F.3d at 269 (citations omitted). Violating the take prohibition carries stiff civil and criminal penalties. *See* 16 U.S.C. § 1540.

Second, ESA Section 7 prohibits federal agencies from engaging in any action "likely to jeopardize the continued existence of any endangered species or threatened species." 16 U.S.C. § 1536(a)(2). To jeopardize the continued existence of a listed species 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; *see also Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 524 F.3d 917, 930 (9th Cir. 2008) (to jeopardize "means to 'expose to loss or injury' or to 'imperil.'"). The "jeopardy" determination is made pursuant to the consultation procedures under Section 7 of the ESA. 16 U.S.C. § 1536(a)(2).

[16] The ESA prohibits "take" of endangered species by statute. 16 U.S.C. § 1538(a)(1)(B). FWS regulations extended that prohibition to species relevant here listed as "threatened." 50 C.F.R. § 17.31.

1. Section 7 Consultation Under the ESA

Formal consultation under Section 7 is required whenever an agency action "may affect listed species or critical habitat." *Sierra Club*, 899 F.3d at 269 (*quoting* 50 C.F.R. § 402.14(a)). During consultation, FWS must "[e]valuate the current status of the listed species," "[e]valuate the effects of the action and cumulative effects on the listed species," and offer its 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)(2-4).

Because a "slow slide into oblivion is one of the very ills the ESA seeks to prevent," *Nat'l Wildlife Fed'n*, 524 F.3d at 930, FWS's jeopardy analysis occurs against the backdrop of the overall "status of the species" and the "environmental baseline." The "status of the species" considers "all past human and natural activities or events that have led to the current status." FWS, Endangered Species Consultation Handbook: Procedures for Conducting Consultation and Conference Activities under Section 7 of the Endangered Species Act (1998), 4-19, JA0074 (hereafter "ESA Handbook"). The "environmental baseline" is a "subset" of the "status of the species," *id*. at 4-22 (JA0077), that looks more closely at impacts to the species "in the action area." 50 C.F.R. § 402.02. "Action area means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." *Id.*

"[W]here baseline conditions already jeopardize a species, an agency may not take action that deepens the jeopardy by causing additional harm." *Nat'l Wildlife Fed'n*, 524 F.3d at 930; *see also Turtle Island Restoration Network v. U.S. Dep't of Commerce*, 878 F.3d 725, 737-738 (9th Cir. 2017) (finding no-jeopardy determination arbitrary where it focused only on harm from proposed action, rather than in combination with other factors leading to species decline). Agencies may not "tip a species from a state of precarious survival into a state of likely extinction." *Nat'l Wildlife Fed'n*, 524 F.3d at 930.

The effects of the action are then evaluated in light of the status of the species and environmental baseline. "Effects of the action refers to the direct and indirect effects of an action on the species…together with the effects of other activities that are interrelated[17] or interdependent[18] with that action." 50 C.F.R. § 402.02.

Ultimately, FWS must decide "whether *the aggregate effects* of the factors analyzed under 'environmental baseline,' 'effects of the action,' and 'cumulative effects' in the action area - *when viewed against the status of the species*…are likely to jeopardize the continued existence of the species." ESA Handbook, 4-33

[17] "Interrelated actions are those that are part of a larger action and depend on the larger action for their justification." 50 C.F.R. § 402.02

[18] "Interdependent actions are those that have no independent utility apart from the action under consideration." 50 C.F.R. § 402.02

(JA0078) (italics added, other emphasis omitted); *see Am. Rivers v. Fed. Energy Regulatory Comm'n*, 895 F.3d 32, 45-46 (D.C. Cir. 2018) (invalidating jeopardy determination inconsistent with ESA Handbook guidance related to baseline conditions). Stated differently, "[i]n determining whether an action is likely to jeopardize the continued existence of a species, the action is viewed against the aggregate effects of everything that has led to the species' current status and, for non-Federal activities, those things likely to affect the species in the future." ESA Handbook, 4-37, JA0082.

The agency's consultation determinations must be based on the "best scientific and commercial data available or which can be obtained during the consultation for an adequate review…. This information may include the results of studies or surveys conducted by the Federal agency." 50 C.F.R. § 402.14(d).

FWS conveys its final determination in a written statement called a Biological Opinion. *See Sierra Club*, 899 F.3d at 269. If FWS determines the activity *will not* jeopardize the continued existence of any listed species it may allow the "incidental take" of that species. That occurs only pursuant to "a valid Incidental Take Statement from FWS" included with the Biological Opinion. *Id*. Because an ITS serves as a "'trigger' that, when reached, results in an unacceptable level of incidental take," *id*. at 269 (internal quotations and citations omitted), the

ITS must "[s]pecif[y] the impact, i.e., the amount or extent, of such incidental taking on the species." 50 C.F.R. § 402.14(i)(1)(i).

