

## **Petition to List the Golden-winged Warbler (*Vermivora chrysoptera*) as a Threatened or Endangered Species under the U.S. Endangered Species Act**

Petitioner:

Anna Sewell  
122 E. Irvin Ave.  
State College, PA 16801

### *I. Introduction*

The Golden-winged Warbler (*Vermivora chrysoptera*) warrants protection under the U.S. Endangered Species Act (“ESA”) because the population has steadily decreased since the mid-nineteen sixties, and the best available scientific and commercial information suggest that it is threatened with extinction throughout a significant portion of its range.<sup>1</sup> The primary threats to this species are adverse habitat modifications, an increase in interactions with Blue-winged Warblers, and, possibly, Brown-headed Cowbird nest parasitism.

This petition proceeds in three parts. First, the natural history of Golden-winged Warblers is discussed. Second, the petition demonstrates that the Golden-winged Warbler satisfies the listing criteria under the ESA. Third, the petition argues the Golden-winged Warbler warrants priority review under the U.S. Endangered Species Act listing priority guidelines. The petition concludes with a request for listing under the ESA.

### *II. Natural History of Golden-winged Warblers*

#### A. Species Description

The Golden-winged Warbler (*Vermivora chrysoptera*) belongs to the family Parulidae and the order Passeriformes.<sup>2</sup> This warbler is a small songbird, measuring 4.75

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<sup>1</sup> There is no evidence of distinct population segments of Golden-winged Warblers; however, if the Agency becomes aware of any distinct populations, consider this document a petition to list the most threatened distinct population segments.

<sup>2</sup> See National Audubon Society Inc., Golden-winged Warbler, <http://web1.audubon.org/science/species/watchlist/profile.php?speciesCode=golwar1> (last visited Dec. 14, 2009) [hereinafter “Audubon”].

inches in length, with a 7.5 inch wingspan and a weight of 8.8 grams.<sup>3</sup> The bird is mostly gray in color, with a light gray or white underside, and yellow patches on the wings and crown of the head.<sup>4</sup> The males have a black face mask bordered in white, and a black throat.<sup>5</sup> The females display these same features in dark gray instead of black.<sup>6</sup> The song of this bird is a “high, fine, buzzy zeee zaa-zaa-zaa.”<sup>7</sup>

### B. Distribution and Migration

The Golden-winged Warbler is a migrating songbird because it migrates to southern Central America and the northern Andes in the winter,<sup>8</sup> and reappears in eastern North America to breed in the summer.<sup>9</sup> This summer breeding range begins in northern Georgia, tracks northward through the Appalachian Mountains, expands into much of western New England, and lastly moves westward into Wisconsin, northern Minnesota, and southern Ontario.<sup>10</sup> The distribution trend in recent years shows the warbler moving north and west in its North American breeding range.<sup>11</sup>

### C. Habitat Requirements

During the winter, non-breeding months, Golden-winged Warblers prefer open woodland areas and scrub.<sup>12</sup> They are often found in foothill regions, evergreen and

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<sup>3</sup> See DAVID ALLEN SIBLEY, THE SIBLEY FIELD GUIDE TO BIRDS OF EASTERN NORTH AMERICA (2003).

<sup>4</sup> See *id.*

<sup>5</sup> See *id.*

<sup>6</sup> See *id.*

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

<sup>8</sup> JOHN TERBORGH, WHERE HAVE ALL THE BIRDS GONE?: ESSAYS ON THE BIOLOGY AND CONSERVATION OF BIRDS THAT MIGRATE TO THE AMERICAN TROPICS 96 (1989). It should be noted that there is some evidence that Golden-winged Warblers, like other songbirds that migrate to the tropics, do not always winter in these fixed locations, and that some birds may test alternative southern winter ranges. See *id.* at 96-97.

<sup>9</sup> See Audubon, *supra* note 2, at Range and Distribution.

