

July 25, 2023

*Via Email and Certified Mail  
Return Receipt Requested*

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**Re: 60-Day Notice of Intent to Sue for Violations of the Endangered Species Act  
Related to Consultation on the Nantahala–Pisgah Land Management Plan**

Dear Secretary Haaland, Secretary Vilsack, Director Williams, Chief Moore, and Supervisor Melonas:

We write on behalf of Defenders of Wildlife, the Center for Biological Diversity, The Wilderness Society, MountainTrue, and the Sierra Club (collectively, “Conservation Groups”), in accordance with the citizen-suit provision of the Endangered Species Act (“ESA”),<sup>1</sup> to notify you of our intent to bring suit against the U.S. Forest Service for violations of the ESA in connection with the Forest Service’s formal consultation with the U.S. Fish & Wildlife Service (“FWS”) regarding the Nantahala and Pisgah National Forests’ revised Land Management Plan (“the Plan”). Specifically, the Forest Service violated Section 7 of the ESA<sup>2</sup> and its

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<sup>1</sup> 16 U.S.C. § 1540(g)(1)(A).

<sup>2</sup> *Id.* § 1536(a)(2).

implementing regulations<sup>3</sup> by (1) supplying FWS with inaccurate and incomplete information during consultation for the Plan; and (2) arbitrarily and capriciously relying on FWS’s flawed Biological Opinion (“the BiOp” or “2022 BiOp”).

This letter constitutes notice as required by Section 11 of the ESA<sup>4</sup> prior to commencement of legal action. If the Forest Service does not take action within 60 days to remedy the violations of the ESA described below, Conservation Groups will pursue these claims through legal action in the United States District Court for the Western District of North Carolina.

## **I. Background**

### **a. The Endangered Species Act**

“The plain intent of Congress in enacting [the ESA] was to halt and reverse the trend toward species extinction, whatever the cost.”<sup>5</sup> “To that end, the Endangered Species Act requires federal agencies ‘to afford first priority to the declared national policy of saving endangered [or threatened] species’—even when this goal conflicts with agencies’ ‘primary missions.’”<sup>6</sup>

This goal is codified in ESA Section 7(a)(2), which commands each federal agency to ensure “that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species.”<sup>7</sup> To police this substantive duty, the ESA and its implementing regulations set out a detailed consultation process to assess the impacts of proposed agency actions.<sup>8</sup>

Section 7 consultation is required if either the action agency or FWS conclude that the proposed action “may affect listed species or critical habitat.”<sup>9</sup> The threshold for triggering consultation—the “may affect” standard—is low.<sup>10</sup> “Any possible effect, whether beneficial, benign, adverse, or of an undetermined character, triggers the formal consultation requirement[.]”<sup>11</sup> FWS and the action agency may engage in less rigorous informal consultation, which can include preparation of a “biological assessment” (“BA”), to determine if formal consultation is necessary. If the BA or informal consultation determines that the proposed action is “not likely to adversely affect listed species or critical habitat” and FWS concurs, then the

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<sup>3</sup> 50 C.F.R. Part 402.

<sup>4</sup> 16 U.S.C. § 1540(g)(2)(A).

<sup>5</sup> *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 184 (1978).

<sup>6</sup> *Appalachian Voices v. U.S. Dep’t of Interior*, 25 F.4th 259, 264 (4th Cir. 2022) (quoting *Tenn. Valley Auth.*, 437 U.S. at 185).

<sup>7</sup> 16 U.S.C. § 1536(a)(2). Agency “action” means “all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies,” including “actions directly or indirectly causing modifications to the land, water, or air.” 50 C.F.R. § 402.02.

<sup>8</sup> 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.02.

<sup>9</sup> 50 C.F.R. § 402.14(a)–(b).

<sup>10</sup> *Cal. ex rel. Lockyer v. U.S. Dep’t of Agric.*, 575 F.3d 999, 1018 (9th Cir. 2009).

<sup>11</sup> Interagency Cooperation—Endangered Species Act of 1973, as Amended; Final Rule, 51 Fed. Reg. 19,926, 19,949 (June 3, 1986); see also *Lockyer*, 575 F.3d at 1018–19 (same).

consultation process ends.<sup>12</sup> But if the BA or informal consultation confirms that a project “may [adversely] affect listed species or critical habitat,” FWS and the action agency must proceed to formal consultation.

The action agency initiates formal consultation by submitting a written request to FWS.<sup>13</sup> That request must describe the proposed action and its anticipated effects in “sufficient detail to assess the effects of the action on listed species and critical habitat.”<sup>14</sup> It also must include “an analysis of any cumulative effects,” as well as any “[i]nformation obtained by or in the possession of the Federal agency” regarding “the listed species and designated critical habitat in the action area.”<sup>15</sup> In submitting this request, the action agency must “provide the Service with the best scientific and commercial data available.”<sup>16</sup> The affirmative duty to provide such information does not cease when a request is submitted, however. Instead, the action agency has a continuing “[r]esponsibility” to “provide the [FWS] with the best scientific and commercial data . . . which can be obtained *during* the consultation.”<sup>17</sup>

Once the FWS receives the action agency’s request, it must formulate its biological opinion on the effects of the proposed action. This process occurs in three primary steps. First, FWS must “[r]eview all relevant information provided by the Federal agency or otherwise available.”<sup>18</sup> Second, the FWS must “[e]valuate” four different categories of information for listed species and critical habitat: (1) the “current status”; (2) the “environmental baseline”;<sup>19</sup> (3) the “cumulative effects” of non-federal action;<sup>20</sup> and (4) the “effects of the [agency] action.”<sup>21</sup> Third, the agency must “[a]dd the effects of the action and cumulative effects to the environmental baseline and in light of the status of the species and critical habitat, formulate the Service’s opinion as to whether the action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.”<sup>22</sup>

If the FWS concludes that jeopardy or destruction or adverse modification of habitat (hereinafter “jeopardy”) is likely, it must develop “reasonable and prudent alternatives” to the proposed action that “avoid the likelihood” of jeopardy, or explain why such alternatives do not exist.<sup>23</sup> If the FWS concludes that the action and “the resultant incidental take of listed species

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<sup>12</sup> 50 C.F.R. § 402.12(k)(1); *id.* § 402.13(c); *id.* § 402.14(b)(1).

<sup>13</sup> *Id.* § 402.14(c).

<sup>14</sup> *Id.* § 402.14(c)(1)(i).

<sup>15</sup> *Id.* § 402.14(c)(1)(iii)–(iv).

<sup>16</sup> *Id.* § 402.14(d).

<sup>17</sup> *Id.* (emphasis added).

<sup>18</sup> *Id.* § 402.14(g)(1).

<sup>19</sup> The “environmental baseline” is “the condition of the listed species or its designated critical habitat in the action area, without the consequences to the listed species or designated critical habitat caused by the proposed action.” *Id.* § 402.02.

<sup>20</sup> “[C]umulative effects are “those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area.” *Id.*

<sup>21</sup> The “effects of the action” are “all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action.” *Id.*

<sup>22</sup> *Id.* § 402.14(g)(4).

<sup>23</sup> *Id.* §§ 402.02, 402.14(h)(2).

will not” result in jeopardy, then it generally must provide an “incidental take statement” with the biological opinion.<sup>24</sup>

Even after consultation is complete, the ultimate duty to ensure that an action does not jeopardize listed species lies with the action agency—here, the Forest Service.<sup>25</sup> For that reason, the Forest Service “cannot abrogate its responsibility to ensure that its actions will not jeopardize a listed species” by deferring to the FWS’s biological opinion—“its decision to rely on a FWS biological opinion must [also] not have been arbitrary or capricious.”<sup>26</sup>

Biological opinions for programmatic actions—like the Plan—will need to be supplemented with additional Section 7 consultations at the project level. Subsequent project-specific consultations, however, do “not relieve the Federal agency of the requirements for considering the effects of [a programmatic] action . . . as a whole.”<sup>27</sup> Indeed, FWS has repeatedly emphasized that a programmatic action “still requires a programmatic consultation to meet the requirements of section 7(a)(2),” even if specific projects developed under that program “are subject to site-specific stepped-down, or tiered consultations where incidental take is addressed.”<sup>28</sup>

#### **b. The Revised Nantahala–Pisgah Land Management Plan**

The Nantahala and Pisgah National Forests (“NPNF” or “Forests”) are jewels in the Southern Appalachians. These Forests contain 1.1 million acres at the heart of over 5 million relatively well-consolidated acres of public ownership. With the highest elevations east of the Mississippi, lush forests, abundant waterfalls and cold-water habitat, soaring granite domes, and globally significant biodiversity, these Forests are among the most unique in the country.

These Forests are also home to hundreds of rare and sensitive species, including twenty-eight federally listed species and twenty-nine candidates for listing. Due to habitat loss, disease, climate change, and other factors, many of these species have experienced dramatic recent declines. For example, the northern long-eared bat, which relies on mature forested habitat in the NPNF, has declined by more than 90% over the past few decades. These declines should not be secondary considerations, subordinated to timber or game wildlife management. Instead, reversing these declines is central to the Forest Service’s mission. The Forest Service has an affirmative obligation to develop plan components that provide for ecological conditions that contribute to the recovery of imperiled species under both the 2012 Planning Rule<sup>29</sup> and Section 7(a)(1) of the ESA.<sup>30</sup>

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<sup>24</sup> *Id.* § 402.14(i)(1).

<sup>25</sup> See *Pyramid Lake Paiute Tribe v. U.S. Dep’t of Navy*, 898 F.2d 1410, 1415 (9th Cir. 1990); see also 50 C.F.R. § 402.15(a) (“Following the issuance of a biological opinion, the Federal agency shall determine whether and in what manner to proceed with the action in light of its section 7 obligations and the Service’s biological opinion.”).

<sup>26</sup> 898 F.2d at 1415.

<sup>27</sup> 50 C.F.R. § 402.14(c)(4).

<sup>28</sup> Endangered and Threatened Wildlife and Plants; Regulations for Interagency Cooperation, 84 Fed. Reg. 44,976, 44,997 (Aug. 27, 2019) (final rule).

<sup>29</sup> 36 C.F.R. §§ 219.8; 219.9 (2012).

<sup>30</sup> 16 U.S.C. § 1536(a)(1).

The revised Plan represents the Forest Service’s first chance to apply the new planning rule’s emphasis on ecological outcomes and rare-species protection, as well as the first significant update to land management on the NPNF since 1994—a 29-year gap during which some species’ populations have crashed. Instead of prioritizing the restoration of ecological conditions for species like the northern long-eared bat, however, the revised Plan doubles down on a crude rotational logging program. Overall, the Plan proposes to dramatically increase logging over current levels and expand logging into new areas, purporting to “restore” early successional habitat in levels and configurations that are contrary to the key ecosystem characteristics necessary to support wildlife diversity. Additionally, because over half of all acres now designated as suitable for harvest are currently inaccessible—meaning that they lack the road infrastructure needed to support planned logging—there will be a need for greater roadbuilding, and thus greater forest fragmentation and harm to aquatic ecosystems.<sup>31</sup> Of particular concern, the Plan expands rotational harvest into over 100,000 acres of known old growth, state-recognized Natural Heritage Natural Areas, and largely undeveloped Wilderness Inventory Areas. Many of these areas provide crucial habitat for listed species. Even FWS’s partner in state government—the North Carolina Natural Heritage Program—has recognized that the chosen Plan is not as protective of rare species as other available alternatives.<sup>32</sup>

### **c. U.S. Fish & Wildlife Service Consultation: Listed Species**

In March 2013, the Forest Service initiated informal consultation with the FWS regarding its proposed revision of the Plan.<sup>33</sup> In June 2021, the Forest Service reinitiated informal consultation and shared a list of species it planned to analyze in a BA.<sup>34</sup> On January 19, 2022, the Forest Service released a preliminary BA. After receiving comments from FWS, the Forest Service issued an updated and finalized BA on March 16, 2022. In total, the BA analyzes Plan impacts on twenty-six species, including twenty-two listed species, one species proposed for listing, and three candidate species.<sup>35</sup> The BA concludes that implementation of the revised Plan is not likely to adversely affect twenty of these species. However, it finds that the Plan “may affect, and is likely to adversely affect” four listed bat species—northern long-eared bat, Indiana bat, Virginia big-eared bat, and gray bat—as well as two species then being considered for listing—little brown bat and tricolored bat.<sup>36</sup> As a result, the Forest Service requested formal consultation for these six species. The four listed species are addressed below.

