



*Via Electronic and Certified Mail*

June 20, 2024

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**RE: Notice of Intent to Sue for Violations of the Endangered Species Act  
Concerning Denial of Protection for the North Oregon Coast DPS of  
Red Tree Vole**

Secretary Haaland and Director Williams:

The Center for Biological Diversity, Cascadia Wildlands, Oregon Wild, and Bird Alliance of Oregon (hereafter referred to collectively as “the Center”) notify you of our intent to sue the U.S. Fish and Wildlife Service (“FWS”) for violations of the Endangered Species Act (“ESA”)<sup>1</sup> in connection with FWS’s determination that the North Oregon Coast Distinct Population Segment (“DPS”) of red tree vole (*Arborimus longicaudus*) does not warrant listing as a threatened or endangered species.<sup>2</sup>

Recognizing that the best available scientific information demonstrates that the North Oregon Coast DPS of red tree vole is in danger of extinction, FWS found that listing was warranted in 2011, but also determined that needed protection was precluded by higher listing priorities. FWS repeated this determination five additional times, before abruptly reversing course and denying ESA protections in 2019. After the Center sued over the 2019 decision, FWS agreed to revisit its

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<sup>1</sup> 16 U.S.C. § 1531 *et seq.*; 50 C.F.R. § 402 *et seq.*

<sup>2</sup> 89 Fed. Reg. 8138 (Feb. 6, 2024).

decision. Unfortunately, in February 2024, FWS for the second time decided that listing the red tree vole North Oregon Coast DPS under the ESA is not warranted.

As detailed in this Notice, FWS's decision is unlawful, failed to rely on the best scientific and commercial data available, and counter to the ESA's substantive mandates. FWS's disregard for the legal requirements of the ESA and the best available scientific information led to an arbitrary and unlawful decision. If FWS does not remedy the violations of law outlined in this letter within 60 days, the Center will file suit in federal court to resolve the matter.<sup>3</sup>

### **THE RED TREE VOLE NORTH OREGON COAST DPS**

The red tree vole is a small, canopy-obligate rodent endemic to the moist coniferous forests of the Pacific Northwest. One of only two truly arboreal Avricoline mammals in the world and among the few mammals that feed primarily on the needles and twigs of conifers, red tree voles build their nests on complex branch and bole structural features strongly associated with mature (>80 years old) and, even more so, old-forest (>200 years old). Across their range, tree voles use Douglas-fir (*Pseudotsuga menziesii*) for foraging and nesting. Voles within the North Oregon Coast DPS also utilize western hemlock (*Tsuga heterophylla*) and Sitka spruce (*Picea sitchensis*) in significant portions of their range.

Old forest tree vole habitat in the northern and central regions of the Oregon Coast Range was reduced by more than 80% from 1911 to 2015.<sup>4</sup> This systematic liquidation of the region's ancient forests, as well as wildfires, road construction, and development, have reduced the average "patch size" of red tree vole potential habitat in this region by a staggering 98%.<sup>5</sup>

Prior to European settlement, old-growth forests predominated in the Oregon Coast Range, in huge patches as large as 3,280 square miles (>2 million acres), with a median size of 1,660 square miles (>1 million acres). In contrast, patches of younger trees (<80 years) were generally less than 770 square miles. Today, the largest remaining old-growth patch is a mere 2.5 square miles (1,600 acres), while

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<sup>3</sup> This notice is being provided in accordance with Section 11(g) of the Endangered Species Act, 16 U.S.C. § 1540(g)(1)(C).

<sup>4</sup> Linnell, M.A., Davis, R.J., Lesmeister, D.B., Swingle, J.K. Conservation and relative habitat suitability for an arboreal mammal associated with old forest. 2017. *For. Ecol. Manag.* 402, 1-11.

<sup>5</sup> Forsman, E.D., Swingle, J.K., Davis, R.J., Biswell, B.L., Andrews, L.S. 2016. *Tree voles: An evaluation of their distribution and habitat relationships based on recent and historical studies, habitat models, and vegetation change*. United States Department of Agriculture, Forest Service, Pacific Northwest Research Station: Portland, OR, USA; FWS 2023 Species Status Assessment ("2023 SSA"), p. 54.

early seral forest (post-clearcutting) occurs in patches as large as 1,900 square miles, and patches of 30 to 80-year-old forest are as large as 1,150 square miles.<sup>6</sup>

The Oregon Coast Range is “dominated by private industrial ownership.” Between 1975 and 1995, timber clearcut harvests were nearly three times higher on these private lands than public lands.<sup>7</sup> In all, nearly 80% of the DPS is under State and private ownership, nearly all of which is managed for timber production.<sup>8</sup>

Consequently, the remaining “large” blocks (>1,000 acres) of older forest within the North Oregon Coast Range DPS “are restricted primarily to Federal lands, with contiguous blocks separated by great distances.”<sup>9</sup> Federal lands make up 22% of the DPS, with the Siuslaw National Forest comprising 41% of this total and the Salem and Eugene Districts of the Bureau of Land Management (“BLM”) comprising most of the remainder, along with a small portion of Roseburg BLM land.<sup>10</sup>

“Virtually all” of the Federal lands within the Oregon Coast DPS occur in “two widely separated clusters.”<sup>11</sup> One of these clusters—previously dubbed the “South Block” by FWS—encompasses much of the southern portion of the DPS, south of U.S. Highway 20, while the second cluster—the “Nestucca Block”—is located north of Highway 20, primarily between Lincoln City and Tillamook. These “two blocks of Federal ownership are separated by primarily private and some State lands.”<sup>12</sup> Federal land managers have concluded that the vole populations north of Highway 20 are insufficient to maintain stable populations.<sup>13</sup>

Tree voles “are especially vulnerable to the negative effects of fragmentation and isolation due to their limited dispersal capability.”<sup>14</sup> FWS has thus previously recognized that “there is little redundancy” for vole populations within the DPS, and “loss of either cluster” would result in the DPS being “highly vulnerable to extirpation” from wildfire or other stochastic event.

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<sup>6</sup> FWS 2016 Service Species Assessment and Listing Priority Candidate Assignment Form (“2016 SAF”), p. 57; 2023 SSA, p. 53-54.

<sup>7</sup> 2016 SAF, p. 29.

<sup>8</sup> 2016 SAF, p. 70.

<sup>9</sup> 2016 SAF, p. 58.

<sup>10</sup> 2016 SAF, p. 3.

<sup>11</sup> 2016 SAF, p. 58.

<sup>12</sup> 2016 SAF, p. 58.

<sup>13</sup> 2016 SAF, p. 59; USDA Forest Service and USDI Bureau of Land Management. 2007. Final supplement to the 2004 FEIS to remove or modify the survey and manage mitigation measure standards and guidelines. Portland, Oregon. 2 vols.

<sup>14</sup> 2016 SAF, p. 58.