If FWS determines the activity *will* jeopardize the continued existence of any listed species then it must "suggest those reasonable and prudent alternatives" which could be implemented by the action agency to avoid jeopardy. 16 U.S.C. § 1536(b)(3)(A). In the end, if an "agency's action may jeopardize the survival of species protected by the ESA…the action must be modified" to continue. *Nat'l Wildlife Fed'n*, 524 F.3d at 925.

II. FWS ARBITRARILY DETERMINED THE ACP WILL NOT JEOPARDIZE RPBB

RPBB is on the brink of extinction. It is "likely to be present in only 0.1% of its historical range."[19] ACP construction will crush nests and kill overwintering queens in a population "of global significance in our efforts to prevent extinction of the rusty-patched bumble bee." *See* Letter from Leif Richardson, University of Vermont, to Cindy Schulz, FWS (Oct. 30, 2018). These impacts were only realized after FWS field staff were instructed to "not delay initiation of consultation based on lack of baseline/species survey data" and not "interfere with [the] applicant's project schedule." Email from Glenn Smith, FWS, to Jerry

[19] *See supra* note 10.

Ziewitz, et al., FWS (April 14, 2017), JA0567.[20] A jeopardy determination may have done just that, by requiring FERC and Atlantic to "either terminate the action, implement [a] proposed alternative, or seek an exemption from the Cabinet-level Endangered Species Committee pursuant to 16 U.S.C. § 1536(e)." *Nat'l Ass'n of Home Builders*, 551 U.S. at 652.

FWS ultimately dismissed harms to RPBBs, relying on irrational and untested assumptions to find pipeline construction would not even reduce the fitness of the local population, much less jeopardize the species as a whole. 2018 BiOp, 58, JA1217. Instead of reconsidering that conclusion in its 2018 BiOp with new information, FWS simply doubled down on its no-impact-to-populations finding, despite admitting that the project will *harm even more* RPBBs and queens than originally projected. Its finding is arbitrary for several reasons.

A. FWS Arbitrarily Relied on Nest Density Data for a Different, Abundant Bee Species to Dismiss Impacts

FWS pointed to nest density data for the buff-tailed bumble bee to support its conclusion that project impacts will be inconsequential for this population of RPBBs. Using those data, FWS assumed a dense distribution of thriving RPBB nests surrounding the project area, twenty-two nests within the HPZ producing 660 overwintering queens (30 per nest). 2018 BiOp, 56, JA1215. FWS reasons that loss of a colony and overwintering queens is insignificant in light of this robust

[20] *See supra* note 8.

nest network. *Id*. at 56-58, JA1215-JA1217. But that assumption "runs counter to the evidence before the agency." *Forest Service*, 897 F.3d at 590 (internal quotations omitted).

The crucial difference between the buff-tailed bumble bee and RPBB is this: the former is "common and abundant," 2018 BiOp, 26 (JA1185), the latter is critically endangered and declining. By relying on data for a common and abundant species, FWS irrationally converted RPBB from a highly endangered species into an abundant one for purposes of jeopardy. The analysis reflects RPBB in name only; in reality it describes the status of a common species.

RPBB-specific data shows that populations are far from robust; they are "vulnerable to extinction even without further external stressors acting upon the species." 82 Fed. Reg. at 3,188. "96 percent [of known populations] *have been documented by 5 or fewer individual bees*." 82 Fed. Reg. at 3,205 (emphasis added). It is unreasonable to assume such a prolific population, consisting of thousands of RPBBs, exists here, and FWS has presented no evidence indicating otherwise.

Nor can FWS's predictions be squared with the limited RPBB data available for this project area. FWS made similar assumptions in its 2017 BiOp, pointing to buff-tailed bumble bee data to assume that there were up to 28 colonies within 0.8 km of the first-discovered RPBB, 2017 BiOp, 44 (JA0864), and that each colony

produced six to eight new foundress queens each year, *id*. at 20, JA0840. If those assumptions were reliable, there would have been as many as 224 overwintering queens near the HPZ last year, according to FWS, each with the potential to start a colony in 2018 of "100 to 1,000 workers" – up to 224,000 RPBBs. *Id*.

Virginia DCR documented only nine[21] RPBBs near the 2017 HPZ – not thousands. 2018 BiOp, 23, JA1182. Nine bees represent a significant population for this species on the brink of extinction, but evidence does not support the robust population assumed by FWS. Rather, it is consistent with a holdout population of a rapidly declining species; a population that is both very important and highly vulnerable to any impact which reduces its chances of survival.

Further underscoring its irrationality, FWS's nest density assumption produced internal inconsistencies in its analysis. FWS assumes there are twenty-two nests in the HPZ collectively producing 660 overwintering queens, each with the potential to found a nest the following year. 2018 BiOp, 56, JA1215. As explained below, FWS also assumes RPBB activity is concentrated in the HPZ. 2018 BiOp, 25, JA1184. If all 660 queens establish nests in the HPZ, the nest density will balloon from 0.14 nest/ha to as much as 4.2 nests/ha, invalidating

[21] DCR documented twenty-two new RPPB discoveries near the pipeline corridor but FWS considers thirteen of those findings to be "outside the project action area." 2018 BiOp, 23, JA1182.