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<sup>31</sup> U.S. Forest Serv., Nantahala and Pisgah National Forests Final Environmental Impact Statement at 3-542 (Jan. 2022) (pre-objection) [hereinafter “FEIS”]. Of the over 500,000 acres placed in management areas suitable for timber harvest, over 270,000 are listed as having only “potential future access” dependent on future road construction. *Id.*

<sup>32</sup> Letter from N.C. Department of Natural and Cultural Resources to Forest Supervisor Allen Nicholas (June 25, 2020) (noting that Alternative C, which was rejected in favor of the final Plan, would have offered “the best protection and management of . . . rare species”).

<sup>33</sup> U.S. Forest Serv., Record of Decision for the Land Management Plan at 68 (Feb. 2023) [hereinafter “ROD”].

<sup>34</sup> *Id.*; 2022 BiOp at 3.

<sup>35</sup> BA at 4–6.

<sup>36</sup> *Id.*

i. *Northern long-eared bat*

The northern long-eared bat is a medium-sized bat found in eastern and central North America. These bats predominantly overwinter in caves and abandoned mines before migrating to summer roosts during mid-spring.<sup>37</sup> Summer roosting habitat primarily consists of cavities and crevices in live and dead trees.<sup>38</sup> Like many of the bats described below, northern long-eared bats “show fidelity to summer roosting and foraging areas and may show fidelity to individual roost trees.”<sup>39</sup> Northern long-eared bats prefer foraging in “intact” “mature” forests, rather than “fragmented habitat or areas that have been clear cut.”<sup>40</sup> Studies have shown that these bats “consistently avoid foraging in or crossing large open areas, choosing instead to use tree-lined pathways or small openings.”<sup>41</sup> Like many bats, northern long-eared bats produce only one pup per year; due to this “low reproduction output,” the bat’s “ability to recover from . . . low abundances is limited.”<sup>42</sup>

Northern long-eared bat was listed as threatened under the ESA on April 2, 2015.<sup>43</sup> Following litigation finding the threatened listing arbitrary and unlawful, the bat was listed as endangered on November 30, 2022.<sup>44</sup> Both listings identified numerous threats to the bat, including forest conversion, forest management, climate change, and human disturbance.<sup>45</sup> Of all hibernating bats, the northern-long eared exhibits one of the shortest migratory ranges, relying on suitable summer foraging and roosting habitat within a short range of its hibernacula.<sup>46</sup> The species also exhibits high site fidelity to each of these habitats, enhancing the risks to the bat from disturbance.

During listing, white-nose syndrome (“WNS”) was identified as the “primary threat” to the bat.<sup>47</sup> This disease is caused by a fungal pathogen that rouses bats during hibernation and rapidly depletes their fat and energy reserves.<sup>48</sup> Recent studies have found that since it emerged in 2007, WNS caused population declines of 97–100% across 79% of the northern long-eared bat’s range.<sup>49</sup> And this situation will only deteriorate further; in 2022, FWS found that under future predicted conditions, without taking additional protective action, the number of extant northern long-eared bat winter colonies will decline to 0 by 2050, and that range-wide abundance

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<sup>37</sup> U.S. Fish & Wildlife Serv., *Species Status Assessment Report for the Northern long-eared bat* (Version 1.1) at 16–17 (2022) [hereinafter “NLEB SSA”]. Although there is a more recent SSA for this species, Version 1.1 was the version available to the agencies during consultation.

<sup>38</sup> *Id.* at 17.

<sup>39</sup> *Id.* at 37.

<sup>40</sup> *Id.* at 18–19.

<sup>41</sup> 2022 BiOp at 36.

<sup>42</sup> NLEB SSA at v.

<sup>43</sup> Endangered and Threatened Wildlife and Plants; Threatened Species Status for the Northern Long-Eared Bat With 4(d) Rule, 80 Fed. Reg. 17,974 (Apr. 2, 2015).

<sup>44</sup> Endangered and Threatened Wildlife and Plants; Endangered Species Status for Northern Long-Eared Bat; 87 Fed. Reg. 74,488 (Nov. 30, 2022). The listing became effective on March 31, 2023. *See* Delay of Effective Date, 88 Fed. Reg. 4908 (Jan. 26, 2023).

<sup>45</sup> 80 Fed. Reg. at 17,989–94.

<sup>46</sup> NLEB SSA at 19.

<sup>47</sup> 80 Fed. Reg. at 18,000.

<sup>48</sup> 2022 BiOp at 33.

<sup>49</sup> *Id.* at 35.

will decline by 99% by 2060.<sup>50</sup> The Eastern Hardwoods representation unit—which encompasses the majority of the Forests—is predicted to hold on the longest, with one hibernaculum projected to remain through 2040.<sup>51</sup> However, “[b]y 2060, all populations at all hibernacula are projected to be extinct.”<sup>52</sup>

ii. *Indiana bat*

The Indiana bat is a medium-sized bat native to the Eastern United States. Like the northern long-eared bat, the Indiana bat overwinters in caves or mines and emerges in mid-spring to migrate to summer roosting and foraging habitat.<sup>53</sup> “In summer, most reproductive females occupy roost sites under the exfoliating bark of dead trees that retain large, thick slabs of peeling bark.”<sup>54</sup> “Roost trees are typically within canopy gaps in a forest, in a fenceline, or along a wooded edge.”<sup>55</sup> Bats do “not roost in areas clearcut within the past 35 years.”<sup>56</sup> Roosts are also “not found in forests with open canopies (10-30%) or in old fields with less than or equal to 10% canopy cover.”<sup>57</sup> “Females show high multi-annual fidelity to roost areas and may migrate up to 673 km (418 miles), often from different hibernacula, to reach these colonies.”<sup>58</sup> “Maternity colonies of Indiana bats also appear to be faithful to their foraging areas within and between years.”<sup>59</sup> Indiana bats “typically feed in the subcanopy of forests with 60%-80% canopy cover,”<sup>60</sup> and “consistently avoid crossing or foraging in large open areas” greater than 20 acres, “choosing instead to use tree-lined pathways or small openings.”<sup>61</sup> Like most bats, “because Indiana bats produce only one pup per year, they may be limited in their ability to rebound after population losses.”<sup>62</sup>

Indiana bat was listed as endangered under the precursor to the ESA—the Endangered Species Preservation Act—on March 11, 1967.<sup>63</sup> Reasons for listing included the destruction/degradation of hibernation habitat; loss/degradation of summer habitat, migration habitat, and swarming habitat; forest fragmentation; and human disturbance, among others.<sup>64</sup> Since then, WNS has emerged as the primary threat to the bat.<sup>65</sup> Overall, the range-wide

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<sup>50</sup> *Id.* at 60.

<sup>51</sup> NLEB SSA at 61.

<sup>52</sup> *Id.* at 64.

<sup>53</sup> U.S. Fish & Wildlife Serv., *Indiana bat Draft Recovery Plan* at 42–44 (2007) [hereinafter “Ibat Recovery Plan”].

<sup>54</sup> *Id.* at 7.

<sup>55</sup> *Id.*

<sup>56</sup> *Id.* at 76.

<sup>57</sup> FEIS at 3-287.

<sup>58</sup> U.S. Fish & Wildlife Serv., *Indiana bat 5-Year Review: Summary and Evaluation* at 28 (2019) (citation omitted) [hereinafter “Ibat 5-Year Review”].

<sup>59</sup> Ibat Recovery Plan at 48.

<sup>60</sup> U.S. Fish & Wildlife Serv., Biological Opinion on the Effects of Implementing the Nantahala and Pisgah National Forests Land and Resource Management Plan, Amendment Five, on the Indiana Bat at 16 (Apr. 7, 2000) [hereinafter “2000 BiOp”].

<sup>61</sup> 2022 BiOp at 30; BA at 34; *see also* Ibat Recovery Plan at 108 (“As a rule, Indiana bats do not cross large open areas and will follow tree lines or fencerows to reach foraging areas despite increased energy expenditures and commuting distances[.]”).

<sup>62</sup> Ibat Recovery Plan at 109.

<sup>63</sup> 32 Fed. Reg. 4001 (Mar. 11, 1967).

<sup>64</sup> Ibat Recovery Plan at 71–90.

<sup>65</sup> Ibat 5-Year Review at 32.

population declined by 19.2% from 2007 to 2019, largely due to impacts from WNS.<sup>66</sup> This situation is predicted to deteriorate much further in the coming years; one federally funded study assuming “persistent mortality” from WNS estimated only 43,000 bats would remain by 2035<sup>67</sup>—a decrease of 92% from the 2019 range-wide estimate of 537,297 bats. These declines may be further exacerbated by the “increasing threat” of climate change.<sup>68</sup> As Indiana bat ranges shift in response to climate change, the “northeastern and Appalachian regions of the US have the potential to serve as climate refugia for Indiana bats.”<sup>69</sup>

No Indiana bat hibernacula are known to occur in North Carolina. However, the largest remaining hibernaculum in the Appalachian recovery unit, the White Oak Blowhole Complex, is located a few miles west of the border with neighboring Tennessee.<sup>70</sup> Bats from this complex are the “likely origin” of summer populations of bats known to inhabit portions of the Nantahala National Forest in several Western North Carolina counties.<sup>71</sup> WNS has hit this population particularly hard—in 2019, FWS found that bats at White Oak Blowhole—the same bats the FWS believes are using the Nantahala as summer habitat—have declined by 94% since 2013.<sup>72</sup> Due in part to this decline, the Forest Service acknowledges that “maintaining and restoring habitat within today’s known (estimated) occupied range where it overlaps the Forests is critical to [the] species’ persistence into the future.”<sup>73</sup>

### *iii. Virginia big-eared bat*

The Virginia big-eared bat is a medium-sized bat with a few isolated populations in karst regions of the Appalachian Mountains.<sup>74</sup> It “roosts in caves and cave-like habitats year-round”<sup>75</sup> and exhibits “high” site fidelity for roosting and foraging habitat.<sup>76</sup> Foraging “areas are generally located within a few miles (less than 7 miles) of cave/mine roost sites” and must be “connected to the cave/mine site with suitable travel corridors.”<sup>77</sup> Virginia big-eared bats tend to forage for insects “near forest/edge interfaces and along forested and riparian corridors in areas that have abrupt changes in vertical structure as well as both vertical and horizontal surface area for gleaning.”<sup>78</sup> However, these bats do “not use clearcuts during foraging”<sup>79</sup> and generally avoid

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<sup>66</sup> 2022 BiOp at 33.