## ESA STATUTORY FRAMEWORK

The ESA is “the most comprehensive legislation for the preservation of endangered species ever enacted by any nation.”<sup>15</sup> The ESA is intended to protect and recover species that FWS determines to be “threatened” or “endangered.”<sup>16</sup> “Endangered” means the species “is in danger of extinction throughout all or a significant portion of its range.”<sup>17</sup> “Threatened” means the species is “likely to become an endangered species within the foreseeable future.”<sup>18</sup> The definition of “species” includes “subspecies” and “distinct population segments of any species of vertebrate fish or wildlife which interbreeds when mature.”<sup>19</sup>

Section 4 of the ESA permits private parties to petition FWS to add a particular species to FWS’s formal list of threatened and endangered species.<sup>20</sup> FWS is then directed to make a preliminary finding within 90 days.<sup>21</sup> Assuming it finds “substantial information indicating that the petitioned action may be warranted,” FWS must publish that finding and proceed to conduct a full scientific review of the species’ status.<sup>22</sup> Based on that review, FWS has 12 months to either issue a “not warranted” finding (thus rejecting the petition) or a proposed rule adding the species to either the endangered or threatened list.<sup>23</sup> If FWS proposes to list the species under either category, it then has 12 more months to make a final decision.<sup>24</sup>

When making listing determinations, the ESA requires FWS to determine whether any species is an endangered species or a threatened species because of five enumerated factors: the present or threatened destruction, modification, or curtailment of a species’ habitat or range; overutilization for commercial, recreational, scientific, or educational purposes; predation or disease; the inadequacy of existing regulatory mechanisms; or other manmade or natural factors affecting the species’ continued existence.<sup>25</sup>

If a species meets the definition of “endangered” or “threatened” because of any one or a combination of these five factors, FWS must list the species.<sup>26</sup> In

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<sup>15</sup> *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 180 (1978).

<sup>16</sup> 16 U.S.C. § 1533(a).

<sup>17</sup> *Id.* § 1532(6).

<sup>18</sup> *Id.* § 1532(20).

<sup>19</sup> *Id.* § 1532(16). Consistent with the ESA’s definition of species, this letter refers to the North Oregon Coast DPS of red tree vole as a “species” throughout.

<sup>20</sup> *Id.* § 1533(b)(3)(A).

<sup>21</sup> *Id.*

<sup>22</sup> *Id.*

<sup>23</sup> *Id.* § 1533(b)(3)(B).

<sup>24</sup> *Id.* § 1533(b)(6)(A).

<sup>25</sup> *Id.* § 1533(a)(1).

evaluating these factors, FWS must make listing determinations “solely on the basis of the best scientific and commercial data available.”<sup>27</sup>

The lawfulness of FWS listing decisions is governed by Administrative Procedure Act (“APA”) standards of review.<sup>28</sup> The APA directs that courts “shall” set aside agency actions, findings, or conclusions that are determined to be “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.”<sup>29</sup> In reviewing whether an agency decision is arbitrary and capricious, courts must “ensure that the agency considered the relevant factors and articulated a rational connection between the facts found and choices made.”<sup>30</sup> An “agency rule would be arbitrary and capricious if the agency relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.”<sup>31</sup>

## LISTING BACKGROUND

### **1. The Center’s Listing Petition, FWS Recognition of the North Oregon Coast DPS, and Positive 90-Day Finding**

On June 28, 2007, the Center petitioned FWS to list the dusky tree vole as threatened or endangered under the ESA. The petition requested that if FWS found that the dusky tree vole was not a listable entity, that it either list the North Oregon Coast population of the red tree vole as a DPS or list the red tree vole because it is endangered or threatened throughout a significant portion of its range. On October 28, 2008, FWS issued a positive 90-day finding, indicating that listing of three entities may be warranted: the dusky tree vole subspecies of the red tree vole, the North Oregon Coast DPS of the red tree vole, or the red tree vole throughout its range.<sup>32</sup>

FWS recognized the North Oregon Coast DPS based on quantitative measures of genetic discontinuity with populations to the east and south, the persistence of the population in an ecological setting that is unique or unusual for

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<sup>26</sup> *Id.*; 50 C.F.R. § 424.11(c); *see also Fed’n of Fly Fishers v. Daley*, 131 F. Supp. 2d 1158, 1164 (N.D. Cal. 2000) (“These factors are listed in the disjunctive; any one or a combination can be sufficient for a finding that a particular species is endangered or threatened.”).

<sup>27</sup> 16 U.S.C. § 1533(b)(1)(A).

<sup>28</sup> 5 U.S.C. §§ 701-706.

<sup>29</sup> *Id.* § 706(2)(A).

<sup>30</sup> *Greater Yellowstone Coal., Inc. v. Servheen*, 665 F.3d 1015, 1023 (9th Cir. 2011).

<sup>31</sup> *Motor Vehicle Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

<sup>32</sup> 73 Fed. Reg. 63919 (October 28, 2008).

the taxon (Sitka spruce habitat), and evidence that the loss of the DPS would result in a significant gap in the range of the taxon (a roughly 24% reduction). FWS defined the DPS boundaries as the Columbia River on the north, the Willamette River Valley on the east, the Siuslaw River on the south, and the Pacific Ocean on the west.<sup>33</sup>

## **2. FWS’s Repeated (2011-2016) Determinations that Listing the Red Tree Vole North Oregon Coast DPS Is Warranted**

As a result of this 90-day finding, FWS initiated a status review of the North Oregon Coast DPS and the red tree vole throughout its range.<sup>34</sup> On October 12, 2011, FWS announced its 12-month finding, determining that listing the North Oregon Coast DPS of the red tree vole was warranted, but precluded by higher priority actions.<sup>35</sup>

The finding observed that “declines in the amount of older forest within the Coast Range Province are unprecedented in recent history,” and that this decline “has translated into substantial habitat loss for red tree voles, with only 11 percent of its historical habitat remaining as suitable.”<sup>36</sup> FWS further noted that the bulk of this suitable habitat is restricted to Federal lands that make up only 22 percent of the area within the DPS.<sup>37</sup> This remaining high-quality habitat occurs “in two widely spaced clusters, one north of Highway 20 and one south of Highway 20,” and “loss of either cluster on Federal lands would result in the single remaining cluster and its associated tree vole population being highly vulnerable to extirpation and even extinction through such stochastic event, such as wildfire.”<sup>38</sup>

Although FWS anticipated that habitat on remaining Federal lands is likely to persist or even improve over the foreseeable future due to restricted logging under the Northwest Forest Plan, it predicted that these lands “will continue to be fragmented and isolated,” due to continued logging on private and State lands “that inhibit connectivity” between remaining populations.<sup>39</sup>

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<sup>33</sup> *Id.* at 63729.

<sup>34</sup> *Id.* at 63919.

<sup>35</sup> 76 Fed. Reg. 63720 (October 13, 2011).

<sup>36</sup> *Id.* at 63740.

<sup>37</sup> *Id.* at 63750.

<sup>38</sup> *Id.* at 63750.

<sup>39</sup> *Id.* at. 63749.

FWS annually reaffirmed its warranted but precluded findings five times from 2012-2016.<sup>40</sup> Its 2016 finding was accompanied by a species assessment form (“2016 SAF”). In the agency’s first detailed assessment of the species since 2011, the 2016 SAF again concluded that the North Oregon Coast DPS was vulnerable to extinction from habitat loss and fragmentation caused primarily by logging, inadequate regulatory mechanisms (particularly in relation to ongoing logging of private and State lands on a short-rotation schedule), and isolation of remaining populations leading to risk of extirpation from wildfire or other stochastic events.