FWS's assumption.[22] If RPBBs expand outside the HPZ, FWS's assumption that RPBB activity is concentrated in the HPZ will be invalidated. Alternatively, if the majority of the 660 queens will not establish nests the following year, it is irrational to dismiss the degree of impact by pointing to that number.

In truth the "[s]tatus of colonies and the population in the HPZ *are unknown*." 2018 BiOp, 26, JA1185 (emphasis added). FWS arbitrarily relied on data for a "common and abundant" species to assume the impacted population of RPBBs is healthy and robust, able to withstand adverse impacts. At bare minimum, FWS has failed to explain why that assumption is reasonable.

B. FWS's Assumption That RPBBs Outside the HPZ Will Not Be Impacted Is Arbitrary

A second assumption in FWS's analysis is that RPBB activity is concentrated in the HPZ and that impacts to RPBBs outside the HPZ will not occur.[23] 2018 BiOp, 25, JA1184. But FWS knows that assumption is faulty. FWS made the same assumption in its 2017 BiOp. 2017 BiOp, 20, JA0840. Surveys

[22] The 4.2 nests/ha density was calculated by dividing 660 by the 156.3 ha of nesting habitat in the HPZ. *See* 2018 BiOp, 56, JA1215.

[23] Responding to a Motion to Stay, FWS argued that it did not actually make this assumption. Resp't' Opp. to Mot. to Stay, 10 (ECF No. 36-1). That is unsupported by the record: an "assumption" underlying its analysis is that "RPBB activity…is concentrated in the [ ] HPZ… Impacts to RPBB outside of the HPZ are not anticipated." 2018 BiOp, 25, JA1184. If FWS concedes RPBBs will be impacted outside the HPZ it must redo its analysis to account for those impacts.

completed by Virginia DCR in 2018 documented twenty-two additional RPBBs. 2018 BiOp, 23, JA1182. Many of those bees were found outside the original HPZ, "closer to the construction ROW…and near 3 project access roads." *Id*. To encompass DCR's findings, FWS expanded the 2017 HPZ by 316.6 hectares – approximately 50%. 2018 BiOp, 24, JA1183. The increase in the HPZ encompassed more pipeline right-of-way, nearly doubling the impact to RPBB. *Compare* 2018 BiOp, 67 (JA1226) (RPBB impacts across 13.89 ha) *with* 2017 BiOp, 52 (JA0872) (RPBB impacts across 7.3 ha). Yet, FWS's 2018 BiOp repeats the assertion that RPBB impacts will be limited to the now expanded HPZ, without revisiting why that assumption was infirm the first time. 2018 BiOp, 25, JA1184.

This is circular reasoning. FWS cannot rationally expand the HPZ because RPBBs are found outside it, but then recommit to its original, proven-to-be faulty assumption that RPBBs will not be impacted outside the HPZ, without explaining why the expanded area does not suffer from the same problems. The root of this problem is that FWS has not surveyed for RPBBs to develop a defensible HPZ. Without that information, the agency cannot rely on "analytical slight [*sic*] of hand, manipulating the variables to achieve a 'no jeopardy' finding." *Nat'l Wildlife Fed'n*, 524 F.3d at 933.

C. FWS's Jeopardy Determination Ignores Its Own Findings

FWS brushed aside evidence that the ACP will jeopardize RPBB without articulating a rational connection between that conclusion and the facts in the BiOp about direct loss of reproductive queens.

ACP construction will impact RPBBs in two main ways. Pipeline construction will reduce colony health by removing foraging resources that support queens, *indirectly* leading to reduced reproductive success. 2018 BiOp 55-56, JA1214-JA1215. Construction will *directly* impact colony reproduction by crushing or killing the reproductive foundress queens that establish new nests. As many as thirty-eight may be killed (through the loss of one colony with capacity to produce thirty queens and the crushing of eight overwintering queens). *Id*. at 56-57, JA1215-JA1216.

The BiOp concedes that loss of foundress queens directly impacts the viability of a population. RPBB population health is measured by "the number of successful nests or colonies in a given geographical area, rather than a number of individuals, because a colony is founded by a single queen and represents 1 reproductive unit." 2018 BiOp, 57, JA1216. As a result "[l]oss of a colony or overwintering queen *could reduce the health of a metapopulation due to lost opportunities to interbreed,*" reducing, in turn, the genetic diversity of the population. *Id*. (emphasis added). "Impacts to populations may result from loss of

colonies or reduced colony formation when nests or overwintering foundress queens are crushed." *Id*. Because of small population dynamics and the phenomenon of the diploid male vortex, such losses have magnified impacts on the viability of the overall population: "as population size decreases, population growth rate also tends to decrease and the risk of local extirpation increases." *Id*.