<sup>10</sup> See *id.*

<sup>11</sup> See *id.*

<sup>12</sup> NatureServe Explorer, *Vermivora chrysoptera*, [http://www.natureserve.org/explorer/se rvlet/NatureServe?sourceTemplate=tabular\\_report.wmt&loadTemplate=species\\_RptCom prehensive.wmt&selectedReport=RptComprehensive.wmt&summaryView=tabular\\_repo rt.wmt&elKey=102068&paging=home&save=true&startIndex=1&nextStartIndex=1&res](http://www.natureserve.org/explorer/se rvlet/NatureServe?sourceTemplate=tabular_report.wmt&loadTemplate=species_RptCom prehensive.wmt&selectedReport=RptComprehensive.wmt&summaryView=tabular_repo rt.wmt&elKey=102068&paging=home&save=true&startIndex=1&nextStartIndex=1&res)

semi-deciduous forest, and in the breaks and borders of the forests, as well as second growth areas.<sup>13</sup> In contrast, during the summer breeding months in the United States and Canada, the warbler seeks out deciduous woodland, “woodland edge with low cover, hillside scrub, overgrown pastures, abandoned farmland, powerline right-of-ways, recently logged sites, bogs, forest openings,” and other territories with “patches of herbs and shrubs, sparse tree cover, and a wooded perimeter.”<sup>14</sup> The first, and thus far only, study to utilize Geographic Information Systems (“GIS”) to quantify Golden-winged Warbler habitat variation, found that open areas constitute the largest percentage of most warbler territories, and that most of the territories selected by the birds contained a wide variety of habitat characteristics.<sup>15</sup> The ideal habitat size is between ten and fifteen hectares (ha), and early successional habitats with bushes and small trees, such as those created by logging, burning, and intermittent farming, are most favorable.<sup>16</sup> According to one study, greater herb coverage increases Golden-winged Warblers’ nesting success, and the presence of Blue-winged Warblers and cowbirds decreases the chances of nesting success.<sup>17</sup> Finally, when an area is no longer in an early successional stage, the birds leave the habitat.<sup>18</sup>

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et=false&offPageSelectedEIKey=102068&offPageSelectedEIType=species&offPageYesNo=true&post\_processes=&radiobutton=radiobutton&selectedIndexes=102068 (last visited Dec. 14, 2009) [hereinafter “NatureServe”]. Please note that since the completion of this petition, NatureServe has restructured their webpages, and much of the information cited throughout this petition now appears under a different heading, or has been deleted. InfoNatura: Animals and Ecosystems of Latin America [web application]. 2007. Version 5.0 . Arlington, Virginia (USA): NatureServe. Available: <http://www.natureserve.org/infonatura>. (Accessed: February 4, 2010 ).

<sup>13</sup> *Id.*

<sup>14</sup> *Id.*

<sup>15</sup> See C. Reed Rossell, Jr., Steven C. Patch & Stephanie P. Wilds, *Attributes of Golden-winged Warbler Territories in a Mountain Wetland*, 31 WILDLIFE SOC’Y BULL. 1099, 1103 (2003) [hereinafter “Rossell, et al.”].

<sup>16</sup> *Id.*

<sup>17</sup> See John L. Confer, Jeffery L. Larkin & Paul E. Allen, *Effects of Vegetation, Interspecific Competition, and Brood Parasitism on Golden-winged Warbler (*Vermivora chrysoptera*) Nesting Success*, 120 THE AUK 138, 142 (2003) (citing Gill 1980; Hands, et al. 1989; Confer 1992) [hereinafter “Confer, et al.”].

<sup>18</sup> BirdLife International, NT Golden-winged Warbler *Vermivora chrysoptera*, <http://www.birdlife.org/datazone/species/index.html?action=SpcHTMDetails.asp&sid=9086&m=0#> (last visited Dec. 14, 2009).

#### D. Diet and Reproduction

Golden-winged Warblers forage for insects and spiders, and they especially enjoy caterpillars.<sup>19</sup> When it is time to select a mate, the male warbler will choose a one to fourteen acre area, and within this land, he will court the female warblers by singing, displaying, and engaging in a behavior called the “Moth Flight,” in which the males fly very slowly and beat their wings fervently.<sup>20</sup> The female warblers will nest on the ground, or near the ground, and use leaves and pieces of plants to build nests.<sup>21</sup> The females incubate five lightly colored eggs with brown or purple mottling, but both parents will feed the fledglings for the first month after they are fledged.<sup>22</sup> Golden-winged Warblers are generally monogamous, and they nest in groups of two to six pairs.<sup>23</sup> If a nest is lost, the birds will reneest, but usually there is only one brood per year.<sup>24</sup>

#### *II. The Golden-winged Warbler Satisfies the Threatened or Endangered Species Listing Criteria under the U.S. Endangered Species Act.*

In order to add a species to the threatened or endangered species list, the Secretary of the Interior or the Secretary of Commerce must make a two-part finding. First, the Secretary must preliminarily determine that the population in question is a species according to the definition in the ESA.<sup>25</sup> Secondly, he or she must find that the species is threatened or endangered.<sup>26</sup> In order to make this second finding, the Secretary must determine that a species satisfies the definition of threatened or endangered species in section three of the ESA, and furthermore, that the species fulfills the requirements for

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<sup>19</sup> *Id.*

<sup>20</sup> *See* Audubon, *supra* note 2, at Reproduction.