### **3. FWS’s About-Face 2019 and 2024 Not-Warranted Findings, Based on a “Coarse” and “Uncertain” Habitat Model**

In 2019, FWS reversed direction and issued a determination that listing the red tree vole North Oregon Coast DPS was not warranted.<sup>41</sup>

In March 2021, the Center brought suit in the U.S. District Court for the District of Oregon challenging FWS’s not warranted determination as unlawful under the ESA.<sup>42</sup> In April 2022, following production of the administrative record and plaintiffs’ filing of their motion for summary judgment, the parties reached a settlement under which FWS agreed to withdraw the 2019 not-warranted finding, and to issue a new 12-month finding by January 31, 2024.<sup>43</sup> On October 19, 2022, FWS withdrew the not-warranted finding and initiated a new species status assessment (“SSA”).<sup>44</sup>

On February 6, 2024, FWS issued the remanded 12-month finding, again concluding that listing the red tree vole North Oregon Coast DPS under the ESA is not warranted.<sup>45</sup>

In a memorandum comparing its earlier decisions finding that listing is warranted with its 2019 and 2024 not-warranted decisions, FWS states that “most of the conclusions . . . were similar, including: 1) there has been a historical decline in tree voles and in habitat; 2) timber harvest has and continues to modify or

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<sup>40</sup> 77 Fed. Reg. 66994, at 70011-12 (Nov. 21, 2012); 78 Fed. Reg. 70104, at 70118 (Nov. 22, 2013); 79 Fed. Reg. 72450, at 72462 (Dec. 5, 2014); 80 Fed. Reg. 80584, at 80594 (Dec. 24, 2015); 81 Fed. Reg. 87246, at 87255 (Dec. 2, 2016).

<sup>41</sup> 84 Fed. Reg. 69707 (Dec. 19, 2019).

<sup>42</sup> *Ctr. for Biological Diversity, et al. v. U.S. Fish and Wildlife Service, et al.*, Civ. No. 3:21-cv-455-HZ (D. Or.).

<sup>43</sup> *Id.*, Docket No. 35 (filed April 15, 2022).

<sup>44</sup> 87 Fed. Reg. 63472 (Oct. 19, 2022).

<sup>45</sup> 89 Fed. Reg. 8137 (Feb. 6, 2024).

remove habitat, primarily on non-federal lands; 3) tree vole habitat is and will continue to remain fragmented and isolated.”<sup>46</sup>

FWS highlights “one key conclusion for 2011 and 2016 [that] was different.”<sup>47</sup> In contrast to FWS’s prior conclusions that the two remaining large populations on Federal land are insufficient to ensure the species’ long-term viability, the 2019 and 2024 findings conclude that these “two large clusters” (the Nestucca Block and South Block) will “allow tree voles to persist.”<sup>48</sup>

In 2019, FWS reached this new conclusion by developing a “habitat cluster” analysis ostensibly based on tree vole habitat models described in Linnell et al. 2017, and Lesmeister and Linnell 2019.<sup>49</sup> These models utilized airborne light detecting and ranging (LiDAR) data, satellite imagery, more recent tree vole presence data, and machine learning methods.<sup>50</sup> According to FWS, the results of its cluster analysis showed that 72 percent of the DPS does not contain vole habitat, “a substantial difference from the 11 percent” of habitat predicted previously, “which formed the basis of our 2011 conclusion.”<sup>51</sup>

FWS states that its approach in 2023 “is similar to” the 2019 analysis, but that it also used a new habitat model described in Linnell et al. 2023 and associated information from recent vole nest surveys.<sup>52</sup> In its 2023 analysis, FWS grouped 52 identified population areas, or “habitat blocks,” into 17 geographic “units.”<sup>53</sup> These units are not defined by any specific scientific or ecological criteria, but instead “were derived by dividing the DPS by features which are likely strong filters or obstacles to red tree vole movement (rivers and highways).”<sup>54</sup>

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<sup>46</sup> July 2023 Memorandum: North Oregon Coast DPS of the Red Tree Vole comparison of influence factors analysis from the 2011 12-month finding, 2016 Candidate Notice of Review (CNOR), 2019 SSA 1.0 and 2019 12-month finding, and 2023 SSA 2.0 (hereafter referred to as “July 2023 comparison memo”), p. 3.

<sup>47</sup> July 2023 comparison memo, p. 3.

<sup>48</sup> July 2023 comparison memo, p. 3; 84 Fed. Reg. at 69710; 89 Fed. Reg. at 8139.

<sup>49</sup> Linnell, M.A., R.J. Davis, D.B. Lesmeister, and J.K. Swingle. 2017. Conservation and relative habitat suitability for an arboreal mammal associated with old forest. *For. Ecol. Manag.* 402:1-110; Lesmeister, D.B., and M.A. Linnell. 2019. Habitat clusters for red tree voles in the Coast Range of Oregon. Final Report U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, Corvallis, OR. 19 pp.

<sup>50</sup> July 2023 comparison memo, p. 4; 2023 SSA, p. A-4.

<sup>51</sup> July 2023 comparison memo, p. 4.

<sup>52</sup> July 2023 comparison memo, p. 5, 2023 SSA, pp. xii, A-4; Linnell, M.A., D.B. Lesmeister, Z. Yang, and R.J. Davis. 2023. Timber harvest and wildfires drive long-term habitat dynamics for an arboreal rodent. *Bio. Conserv.* 22:568-578.

<sup>53</sup> 2023 SSA, p. iii.

<sup>54</sup> 2023 SSA, p. 23.



FWS “developed a coarse model” to produce a qualitative “rating” for each of these 17 units, based on estimated effective population size and habitat connectivity within and between the units.<sup>55</sup> It acknowledged “uncertainty associated with this model” and “some of the supporting data.”<sup>56</sup>

Under this model, FWS characterized units with >1000 estimated effective population size as a “high” overall resiliency condition regardless of the habitat connectivity within the unit or between neighboring units.<sup>57</sup> Geographic units with effective population sizes of between 100-1000 were also categorized as high resiliency if at least one connectivity factor is rated as high.<sup>58</sup>

Within the 17 units, FWS assigned a connectivity rating of “high” for population “habitat blocks” separated by distances up to 2 km.<sup>59</sup> In rating connectivity between the units, if FWS defined a habitat block as spanning the boundary of two units, then FWS assigned a connectivity rating of “high,” even while “recogniz[ing] that the highways and rivers that divide geographic units represent a strong filter.”<sup>60</sup>

Based on this analysis, FWS reversed its prior warranted determinations, stating that it is “unlikely that a single catastrophic event, such as wildfire, could impact the entire DPS at once,” and “tree voles may have refugia to sustain populations in the face of catastrophic events such as wildfire, even though we note that resilience, redundancy, and representation could be decreased.”<sup>61</sup> FWS thus concludes that “habitat fragmentation and lack of connectivity do not threaten tree voles to the degree that they meet the definition of threatened or endangered.”<sup>62</sup>

FWS also reaches different conclusions regarding the adequacy of regulatory mechanisms on State lands, stating that “based on existing land management allocations within and adjacent” to two presumed population clusters on the Tillamook State Forest, “we expect suitable habitat to develop adjacent to these clusters, thereby expanding their footprint and potentially even connecting them, thus approaching a larger size that may support a viable tree vole population on State Forest lands.”<sup>63</sup> FWS also notes that “19 percent of State land is potentially

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<sup>55</sup> 2023 SSA, p. 63.