Contrary to those facts, FWS draws the broad conclusion that "populations of RPBB are unlikely to experience reductions in their fitness," including reproductive success, as a result of pipeline construction. *Id*. at 58, JA1217.[24] That statement grates against FWS's other conclusion that the predicted "loss of a colony or overwintering queen could reduce the health of [the] metapopulation due to lost opportunities to interbreed" and cause "impacts to populations." *Id*. at 57, JA1216. Both statements cannot be true.

Instead, FWS ignored *direct* impacts from loss of colonies and queens, ultimately concluding that "limited *indirect* impacts to the ability of queens associated with 1 colony to produce workers and foundress queens are not likely to negatively impact the fitness or survival of the population" and therefore not cause jeopardy. 2018 BiOp, 57-58, JA1216-JA1217 (emphasis added). But *direct* impacts – "crushing colonies or overwintering queens" through pipeline

[24] "Fitness" is not specifically defined in the BiOp but FWS explains the concept parenthetically as "i.e., reproductive success and long-term viability." 2018 BiOp, 56, JA1215.

construction – *will* reduce the fitness of the population. *See* BiOp, App'x B, Table 5, JA1282. This is particularly true considering the acceleration of small-population dynamics and the diploid male vortex that may result from the loss of reproductive queens. FWS cannot ignore its finding of direct impacts to populations to reach a no jeopardy conclusion.

D. FWS Failed to Evaluate the ACP Against the Status of the Species

FWS must evaluate "whether the aggregate effects of the factors analyzed under 'environmental baseline,' 'effects of the action,' and 'cumulative effects' in the action area - *when viewed against the status of the species*…are likely to jeopardize the continued existence of the species." ESA Handbook, 4-33, JA0078 (emphasis changed). Here, FWS failed to evaluate the aggregate effects against the status of RPBB as a whole.

Unless FWS takes affirmative steps to protect and recover RPBB, it may go extinct in the next thirty years. RPBB Status Assessment, 4, JA0394. It is so endangered that FWS has advised caution when surveying for individual bees – much less constructing a massive pipeline through RPBB habitat – because "every remaining population is important for the continued existence of the species." FWS, Survey Protocols for RPBB, 1, JA0572.

Nowhere in the 2018 BiOp does FWS disclose or consider these dire straits. At most, FWS conveyed that RPBB range wide "was declining," just as it did for

four other species. 2018 BiOp, 12–14, JA1171-JA1173. But RPBB is in a class of its own – uniquely and immediately "vulnerable to extinction even without further external stressors." 82 Fed. at Reg. 3,188. When background conditions place a species in jeopardy,

> [a]n 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.

Nat'l Wildlife Fed'n, 524 F.3d at 930; *see also Oceana, Inc. v. Pritzker*, 125 F. Supp. 3d 232, 245–46 (D.D.C. 2015) ("NMFS cannot examine the effects of an action in isolation…. A species teetering on the brink of extinction may be unable to withstand even the slightest degree of additional harm.").

The ACP will harm RPBB. *See* BiOp, App'x B, Table 5, JA1282-JA1283. FWS must assess that harm in light of its critically endangered status.

FWS's error is partially attributable to the step-wise structure of its jeopardy analysis, which embedded errors. FWS considered "impacts to species" only if it first determined there would be "impacts to populations."[25] FWS used its arbitrary finding that "populations of RPBB are unlikely to experience reductions in their

[25] And only considered "impacts to populations" if it first determined there would be "impacts to individuals."

fitness," 2018 BiOp, 58 (JA1217), to avoid considering the precarious state of the species as a whole.

For instance, range wide the threatened Madison Cave isopod is "stable," but FWS determined that "1 population…is likely to experience a reduction in fitness." 2018 BiOp, 59, JA1218. Only after making that finding did FWS assess the "aggregated consequences…on the species as a whole." *Id*. Because FWS arbitrarily determined that "populations of RPBB are unlikely to experience reductions in their fitness," it assumed "there will be no harmful effects…on the species as a whole" without completing that analysis. *Id*. at 58, JA1217.

The logic of using data for a "common and abundant" species to assess impacts to a highly endangered species breaks down further here. In both BiOps, FWS's assumptions led it to conclude that if it found one or more RPBBs, it could assume those RPBBs were part of a healthy local population because data for a "common and abundant" species was driving its analysis. Essentially, as long as FWS found *one* RPBB, under its assumptions there is no scenario in which FWS would not find that population to be healthy and robust, indicative of an abundant species. As a result, FWS may assume that the population can withstand substantial adverse impacts and, under the structure of its BiOp, never proceed to consider impacts on the species as whole. Because FWS first erred in determining populations of RPBB in the pipeline's path would not be meaningfully impacted, it

never proceeded to evaluate the "aggregated consequences…on the species as a whole." The critically endangered state of RPBB is never properly considered in the jeopardy analysis. FWS "entirely failed to consider an important aspect of the problem." *Forest Service*, 897 F.3d at 590 (internal quotations omitted).