<sup>21</sup> *See id.*

<sup>22</sup> *See id.*

<sup>23</sup> *See* NatureServe, *supra* note 12, at Reproduction Comments.

<sup>24</sup> *See id.*

<sup>25</sup> 16 U.S.C. § 1532 (16).

<sup>26</sup> 16 U.S.C. § 1532 (20)(6).

listing found in section four of the ESA.<sup>27</sup> Under the section four listing requirements, a Secretary may determine that a species is threatened or endangered if any one of five specified factors caused the endangerment.<sup>28</sup> In addition, section four dictates the kinds of data that must be used when determining the presence of these five factors.<sup>29</sup> When these statutory provisions are applied to the Golden-winged Warbler, it becomes clear that this species should be listed as threatened or endangered under the ESA.

A. The Golden-winged Warbler is a Species.

Preliminarily, the Secretary of the Interior or the Secretary of Commerce must find that the plant or animal in question is a species according to the definition found in section three of the ESA. The definition of a species in section three “includes any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.”<sup>30</sup>

Although the statutory definition only speaks of subspecies and distinct population segments, and although the scientific definition of a “species” has changed over time,<sup>31</sup> the Golden-winged Warbler is unequivocally a distinct biological species because all major conservation authorities recognize the bird as a distinct species.<sup>32</sup> Indeed, the bird was named by Linnaeus himself in 1766.<sup>33</sup> Even if the warbler is not recognized as a distinct taxonomic species, the definition of species in the ESA also includes “subspecies” and “Distinct Population Segments.”<sup>34</sup> The definition of a subspecies, like the definition of a species, is in dispute; however, it seems clear that

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<sup>27</sup> 16 U.S.C. § 1533.

<sup>28</sup> 16 U.S.C. § 1533 (a)(1).

<sup>29</sup> 16 U.S.C. § 1533 (b)(1)(A).

<sup>30</sup> 16 U.S.C. § 1532 (16).

<sup>31</sup> See NATIONAL RESEARCH COUNCIL, SCIENCE AND THE ENDANGERED SPECIES ACT 37 (1995).

<sup>32</sup> See, e.g., International Union for Conservation of Nature and Natural Resources, *Vermivora chrysoptera*, <http://redlist.org/apps/redlist/details/149783/0> (last visited Dec. 13, 2009) [hereinafter “IUCN Redlist”]; BirdLife International, *supra* note 18; NatureServe, *supra* note 12; Audubon, *supra* note 2.

<sup>33</sup> See NatureServe, *supra* note 12.

<sup>34</sup> See 16 U.S.C. § 1532 (16).

subspecies are “recognized by one or a suite of characters” and are “distinctive.”<sup>35</sup> The term Distinct Population Segments, on the other hand, has been clarified by the National Research Council, which was charged with studying the meaning of the term “species” in the ESA, among other provisions of the Act, in 1995.<sup>36</sup> The Council suggested the concept of an Evolutionary Unit (“EU”) as a means of interpreting and applying the Act’s “Distinct Population Segments.”<sup>37</sup> In essence, a population segment is distinct if it constitutes its own EU, and a population is an EU if the individuals hold common behavioral, physiological, or biochemical traits.<sup>38</sup> According to this guidance, the Golden-winged Warbler would constitute a DPS, even if it was not a species, because it has unique physical and behavioral traits. Finally, the Service’s own policy on DPS’s articulates three relevant elements for establishing a DPS: (1) discreteness of the population segment in relation to the remainder of the species to which it belongs; (2) significance of the population segment to the species to which it belongs, and (3) the population segment’s conservation status in relation to the Act’s standards for listing. It is entirely plausible that some discernable DPS’s of the warbler could be established, either as a result of their significance to the overall species, the presence of international boundaries, or the presence of genetic or morphological discontinuities within the range of the whole taxon. See Fish & Wildlife Serv., and National Oceanic & Atmospheric Administration, Notice, Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act, 61 Fed. Reg. 4722, 4725 (1996).