<sup>56</sup> 2023 SSA, p. v.

<sup>57</sup> 2023 SSA, p. 67.

<sup>58</sup> 2023 SSA, p. 67.

<sup>59</sup> 2023 SSA, p. 66.

<sup>60</sup> 2023 SSA, p. 66.

<sup>61</sup> 2023 comparison memo, at 19.

<sup>62</sup> 2023 comparison memo, at 15.

<sup>63</sup> 2023 comparison memo, at 9.

habitat, more than the 5 percent reported in 2011.”<sup>64</sup> FWS also “obtained a map of constrained management areas where timber harvest is not planned within the foreseeable future,” and assumed these lands “would remain forested.”<sup>65</sup> FWS concluded, based on locations of occupied modeled vole habitat, “that regulatory mechanisms on State lands are likely to conserve red tree voles, even outside of retention areas within harvest units.”<sup>66</sup>

## SCIENTIFIC BACKGROUND

### **1. The FWS 2016 Finding Reaffirmed Prior Repeated Conclusions that the Best Available Scientific Information Requires Listing of the North Oregon Coast DPS, While Identifying Further Research Needs**

The 2016 SAF found that the best available science regarding threats to the red tree vole North Oregon Coast DPS showed that listing the DPS continued to be warranted.<sup>67</sup> In addition to making this finding, FWS identified several “information needs,” including:

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<sup>64</sup> 2023 comparison memo, at 10.

<sup>65</sup> 2023 comparison memo, at 10.

<sup>66</sup> 2023 comparison memo, at 11.

<sup>67</sup> The 2016 summarized the best available scientific information as follows:

“In summary, several threats, combined with the limited ability of the red tree vole to respond to those threats, contribute to our finding that the North Oregon Coast DPS of the red tree vole is in danger of extinction now or in the foreseeable future. Older forest habitats that provide for red tree voles are limited and highly fragmented, while ongoing forest practices in much of the DPS maintain the remaining patches of older forest in a highly fragmented and isolated condition by managing the surrounding younger forest stands on short-rotation schedules.

Existing regulatory mechanisms on private and State lands result in the maintenance of this condition on most of their ownership. Although a portion of the State Forest land will be managed towards older forest structure, it is expected to take 70 years before reaching these conditions.

Red tree vole populations within the North Oregon Coast DPS appear to be relatively small and isolated. Multiple features of red tree vole biology and life history limit their ability to respond to the above noted habitat loss and alteration. These features include small home ranges, limited dispersal distances, low reproductive potential relative to other closely related rodents, a reluctance to cross large openings, and likely increased exposure to predation in certain habitat conditions (e.g., younger stands or in areas with insufficient canopy cover that forces voles to leave trees and travel on the ground). Such life history characteristics make it difficult for red tree voles to persist in or recolonize already isolated habitat patches.

Although some land management allocations within the DPS call for developing older forest conditions that may provide habitat for the red tree vole, it will be decades before those areas attain those conditions. In the interim, the red tree vole remains vulnerable to random environmental disturbances that may remove or further isolate large blocks of already limited habitat (e.g., large windstorms or stand-replacing fire events). Finally, small and

- Determining the value of younger forest stands to tree voles and whether those younger stands provide suitable habitat for long-term persistence;
- Assessing habitat and population connectivity in the DPS;
- Determining whether populations are isolated and whether there are “habitat management alternatives that could improve population connectivity”;
- Conducting a connectivity analysis on existing habitat to “identify isolated areas and to prioritize treatments to best facilitate habitat connectivity.”<sup>68</sup>

## **2. Numerous New Scientific Studies Conducted Since 2016 Have Reaffirmed that Listing the Red Tree Vole North Oregon Coast DPS Is Warranted**

Since 2016, several peer-reviewed studies have reaffirmed that listing the red tree vole North Oregon Coast DPS is warranted, while addressing the information needs identified in the 2016 SAF:

- Lesmeister et al. (2016). DISTRIBUTION OF HABITATS FOR RED TREE VOLES IN THE NORTH COAST RANGE OF OREGON. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, Corvallis, OR. 32 pp;
- Linnell et al. (2017): CONSERVATION AND RELATIVE HABITAT SUITABILITY FOR AN ARBOREAL MAMMAL ASSOCIATED WITH OLD FOREST. *For. Ecol. Manag.* 402:1-11;
- Linnell and Lesmeister (2019): LANDSCAPE CONNECTIVITY AND CONSERVATION PRIORITIZATION FOR AN OLD FOREST SPECIES WITH LIMITED VAGILITY. *Animal Conservation* 22: 568-578;
- Linnell et al. (2023): TIMBER HARVEST AND WILDFIRES DRIVE LONG-TERM HABITAT DYNAMICS FOR AN ARBOREAL RODENT. *Biological Conservation* 279: 1-9; and

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isolated populations such as the red tree vole are more vulnerable to extirpation within the DPS due to a variety of factors including loss of genetic variability, inbreeding depression, and demographic stochasticity.

Because of the existing habitat conditions, the limited ability of the red tree vole to persist in much of the DPS, and its vulnerability in the foreseeable future until habitat conditions improve, we find that the North Oregon Coast DPS of the red tree vole is in danger of extinction now or in the foreseeable future.” 2016 SAF, p. 73.

<sup>68</sup> 2016 SAF, p. 74.

- Gaines et al. (2023): ECOSYSTEM CONDITIONS THAT INFLUENCE THE VIABILITY OF AN OLD-FOREST SPECIES WITH LIMITED VAGILITY: THE RED TREE VOLE. *Animals* 13:1-27.

Consistent with the previous best available science, this most recent scientific literature clearly and repeatedly reaches the same primary conclusions that:

- Old forest is the most important predictor of red tree vole habitat suitability;
- The current extent and distribution of old forest within the North Oregon Coast DPS is inadequate and too isolated to provide for the long-term persistence of the subspecies;
- Wildfire poses a primary threat to remaining populations;
- Currently young forest located in close proximity to larger patches of old forest *could* serve an important role in improving connectivity *if* those forests were set aside and allowed to mature; and
- While specific actions to improve red tree vole habitat connectivity have been identified, none have been implemented.

### VIOLATIONS OF THE ENDANGERED SPECIES ACT

After finding that the vole warranted listing in 2011 and repeatedly reaffirming that conclusion, FWS issued an about-face reversal that listing was not warranted in 2019. After the Center sued, FWS agreed to vacate and reconsider the decision and now, another five years later, has doubled down on its unlawful conclusion and again issued an unsupportable and unscientific not warranted determination.

In both its 2019 and 2014 decisions, FWS acknowledges that the primary foundations of its earlier decisions that the red tree vole North Oregon Coast DPS is in danger of extinction throughout its range remain intact: the vole's habitat has been greatly reduced, its remaining habitat remains at great risk from logging and wildfire, and the limited vole habitat that remains is heavily fragmented and isolated.