E. FWS Failed to take RPBB Recovery into Account

Jeopardy requires consideration of the effects of an action on the "survival *and recovery* of a listed species in the wild." 50 C.F.R. § 402.02 (emphasis added). Recovery means "improvement in the status of a listed species to the point at which listing is no longer appropriate." ESA Handbook, 4-36, JA0081. The RPBB analysis fails to consider recovery. Courts have reversed no-jeopardy findings when, as here, they do not address the prospects for recovery. *Nat'l Wildlife Fed'n*, 524 F.3d at 933 (upholding decision invalidating jeopardy determination due to inadequate consideration of recovery).

This too is partially attributable to the flawed structure of the 2018 BiOp. For species that FWS determined would experience a population-level reduction in fitness, such as MCI, FWS went on to consider the project's impacts on "the likelihood of survival *and recovery*." 2018 BiOp, 59, JA1218 (emphasis added). But that analysis is missing for species, like RPBB, that FWS asserted would not experience population-level reductions in fitness. As a result, there is no "reasonable assurance that the agency action…will not appreciably reduce the odds

of success for future recovery planning, by tipping a listed species too far into danger." *Nat'l Wildlife Fed'n*, 524 F.3d at 936.

Even if FWS had made a non-arbitrary finding that RPBBs would not experience a population-level reduction in fitness, FWS's analysis would still fall short. Consideration of recovery is more critical when a species exists in a "highly precarious state," because it "raises a substantial possibility that considering recovery impacts could change the jeopardy analysis." *Id*. at 933. That is a real possibility here. Because "every remaining population is important for the continued existence of the species," the analysis may confirm that assuring survival and recovery requires avoiding impacts to every remaining RPBB population. *See* FWS, Survey Protocols for RPBB (June 6, 2017), 1, JA0572. FWS never completed that analysis, in violation of the ESA.

III. FWS ARBITRARILY DETERMINED THE ACP WILL NOT JEOPARDIZE CLUBSHELL

The clubshell is declining range wide. 2018 BiOp, 13, JA1172. Thirteen total populations remain. 2018 BiOp, 55, JA1214. Important here, as of 2017 only seven were known to reproduce successfully, none of which were located in West Virginia. 2017 BiOp, 43, JA0863.

The ACP may extirpate the Hackers Creek clubshell population. Email from Elizabeth Stout, FWS, to Robert Anderson, FWS (Oct. 3, 2017), JA0814. FWS staff recognized that "[l]oss of Hackers is very bad for the species…because it

meets all the criteria that are considered in the jeopardy definition." Email from Robert Anderson, FWS, to Elizabeth Stout, FWS (Oct. 3, 2017), JA0811. The "project will diminish the species numbers (all take does), reproduction (which it will do), and distribution." *Id*. Nevertheless, the 2018 BiOp concluded that loss of the Hackers Creek population would *not* result in a "reduction in the overall [reproduction, numbers, and distribution] of the species" and therefore not "jeopardize the continued existence of the species." 2018 BiOp, 62, JA1221. That conclusion is arbitrary for two reasons.

First, unquestionably the project will reduce the "reproduction, numbers, and distribution" of the species – it may wipe out an entire population, one of only three remaining in West Virginia and thirteen worldwide. A finding to the contrary is "arbitrary and capricious [because] it fails to consider[ ] the relevant factors and articulate[ ] a rational connection between the facts found and the choice made." *Ctr. for Biological Diversity v. U.S. Bureau of Land Mgmt.*, 698 F.3d 1101, 1121 (9th Cir. 2012) (internal citation omitted).

Second, although FWS considered the project's impacts on the recovery potential of the clubshell (in contrast to RPBB) that analysis fell short because FWS arbitrarily dismissed the potential of the Hackers Creek population to contribute to recovery of the species. *See* 2018 BiOp, 55, JA1214.

FWS's Recovery Plan for the clubshell set criteria requiring it to establish "viable populations…in 10 separate drainages." *Id.* "A viable population consists of sufficient numbers of reproducing individuals to maintain a stable or increasing population." FWS, Clubshell Recovery Plan (1994), 29, JA0038. All ten "populations and their drainages must be permanently protected from all foreseeable and controllable threats, both natural and anthropogenic." 2018 BiOp, 55, JA1214. Eight drainages are specified by the Recovery Plan. *Id*. Viable populations must also be established in two unnamed, to-be-determined drainages. *Id*. Hackers Creek is not one of the eight specified drainages and FWS dismisses it as "not likely to be part of the 2 unspecified additional drainages because the population is not reproductive." *Id*.

This dismissal is arbitrary for two reasons. First, as it did in 2017, FWS points to "2009 and 2014 monitoring events [that] documented a continued decline and no recruitment (29 individuals in 2009; 19 individuals in 2014)" to support its position. 2018 BiOp, 20, JA1179. But that trend has reversed. In 2018 FWS recovered 68 live clubshell from the stream – more than have been found in a decade – and now estimates as many as 94 are present. 2018 BiOp, 21, 65, JA1180, JA1224. This best available scientific data indicates an increasing, *i.e.*, reproducing, population.