## B. The Golden-winged Warbler is a Threatened or Endangered Species.

### 1. The Golden-winged Warbler Satisfies the Section Three Definitions.

Section three of the ESA defines a “threatened species” as “any species which is likely to become an endangered species within the foreseeable future throughout all or a

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<sup>35</sup> See NATIONAL RESEARCH COUNCIL, *supra* note 31, at 42.

<sup>36</sup> See *id.* at 15 (“The Committee was asked to review how the term *species* has been used to implement the ESA, and what taxonomic units would best serve the purpose of the act.”).

<sup>37</sup> See *id.* at 45.

<sup>38</sup> See *id.*

significant portion of its range.”<sup>39</sup> A species is “endangered” when it “is in danger of extinction throughout all or a significant portion of its range . . . .”<sup>40</sup> There are two key phrases in these definitions, “foreseeable future,” and “significant portion of its range,” but both phrases are ambiguous at best. First, the term “foreseeable future” in the threatened definition is not defined in the statutes or in regulations. Therefore, the agency retains considerable discretion in this determination, although the District Court of Oregon has held that, at a minimum, two years is well short of any “reasonable definition of the ‘foreseeable future.’”<sup>41</sup> Likewise, the phrase “significant portion of its range” in both definitions is not defined in the statute or regulations. However, case law and a Solicitor memorandum has informed our understanding of this phrase.

First, in 2001 in *Defenders of Wildlife v. Norton*, the Ninth Circuit held that the Secretary of the Interior must consider a species’ historic range when determining the scope of a “significant portion of its range,” and if “it is on the record apparent that the area in which the [species] is expected to survive is much smaller than its historical range, the Secretary must at least explain her conclusion that the area in which the species can no longer live is not a ‘significant portion of its range.’”<sup>42</sup> Similarly, in *Defenders of Wildlife v. Secretary, U.S. Department of the Interior* in 2005, the District Court for the District of Oregon held that the U.S. Fish and Wildlife Service’s (“FWS”) interpretation of “significant portion of its range” in the Gray Wolf listing decision, which limited the phrase to a species’ current range, was contrary to both the Ninth Circuit’s precedent and to intent of the ESA itself.<sup>43</sup> Next, in 2007, after a long legal battle over the Canadian lynx, the FWS issued a clarification of a final rule that stated that three of the four habitat regions of the Canadian Lynx did not constitute a “significant portion” of the range.<sup>44</sup> In this clarification, the FWS explained that when it is determining the scope of the phrase in a listing decision, it must consider the “quality of habitat,” and if the habitat is not of good quality, it cannot constitute a significant portion of the range, no matter its

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<sup>39</sup> 16 U.S.C. § 1532 (20).

<sup>40</sup> 16 U.S.C. § 1532 (6).

<sup>41</sup> *See Or. Natural Res. Council v. Daley*, 6 F. Supp. 2d 1139, 1151 (D. Or. 1998).

<sup>42</sup> *Defenders of Wildlife v. Norton*, 258 F.3d 1136, 1145-46 (9th Cir. 2001).

<sup>43</sup> *Defenders of Wildlife v. Secretary, U.S. Dep’t of the Interior*, 354 F.Supp.2d 1156, 1167-69 (D. Or. 2005).

<sup>44</sup> 72 Fed. Reg. 1186 (Jan. 10, 2007).

geographic size.<sup>45</sup> One month later in 2007, the FWS justified the downlisting of a Distinct Population Segment of the Gray Wolf, in part because they agency believed that “range” should not include a species’ historical range, in spite of the fact that the Ninth Circuit had ruled in 2001 that historical range must be considered:

To say that a species "is in danger" in an area that is currently unoccupied, such as unoccupied historical range, would be inconsistent with common usage. Thus, "range" must mean "currently occupied range," not "historical range." This interpretation of "range" is further supported by the fact that section 4(a)(1)(A) of the Act requires us to consider the "present" or "threatened" (i.e., future), rather than the past, "destruction, modification, or curtailment" of a species' habitat or range in determining whether a species is endangered or threatened.<sup>46</sup>

Then, in March of 2007, the Solicitor of the Department of the Interior issued a memorandum on the issue that explained that historical range can only be considered when determining whether a species is threatened or endangered in a “significant portion” of its *current* range.<sup>47</sup> Furthermore, the Solicitor stated that the FWS may interpret “significant” to mean either important *or* geographically large.<sup>48</sup> Lastly, the Solicitor found that when a species is threatened or endangered in a significant portion of its range, as opposed to its entire range, it may only garner ESA protection for that significant portion in which it is in danger.<sup>49</sup> Therefore, the entire range should not be protected unless the species is threatened or endangered in its entire range.