FWS's reversal instead largely depends on a single slender reed. Using tree vole habitat models presented in post-2016 scientific studies, FWS built a self-described "coarse" analysis under which it assigned qualitative resiliency ratings for 17 "geographic units" it mapped within the DPS boundaries. FWS describes

these ratings as a combination of the estimated population size and connectivity within each of the 17 units, as well as the connectivity between units.<sup>69</sup>

Using these criteria, FWS concluded that a “group of five units making up most of the southern half of the DPS and a large unit in the central part of the DPS rate high for current condition and together form the foundation for the current tree vole habitat in the DPS.”<sup>70</sup> Even though the results of FWS’s own cluster analysis show that 72 percent of forested habitat within the DPS has been rendered unsuitable for the vole, FWS’s geographical definition of the units results in these six units “mak[ing] up about two-thirds of the DPS.”<sup>71</sup>

As detailed below, FWS’s determination that the red tree vole North Oregon Coast DPS does not warrant listing under the ESA was arbitrary, capricious, and counter to the ESA’s best available science mandate in numerous respects.

### **1. FWS Arbitrarily Ignored a 2023 Viability Analysis Concluding the Red Tree Vole North Oregon Coast DPS Is at Risk of Extinction**

FWS based the not warranted determination on an admittedly “coarse” qualitative analysis, with acknowledged “uncertainty associated with this model and some of the supporting data.” FWS developed and relied on this convoluted model while failing to address the key findings of a comprehensive, peer-reviewed quantified viability analysis of red tree voles conducted by Gaines et al. in March 2023. By disregarding this directly relevant and contemporaneous scientific evidence, FWS acted in an arbitrary and capricious manner and failed to meet the ESA’s mandate to utilize the best available scientific information.<sup>72</sup>

In Gaines et al. 2023, the authors developed two models, the first an index of habitat suitability for each watershed using factors known to influence red tree vole abundance, distribution, and demography, and the second estimating the probability of an ecoregion to support a sufficiently abundant and well-distributed red tree vole population. The watershed model was based on the best available scientific literature, including expert review, and the risk portion included potential habitat loss from logging and fire. Potential fire risk was based on fire regime data

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<sup>69</sup> 2023 SSA, p. iv.

<sup>70</sup> 2023 SSA, p. 79.

<sup>71</sup> 2023 SSA, p. 79.

<sup>72</sup> *Ctr. for Biological Diversity v. Zinke*, 900 F.3d 1053, 1068 (9th Cir. 2019) (“Although FWS has broad discretion to choose which expert opinions to rely on when making a listing decision, it cannot ignore available biological data.”); *State Farm*, 462 U.S. at 43 (agency decisions are arbitrary and capricious if the agency “offers an explanation for its decision that runs counter to the evidence before the agency.”).

and modeling burn probability from the Pacific Northwest quantitative risk assessment, allowing an assessment of both fire severity and probability.<sup>73</sup> The model's performance was confirmed by a sensitivity analysis.<sup>74</sup>

The authors found that the primary viability outcome within the North Oregon DPS was at the bottom of their scale, and the lowest of all red tree vole populations rangewide, at only 26% of historic capability.<sup>75</sup> Contrary to FWS's repeated conclusions of "high" habitat connectivity within the DPS, Gaines found that there was "likely a low probability of interaction between populations, thereby increasing the potential for extirpations within these isolated areas."<sup>76</sup> In doing so, the Gaines study characterizes the large majority of areas within the DPS in low viability condition, directly contrasting with the FWS characterization of two-thirds of the DPS in "high" condition, and much of the remaining land as "moderate high" condition, under its cluster analysis.<sup>77</sup>

Crucially, the Gaines et al. 2023 authors concluded that their findings support the previous FWS conclusions that the red tree vole "*is in danger of extinction in the foreseeable future (within 60 years).*"

Despite FWS's characterization of SSAs as a compilation of the best available science, the 2023 SSA makes only passing mention of the Gaines study and does not address the authors' fundamental conclusions, including its contradictory viability findings and overall conclusion regarding extinction risk. Although FWS has some discretion to choose which expert data it relies upon, it must at least acknowledge that it is doing so.<sup>78</sup> By not addressing the central aspects of the Gaines study directly contradicting the data on which FWS relied (the coarse cluster analysis), or attempting to explain how its approach was superior, FWS acted arbitrarily and failed to meet the ESA's best available science mandate.<sup>79</sup>

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<sup>73</sup> Gaines et al. 2023, p. 6.

<sup>74</sup> Gaines et al. 2023, p. 15.

<sup>75</sup> Gaines et al. 2023, p. 16.

<sup>76</sup> Gaines et al. 2013, p. 16- 17.

<sup>77</sup> Compare Gaines et al. 2013, Figure 6, p. 15 (map depicting watershed index values of "very low" or "low" throughout large portion of DPS), with 2023 SSA, Figure 13, p. 73 (map depicting six units, comprising 2/3 of DPS area, in "high" condition).

<sup>78</sup> *Conner v. Burford*, 848 F.2d 1441, 1454 (9th Cir. 1988).

<sup>79</sup> *Ctr. for Biological Diversity v. Zinke*, 900 F.3d at 1068.

## **2. In Reaching Its New Determination that Lack of Habitat Connectivity Does Not Imperil the Red Tree Vole, FWS Fails to Address or Acknowledge Numerous Contradictory Peer-Reviewed Studies**

In its not-warranted decision, FWS states that it is “still concerned about connectivity between Federal land,” and “although connectivity is limited” between the two largest habitat clusters, “these blocks are scored as having high resiliency in the SSA because they contain adequate habitat to support a large enough population of tree voles to persist.”<sup>80</sup> This “led to [FWS’s] conclusion that habitat fragmentation and isolation and lack of connectivity do not threaten tree voles to the degree that they meet the definition of threatened or endangered.”<sup>81</sup>

FWS’s conclusion is contradicted by the most recent, best available scientific information. These studies repeatedly and consistently state in clear terms that the long-term persistence of red tree voles within the North Oregon Coast DPS depends on increased habitat connectivity. For example, these statements include:

- Lesmeister et al. 2016 (p. 14-15): (“Retaining or building connectivity between isolated old forest habitat patches will be critical to continued persistence of tree voles . . . Under current management, the potential for broad recovery of old forest in this area is doubtful, and thus without significant conservation efforts tree vole population recovery is improbable.”);
- Linnell et al. 2017 (p. 8-9) (While “conservation of existing tree vole populations, in the near term, clearly depends on conservation of old forest,” the “long-term-persistence of tree voles likely depends on what occurs in what is now young forest.” These efforts “may be particularly important because large wildfires that can eliminate large blocks of suitable habitat are predicted to become more frequent and may be more likely to eliminate large reserves of old forest on federal lands.”);
- Gaines et al. 2023 (p. 1166): (“Particularly in light of the species’ limited mobility, this fragmentation has reduced remaining habitat to isolated blocks lacking the connectivity essential to the vole’s long-term viability.”)