FWS dismissed this new data, asserting that "the level of effort and survey area for the [2018] salvage effort differs from that of the long-term monitoring efforts," therefore "the results are not comparable." 2018 BiOp, 21, JA1180. FWS does not explain the survey differences. But even if true, the best evidence from the most recent survey available to FWS indicate an increasing population in Hackers Creek.

FWS also points out that its 2018 salvage efforts did not uncover juveniles or gravid individuals. *Id*. But FWS knows it cannot assume a population is not reproducing based on that. "[S]parsely distributed juveniles used to document successful reproduction are likely…more difficult to detect" than adults. FWS, Clubshell Five Year Review (2008), 6, JA0139. "Documenting reproductive success is further complicated because clubshell are relatively long-lived." *Id*. And "[r]eproducing clubshell populations are often hard to detect when densities are very low or surveys are single-day, catch-per-unit efforts." *Id*. In short, it was unlikely that FWS would find gravid individuals or juveniles and failure to do so does not prove this population is not reproducing.

Second, assuming *arguendo* that the Hackers Creek population is not reproducing, FWS still must consider whether it should be protected under the clubshell recovery criteria. The seven other reproducing clubshell populations are not enough to fulfill the recovery criteria of ten populations. If FWS only

considers impacts to those seven reproducing populations when assessing jeopardy, the recovery criteria will *never* be met. Under that approach, all populations except those seven could be extirpated, supposedly without jeopardizing the species, though recovery would be precluded.

The Hackers Creek population is significantly more substantial than FWS originally presumed. The 2018 BiOp demonstrates that not only are more clubshell present than predicted, but "clubshell may be present up to 7.6 km upstream of the clubshell salvage area considered in the October 16, 2017, Opinion." 2018 BiOp, 22, JA1181. FWS's decision not to analyze whether the population should be one of the two unspecified populations required by the recovery criteria was arbitrary.

IV. FWS FAILED TO SPECIFY THE IMPACT FOR INDIANA BAT, ARBITRARILY LIMITING TAKE LIMITS

When FWS reaches a no-jeopardy conclusion it may allow the "incidental take" of the species. *Sierra Club*, 899 F.3d at 269. Incidental take can only occur pursuant to a "valid [ITS] from FWS." *Id.* Because the amount of take set by the ITS creates a "'trigger' that, when reached, results in an unacceptable level of incidental take," *id.*, it is critical that FWS accurately "[s]pecif[y] the impact, i.e., the amount or extent, of such incidental taking on the species." 50 C.F.R. § 402.14(i)(1)(i). If FWS underestimates the impact, the species will be harmed in ways not contemplated in the BiOp or allowed under the ITS. Here, FWS failed to

rationally specify the impact of the project on Indiana Bat by omitting consideration of impacts in unoccupied summer habitat.

FWS's 2017 BiOp determined that impacts would occur across "four relevant categories of Indiana Bat habitat in the Recovery Unit" including "suitable unoccupied summer habitat." *Sierra Club*, 899 F.3d at 278. In fact, FWS concluded that "the *majority of effects* to [Indiana bats] from tree clearing will occur in suitable unoccupied summer habitat." 2017 BiOp, App'x B, Table 7, JA0920 (emphasis added). This Court vacated the 2017 ITS, in part, because "FWS knew that the pipeline will directly affect 3,275.382 acres of suitable unoccupied summer habitat…[y]et, without any explanation, the agency set the take limit for [this habitat] at half of the[] acreage[]. In other words, FWS set the take limit at half the affected bat habitat that it knows the pipeline is going to affect." *Sierra Club*, 899 F.3d. at 279.

Now FWS has gone even further – capriciously determining that clearing suitable unoccupied summer habitat is not likely to adversely affect Indiana bats *at all*. 2018 BiOp, 31, JA1190. As a result, those effects "are not addressed" in its 2018 BiOp or ITS. *Id.* Instead of accounting for the missing half of suitable unoccupied summer habitat, FWS turned it into fiction.

FWS provides two explanations for this about-face, both of which must be rejected. First, FWS asserts its new position is defensible because unnamed "other

field offices and regions of the Service" have reached a similar conclusion for other unspecified projects. *Id*. But *this office* has already determined for *this project* that clearing suitable unoccupied summer habitat will cause "the *majority of effects* to [Indiana bats] from tree clearing." 2017 BiOp, App'x B, Table 7, JA0920 (emphasis added). "While the agency is entitled to change its view…it is obligated to explain its reasons for doing so." *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 56 (1983). This reversal is unreasoned and must be rejected.

Second, FWS asserts that clearing unoccupied suitable summer habitat "is presumed not to result in *indirect* effects to [Indiana bats] because survey results indicate they are not currently occupying the area." 2018 BiOp, 31, JA1190 (emphasis added). But the 2017 BiOp explained how clearing this habitat will indirectly affect bats: "pregnant females [may] expend additional energy to seek alternate travel corridors," "which could decrease pup survival;" fragmented habitat will make bats "more vulnerable to predation, resulting in injury or death." 2017 BiOp, App'x B, Table 7, JA0920. FWS has offered no explanation as to why those conclusions no longer apply.