The warbler is an endangered or threatened species because it is in danger of extinction throughout a significant portion, if not all, of its range. The bird has already been extirpated in parts of New England,<sup>50</sup> has largely disappeared from the eastern

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<sup>45</sup> *Id.* at 1189.

<sup>46</sup> 72 Fed. Reg. 6052, 6067 (Feb. 8, 2007).

<sup>47</sup> Memorandum from Dep't of Interior, Office of the Solicitor, to Dir. of U.S. Fish and Wildlife Serv., *The Meaning of "In Danger of Extinction Throughout All or a Significant Portion of its Range"* at 8 (March 16, 2007), available at [www.doi.gov/solicitor/opinions/M37013.pdf](http://www.doi.gov/solicitor/opinions/M37013.pdf).

<sup>48</sup> *Id.* at 11.

<sup>49</sup> *Id.* at 18.

<sup>50</sup> See Confer, et al., *supra* note 17, at 139.

portion of its range,<sup>51</sup> and it faces severe population declines throughout the southwestern to the northeastern portion of its range.<sup>52</sup> Although researchers are most concerned about the declines in the southern and northeastern portions of the warbler's range,<sup>53</sup> data indicates that the birds are also declining in Wisconsin and Minnesota, which are in the northwestern portion of its range.<sup>54</sup> Moreover, even excluding any extirpated areas in New England, the current range declines are not only geographically large, as they extend over much of the eastern United States,<sup>55</sup> but they are also ecologically important areas. Even if the FWS finds that the warbler is not yet endangered, the bird is certainly a threatened species because it will likely face a threat of extinction soon, assuming the current population declines continue. In the United States, counted warblers have been declining on average by 3.38 percent annually from 1966-2007, and startlingly, the warbler declined by an average of 8.32 percent annually from 2002 to 2007, the latest year for which we have data.<sup>56</sup> It should be noted that this data is from the North American Breeding Bird Survey, which is the best available scientific data for this

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<sup>51</sup> See William C. Hunter, David A. Buehler, Ronald A. Canterbury, John L. Confer & Paul B. Hamel, *Conservation of Disturbance-Dependent Birds in Eastern North America*, WILDLIFE SOC'Y BULL. 440, 444 (2001) [hereinafter "Hunter, et al."].

<sup>52</sup> Confer, et al., *supra* note 17, at 139; The Partners in Flight Research Working Group, *Priority research needs for the conservation of Neotropical migrant landbirds*, 73 J. FIELD ORNITHOLOGY 329, 334-36 (2002) (noting that the Golden-winged Warbler is a neotropical migrant bird regional research priority for the Partners in Flight bird conservation research group in all of the regions in which it appears: the Northeast, the Southeast, and the Midwest) [hereinafter "Partners in Flight"].

<sup>53</sup> See Confer, et al., *supra* note 17, at 139; Rossell, et al., *supra* note 15, at 1099 (noting that the species is particularly declining in the southern Appalachians and the northeastern United States).

<sup>54</sup> See J. R. SAUER, J. E. HINES, & J. FALLON, THE NORTH AMERICAN BREEDING BIRD SURVEY, RESULTS AND ANALYSIS 1966 – 2007 (2008), available at <http://www.mbr-pwrc.usgs.gov/bbs/trend/tf07.html> (select Golden-winged Warbler, Wisconsin, 2002, and 2007 in that order in the four selection fields to see the recent declines of about five and a half percent annually in Wisconsin, and select Minnesota in place of Wisconsin to see the roughly twelve percent recent annual declines in that state) [hereinafter "SAUER, ET AL."].

<sup>55</sup> See Partners in Flight, *supra* note 52, at 334-36 (noting that the bird is declining in the Southeast, Northeast, and Midwest regions of the United States).