<sup>67</sup> Wayne Thogmartin et al., *White-nose syndrome is likely to extirpate the endangered Indiana bat over large parts of its range*, USGS Staff -- Published Research 773 at 167 (2013).

<sup>68</sup> Ibat 5-Year Review at 27.

<sup>69</sup> 2022 BiOp at 35.

<sup>70</sup> Ibat 5-Year Review App’x A at 9.

<sup>71</sup> 2000 BiOp at 28.

<sup>72</sup> Ibat 5-Year Review App’x A at 11.

<sup>73</sup> BA at 53.

<sup>74</sup> 2022 BiOp at 50.

<sup>75</sup> *Id.* at 50–51.

<sup>76</sup> Mylea Bayless et al., *Distribution and Status of Eastern Big-Eared Bats (Corynorhinus spp.)*, Proceedings of the Symposium on the Conservation and Management of Big-Eared Bats in the Eastern United States, General Technical Report, USDA Forest Service Southeastern Experimental Station (2011).

<sup>77</sup> U.S. Fish & Wildlife Serv., *Virginia big-eared bat 5-Year Review: Summary and Evaluation* at 10 (2019) [hereinafter “VBEB 5-Year Review”].

<sup>78</sup> *Id.* at 7.

<sup>79</sup> *Id.* at 8–9.



crossing “major roads”<sup>80</sup> or utilizing openings larger than 0.5 acres.<sup>81</sup> Instead, the species prefers “open mature forested habitats.”<sup>82</sup> Like the other bats described in this letter, this species is “long-lived, has low reproductive rates, and requires larger than expected home range areas for its body size,” so it “may be slow to recover from population losses.”<sup>83</sup>

The Virginia big-eared bat was listed as endangered under the ESA on December 31, 1979.<sup>84</sup> At the time, the FWS attributed its decline to its restricted range, small population size, and human disturbance.<sup>85</sup> Though very little was known about the bat’s foraging needs, the 1984 Recovery Plan established that foraging habitat “must be identified” and “restored as much as possible.”<sup>86</sup> Since then, FWS has identified new and increasing threats to the species (though the Service has not updated the 1984 Recovery Plan), including impacts to foraging habitat from oil and gas development, road construction, and other development.<sup>87</sup> Currently, FWS estimates that 19,574 bats persist at 10 major hibernacula across Kentucky, North Carolina, Tennessee, Virginia, and West Virginia.<sup>88</sup> This geographically limited population is further “segregated into four genetically and geographically distinct regions that each support an important share of the species’ very limited genetic diversity and adaptive capacity.”<sup>89</sup> Each of these four regions “require[s] protection because they represent the remaining evolutionary potential of the bats.”<sup>90</sup> The four regions are named the Northeastern, Southeastern, Central, and Western regions.

North Carolina’s population of Virginia big-eared bats is located in the species’ Southeastern region. This population’s current range overlaps with the Forests in Avery, Caldwell, and Watauga Counties.<sup>91</sup> According to the Forest Service, while “preferred roosting habitat for Virginia big-eared bats (i.e., limestone karst geology) is largely absent from the Forests, maintaining suitable foraging areas for nearby populations is critical to [the] species’ persistence into the future.”<sup>92</sup> FWS has noted the “small size of colonies” in the Southeastern region “is a concern,” and that populations in the region “may have restricted resiliency” and limited “adaptive capacity” given the region’s overall “[l]ow genetic diversity.”<sup>93</sup> What limited genetic diversity remains in North Carolina is concentrated at Black Rock Cliffs at Grandfather Mountain State Park, one of species’ 10 remaining “major” hibernacula. Each summer, the females wintering at the Black Rock hibernaculum move to a maternity colony near Beech

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<sup>80</sup> *Id.* at 9.

<sup>81</sup> BA at 34.

<sup>82</sup> *Id.*

<sup>83</sup> VBEB 5-Year Review at 16.

<sup>84</sup> Endangered and Threatened Wildlife and Plants; Listing of Virginia and Ozark Big-Eared Bats as Endangered Species, and Critical Habitat Determination, 44 Fed. Reg. 69,206 (Nov. 30, 1979).

<sup>85</sup> *Id.* at 69,207.

<sup>86</sup> U.S. Fish & Wildlife Serv., *Recovery Plan: Ozark big-eared bat and Virginia big-eared bat* at 28 (1984).

<sup>87</sup> VBEB 5-Year Review at 16.

<sup>88</sup> *Id.* at 6–7.

<sup>89</sup> U.S. Fish & Wildlife Serv., *Recovery Plan for the Virginia Big-eared Bat* at 3 (2019) [hereinafter “VBEB 2019 Recovery Plan”].

<sup>90</sup> VBEB 5-Year Review at 14; *see also* VBEB 2019 Recovery Plan at 3 (“[M]aintaining the full extent of the current adaptive capacity is required to maintain the remaining evolutionary potential of the bats.”).

<sup>91</sup> BA at 44.

<sup>92</sup> *Id.* at 45.

<sup>93</sup> VBEB 5-Year Review at 22; *see also id.* at 13 (noting that, among the four regions, the Southeast region has “the lowest overall [genetic] diversity with haplotypes approaching fixation”).

Mountain.<sup>94</sup> Both the hibernaculum and the primary maternity colony are “considered protected,” but “the areas where many of the secondary roosts and foraging areas are concentrated are popular for second home development and are being rapidly developed,” which could negatively “impact foraging habitat, travel corridors, and roosting locations.”<sup>95</sup> Perhaps due in part to these stressors, the winter population of bats at Black Rock Cliffs has declined from a high of 376 bats in 2008 to 179 bats in 2018—a 52% decrease.<sup>96</sup>

iv. *Gray bat*

The gray bat is one of the largest species of bats in the genus *Myotis* in eastern North America.<sup>97</sup> Gray bats are found in Alabama, Arkansas, Kentucky, Missouri, Tennessee, and a few neighboring states, including North Carolina.<sup>98</sup> Within North Carolina, gray bats have been identified in 11 of the 18 western counties.<sup>99</sup>

Like Virginia big-eared bats, gray bats inhabit caves year-round and “show strong philopatry to both summering and wintering sites.”<sup>100</sup> “Because of their highly specific roost and habitat requirements, only about 5% of available caves are suitable for occupancy by gray bats.”<sup>101</sup> Gray bats “are highly dependent on aquatic insects,” so their foraging patterns are “strongly correlated with open water of rivers, streams, lakes or reservoirs.”<sup>102</sup> Though forest openings are more important to gray bats than Virginia big-eared bats, gray bats still “tend to avoid” openings greater than 10 acres.<sup>103</sup>

Gray bat was listed under the Endangered Species Preservation Act on October 15, 1966,<sup>104</sup> and as an endangered species under the ESA on April 28, 1976.<sup>105</sup> The reasons for its listing included human disturbance, pesticides, sedimentation, “deforestation of areas near cave entrances and between caves and rivers where gray bats feed,” impoundments, and cave flooding.<sup>106</sup> In 2012, FWS confirmed the first instance of white-nose syndrome in gray bats, which has the potential to seriously harm gray bat populations.<sup>107</sup>

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<sup>94</sup> N.C. Wildlife Res. Comm’n, *Virginia Big-Eared Bat Wildlife Profile* (2016) [hereinafter “VBEB Profile”].

<sup>95</sup> 2022 BiOp at 52.

<sup>96</sup> VBEB 5-Year Review at 6.

<sup>97</sup> U.S. Fish & Wildlife Serv., *Gray bat 5-Year Review: Summary and Evaluation* at 7 (2009) [hereinafter “Gray bat 5-Year Review”].

<sup>98</sup> *Id.* at 6.

<sup>99</sup> BA at 47.

<sup>100</sup> Gray bat 5-Year Review at 7.

<sup>101</sup> *Id.*

<sup>102</sup> *Id.*

<sup>103</sup> BA at 34.

<sup>104</sup> 80 Stat. 926; 16 U.S.C. § 668aa(c).

<sup>105</sup> Determination that Two Species of Butterflies are Threatened Species and Two Species of Mammals are Endangered Species, 41 Fed. Reg. 17,736 (Apr. 28, 1976).

<sup>106</sup> U.S. Fish & Wildlife Serv., *Gray bat Recovery Plan* at 5–8 (1982).

<sup>107</sup> 2022 BiOp at 49.

#### d. FWS's Biological Opinion

The results of the FWS's formal consultation with the Forest Service regarding the bats described above were memorialized in the FWS's BiOp issued on June 2, 2022.

The BiOp's analysis of the Plan largely tracks the Forest Service's BA. Like the BA, the BiOp starts out by providing some "context" for the Plan, but does not define an ESA "action area" for study.<sup>108</sup> Next, it relays information regarding the range-wide population status and trends of the studied bats.<sup>109</sup> In its environmental-baseline analysis, the BiOp assumes that the range-wide status and trends for the studied species "would be consistent with status and trends of bats" on the Forests.<sup>110</sup> To support that conclusion, FWS states that "more refined data" are "unavailable" and therefore "there is no data to contradict the expectation that status and trends on the Forests would be consistent with status and trends of bats range-wide for the species."<sup>111</sup>

The BiOp addresses "effects of the action" inconsistently. First, the BiOp acknowledges that the revised Plan "will affect" "future management decisions" as well as "subsequent project design."<sup>112</sup> However, it concludes that the "direct and indirect effects from implementation" of the Plan—whether beneficial or negative—"are unknown and cannot be evaluated."<sup>113</sup> Despite this, the BiOp then proceeds to "generally describe effects that may result from project-level implementation," including both beneficial and negative effects, such as alteration of bat habitat.<sup>114</sup> The BiOp reiterates, however, that the Plan will have "no direct, indirect, or beneficial effects on listed species or their habitats."<sup>115</sup>

Next, the BiOp briefly dismisses the need for a cumulative-effects analysis. It recognizes cumulative effects "will occur within and surrounding the [unidentified] action area."<sup>116</sup> Broadly speaking, these effects could result from "state highway maintenance and improvement projects, utility corridor construction and maintenance, residential and recreational development and use, timber harvest, fuel reduction around private developments, livestock grazing, and other actions."<sup>117</sup> The BiOp further acknowledges that these and other non-federal activities "will continue and presumably increase as population densities rise and demand for development and maintenance increase."<sup>118</sup> However, it concludes that "at this time, specific future actions being considered or proposed that could have cumulative effects with the Proposed Action are not known."<sup>119</sup> It argues that "[a]ny site-specific information of future activities with no federal nexus that may contribute to cumulative effects would be considered" at the project level.<sup>120</sup>

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<sup>108</sup> *Id.* at 3–28.

<sup>109</sup> *Id.* at 29–52.

<sup>110</sup> *Id.* at 56–57.

<sup>111</sup> *Id.*

<sup>112</sup> *Id.* at 58.

<sup>113</sup> *Id.*

<sup>114</sup> *Id.* at 58–61.

<sup>115</sup> *Id.* at 59–61.

<sup>116</sup> *Id.* at 60.