Further, FWS's determination that clearing suitable unoccupied summer habitat is not likely to adversely affect Indiana bats is neither logical nor consistent with the evidence before the agency. Two of the primary factors leading to the

decline of Indiana bat are "habitat loss and degradation" and "forest fragmentation." 2018 BiOp, 13, JA1172. FWS's new position is that clearing unoccupied suitable habitat results in no adverse effect to bats "*regardless of the amount of acres being cleared*." *Id*. at 31, JA1190 (emphasis added). FWS could clear *all* unoccupied habitat with no impact to bats under this reasoning. That cannot be correct and stands in stark, unexplained contrast to the findings in its 2017 BiOp. Moreover, clearing all suitable but unoccupied habitat would put recovery of the species out of reach because bats would be limited to only the habitat they are currently occupying. The population could never expand.

Because it ignored a substantial cause of take – clearing of suitable unoccupied summer habitat – without justification, FWS has failed to "[s]pecif[y] the impact, i.e., the amount or extent, of such incidental taking on the species." 50 C.F.R. § 402.14(i)(1)(i).

V. FWS FAILED TO ESTABLISH A CAUSAL LINK BETWEEN TAKE OF MCI AND ITS HABITAT SURROGATE TAKE LIMIT

Congress has instructed that the "trigger" of an ITS be set as a specific number whenever possible. *See Sierra Club*, 899 F.3d at 271. But if a specific take limit is not practical, FWS may rely on a habitat surrogate. *Id*. A valid habitat surrogate must contain three elements; one is relevant here. *Id*. (citing 50 C.F.R. § 402.14(i)(1)(i)).

A valid habitat surrogate must describe "the causal link between the surrogate and take of the listed species." *Id*. A "causal link is an articulated, rational connection between the activity and the taking of species" and is established "by examining the habitat requirements and behavior of the listed species and determining the effect of the expected habitat modification." *Id*. (internal quotes and citation omitted).

In its 2017 BiOp, "FWS stated that the pipeline will affect 1,974 surface acres of MCI potential habitat, all of which it assumes contains isopods." *Id*. at 278. On review, this Court concluded that "without providing a reasoned explanation, FWS arbitrarily limited the habitat surrogate to the 896.7 acres near Cochran's Cave" without addressing the remainder of the affected habitat. *Id*. As a result, "its causal link between the isopod and the geographic bounds of the take limit is arbitrary." *Id*.

Notwithstanding this Court's ruling, FWS relies on the *same approach* in its 2018 BiOp and ITS. FWS again finds that the pipeline will affect 1,974 surface acres of MCI potential habitat it assumes contains isopods, 2018 BiOp, 29 (JA1188), and again develops a habitat surrogate using only the area where construction "cross[es] Cochran's Cave." 2018 BiOp, 68-69, JA1227–JA1228.[26]

[26] The 2017 ITS used a habitat surrogate of 896.7 acres which included 11.2 linear surface acres where the construction right of way crossed near Cochran's Cave, plus a half-mile buffer on each side for a total of 896.7 acres. 2017 BiOp, 52,

FWS still provides no reasoned explanation for ignoring the remainder of the 1,974-acre area.[27]

At best, FWS suggests two reasons why it does "not anticipate impacts to MCI in the remainder of the 1,974 surface acres." 2018 BiOp, 29, JA1188. First, FWS points to "the AMMs [avoidance and minimization measures]." *Id*. But FWS has already conceded that this will not prevent impacts. *See* Resp't's Opp. to Mot. to Stay, 20 (ECF No. 36-1) ("the reason [it] does not anticipate MCI take from [] project activity is *not*…because of erosion minimization measures") (emphasis added). FWS knows "AMMs…will not be completely effective" at preventing impacts that "are likely to crush or trap MCIs." 2018 BiOp, 58-59, JA1217–JA1218. Even with AMMs "there will be impacts to individual MCIs." *Id*. at 58, JA1217.

Second, FWS suggests MCIs will not be impacted because the groundwater inhabited by MCI "is approximately 20 ft. below ground…surface," which is

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JA0872. The 2018 BiOp uses the same 11.2 linear surface acres as the habitat surrogate which it will use to monitor impacts in the half-mile buffer. 2018 BiOp, 69, JA1228. Both BiOps arbitrarily focus on only the 11.2 surface acres near Cochran's Cave.

[27] Atlantic understands that the "effect of FWS' new ITS limit is to prohibit *any* ground disturbing activities in *any* potential MCI habitat outside of the 11.2 acres so designated." Int. Opp. to Mot. to Stay, 16-17 (ECF No. 37-1) (emphasis original). Atlantic is planning construction in over 1,970 acres of potential MCI habitat outside of the designated 11.2-acre surrogate. It violates the limit automatically.

deeper than the area "6-8 ft below ground surface" that will be directly impacted by construction activities. *Id*. at 29. JA1188. The data cited by FWS confirms that groundwater levels vary; it is frequently closer to the surface than 20 feet.[28] But this is a red herring. Nowhere does FWS assert that MCI are only impacted by construction within the groundwater table.