<sup>56</sup> See SAUER, ET AL., *supra* note 54 (In the blank data fields, select, in the following order, "Golden-winged Warbler," "United States," "1966," and "2007" in order to obtain the data from 1966 to 2007, and select "2002" in place of "1966" for the data from 2002 to 2007).

species, and which has been cited by NatureServe, the IUCN Redlist, and multiple scholarly articles on Golden-winged Warblers.<sup>57</sup> Thus, in spite of the discretion the agency wields over the meaning of the phrase “foreseeable future,” the Golden-winged Warbler satisfies this phrase because its most rapid declines have occurred in the most recent five years of data collection, and the species cannot survive an annual eight percent population decrease for a long period of time.

In sum, the severe population declines in the majority of the Golden-winged Warbler’s range demonstrate that the warbler should satisfy the definition of a threatened, if not endangered, species under section three of the ESA. Of course, the requirements of section four of the ESA must also be fulfilled before a species can be listed.

## 2. The Golden-winged Warbler Satisfies the Section Four Requirements for Listing.

Section four of the ESA imposes two primary requirements on the regulatory agencies when making initial listing decisions. First, the provision identifies five permissible listing factors, and an affirmative finding on any one will suffice.<sup>58</sup> Second, the provision delineates the type of data that may be used when examining the presence or absence of these five factors.<sup>59</sup>

### a. Permissible Factors under Section Four

The five permissible factors for listing a species in ESA §4 (a)(1) are “(A) the present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence.”<sup>60</sup> It should be noted that the presence of any one of these factors will satisfy the listing criteria because the factors are conjoined by the word “or.” The first three factors are measurable, scientific determinations, the fourth factor is a finding on the efficacy of current regulations, and the fifth factor is a catchall provision.

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<sup>57</sup> See e.g., NatureServe, *supra* note 12; IUCN Redlist, *supra* note 32; Confer, et al., *supra* note 17, at 142; Partners in Flight, *supra* note 52.

<sup>58</sup> 16 U.S.C. § 1533 (a)(1).

<sup>59</sup> 16 U.S.C. § 1533 (b)(1)(A).

<sup>60</sup> 16 U.S.C. § 1533 (a)(1)(A-E).

(1) The Golden-winged Warbler Faces Three of the Five  
Permissible Section Four Threats.

i. Habitat Loss

Research suggests that habitat loss is the primary threat to Golden-winged Warblers in the United States.<sup>61</sup> Specifically, the loss of early successional land has contributed to the decline of the species, as it has for many other species that are dependent on this type of landscape.<sup>62</sup> However, out of the species that depend upon early succession shrubland habitats, the Golden-winged Warbler is one of the most vulnerable.<sup>63</sup>

The warblers' need for disturbed, early succession habitat was satisfied for centuries before European settlement in the United States because natural and Native American disturbances, such as disturbances caused by beaver, elk, bison, storms, and fires, sufficed to provide habitat.<sup>64</sup> Then, when colonial settlers arrived and began farming, the birds began using abandoned farmland and other anthropogenic disturbances instead of the natural ones (in part because we suppressed many of the natural disturbances in the eastern United States such as fire and beaver disturbances).<sup>65</sup> Like many species that depend on early succession habitats, the Golden-winged Warbler flourished in these new settings.<sup>66</sup> However, in spite of this time of prosperity during the

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<sup>61</sup> See Confer, et al., *supra* note 17 at 142.

<sup>62</sup> See Hunter, et al., *supra* note 51 at 441 (noting that a loss of human disturbances and a decline in natural habitat conditions has caused a reduction in many populations of disturbance-dependant species). There is also some indication that the warbler is losing some of its winter habitat, outside the United States, due to deforestation; however, additional research on the loss of winter habitat needs to be conducted to confirm this threat. See NatureServe, *supra* note 12.

<sup>63</sup> See *id.* at 443.

<sup>64</sup> Paul B. Hamel, Kenneth V. Rosenberg, & David A. Buehler, *Is Management for Golden-winged Warblers and Cerulean Warblers Compatible?*, USDA FOREST SERVICE GEN. TECH. REP. 322, 323 (2005) [hereinafter "Hamel, et al."]; See Hunter, et al., *supra* note 51, at 441.

<sup>65</sup> See Hamel, et. al., *supra* note 64, at 325 (noting that the warbler has benefited from abandoned farmland); Hunter, et al., *supra* note 51, at 444 ("Today this species is associated with anthropogenic disturbances that mimic conditions that were more widespread prior to present-day suppression of fire and beavers.").