<sup>117</sup> *Id.*

<sup>118</sup> *Id.*

<sup>119</sup> *Id.*

<sup>120</sup> *Id.*

The FWS’s BiOp concludes that implementation of the Plan is not likely to jeopardize the continued existence of any of the listed bat species. To reach these “no jeopardy” conclusions, FWS relied on (1) “the magnitude of the project effects to reproduction, distribution, and abundance in relation to the listed population” and (2) “information presented in the 2022 BA, the 2021 EIS, correspondence during the consultation process, information in our files, and informal discussions between the Service and the USFS.”<sup>121</sup> Elsewhere, the BiOp explains that FWS also considered “the draft Revised Forest Plan,” “scientific literature,” and “field investigations” to reach its conclusions.<sup>122</sup>

Primarily, the BiOp relies on the BA’s summary of outputs from the Forest Service’s Ecological Sustainability Evaluation (“ESE”) model.<sup>123</sup> That model provides a coarse-filter assessment of the “direction of change from current conditions to expected future conditions over time.”<sup>124</sup> To assess these changes, the Forest Service defined broad categories of forest types (or “ecozones”) and habitat conditions, linked different species groups to these categories, and predicted outcomes for these systems and species groups which are color-coded as “poor,” “fair,” “good,” or “very good.”<sup>125</sup> The ESE tool’s outcomes are generated based on the use of indicators (created from available data) which result in a value score based on different thresholds. The Forest Service does not appear to have given FWS the underlying values, indicators, and thresholds behind the ESE tool’s “poor,” “fair,” “good,” or “very good” rankings. Instead, FWS was provided only the broad categorical outcomes—“poor,” “fair,” etc.

The ESE model does not include separate species groups for listed species with similar needs—such as listed bats that only use small openings. Instead, listed species are lumped in with other species that are relatively abundant on the landscape based on habitat preference or another commonality. For example, the species groups labeled as “Interior Forest Associates” and “Old Forest Associates” analyze impacts to all species which the model understands to depend on these forest conditions at the class level, irrespective of the relative abundance of each species in those categories. Despite increased heavy logging in the Plan, which can be harmful to listed species, the model’s outputs implausibly showed good, very good, or improving conditions across nearly all species groups and habitat types, including the groups into which forest bats were lumped.

FWS accepted the Forest Service’s conclusions uncritically. Like the BA, the BiOp concludes that the Plan “may affect, and is likely to adversely affect, Virginia big-eared bat, gray bat, northern long-eared bat, [and] Indiana bat.”<sup>126</sup> However, the BiOp also finds, like the Forest Service, that these impacts will be short-term, and that “habitat conditions for forest-dwelling bats on the Forests may improve over the long term.”<sup>127</sup> According to the BiOp, “[l]oss of bats and their suitable habitats on the Forests would not lead to species jeopardy” because the ESE

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<sup>121</sup> *Id.* (citations omitted).

<sup>122</sup> *Id.* at 3.

<sup>123</sup> *Id.* at 60–61.

<sup>124</sup> BA at 11.

<sup>125</sup> *Id.*

<sup>126</sup> *Id.* at 6.

<sup>127</sup> *Id.*

model “analysis in the BA shows that conditions of these species should *improve or stay the same* over time and throughout the tiers of Revised Forest Plan implementation.”<sup>128</sup>

## **II. Endangered Species Act Violations**

The Forest Service violated the ESA in multiple ways. First, it violated its statutory and regulatory duty to provide the FWS with the best available science. Second, it arbitrarily and capriciously relied on a BiOp that: (1) the Forest Service knew was based on inaccurate and incomplete information and (2) was profoundly and facially flawed. If these and the other violations described below are not rectified, Conservation Groups will sue to enforce the ESA and its implementing regulations pursuant to 16 U.S.C. § 1540(g)(1)(A) and the Administrative Procedure Act.

### **a. The Forest Service violated its duty to provide the FWS with the best available science.**

The ESA requires both the action agency and the FWS to “use the best scientific and commercial data available” during consultation.<sup>129</sup> Regulations reinforce this duty at several steps of the consultation process. Relevant here, when the action agency requests formal consultation with the FWS, the action agency is required to “provide the [FWS] with the best scientific and commercial data available.”<sup>130</sup> While the action agency has some discretion in selecting the best available science during this consultation period, the agency may not “fail[] to convey information material to FWS’s analysis”<sup>131</sup> or supply “inaccurate information.”<sup>132</sup> Failures like these violate the ESA.<sup>133</sup> The Forest Service committed several such failures during consultation for the Plan, including, but not limited to, the following five examples.

First, the Forest Service relayed inaccurate and illogical assumptions about future forest disturbance to FWS. The Forest Service determined that future rates of natural disturbance could be predicted by looking at the past five decades’ worth of data related to disturbance from fire, landslide, storm, and disease-related canopy loss.<sup>134</sup> Those data show “the rate of disturbance increased for each of the last four decades and more than doubled between the first and fifth decade of the comparison period.”<sup>135</sup>

Rather than assuming that natural disturbance levels will continue to increase, however, the Forest Service “assumes that the rate of disturbance by decade seen for the past 50 years [ ] will cycle over the [200-year] planning horizon.” In other words, the Forest Service predicted that disturbance levels from 2020 to 2030 would be equivalent to the low levels documented between 1970 and 1980, that levels from 2030 to 2040 would be equivalent to those between

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<sup>128</sup> 2022 BiOp at 61 (emphasis added).

<sup>129</sup> 16 U.S.C. § 1536(a)(2).

<sup>130</sup> 50 C.F.R. § 402.14(d).

<sup>131</sup> *Colo. Env’t Coal. v. Off. of Legacy Mgmt.*, 302 F. Supp. 3d 1251, 1274 (D. Colo. 2018).

<sup>132</sup> *Or. Nat. Desert Ass’n v. Tidwell*, 716 F. Supp. 2d 982, 1004 (D. Or. 2010).

<sup>133</sup> See, e.g., *Colorado Env’t Coal.*, 302 F. Supp. 3d at 1272 (“An agency acts ‘not in accordance with law,’ when it fails to convey material information in its possession to FWS[.]” (citation omitted)).

<sup>134</sup> See FEIS App’x D at 56.

<sup>135</sup> U.S. Forest Serv., Response to Objections at 197 (Jan. 2023) [hereinafter “Response to Objections”].

1980 and 1990, and so on.<sup>136</sup> In short, not only does the modeling assume no increase in disturbance levels as global climate change continues to intensify—an assumption contradicted in other portions of the Forest Service’s analysis—it also predicts that levels will dramatically *drop* during the relevant timeframe for the Plan based on an arbitrary cycle that is not supported by any scientific data or reasoned methodology.

Conservation Groups alerted the Forest Service that this assumption was illogical and arbitrary during the objection period—months before the end of formal consultation.<sup>137</sup> The Forest Service essentially agreed. In its response to objections, the Forest Service acknowledged that its repeating 50-year cycle “implies a substantial” and unrealistic “decline in the rate of disturbance projected over the next thirty years, compared to what has been seen in the last twenty.”<sup>138</sup> It also recognized that elsewhere in the BA and Final Environmental Impact Statement (“FEIS”), the agency predicted that disturbances from wildfire, storms, insects, and disease disturbances would increase over time.<sup>139</sup> In fact, the agency used these predicted increases—particularly regarding increased wildfire—to justify opening up more of the Forests to logging. When Conservation Groups pointed out this “having it both ways” scenario to the agency, it responded that “it is easy to see” how this disparate treatment “could cause partners and the public to misunderstand the Forests’ expectations around future climate change impacts on the Forests.”<sup>140</sup> Yet the Forest Service declined to correct the assumption in its own analysis or in materials provided to FWS.

The Forest Service’s admittedly arbitrary assumptions about natural disturbance were fed directly to FWS. This error was material because the Forest Service’s analysis showed, even without realistic levels of natural disturbance, that its logging objectives would create disturbance in excess of even the highest level consistent with ecological integrity. Obscuring the additive impact of future natural disturbance therefore undermined the agencies’ conclusions about improvements to ecological systems. Specifically, modeled outputs based on the inaccurate 50-year-disturbance cycle were incorporated into the Forest Service’s ESE tool predictions, which the BiOp then used to justify its conclusion that “conditions of these species should improve or stay the same over time and throughout the tiers of Revised Forest Plan implementation.” To the contrary, an accurate analysis of the effect of increased logging under the Plan combined with increased natural disturbance from climate change may have led the FWS to reach different conclusions regarding effects to bats. The Forest Service’s decision to relay information it knew was inaccurate to FWS violates the ESA’s best available science requirement as well as 50 C.F.R. § 402.14(d).

Second, the Forest Service failed to inform FWS that certain forest age classes will be virtually eliminated under the Plan’s management program. According to the agency, the Plan will move all ecozones throughout the Forest toward ecological integrity.<sup>141</sup> However, neither

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<sup>136</sup> *Id.*

<sup>137</sup> S. Env’t Law Ctr. et al., Notice of Objection to the Revised Land Management Plan for the Nantahala and Pisgah National Forests (Mar. 22, 2022) [hereinafter “Objection”].

<sup>138</sup> Response to Objections at 197.

<sup>139</sup> *Id.*; see also FEIS at 3-28 to -29. The Forest Service also acknowledged that natural disturbance would increase in older cove forests, which it predicted would occupy a greater share of the NPNF in the future. FEIS at 3-157.

<sup>140</sup> Response to Objections at 199.

<sup>141</sup> *E.g.*, FEIS at 2-5; 2-27.

the FEIS nor the BA discloses the fate of mid- and late-aged forests in any of the ecozones. Conservation Groups only became aware of the Plan’s impacts on these age classes after submitting a Freedom of Information Act request and processing the Forest Service’s raw data with outside experts. These raw data reveal that mid- and late-aged forests will crash to levels far below the “natural range of variation” under the Plan’s management direction, as existing mid- and late-aged forests either “age out” or are logged for young-forest creation.

This omission is both serious and material. Where the Forest Service concludes that ecosystem conditions will improve, it is asserting that they will move within or closer to the natural range of variation (“NRV”), which refers to “the range of ecological conditions established within the limits of the natural landforms, vegetation, and disturbance processes that existed before extensive human alteration.”<sup>142</sup> Agencies like the Forest Service define restoration goals using this concept because it is “common sense” that “the environmental conditions most likely to conserve native species are those which sustained them in the past, and that by restoring and maintaining landscape conditions within distributions that supported native organisms over evolutionary time is the management approach most likely to maintain sustainable ecosystems.”<sup>143</sup> Departing from this baseline therefore risks creating unsustainable conditions for species like bats. It also creates a forest that is not resilient because there are less mid- and late-aged forests to replace old forests that are affected by future disturbances.

When considering whether ecosystems were moving toward the NRV, the Forest Service divided the Forests into four age classes: young, mid, late, and old. The Forest Service’s analysis projects future conditions as improving for only two of those age classes—young forests and old forests.<sup>144</sup> The analysis entirely omits any discussion of future conditions for the other two age classes, which the Forest Service’s model shows will crash, dropping below the low end of NRV within the 50-year horizon utilized by the ESE tool and on which the BA’s and BiOp’s conclusions are based.<sup>145</sup> An analysis based exclusively on ecosystem indicators that are predicted to improve while ignoring indicators that are predicted to deteriorate cannot support a conclusion that the ecosystems and the species that depend on them will improve overall.