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<sup>80</sup> 2023 comparison memo, p. 15

<sup>81</sup> 2023 comparison memo, p. 15.

FWS purports to rely on some of these same studies in reaching its contrary conclusion that lack of connectivity does not imperil North Oregon Coast DPS red tree voles, asserting that its cluster model analysis is based on “substantial amount of information, mostly published” that has become available since its earlier warranted determinations.<sup>82</sup> However, FWS nowhere directly grapples with the plainly stated assertions in this literature that improving connectivity is essential to the vole’s survival. FWS’s cherry-picked interpretation of these studies fails to see the forest for the trees by not acknowledging this central theme and finding, and thus fails to meet the ESA’s best available science mandate.<sup>83</sup>

### **3. FWS’s Connectivity Ratings Are Untethered From the Best Available Science**

Related to its arbitrary conclusion that the vole is not imperiled due to lack of connectivity, FWS also reaches rose-tinted conclusions about current and future predicted connectivity that are utterly untethered from the best available scientific information.

The longest documented red tree vole dispersal distance is 340 meters (1,115 feet).<sup>84</sup> The 340-meter dispersal distance, however, is an outlier only observed in “a single instance.”<sup>85</sup> The data otherwise suggests a maximum dispersal distance of “up to 75 meters.”<sup>86</sup>

In reaching its not warranted determination, FWS simply cast aside this readily available, but inconvenient, quantified and peer-reviewed scientific information. Instead, FWS defined “connectivity potential within geographic units” under its “coarse” model as “high” if a vole population was within 2 km of forested land from another vole population.<sup>87</sup>

FWS’s model thus rates populations as having “high connectivity” up to a distance that is nearly *27 times* the generally accepted *maximum* dispersal distance.<sup>88</sup>

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<sup>82</sup> 2019 SAF, p. 34.

<sup>83</sup> *WildEarth Guardians v. Haaland*, 561 F. Supp. 3d 890, 900 (C.D. Cal. 2021) (remanding not warranted finding where FWS SSA “appears to selectively rely on portions of these studies to support its non-listing determination despite failing to address their contrary findings.”).

<sup>84</sup> Linnell and Lesmeister 2019, p. 570-571.

<sup>85</sup> Linnell and Lesmeister 2019, p. 570-571.

<sup>86</sup> Linnell and Lesmeister 2019, p. 571.

<sup>87</sup> 2024 SAF, p. 18.

<sup>88</sup> Linnell and Lesmeister 2019, p. 571.



Moreover, Linnell and Lesmeister 2019 estimate that the average distance between old-growth patches within the North Oregon Coast DPS is in fact 3.4 kilometers, a distance that would require 40 years, or 120 generations, for red tree voles to cross.<sup>89</sup> If anything, these estimates are overly optimistic, because “no empirical evidence of gene flow occurring through matrix for the [red tree vole] currently exists.”<sup>90</sup>

FWS’s ratings for connectivity between geographic units are no less arbitrary. FWS developed that rating by assessing by whether “habitat blocks” spanned the boundary of geographic units. If so, then FWS defined the connectivity as “high” regardless of distance between populations, and even though FWS recognized that the “highways and rivers” it used to divide the units “represent a strong filter.”<sup>91</sup>

In developing these connectivity “ratings”, FWS expressly acknowledged that its analysis was based on wishful thinking rather than scientific rigor, stating that its “analysis looks *at the potential* for connectivity of these currently isolated population areas to their neighboring areas,” and “*its potential* to provide current or future habitat, even if suboptimal.”<sup>92</sup> FWS arbitrarily assumes such connectivity will happen over multiple generations, which will require recovery and maintenance of suitable habitat in the intervening area, an impossible outcome under current management regimes.

The disconnect between FWS’s rating system and the best available scientific information is illustrated by its characterization of “Unit 8—Trask/Nestucca” as having high connectivity both within the unit and between neighboring units.<sup>93</sup> More than half of Unit 8 is in private ownership, while only about 20% is in federal lands. Only 40% of this federal land is in “reserved” protective status.<sup>94</sup> Like the rest of the DPS, the remaining tree vole populations in this “Unit” are overwhelmingly located on the federal lands, with “tree vole surveys and positive detections . . . focused on the center of the unit on BLM land and southwestern portion of the unit on USFS land.”<sup>95</sup>

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<sup>89</sup> Linnell and Lesmeister 2019, p. 569.

<sup>90</sup> Linnell and Lesmeister 2019, p. 574.

<sup>91</sup> 2024 SAF, p. 18; 2023 SSA, p. 80-81.

<sup>92</sup> 2023 SSA, p. 65.

<sup>93</sup> 2023 SSA, p. 77.

<sup>94</sup> 2023 SSA, p. 25.

<sup>95</sup> 2023 SSA, pp. 28, 77; see also 2023 SSA, p. 101 (showing low population resiliency outside the federal lands populations); Peer reviewer James Swingle comment noting that Trask River watershed is currently unoccupied and recommending it as standalone geographic unit.

In the population areas outside of these federal lands, red tree voles have either never been detected or have not been detected since 2011.<sup>96</sup> Nonetheless, relying on its connectivity rating system, FWS describes all of these areas as “presumed occupied.”<sup>97</sup> FWS also describes Unit 8 as having high connectivity with neighboring units despite the fact that it is surrounded by federal and state highways (US 101, OR 22, OR 18, OR 47, OR 8, OR 6).<sup>98</sup>

As another example, FWS characterizes “Unit 12—Siletz/Luckiamute” as a high rating of connectivity both within the geographic unit and between geographic units.<sup>99</sup> Unit 12, the second largest in the DPS, is overwhelmingly dominated by private land (82%), and yet FWS concludes that the unit overall has “high resiliency,” due to these high connectivity ratings.<sup>100</sup> The unit contains 14 designated population areas, with two large units of Federal land located on opposite sides of the unit. Even though four population areas are unsurveyed for voles, FWS presumes occupancy due to “connectivity potential.”<sup>101</sup>

FWS had drawn the boundaries of Unit 8 and Unit 12 so that they alone encompass nearly 40% the total area of the DPS. Along with four additional units making up most of the southern half of the DPS given a “high” resiliency rating, Unit 8 and Unit 12 provide the arbitrary foundation for FWS’s not warranted finding.<sup>102</sup>

#### **4. FWS’s Current and Future Projections of Connectivity Rely on Uncertain and Speculative Conservation Measures**

FWS cannot rely on mere promises of future conservation actions in denying ESA protections. *If* FWS “finds that a conservation effort is sufficiently certain to be implemented and effective so as to have contributed to the elimination or adequate reduction of one or more threats to the species,” *only then* may it “find that a species need not be listed.”<sup>103</sup>

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<sup>96</sup> 2023 SSA, p. A-22.

<sup>97</sup> 2023 SSA, p. A-22.

<sup>98</sup> 2023 SSA, p. A-18.

<sup>99</sup> 2023 SSA, pp. 78, 102-103

<sup>100</sup> 2023 SSA, p. 78.

<sup>101</sup> 2023 SSA, pp. 78, A-22 to A-23.