More to the point, FWS's conclusion that it does "not anticipate impacts to MCI in the remainder of the 1,974 surface acres" cannot be squared with the record. There are two relevant considerations: 1) whether MCI are present, and 2) if present, whether they will be impacted.

The record is clear that MCI are present outside Cochran's Cave. FWS assumes that MCI are present in the 1,974 acre area because, while it "lack[s]…effective survey protocols…the best available scientific data leads [FWS] to conclude the species may occur throughout phreatic karst waters based on the MCI potential habitat model." 2018 BiOp, 29, JA1188. FWS consulted with a Virginia DCR expert on MCI who informed FWS that the species is "likely present deeper in the aquifer [at Cochran's Cave] as it is beneath pretty much the entire ACP route through the Shenandoah Valley." Email from Will Orndorff,

[28] USGS, Current Conditions for USGS 382523078535501 38P 1 SOW 070, *available at* https://waterdata.usgs.gov/va/nwis/uv/?site_no=382523078535501&PARAmeter_cd=72019,72020.

DCR, to Sumalee Hoskin, FWS (Aug. 11, 2017), JA0701. Higher quality MCI habitat is found in areas *outside* Cochran's Cave. *See* MCI Habitat Map, JA1079. Finally, Atlantic identified numerous individual karst features where MCI presence is assumed, the majority of which are also located *outside* Cochran's Cave. *See* FEIS, Table 4.7.1-10, 4-295-298, JA0629-JA0632.

The record also establishes that MCI outside of Cochran's Cave will be impacted by ACP construction. MCI will be impacted in two ways.

First, "[t]renching or blasting is likely to loosen subsurface rocks, which could fall and crush MCI" wherever they occur. 2018 BiOp, 43, JA1202. Related, "ground disturbing activities (e.g., digging, trenching, blasting, grading, constructing/improving access roads, culvert installation, and wetland crossings)" will introduce "sediment created when subsurface karst crumbles or is loosened" into MCI habitat. *Id*. Also "shifts in surface and sub-surface formations and hydrology from trenching, digging, or blasting…are likely to crush or trap MCIs." *Id*. at 58-59, JA1217–JA1218.

Second, MCI will be impacted where surface features "provide[] a window for surface sediments to enter the phreatic system." *Id*. at 43, JA1202. "[M]aterials released into surface or subsurface of similar karst features may reach known and potential occurrences of MCI up to 0.5 mile away." *Id*. FWS concedes that a phreatic upwelling at Cochran's Cave meets this condition, *id*., but it is not the

only "window." *Id*. Atlantic surveyed for karst features that can transport surface sediment to subsurface groundwater and identified "20 open throat sinkhole features where the presence of [MCI] *is assumed*, of which 9 are located within 25 feet of the trenchline and *could be directly impacted by construction activities*." FEIS, 4-298, JA0632 (emphasis added). The majority of those features are located *outside* Cochran's Cave area. *See* FEIS, Table 4.7.1-10, 4-295-298, JA0629-JA0632.

Tellingly, FWS admits that constructing access roads as part of the ACP will kill MCI. 2018 BiOp, App'x B, Table 6 ("MCI… will likely be crushed or smothered"), JA1285. *There are no access roads* at Cochran's Cave. *See* 2018 BiOp, 44, JA1203. Plainly, FWS anticipates impacts to MCI elsewhere.

Just as with the 2017 BiOp, "FWS stated that the pipeline will affect 1,974 surface acres of MCI potential habitat, all of which it assumes contains isopods." *Sierra Club*, 899 F.3d at 278. Again, "without providing a reasoned explanation, FWS arbitrarily" focused its analysis only on Cochran's Cave. *Id*. The decision to continue focusing only on Cochran's Cave still leaves a "causal link between the isopod and the geographic bounds of the take limit [that] is arbitrary." *Id*.

CONCLUSION

For the foregoing reasons, Petitioners respectfully request that the Court vacate the Biological Opinion and Incidental Take Statement.

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Respectfully submitted,
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CERTIFICATE OF COMPLIANCE

Pursuant to Fed. R. App. P. 32(g), I certify that this opening brief complies with the type-volume limitation because it contains 12,679 words.

I further certify that this brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type style requirements of Fed. R. App. P. 32(a)(6) because this brief has been prepared in Times New Roman 14-point font using Microsoft Word.

/s/ Austin D. Gerken, Jr.

CERTIFICATE OF SERVICE

I hereby certify that on March 28, 2019, I electronically filed the foregoing opening brief on behalf of Petitioners with the Clerk of Court using the CM/ECF System, which will automatically send e-mail notification of such filing to all counsel of record.

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