The Forest Service never communicated to FWS that mid- and late-aged forests will crash to levels far below the NRV due to the management program embraced by the Plan. If it had, that information likely would have influenced FWS’s analysis, since many of the listed bat species rely on “mature forested habitats,”<sup>146</sup> i.e. mid- and late-aged forests. Because the Forest Service “withheld from the BA [and FEIS] material information in its possession” regarding mid- and late-aged forests, and because this withheld information was plainly “material to FWS’s analysis,” the Forest Service’s failure to disclose it violated its ESA obligations.<sup>147</sup>

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<sup>142</sup> Forest Serv. Handbook § 1909.12, ch. 23.12.

<sup>143</sup> U.S. Forest Serv., Final Programmatic Environmental Impact Statement: National Forest System Land Management Planning at 88 (2012) (citation omitted).

<sup>144</sup> FEIS at 3-118; *see also id.* at 3-134 to -176 (explaining that, apart from two minor exceptions, only young and old forests were considered as indicators or ecozone conditions).

<sup>145</sup> *See, e.g.*, 2022 BiOp at 61, FEIS App’x C at C-122 (evaluating impacts to species group after 10 and 50 years).

<sup>146</sup> BA at 34.

<sup>147</sup> *Colo. Env’t Coal.*, 302 F. Supp. at 1274.

Third, the Forest Service erroneously informed FWS that impacts from road construction will be negligible because “there is unlikely to be a gain in overall road miles” during Plan implementation.<sup>148</sup> Conservation Groups pointed out in their objection (during the consultation period) that this assumption was illogical and that the agency’s numbers did not add up.<sup>149</sup> If current miles-of-road-per-acres-logged trends continue, then the Forest Service’s proposed logging levels would require 18.2 total miles of road construction annually.<sup>150</sup> This number is potentially an underestimate, because many of the newly opened timber lands are currently inaccessible, so more roads would need to be created to access them. Though the Plan sets some objectives for road decommissioning, these objectives effectively call for a maximum of 1.2 miles per year.<sup>151</sup> Decommissioning 1.2 miles of road per year cannot offset construction of more than 18 miles per year.

The Forest Service’s misleading assertion to the contrary is highly material. Because the Forest Service erroneously assumed there would be no net gain in road miles despite dramatically increasing commercial logging (which requires road construction), the agency’s FEIS and BA concluded that road construction would only “affect bat habitat in very small, practically immeasurable, amounts.”<sup>152</sup> The BiOp adopts this conclusion verbatim and therefore proposes deferring analysis of road construction impacts to the project level.<sup>153</sup> If FWS had received accurate data from the Forest Service, however, it would have concluded that the aggregate impacts of constructing hundreds of miles of new roads over the life of the Plan could not be so easily ignored. That is because the FWS repeatedly acknowledges that certain bat species are threatened by forest fragmentation, including the Indiana bat,<sup>154</sup> northern long-eared bat,<sup>155</sup> and Virginia big eared bat.<sup>156</sup> The agencies also know that roads are also the greatest threat to water quality on the Forests.<sup>157</sup> Increases in road construction will further degrade water quality<sup>158</sup> and therefore negatively impact species that rely on aquatic insects like the gray bat.<sup>159</sup> Again, the Forest Service’s failure to communicate accurate information material to FWS’s analysis violates the ESA.

Fourth, the Forest Service failed to present FWS with available information on logging and other activities on state and private lands which was material to the cumulative-impacts

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<sup>148</sup> FEIS at 3-497.

<sup>149</sup> Objection at 146.

<sup>150</sup> *Id.* at 145. The Forest Service appears to have suggested to the FWS that this number is closer to 10.1 miles annually.

<sup>151</sup> *Id.* at 146.

<sup>152</sup> FEIS at 3-293, BA at 57. In fact, the BA projects that road miles will decrease in certain watersheds of interest for listed species. *See, e.g.*, BA at 80, Figure 33.

<sup>153</sup> 2022 BiOp at 58.

<sup>154</sup> *Id.* at 34 (“[F]orest fragmentation has resulted in modifications to Indiana bat habitat, especially summer habitat, and is suspected in contributing to the decline of Indiana bat populations.”).

<sup>155</sup> *Id.* at 39.

<sup>156</sup> *Id.* at 52 (“The species is also threatened by the degradation and fragmentation of foraging areas.”).

<sup>157</sup> FEIS at 3-57.

<sup>158</sup> While the issue is obvious, here is another material omission by the Forest Service. The FEIS claims that increased road construction and ground-disturbing logging will not adversely affect water quality and, in fact, will “reduc[e] erosion and sedimentation.” FEIS at 3-75. The Forest Service failed to disclose, however, that its current levels of logging and road construction are already harming waters, and increases in these activities will increase the rate of harm.

<sup>159</sup> Gray bat 5-Year Review at 7.



analysis. The BA asserts that cumulative impacts from projects on state and private lands are unknown, and thus, “are difficult to analyze,” though these impacts “are likely to increase” over the life of the Plan.<sup>160</sup> However, during the planning process, the Forest Service was presented with information reliably showing that logging rates are approximately twice as high on state lands and quadruple on private lands, as compared to logging rates on the NPNF.<sup>161</sup> The Forest Service also had information showing that “[g]eneral trends on private lands surrounding the Nantahala and Pisgah NFs are increased population growth and fragmentation of forested areas.”<sup>162</sup> It appears that this information was not passed along to the FWS, nor incorporated in its analysis.

Finally, the Forest Service categorized Virginia big-eared bat and northern long-eared bat as “Forest Edge and Transition Associates” in its ESE tool and represented to FWS that habitat conditions for these bats would be “good” or “very good” based on increasing “acres of edge and transitional habitat” and “miles of forest edge” under the Plan. This analysis focused on the Matrix Management Area since it “will be most impacted by active management.”<sup>163</sup> In other words, the Forest Service represented to FWS that habitat conditions for these species would improve or remain stable under the Plan due to the amount of edge habitat created through the Forest Service’s logging and burning program.

To be sure, edge habitat will increase under the Plan because the Forest Service expects to boost openings of early successional habitat (“ESH”) to more than 90,000 acres forest wide.<sup>164</sup> But the Forest Service’s Spectrum model reveals that the overwhelming majority of these openings will be in large patches—not the small gaps vital for Virginia big-eared bat and northern long-eared bat. While there are plan objectives aimed at creating large ESH patches up to 40 or 80 acres,<sup>165</sup> there are no plan components focused on small-gap creation. The Forest Service’s misleading statements about the benefits of increased “edge” are compounded by the ESE tool’s prediction that gaps less than .25 acres (an indicator associated with Old Forest Associates) will be “good” under all alternatives and at all time scales. Beyond this naked conclusion, the Forest Service withheld whatever information it had relevant to the actual level of predicted small gaps, how that prediction was derived, or why it was assumed to be “good” for Old Forest Associates, including these imperiled bat species.

In short, the Forest Service is representing that habitat conditions for all forest bats (including both bats that depend on small gaps and those that use larger patches) will improve or remain stable due to creation of forest openings without disclosing that the type of ESH created—openings larger than 0.5-acres—will not benefit Virginia big-eared bat and northern long-eared bat. The Forest Service should have disclosed this information to the FWS instead of representing that the creation of edge habitat generally would result in “good” or “very good” habitat for these bats. Just as the Forest Service should have disclosed the information (or lack

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<sup>160</sup> BA at 68.

<sup>161</sup> SELC, et al., Comments on the Nantahala and Pisgah National Forests Draft Land Management Plan and Draft Environmental Impact Statement at 55 (June 29, 2020).

<sup>162</sup> FEIS at 3-517.

<sup>163</sup> *Id.* at 3-179.

<sup>164</sup> *Id.* at 3-109.

<sup>165</sup> *See* TIM-S-14, Plan at 93–94.

thereof) underlying its determination that small gaps would remain “good” for Old Forest Associates despite no plan components directing small-gap creation.

The five failures described above violate the ESA and its implementing regulations. However, they are not the only ones. Conservation Groups also alerted the Forest Service to many other inaccuracies and omissions during the consultation period.<sup>166</sup> These errors are hereby incorporated by reference. The Forest Service’s failure to correct these errors during consultation prejudiced the BiOp’s analysis and fatally undermine its no-jeopardy conclusions.

**b. The Forest Service arbitrarily and capriciously relied on the FWS’s programmatic Biological Opinion.**

As noted above, an action agency violates its substantive ESA duties by “[a]rbitrarily and capriciously relying on a faulty [BiOp].”<sup>167</sup> A BiOp may be faulty by virtue of the action agency’s failure to supply FWS with the best available science.<sup>168</sup> Stated differently, an action agency cannot put “garbage in[to]” a consultation and conclude it will not get “garbage out.”<sup>169</sup> A BiOp may also be faulty due to legal flaws<sup>170</sup> in FWS’s analysis or because the BiOp “fail[s] to discuss [available] information that would undercut the opinion’s conclusions.”<sup>171</sup> When that is the case, discerning these problems “requires no technical or scientific expertise,” and the action agency’s reliance on the consequently flawed BiOp is arbitrary, capricious, and not in accordance with law.<sup>172</sup>

Both situations apply here. First, the Forest Service not only withheld important information about the impacts of the Plan—such as the effects to mid- and late-aged forests—but also supplied information it knew was inaccurate—such as the repeating 50-year disturbance cycle. And since the agency put “garbage in,” it could only expect to get “garbage out.”<sup>173</sup>

Second, because FWS’s BiOp is legally flawed and fails to discuss available information that would undercut the opinion’s conclusions, the Forest Service acted unlawfully by relying on

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<sup>166</sup> See generally Objection.

<sup>167</sup> *Def’s. of Wildlife v. E.P.A.*, 420 F.3d 946, 976 (9th Cir. 2005), *rev’d and remanded on other grounds sub nom. Nat’l Ass’n of Home Builders v. Def’s. of Wildlife*, 551 U.S. 644 (2007).

<sup>168</sup> *Colo. Env’t Coal.*, 302 F. Supp. 3d at 1274; *Tidwell*, 716 F. Supp. 2d at 1004.

<sup>169</sup> *Colo. Env’t Coal.*, 302 F. Supp. 3d at 1272.

<sup>170</sup> Examples of “legal error[s]” include arbitrarily “limiting the scope of the” analysis and “failing to articulate a rational connection between its findings in the . . . BiOp and its no jeopardy conclusion,” *Wild Fish Conservancy v. Salazar*, 628 F.3d 513, 532 (9th Cir. 2010), as well as “internal[] contradict[ions]” or the failure to “adequately consider” all of the “relevant factors,” *Pac. Coast Fed’n of Fishermen’s Ass’ns v. Gutierrez*, 606 F. Supp. 2d 1122, 1190 (E.D. Cal. 2008).

<sup>171</sup> *Ctr. for Biological Diversity v. U.S. Bureau of Land Mgmt.*, 698 F.3d 1101, 1128 (9th Cir. 2012).

<sup>172</sup> *Wild Fish Conservancy*, 628 F.3d at 532 (citation omitted) (“The [action agency’s] reliance on a legally flawed biological opinion was arbitrary and capricious.”); *Ctr. for Biological Diversity*, 698 F.3d at 1128 (concluding that since “Biological Opinion here was both legally flawed . . . and inadequate with regard to evaluating the potential impacts” of the project, “the BLM violated its substantive duty”).