<sup>102</sup> 2023 SSA, p. 79; see also 2023 SSA, p. 112 (describing Unit 8 as “notable as a current anchor in the northern region of the DPS and is projected to remain so in the future under either scenario.”).

<sup>103</sup> *Survivors v. United States DOI*, 321 F. Supp. 3d 1011, 1021-22 (N.D. Cal. 2018); see also *Fed’n of Fly Fishers v. Daley*, 131 F. Supp. 2d 1158, 1165 (N.D. Cal. 2000) (reliance on prospective measures set forth in conservation agreement is “inconsistent with the aggressive preventive posture of the ESA” because “[t]here are no assurances that the measures will be carried out, when they will be carried out, or whether they will be effective in eliminating the threats to the species.”); *Or. Nat. Res.*

In denying ESA protections to the red tree vole, FWS arbitrarily relies on potential future conservation measures to justify “high” ratings of current habitat connectivity. The best available science shows that currently young forest located in close proximity to larger patches of old forest *could* serve an important role in improving connectivity *if* those forests were set aside and allowed to mature.<sup>104</sup> Moreover, some specific actions to improve red tree vole habitat connectivity have been identified. For example, Linnell and Lesmeister 2019 describe how increasing the extent of isolated small patches of habitat on private land *could* be achieved “by allowing young forests to age on non-reserve federal lands,” “increasing harvest rotation period and implementing landscape-scale planning of harvests” on private lands, and through “focused conservation efforts at the corners of checkerboard ownership.”<sup>105</sup> The authors further note that “altering forest management or adding to current reserves would involve comprehensive land management plans, and substantial coordination and participation from a wide range of forest managers.”<sup>106</sup> Crucially, *none* of these identified measures have been implemented. As Linnell and Lesmeister 2019 note, their analysis instead “represents a *first step* for evaluating connectivity,” and FWS’s reliance on these potential future conservation measures to justify “high” ratings of connectivity today are thus counter to the ESA.

## 5. FWS Does Not Acknowledge Model Shortcomings

In building its “coarse” and “uncertain” model off Linnell et al. 2017, FWS fails to acknowledge the authors’ own acknowledged shortcomings of that model. As they explain in the study, airborne LiDAR data cannot detect “fine-scale structural characteristics” such as the “complex branch and bole structures” that tree voles build nests on.<sup>107</sup> The authors illustrated this shortcoming by noting that the model “predicted areas with high relative habitat suitability north of the Nestucca River,”

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*Council v. Daley*, 6 F. Supp. 2d 1139, 1155 (D. Or. 1998) (noting that regulatory mechanisms require “some method of enforcing compliance.”).

<sup>104</sup> Lesmeister et al. 2016 (p. 17-18): (“landscape connectivity models constructed from our tree vole distribution model may be a logical first step to identify connectivity focused conservation efforts within the northern Oregon Coast Range.”); Linnell et al. 2017 (p. 9): (“next step . . . may be to identify remaining patches of old forest within low-contrast young forest matrix that may serve disproportionately to maintain connecting habitat within the current system of old forest management areas and to consider set-asides where young forest is allowed to mature to old forest.”); Linnell and Lesmeister 2019 (p. 574): (“maintaining short inter-patch distances and connectivity could help preclude future translocations in the inevitable event of additional large wildfires where tree voles are most common south of the Nestucca River,” and “conservation of extant populations may therefore need to be complimented by actions that provide broader resiliency to relatively short (e.g. timber harvest) and long-term (e.g. climate change) shifts in habitat suitability.”).

<sup>105</sup> Linnell and Lesmeister 2019, p. 573-574.

<sup>106</sup> Linnell et al. 2017, p. 8, similarly notes that improving connectivity “would depend on a multi-ownership approach.”

<sup>107</sup> Linnell et al. 2017, p. 9.

where tree voles are in fact “rare to absent.” In sum, the authors “caution[ed] that [their] selection of >80 years as a threshold” for habitat suitability “may have obscured the contribution of old-growth forest (>200 years old), which may support the highest densities of structures that tree voles and other arboreal species can use to build nests on.”

By failing to acknowledge the disclaimers of Linnell et al. 2017 or the author’s specific example of an area north of the Nestucca River where habitat suitability was high under the model but actual vole occupancy rare to absent, FWS’s estimates of effective population size throughout the DPS are arbitrary and capricious.

## **6. FWS Does Not Rationally Explain Its Change in Position Regarding Wildfire Risk**

FWS acknowledges that “in current and future conditions, the species is vulnerable to catastrophic, stand-replacing wildfire. The size, likelihood and severity of wildfires is likely to increase in the future given climate change projections.”<sup>108</sup> This threat was recently driven home by the 2020 large fires, which “burned a nearly continuous east-west forest break across several lower elevation forests where tree voles reside” (in the Oregon Cascades) and are “likely to isolate tree vole populations for centuries to come,” similar to how “tree voles and their habitat remain absent or scarce from their northern periphery nearly a century after fires.”<sup>109</sup>

FWS now claims, however, that “the size, distribution, and projected future resiliency of the four largest units in the DPS also make it unlikely that a single catastrophic event, such as a wildfire, could impact the entire DPS at once.”<sup>110</sup> FWS also now “expects” that the size of these “units” “will allow them to withstand or recover from most disturbance events except for unpredictable large, catastrophic wildfires.”<sup>111</sup>

The size of the new analytic units created by FWS is not rationally related to the risk wildfire poses to the species. The fact that FWS has gerrymandered much larger “units” around the primary remaining populations on Federal lands

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<sup>108</sup> 2023 comparison memo, p. 18; 2023 SSA, p. 91-92; 2023 SSA, p. 93 (“it is reasonably likely that a stand-replacing wildfire capable of impacting large areas of remaining tree vole habitat could occur within the analysis area.”); 2023 SSA, p. 118 (“even the largest units in the DPS are vulnerable to catastrophic, stand-replacing wildfires now, and will likely be more so in the future because of climate change.”)

<sup>109</sup> Linnell et al. 2023, p. 7.

<sup>110</sup> 2023 comparison memo, p. 19.

<sup>111</sup> 2019 SAF, p. 23.

(previously referred to as the South Block and the Nestucca Block) that are generally larger than historic fire size within the DPS will not magically create resiliency within the actual occupied population areas. As the agency acknowledges in relation to Unit 8, for example, the large known vole populations within the unit are all located within the small expanse of federal lands at the center of that unit.

The misleading nature of the sleight of hand analytic unit approach is clear. Even using FWS's more recent and more optimistic assessment under its cluster analysis, approximately 72 percent of the DPS does not contain vole habitat."<sup>112</sup> However, the manner in which FWS has drawn their boundaries results in "five large units making up most of the southern half of the DPS and a large unit in the central unit of the DPS rat[ing] high for current condition and together form[ing] the foundation for current tree vole habitat in the DPS."<sup>113</sup> Together, these units "make up about two-thirds of the DPS," thus vastly exaggerating the actual extent of occupied vole habitat within the DPS.<sup>114</sup>

FWS also arbitrarily states it was "not able to project the probability of catastrophic events such as wildfire through time."<sup>115</sup> Contrary to this feigned uncertainty, the best available science shows that such fires are certain: "Like tsunamis and earthquakes, it was inevitable that events like those of 2020 would eventually occur. And like other rare natural disturbances, these kinds of wildfires will occur again, as they are an inherent characteristic of these ecosystems."<sup>116</sup> FWS also overlooked readily available information by which to quantify this risk, as evidenced by Gaines et al. 2023, which estimated potential risk of fire by watershed based on fire regime data and modeling burn probability from the Pacific Northwest quantitative risk assessment, allowing an assessment of both fire severity and probability.<sup>117</sup>

FWS further errs in its apparent assumptions that there could only be a single catastrophic future fire event. As evidenced by past major events this assumption is unwarranted. The Tillamook Burn, for example, was a series of fires over a multi-year period.<sup>118</sup>

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<sup>112</sup> 2023 comparison memo, p. 4.