<sup>173</sup> *Colo. Env’t Coal.*, 302 F. Supp. 3d at 1272.

the consequently flawed BiOp in its Record of Decision.<sup>174</sup> Specifically, the BiOp is flawed because:<sup>175</sup>

- ***The BiOp fails to identify or analyze an appropriate “action area.”*** ESA implementing regulations require FWS to confine its analysis to the “action area,” defined as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.”<sup>176</sup> “An agency must provide support for its choice of analysis area and must show that it considered the relevant factors” in determining the area’s scope.<sup>177</sup> However, the 2022 BiOp never expressly defines the “action area,” much less justifies its scope. Because the scope of the “action area” is a key component of the agency’s environmental baseline, cumulative-effects, and effects analyses, the FWS’s jeopardy analysis was arbitrary and capricious from the start.<sup>178</sup>
- ***The BiOp’s “environmental baseline” analysis fails to acknowledge where bats are located in the Forests or assess specific threats in and around the Forests.*** FWS’s 2022 BiOp fails to adequately analyze “the condition of the listed species or its designated critical habitat *in the action area*,” as required by regulation.<sup>179</sup> To start, the BiOp includes no specific information on where bats might actually be found in or around the Forests, even though more refined species occurrence data exists.<sup>180</sup> For example, information in the record suggests the primary maternity colony of Virginia big-eared bats forage in the Pisgah National Forest near Grandfather Mountain; Indiana bats that hibernate at the White Oak Blowhole cave in Tennessee summer in the Nantahala National Forest in Cherokee, Graham, Jackson, Haywood, and Swain counties; and gray bats inhabit a few western counties.<sup>181</sup> Activities implementing the Plan in these specific areas are likely to have a more significant impact on bats but these impacts are swept under the rug. By never addressing these finer-scale data, the BiOp ignores the best available science. In addition, the BiOp arbitrarily declines to analyze the status and trends of species in the action area and instead attempts to “pass off its summary of range-wide conditions . . . as an action-area analysis.”<sup>182</sup> More refined data on climate change, forest fragmentation, and species declines existed.<sup>183</sup> For example, the BiOp fails to consider the impacts of other federal actions that have already completed Section 7 consultation in the same footprint, such as the improvements to NC 143 between Robbinsville and Stecoah Valley.<sup>184</sup> FWS simply failed to analyze activities like this. That failure also violates the best available science requirement.

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<sup>174</sup> ROD at 68.

<sup>175</sup> We disclose these problems to be transparent but are not required to provide notice of claims filed directly under the Administrative Procedure Act.

<sup>176</sup> 50 C.F.R. § 402.02.

<sup>177</sup> *Native Ecosystems Council v. Dombeck*, 304 F.3d 886, 902 (9th Cir. 2002).

<sup>178</sup> *Conner v. Burford*, 848 F.2d 1441, 1453 (9th Cir. 1988) (“[T]he scope of the agency action is crucial because the ESA requires the biological opinion to analyze the effect of the *entire* agency action.”).

<sup>179</sup> 50 C.F.R. § 402.02 (emphasis added).

<sup>180</sup> 2022 BiOp at 56 (opining that no such data exists).

<sup>181</sup> See *supra* Part I(c).

<sup>182</sup> *Appalachian Voices*, 25 F.4th at 272.

<sup>183</sup> See, e.g., *supra* Part I(c).

<sup>184</sup> See Letter from Janet Mizzi to Dave McHenry (NCDOT) re 21-068, Section 7 Concurrence for Graham County A-0009C Corridor K Appalachian Highway Development System (Nov. 23, 2020). Attachment 1.

- ***The BiOp’s “environmental baseline” analysis fails to consider the impacts of the previous Forest Plan.*** The BiOp also fails to consider the impacts of projects developed under the previous Forest Plan, including where they were/will be, how much was/will be logged, what sort of openings were/will be created, whether any take occurred or is anticipated, etc.<sup>185</sup> “[E]stablishing the environmental baseline without considering the degradation to the environment caused by the [previous action] and its continuing impacts” is arbitrary and capricious.<sup>186</sup> Without an accurate environmental baseline, the Forest Service cannot ensure against jeopardy to the listed bat species.
- ***The BiOp fails to analyze cumulative effects.*** Because the “ESA specifically requires a cumulative effects analysis,”<sup>187</sup> FWS “cannot abdicate its responsibility to evaluate” cumulative effects “by labeling available information ‘uncertain’”<sup>188</sup> or asserting that it “would be too hard” to collect available information.<sup>189</sup> Yet that is precisely what FWS did here. Though the BiOp recognizes that “[f]uture non-federal activities *will* occur within and surrounding the action area,” it finds that “specific future actions being considered or proposed that could have cumulative effects with the Proposed Action *are not known.*”<sup>190</sup> However, there is a host of information in the record regarding cumulative effects. As one of several examples, the BiOp itself notes early on that second-home development and associated road-widening projects could impact the primary North Carolina maternity colony of Virginia big-eared bats.<sup>191</sup> But when it comes time to analyze how these activities will cumulatively interact with effects of the Plan, the FWS changes course and states that these known and identified effects are now “not known.” FWS’s failure to analyze these effects as well as other activities documented in the record means the agency has no rational basis for its no-jeopardy conclusions.
- ***The BiOp’s analysis is internally contradictory.*** FWS’s purported analysis of the effects of the Plan is flawed because it is internally contradictory. First, the BiOp repeatedly recognizes that certain bat species are threatened by forest fragmentation, including the

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<sup>185</sup> Forest Service documents shared with FWS indicate that ongoing projects on the NPNF initiated under the old plan have 84,019 remaining acres of tree cutting and 206,322 remaining acres of prescribed fire still to be completed. See Attachment 2.

<sup>186</sup> *Am. Rivers v. FERC*, 895 F.3d 32, 46 (D.C. Cir. 2018) (concluding that a BiOp that declined to account for the “historic impacts” of the Coosa River Project and instead only accounted for “the current and proposed future operations and their impacts” was arbitrary and capricious).

<sup>187</sup> *Greenpeace v. Nat’l Marine Fisheries Serv.*, 80 F. Supp. 2d 1137, 1149 (W.D. Wash. 2000).

<sup>188</sup> *Nat. Res. Def. Council v. Kempthorne*, 506 F. Supp. 2d 322, 360 (E.D. Cal. 2007); see also *Ctr. for Biological Diversity v. U.S. Forest Serv.*, No. CV 22-91-M-DLC, 2023 WL 3052299, at \*12 (D. Mont. Apr. 24, 2023)

(“Claiming a total inability to ascertain, or even estimate, effects . . . despite the evidence in the record supplied by both USFS and third parties does not suffice.”).

<sup>189</sup> *Forest Serv. Emps. for Env’t Ethics v. U.S. Forest Serv.*, 726 F. Supp. 2d 1195, 1224 (D. Mont. 2010); see also *Conservation Council for Hawaii v. Nat’l Marine Fisheries Serv.*, 97 F. Supp. 3d 1210, 1234–35 (D. Haw. 2015) (finding an incidental take statement arbitrary and capricious where NMFS “did no more than say that it was ‘very difficult’ to estimate the take” of the species).

<sup>190</sup> 2022 BiOp at 60 (emphases added).

<sup>191</sup> *Id.* at 52.

Indiana bat,<sup>192</sup> northern long-eared bat,<sup>193</sup> and Virginia big eared bat.<sup>194</sup> However, it arbitrarily concludes that a Plan that *increases* the amount of forest edge and forest-edge habitat<sup>195</sup>—and potentially fragmentation—will actually *benefit* these species. Relatedly, the BiOp repeatedly observes that certain bats—including the northern long-eared bat—“consistently avoid foraging in or crossing large open areas, choosing instead to use tree-lined pathways or small openings.”<sup>196</sup> Despite this, the BiOp concludes that a Plan that allows the creation of 40- to 80-acre clearcuts will mitigate impacts to bats and “improve” conditions for bats throughout the Forests.<sup>197</sup> Third, the BiOp categorizes all listed forest-dwelling bats—northern long-eared bat and Indiana bat—as “habitat generalists,”<sup>198</sup> when evidence in the record shows bats are not associated with young-forest habitat generally<sup>199</sup> and instead have very specific habitat requirements for forest intactness and openings. Virginia big-eared bat and northern long-eared bat in particular prefer “more open mature forested habitats.”<sup>200</sup> The “failure to explain contradictory record evidence make the BiOp arbitrary and capricious.”<sup>201</sup>

- ***The BiOp arbitrarily treats every acre of the Forests as fungible.*** Due to the “absences [sic] of more refined data,” the BiOp assumes that suitable habitat for forest-dwelling bats—including northern long-eared bat and Indiana bat—occurs on 100% of the Forests.<sup>202</sup> But as noted above, the best available science indicates that these bats’ distributions are far more patchy: Indiana bats are concentrated in southwest North Carolina, Virginia big-eared bats have only “one colony” known in North Carolina near Grandfather Mountain and Beech Mountain, and gray bats have only been observed in a few western counties. Despite this patchy distribution, the BiOp’s effects analysis dismisses potential impacts to these bats because only “6% of the Forests,” or up to 60% of the Forests per decade, could be impacted by timber harvest and prescribed fire each year.<sup>203</sup> In effect, the BiOp assumes that since the listed bats can still find suitable habitat *throughout* the Forests, *where* these impacts occur within the Forests is irrelevant. That cannot be true; logging around the caves inhabited by the Virginia big-eared bat, for example, could devastate the one major maternity colony in North Carolina, and logging in the Forests’ westernmost counties poses a high risk to Indiana bat roosting and foraging habitat. The Plan spatially identifies which areas are prioritized for logging, so these risks can and should have been evaluated. Ignoring the patchy distributions of these imperiled bats and their relationship to areas prioritized for logging is a failure to

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<sup>192</sup> *Id.* at 34 (“[F]orest fragmentation has resulted in modifications to Indiana bat habitat, especially summer habitat, and is suspected in contributing to the decline of Indiana bat populations.”).

<sup>193</sup> *Id.* at 39.

<sup>194</sup> *Id.* at 52 (“The species is also threatened by the degradation and fragmentation of foraging areas.”).

<sup>195</sup> FEIS at 3-270 (predicting an increase of around 400 miles of forest edge and 10,000 acres of forest-edge habitat on a 50-year time scale).

<sup>196</sup> 2022 BiOp at 36.

<sup>197</sup> *Id.* at 61 (emphasis added).

<sup>198</sup> *Id.* at 54.

<sup>199</sup> FEIS App’x C at 82 (stating no bats are considered “Young Forest Associates”).

<sup>200</sup> BA at 34.

<sup>201</sup> *Gutierrez*, 606 F. Supp. 2d at 1168 (“[When an agency’s factual findings and analyses are contradictory, or when such findings and analyses contradict the BiOp’s conclusion, the agency’s path cannot reasonably be discerned.”).

<sup>202</sup> 2022 BiOp at 56.

<sup>203</sup> *Id.* at 59.

consider an important aspect of the problem or use the best available science and renders the BiOp's no-jeopardy conclusions arbitrary and capricious.<sup>204</sup>

- ***The BiOp fails to adequately consider critical aspects of the listed bats' life cycles and behavioral patterns.*** “Any biological opinion that plans to allow short-term habitat degradation . . . must carefully consider the life cycles and behavioral patterns of the species to avoid crippling [their] recovery.”<sup>205</sup> The failure to analyze “the effects on life-cycles and population dynamics of the species” means “the BiOp fails to comply with the law.”<sup>206</sup> The 2022 BiOp fails to analyze these cycles and dynamics. As noted above, the BiOp does not explain how a Plan that will create large openings and increase the amount of early seral habitat will “improve” conditions for bats that avoid large openings and prefer mature forested habitat. The BiOp also fails to analyze how the listed bats’ (1) strong site fidelity and (2) low reproductive capacity will impact their persistence and recovery. First, evidence in the record shows that Indiana bats,<sup>207</sup> northern long-eared bats,<sup>208</sup> gray bats,<sup>209</sup> and Virginia big-eared bats<sup>210</sup> exhibit strong site fidelity to roosting and foraging habitat. Eliminating this habitat can cause a cascade of negative effects.<sup>211</sup> Though the BiOp mentions that some of these bats exhibit site fidelity, it never discusses how this behavior will influence or compound the impacts of the Plan. Second, FWS has acknowledged in other contexts that bats’ long lives and “[l]ow reproductive rates . . . will make any possible recovery . . . *extremely slow*.”<sup>212</sup> However, the BiOp never mentions this slow recovery rate; instead, it simply assumes that any impact to bat habitat is “temporary” and that bats will eventually recover from these “short-term negative effects.”<sup>213</sup> But “[i]t 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.”<sup>214</sup> The BiOp’s failure to consider the bats’ behavior and life cycles violates the ESA’s best available science requirement and renders the BiOp’s no-jeopardy analyses arbitrary and capricious.

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<sup>204</sup> Cf. *Nat'l Wildlife Fed'n v. Harvey*, 440 F. Supp. 2d 940, 958 (E.D. Ark. 2006) (“Without appropriate habitat data within the ‘action area,’ any conclusion that the [listed species] will not be adversely affected by the [project] is without a rational basis and is, therefore, arbitrary and capricious.”).

<sup>205</sup> *Miccosukee Tribe of Indians of Fla. v. United States*, 566 F.3d 1257, 1271 (11th Cir. 2009).

<sup>206</sup> *Gutierrez*, 606 F. Supp. 2d at 1175.

<sup>207</sup> 2022 BiOp at 31.

<sup>208</sup> *Id.* at 37 (“NLEBs show fidelity to summer roosting and foraging areas and may show fidelity to individual roost trees.”).

<sup>209</sup> Gray bat 5-Year Review at 7 (“Gray bats show strong philopatry to both summering and wintering sites.”); FEIS at 3-283 (“This species is especially vulnerable to disturbance due to its high fidelity to particular caves.”).

<sup>210</sup> See VBEB Profile (noting that female VBEBs in North Carolina move to a maternity colony near Beech Mountain each year).

<sup>211</sup> Ibat Recovery Plan at 75 (noting that loss of traditional roosting habitat “places additional stress on pregnant females at a time when fat reserves are low or depleted and they are already stressed from energy demands of migration and pregnancy,” and that loss of multiple roosts due to forest clearing can also lead to the “fragmentation of the colony” and lower reproductive and survival rates).

<sup>212</sup> Ibat 5-Year Review at 17 (emphasis added).

<sup>213</sup> 2022 BiOp at 58.

<sup>214</sup> *Miccosukee Tribe*, 566 F.3d at 1271.

- The BiOp arbitrarily dismisses impacts to bat habitat as “temporary.”*** The BiOp suggests any negative impacts from implementation of the Plan will be “temporary” because “there is no anticipated permanent loss of forest habitat on the Forests.”<sup>215</sup> However, the best available science suggests that Indiana bats do “not roost in areas clearcut within the past 35 years.”<sup>216</sup> The same is generally true of several other listed bat species that cannot use regenerating young forests.<sup>217</sup> Most of these bats achieve sexual maturity in one year which means that clearcuts can eliminate bat roosting habitat *for dozens of generations* at a minimum. Moreover, as explained below, the best available science collected by FWS suggests that in 35 years, at least two of the bats examined in the BiOp risk extinction.<sup>218</sup> So, even if the harvested forests are allowed to regrow, the “[r]estoration of [their] habitat cannot resurrect the dead.”<sup>219</sup> Dismissing the Plan’s impacts to bat habitat as “temporary” fails to account for basic bat biology as well as the imperiled status of the species, violating the best available science requirement and rendering the BiOp’s no-jeopardy conclusions arbitrary and capricious.
- The BiOp fails to analyze the compounding impacts of climate change in the action area.*** A BiOp must discuss “climate impacts *within the action area*”;<sup>220</sup> it is not enough to “discuss[] the effects of climate change generally and then proceed[] with analysis on the apparent assumption that there will be no” climate impacts in the project area.<sup>221</sup> Here, the BiOp includes a general discussion of climate impacts in its range-wide discussions of two bat species,<sup>222</sup> but never actually discusses climate impacts in the action area. FWS possessed more refined data on climate impacts to the Forests.<sup>223</sup> Yet it never discusses this data, or mentions climate change in the BiOp’s environmental baseline, cumulative effects, or jeopardy analyses, which leaves us guessing whether it “was rationally discounted . . . or arbitrarily ignored.”<sup>224</sup> The failure to consider an important aspect of the problem like the potentially compounding impacts of climate change renders the BiOp’s no-jeopardy conclusions arbitrary and capricious.
- The BiOp does not acknowledge the possibility that climate change will diminish or eliminate the effectiveness of some of the Plan’s conservation measures.*** The BiOp assumes that the conservation measures in the Plan will effectively mitigate any adverse impacts to bats.<sup>225</sup> For example, the BiOp points to standard WLF-S-01, which requires the Forest Service to “[e]mphasize” “[n]ative trees with exfoliating bark and natural crevices, including, but not limited to, shagbark hickory, white oaks, yellow pines, yellow

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<sup>215</sup> 2022 BiOp at 58.

<sup>216</sup> Ibat Recovery Plan at 76.

<sup>217</sup> See, e.g., NLEB SSA at 50 (noting that “regenerating young forests . . . lack large roosts that provide space and thermal needs for NLEB colonies”).

<sup>218</sup> U.S. Fish & Wildlife Serv., *Species Status Assessment Report for the Tricolored Bat* at 58 (2021) (predicting 100% decline in the number of extant hibernacula by 2060) [hereinafter “TCB SSA”]; NLEB SSA (“By 2060, all populations at all hibernacula are projected to be extinct.”).

<sup>219</sup> *Miccossukee Tribe*, 566 F.3d at 1270.

<sup>220</sup> *Appalachian Voices*, 25 F.4th 259, 271 (emphasis added).

<sup>221</sup> *Wild Fish Conservancy v. Irving*, 221 F. Supp. 3d 1224, 1233–34 (E.D. Wash. 2016).

<sup>222</sup> 2022 BiOp at 35, 49.

<sup>223</sup> See, e.g., FEIS at 3-9 to -22.

<sup>224</sup> *Appalachian Voices*, 25 F.4th at 277.

<sup>225</sup> 2022 BiOp at 7, 24, 61.

birch, and black locust, to provide roosting and denning habitat for bats.”<sup>226</sup> However, the BiOp never discusses whether climate change will make this standard more difficult to achieve. In other contexts, the Forest Service has recognized that climate change will negatively impact some of these “exfoliating” tree species, including shagbark hickory, sweet birch, and river birch.<sup>227</sup> So, readily available information existed showing “that climate change may well diminish or eliminate the effectiveness of some of the BiOp’s habitat mitigation efforts but [FWS] does not appear to have analyzed these effects.”<sup>228</sup> The failure to consider this research violates the best available science requirement and renders the BiOp’s no-jeopardy conclusions arbitrary and capricious.

- ***The BiOp does not incorporate the best available climate science into its jeopardy analysis.*** In preparing its BiOp, FWS is required to use “the best scientific and commercial data available.”<sup>229</sup> While FWS “is not required to conduct new studies when evidence is available upon which a determination can properly be made,”<sup>230</sup> the agency is not free to disregard “available biological information.”<sup>231</sup> Here, the BiOp notes in the “Status of the Species” section that the best available science has shown the “northeastern and Appalachian regions of the US have the potential to serve as climate refugia for Indiana bats.”<sup>232</sup> However, this never factors into the agency’s actual analysis. Instead of recognizing the special role the Forests may play in bat recovery, the BiOp dismisses impacts from the Plan “based on the magnitude of the project effects to reproduction, distribution, and abundance in relation to the listed population[s].”<sup>233</sup> In other words, the BiOp assumes that impacts on the Forests are simply a drop in the larger bucket—which necessarily fails to recognize the critical role public lands in the Appalachians may play in bat recovery.<sup>234</sup> The failure to consider this important aspect of the problem violates the FWS’s duty to incorporate the best available science into its analysis and renders the BiOp’s no-jeopardy conclusions arbitrary and capricious.
- ***The BiOp fails to use the best available science on Indiana bat habitat.*** The ESA’s best available science provision requires FWS to “seek out and consider all existing scientific data relevant to the decision it is tasked with making.”<sup>235</sup> FWS’s BiOp failed to seek out and consider at least two sources of data relevant to its analysis of the Indiana bat. First, FWS previously prepared a fine-scale model of potential Indiana bat habitat when it

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<sup>226</sup> *Id.* at 26.

<sup>227</sup> U.S. Forest Serv., *Climate Change Atlas Tree Species Current and Potential Future Habitat, Capability, and Migration: Nantahala and Pisgah National Forests* (2022) (noting that these species’ capability to cope or persist under various climate scenarios is “poor” or “very poor”).

<sup>228</sup> *Nat’l Wildlife Fed’n v. Nat’l Marine Fisheries Serv.*, 184 F. Supp. 3d 861, 918 (D. Or. 2016).

<sup>229</sup> 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(g)(8).

<sup>230</sup> *Def’s. of Wildlife v. U.S. Dep’t of the Interior*, 931 F.3d 339, 345 (4th Cir. 2019) (citing *Sw. Ctr. for Biological Diversity v. Babbitt*, 215 F.3d 58, 60 (D.C. Cir. 2000)).

<sup>231</sup> *Kern Cnty. Farm Bureau v. Allen*, 450 F.3d 1072, 1080–81 (9th Cir. 2006) (alteration in original) (citations omitted).

<sup>232</sup> 2022 BiOp at 35.

<sup>233</sup> *Id.* at 60.

<sup>234</sup> *Cf. WildEarth Guardians v. Haaland*, 561 F. Supp. 3d 890, 901–02 (C.D. Cal. 2021) (concluding the FWS failed to consider the best available science on climate change when it failed to consider reports discussing the listed species potential climate “refugia”).

<sup>235</sup> *Def’s. of Wildlife*, 931 F.3d at 346.



consulted on the Forests in 2000. That analysis divided the Forests in 2-acre tracts and assessed the suitability of each tract based on scientifically recognized habitat factors in the surrounding 8,000 acres.<sup>236</sup> The 2022 BiOp never mentions this fine-scale analysis; instead, it relies on the coarse-scale ESE model, which assumes suitable habitat for Indiana bats occur on 100% of the Forests. The FWS’s failure to consider its earlier, fine-scale model—or at least explain why such a model is no longer viable—violates the best available science requirement.<sup>237</sup> Second, FWS ignored a more recent study (prepared in part by a Forest Service scientist) on Indiana bat habitat in the Southern Appalachians.<sup>238</sup> This study—which covered the Nantahala National Forest—found that only “5% of the study area was suitable habitat and 0.5% was optimal.”<sup>239</sup> FWS never mentions this fine-scale model, much less attempts to reconcile its conclusions with the coarse ESE model that predicted 100% of the Forests contained suitable habitat for Indiana bat. These failures violate the best available science requirement and render the BiOp’s no-jeopardy conclusion for the Indiana bat arbitrary and capricious.