<sup>113</sup> 2023 SSA, p. 79.

<sup>114</sup> 2023 SSA, p. 79.

<sup>115</sup> 2023 comparison memo, p. 15.

<sup>116</sup> Reilly et al. 2022. Cascadia burning: the historic, but not historically unprecedented, 2020 wildfires in the Pacific Northwest, USA. *Ecosphere* 13, 1-20. <https://doi.org/10.1002/ecs2.4070>.

<sup>117</sup> Gaines et al. 2023, p. 6.

<sup>118</sup> Peer reviewer Matthew Reilly noted that "many smaller disturbances can reduce habitat over time."

Finally, FWS arbitrarily downplayed fire risk by stating that “Maritime forests such as the Sitka spruce and western hemlock vegetation zones found in the north coast population DPS may remain relatively stable over the 21st century” despite climate change, stating without reference to any scientific literature that “the Pacific Ocean would likely ameliorate temperature extremes brought on by climate change, as well as continue to generate coastal fog and high levels of precipitation, thus maintaining habitat for Sitka spruce forests in the Pacific Northwest.”<sup>119</sup>

## **7. FWS’s Arbitrarily Concluded that Regulatory Mechanisms on State Forest Plans Are Adequate to Protect Red Tree Voles**

Section 4(a)(1)(D) of the ESA requires the agency to consider the adequacy of existing regulatory mechanisms when making listing decisions.<sup>120</sup> FWS continues to acknowledge that “there are currently no State regulations protecting red tree voles or their habitat,” and that “there is little regulatory protection” for the species under the Oregon Forest Protection Act.<sup>121</sup> Although Oregon has submitted an application for an ESA habitat conservation plan and related incidental take permit that would include red tree vole as a covered species on State Forest lands, that plan is in the formative stages, and thus FWS’s determination that State land now have adequate regulatory protections for red tree voles is arbitrary.<sup>122</sup>

## **8. FWS Arbitrarily Concluded that the Red Tree Vole is Not Threatened or Endangered Throughout a Significant Portion of its Range**

By directing FWS to list species that are endangered in all *or a significant portion* of their range (“SPR”), “Congress consciously moved away from the weaker predecessor statutes” and the “new definition’s expansion to include species in danger of extinction ‘in any portion of its range’ represented a significant shift in the definition [from previous law] which consider[ed] a species to be endangered only when it is threatened with worldwide extinction.”<sup>123</sup> FWS has, however, repeatedly enacted policies directly counter to this plainly articulated statutory

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<sup>119</sup> 2023 comparison memo, p. 15. FWS’s reliance on the presence of the Sitka spruce belt to discount the impacts of fire is also incongruous with its predictions elsewhere that this habitat will likely be lost but does not constitute a significant portion of the species’ range.

<sup>120</sup> 16 U.S.C. § 1533(a)(1)(D).

<sup>121</sup> 2023 SSA, p. 58, 59.

<sup>122</sup> Forsman et al. (2016) noted there is strong resistance within ODF for managing tree vole habitat on ODF managed lands so future assumptions to the contrary are unsupported.

<sup>123</sup> *Nat’l Wildlife Fed’n v. Norton*, 386 F. Supp. 2d 553, 566 (D. Vt. 2005); H.R. Rep. No. 41293 (1973).

direction.<sup>124</sup>

In the not warranted finding for the red tree vole, FWS continues its longstanding effort to rob the ESA's SPR provision of any meaning. In addition to its use of tortured logic to discount the importance of future projected habitat loss, FWS nowhere acknowledges the fact that the red tree vole is already absent from a huge percentage of its historic habitat, and "is expected to survive" in an area "much smaller than its historic range."<sup>125</sup>

FWS also arbitrarily dismisses the projected loss of all red tree vole populations within Sitka spruce habitat as not constituting a significant portion of range. In its designation of the North Oregon Coast DPS, FWS noted that the "Sitka spruce plant series is a unique ecological setting . . . because the plant series is extremely limited within the red tree vole range, and because of the relatively unique and inflexible foraging behavior tied to this plant series that may be indicative of ongoing speciation."<sup>126</sup> This area is also the "only portion of the red tree vole range where the consumption of western hemlock and Sitka spruce is the dominant foraging behavior."<sup>127</sup> This "potential evolutionary significance to the species" formed part of FWS's rationale for determining that loss of the North Oregon Coast DPS "would be of significance to the taxon as a whole."<sup>128</sup>

Now, in its not warranted finding, FWS dismisses the loss of Sitka spruce dependent voles, stating that the "vegetation zone lies narrowly along the coast and its total area constitutes a relatively small proportion of the total DPS: less than one third of the total area of the DPS."<sup>129</sup> FWS further states that "while different," "there is also no indication" that the Sitka spruce habitat "serves any special function or benefit to the DPS as a whole" and that it "does not represent habitat or particularly high quality or special biological function relative to the remaining portions of the DPS."<sup>130</sup>

FWS's SPR analysis thus arbitrarily ignores its previous determination, and directly contradicts its prior conclusions regarding the uniqueness of the Sitka spruce habitat across the entire range of red tree vole and its potential evolutionary

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<sup>124</sup> *Ctr. for Biological Diversity v. Jewell*, 248 F. Supp. 3d 946, 958 (D. Ariz. 2017) ("It appears that [FWS's] goal in creating the Final SPR Policy was to give as little substantive effects as possible to the SPR language of the ESA in order to avoid providing range-wide protection to a species based on threats in a portion of the species' range.").

<sup>125</sup> *Ctr. for Biological Diversity v. Jewell*, 248 F. Supp. 3d at 956-57.

<sup>126</sup> 76 Fed. Reg. 63270, at 63731.

<sup>127</sup> 76 Fed. Reg. 63270, at 63731.

<sup>128</sup> 76 Fed. Reg. 63270, at 63733.

<sup>129</sup> 2023 SSA, p. 38.

<sup>130</sup> 2023 SSA, p. 39.

significance. By failing to acknowledge this contradiction or explain why it was now reaching a different conclusion that dismisses the significance of Sitka spruce dwelling-voles to the North Oregon DPS (and taxon as a whole), FWS reached an arbitrary conclusion.

### CONCLUSION

For the foregoing reasons, FWS's determination that listing the red tree vole North Oregon Coast is not warranted is arbitrary, capricious, and violates the Endangered Species Act. If FWS does not cure these violations within 60 days, the Center intends to pursue litigation in federal court.

Sincerely,



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