- ***The BiOp fails to use the best available science on bat population dynamics.*** The ESA’s best available science requirement means FWS is not free to disregard other “available biological information” that “is in some way better than the evidence [it] relies on.”<sup>240</sup> Here, FWS relied on the coarse-scale ESE tool, which purports to indirectly assess effects to bats by predicting how forest types they are associated with will respond to future management. In doing so, FWS ignored the “BatTool,” a population model specifically developed for FWS to help illustrate how WNS and other impacts may affect bat populations.<sup>241</sup> In the past few years, FWS has used this model to assess current and future conditions of the northern long-eared bat<sup>242</sup> and tricolored bat.<sup>243</sup> The BiOp never explains why it failed to utilize this cutting-edge tool, or why the ESE model—which cannot assess bat population dynamics—is an adequate substitute. Because the BatTool is “better than the evidence” the FWS relied on, FWS was “not free to disregard” it.<sup>244</sup> The failure to use this tool violates the best available science requirement and renders the BiOp’s no-jeopardy conclusions arbitrary and capricious.
- ***The BiOp fails to analyze impacts to species’ recovery.*** A jeopardy evaluation must determine whether a proposed action “reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of *both the survival and recovery* of a listed species.”<sup>245</sup> An “agency is not permitted to resolve the difficulty of distinguishing between survival and recovery by ignoring recovery needs and focusing entirely on

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<sup>236</sup> 2000 BiOp at 35.

<sup>237</sup> *Allen*, 450 F.3d at 1080–81 (FWS is not free to disregard “available biological information” that “is in some way better than the evidence [it] relies on.”).

<sup>238</sup> Kristina Hammond et al., *A Presence-Only Model of Suitable Roosting Habitat for the Endangered Indiana Bat in the Southern Appalachians*, PLoS ONE 11(4): e0154464 (2016), doi:10.1371/journal.pone.0154464.

<sup>239</sup> *Id.*

<sup>240</sup> *Allen*, 450 F.3d at 1080–81 (alteration in original) (citations omitted).

<sup>241</sup> Richard Erickson et al., *BatTool: an R package with GUI for assessing the effect of White-nose syndrome and other take events on *Myotis* spp. of bats*, Source Code for Biology and Med. 9:9 (2014).

<sup>242</sup> See NLEB SSA.

<sup>243</sup> See TCB SSA.

<sup>244</sup> *Allen*, 450 F.3d at 1080–81.

<sup>245</sup> 50 C.F.R. § 402.02 (emphasis added).

survival.”<sup>246</sup> However, that is precisely what occurred here. The 2022 BiOp contains no analysis of the Plan’s impacts to species’ recovery. It merely concludes, without explanation, that the Plan is not likely “to reduce appreciably the likelihood of both the survival *and recovery*” for the four listed bats.<sup>247</sup> This “conclusory statement[], however, cannot substitute for” an actual analysis of recovery.<sup>248</sup> That is especially true here, where information in the record shows that: (1) the bats at issue have low reproductive rates, limiting their ability to recover from disturbances; (2) the habitat benefits attributed to the Plan may develop too late to save species like the northern long-eared bat; and (3) implementation of the Plan will adversely affect one of the primary “climate refugia” for imperiled bats—thus further jeopardizing the species’ recovery prospects. The failure to consider recovery renders the BiOp’s no-jeopardy conclusions arbitrary and capricious.

- ***The BiOp fails to fully consider the increasing threat posed by WNS.*** The BiOp’s “Status of the Species” section mentions that several of the listed bat species—namely Indiana bat and northern long-eared bat—have been devastated by WNS. It also notes that some of these species are expected to decline further. However, the BiOp dramatically understates the depth of the problem. The best available research—including research compiled by FWS in other contexts—suggests that (1) by 2035, Indiana bats will decline by 92% from current, highly depleted levels;<sup>249</sup> and (2) “by 2060, “all populations” of northern long-eared bats “at all hibernacula are projected to be extinct.”<sup>250</sup> The BiOp never acknowledges the severe future extinction risk of the northern long-eared bat, nor does it detail the more serious declines predicted for the Indiana bat. The failure to consider this critical aspect of the problem violates the ESA’s requirement to use the best available science and means the BiOp’s no-jeopardy conclusions are arbitrary and capricious.
- ***The BiOp fails to explain why the Plan’s “short-term” impacts will not deepen the jeopardy for the bats affected by WNS.*** As noted above, the best available science suggests that northern long-eared bats have a high risk of extinction in the next few decades. Research also suggests that the Indiana bat will experience a 92% decline from current levels in the coming decades, which will be additive with precipitous past declines. In fact, populations of Indiana bat at White Oak Blowhole—a population the Forest Service has acknowledged is “critical to [the] species’ persistence into the future”<sup>251</sup> and is likely to be impacted by the Plan—have already experienced a 94% decline. When species are teetering on the brink of extinction like this, “an agency may

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<sup>246</sup> *Defs. of Wildlife*, 931 F.3d at 354 (citation omitted).

<sup>247</sup> 2022 BiOp at 60 (emphasis added).

<sup>248</sup> *Ctr. for Biological Diversity v. Salazar*, 804 F. Supp. 2d 987, 1008 (D. Ariz. 2011); *see also Gutierrez*, 606 F. Supp. 2d at 1171 (finding a BiOp that made a “conclusory” reference to recovery without actually “analyz[ing] the effects of Project actions on the recovery of the [listed] species” was arbitrary and capricious); *Conservation Council for Hawaii*, 97 F. Supp. 3d at 1232 (concluding that a “no jeopardy” finding that flows from the consulting agency’s “repeated conclusory statements . . . does not satisfy the ESA”).

<sup>249</sup> *See supra* note 67 and accompanying text.

<sup>250</sup> *See supra* note 52 and accompanying text.

<sup>251</sup> BA at 53.

not take action that *deepens* the jeopardy by causing additional harm.”<sup>252</sup> Here, the BiOp essentially acknowledges the Plan will cause additional harm to these species in the “short-term.”<sup>253</sup> Yet it nevertheless concludes that no jeopardy will ultimately result because logged habitat will regenerate in a few decades—around the same time that some of these bats may go extinct. Restated, the Plan will inflict harm to these species—framed as “short term” harm in the BiOp—at the point in time when it is most critical to avoid additional harms to prevent extinction. The disconnect between these dire predictions and the BiOp’s sunny no-jeopardy conclusions is arbitrary and capricious.

- ***The BiOp fails to consider the “aggregate” effects to the studied species.*** A BiOp must “[a]dd the effects of the action and cumulative effects to the environmental baseline and in light of the status of the species and critical habitat, formulate the Service’s opinion as to whether the action is likely to jeopardize the continued existence of [the] listed species.”<sup>254</sup> In other words, FWS must view the action “against the aggregate effects of everything that has led to the species’ current status and, for non-Federal activities, those things [reasonably certain] to affect the species in the future.”<sup>255</sup> The 2022 BiOp’s highly perfunctory jeopardy analysis fails to do so here. As noted above, the BiOp’s jeopardy analysis left out a host of important factors, including: fine-scale information on species’ declines in and around Western North Carolina; impacts from the previous forest plan; cumulative effects; bats’ patchy distributions across the Forests; bats’ avoidance of young forest habitat and large openings; bats’ site fidelity; bats’ low reproductive rates; the compounding and increasing effects of climate change; the possibility that climate change will diminish or eliminate the effectiveness of the Plan’s conservation measures; the potential for the Forests to serve as future climate refugia; fine-scale data on Indiana bat habitat; impacts to species recovery; the compounding and increasing effects of WNS; and several bats’ severe future extinction risks, among other factors. By omitting these factors and narrowly focusing on a few potential effects of the Plan alone, the 2022 BiOp inappropriately “conduct[ed] the bulk of its jeopardy analysis in a vacuum,” resulting in arbitrary and capricious no-jeopardy findings.<sup>256</sup>

In sum, the Forest Service has an independent duty to ensure that the revised Plan will avoid jeopardy to listed species. Here, as explained above, the FWS’s BiOp is facially flawed and legally insufficient on multiple counts. The best available science also suggests that the expanded logging greenlit by the Plan will worsen an already catastrophically bad situation for many of the listed bat species, deepening jeopardy and eliminating bats’ already-limited potential for recovery in an area that would otherwise serve as a climate refugia. For these reasons, the Forest Service cannot reasonably rely on FWS’s flawed no-jeopardy findings. By issuing a record of decision for the Plan, the Forest Service failed to comply with its substantive obligation to ensure against jeopardy to listed species, in violation of Section 7(a)(2) of the ESA.<sup>257</sup>

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<sup>252</sup> *Defs. of Wildlife*, 931 F.3d at 353 (emphasis added).

<sup>253</sup> 2022 BiOp at 58.

<sup>254</sup> 50 C.F.R. § 402.14(g)(4).

<sup>255</sup> U.S. Fish & Wildlife Serv. & Nat’l Marine Fisheries Serv., *Endangered Species Consultation Handbook* at 4-35 (1998).

<sup>256</sup> *Nat’l Wildlife Fed’n v. Nat’l Marine Fisheries Serv.*, 524 F.3d 917, 929 (9th Cir. 2008).

<sup>257</sup> 16 U.S.C. § 1536(a)(2).

Finally, we caution that the Forest Service may not defer correcting these numerous errors to project-specific consultations. As explained above, Section 7 consultations focus on a specific “action area” which, at the project level, is typically defined as the project area. The focus on a discrete action area prevents project-level Section 7 consultations from accounting for the effects to specific species from other nearby projects because project-level action areas rarely overlap. Stated differently, if the Forest Service proposed three different projects in areas used by northern long-eared bats, each project-specific consultation would only examine effects traceable to a single project without accounting for the overall effect of all three projects on northern long-eared bats. The agencies’ Plan-level Section 7 consultation is required to fill that gap, but the many errors discussed above prevent it from doing so.

Past practice also demonstrates that project-level consultations cannot make up for plan-level consultation inadequacies. For example, the Forest Service’s Biological Evaluation for its Southside Project disclosed that project activities could disturb or kill Indiana bats and remove roosting and foraging habitat. Nevertheless, in a three-paragraph letter the FWS determined that the project was “not likely to adversely affect” Indiana bat and resolved consultation without assessing jeopardy or issuing an incidental take statement. The FWS based its conclusion on the Forest Service’s commitment to comply with the terms and conditions of the previous Plan’s biological opinion. This shell game—deferring meaningful consultation to the project-level during planning and skipping meaningful consultation at the project-level by relying on plan-level agreements—underscores the practical importance of following the regulatory duties laid out above.

### **III. Conclusion**

The Forest Service violated the ESA by supplying FWS with inaccurate and incomplete information and then relying on FWS’s consequently flawed BiOp. The Forest Service also violated the ESA by relying on a facially flawed BiOp. Because the Forest Service lacks a valid programmatic BiOp, its project-level decisions and consultations cannot lawfully tier to the revised Plan.

The Conservation Groups request that the Forest Service take all necessary measures to rectify the violations of the ESA outlined above, and to contact us within 60 days to discuss Forest Service’s obligations under the ESA. If you have any questions about the issues raised in this letter, please feel free to contact us at any time.

Sincerely,

A handwritten signature in black ink that reads "Sam Evans". The signature is written in a cursive, flowing style.

Sam Evans  
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