<sup>66</sup> G. Motzkin & D. Foster, *Insights for Ecology and Conservation, in* FORESTS IN TIME: THE ENVIRONMENTAL CONSEQUENCES OF 1,000 YEARS OF CHANGE IN NEW ENGLAND 371

late 19<sup>th</sup> century, human activities have negatively impacted the bird since that time.<sup>67</sup> In particular, the species has declined as we have encouraged reforestation in the eastern United States, developed intensive agriculture, and engaged in urban and suburban development.<sup>68</sup> Now, the warblers seem to depend on some human disturbance for their habitat needs.<sup>69</sup> At least two conservation groups, NatureServe and the National Audubon Society, adopt the recommendation of warbler researcher John Confer, scholar in resident at Ithaca College, for how to restore early succession habitats:

The optimal management practice may be a rotation of burning or intermittent farming. A cycle of about 40 years with about 25% of the managed area burned once each decade could produce the following successional sequence. Golden-winged Warbler habitat would begin to appear perhaps within ten years and last about 10-20 years, although these times are approximations and would be influenced by factors such as soil quality, the size and intensity of the burn, and proximity to seed sources. Allowing succession to continue for approximately 40 years would provide the forest edge that is used in almost all territories.<sup>70</sup>

This variety of habitat conservation admittedly requires more planning and care in execution than traditional conservation practices. Still, similar measure have already been undertaken for grassland birds, which we have attempted to protect in “airports,

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(David R. Foster & John D. Aber eds., 2004) [hereinafter “Motzkin & Foster”] (noting that some species grew in numbers during early settler historical land use due to the “increase in open and disturbed conditions”).

<sup>67</sup> Nathan A. Klaus & David A. Buehler, *Golden-winged Warbler Breeding Habitat Characteristics and Nest Success in Clearcuts in the Southern Appalachian Mountains*, 113 THE WILSON BULL. 300 (2001) (noting that the species thrived during the late 19<sup>th</sup> century) [hereinafter “Klaus & Buehler”]; NatureServe, *supra* note 12, at Conservation Status (offering some human causes of the habitat loss: “Decline is attributed to loss of breeding habitat (reforestation, intensive agriculture, urban/suburban development)”).

<sup>68</sup> NatureServe, *supra* note 12, at Conservation Status (offering some human causes of the habitat loss: “Decline is attributed to loss of breeding habitat (reforestation, intensive agriculture, urban/suburban development)”).

<sup>69</sup> See, e.g., Klaus and Buehler, *supra* note 67, at 300 (“The local extirpation of Golden-winged Warblers from the Great Smoky Mountains National Park since 1950 suggests that natural disturbance regimes (without fire) are unlikely to provide adequate habitat for this species in the southern Appalachians. Without allowing natural disturbance regimes, including intense wildfire, some form of human disturbance may be required to maintain Golden-winged Warblers in the Southern Blue Ridge.”).

<sup>70</sup> National Audubon Society, *Golden-winged Warbler, Guidance for Conservation*, [www.audubon.org/chapter/ny/ny/PDFs/HRVC\\_Golden-wingedWarbler.pdf](http://www.audubon.org/chapter/ny/ny/PDFs/HRVC_Golden-wingedWarbler.pdf); NatureServe, *supra* note 12, at Management Summary.

right-of-ways, military training grounds, and landfills.”<sup>71</sup> European cultures have also long incorporated the conservation of certain human disturbed landscapes into their biological conservation schemes, such as the preservation of agricultural fields and hedgerows, and this conservation practice serves multiple purposes for those cultures: “[T]hese cultural landscapes and the species they support are regarded as among the highest priorities for conservation precisely because they embody cultural history and identity while maintaining biological diversity.”<sup>72</sup>

Regardless of whether Americans also find cultural value in preserving historical landscapes, we may have no choice but to follow the Europeans’ lead in utilizing cultural conservation measures because it may no longer be possible to recreate pre-settlement conditions. The goal of creating an authentic pre-settlement landscape beside our modern urban areas is an intrinsically appealing notion in many ways, but given the many human disturbances and climate changes that have occurred for centuries, such a complete restoration is unlikely.<sup>73</sup> In addition, the point in time just before European settlement is not necessarily the state of the landscape we should seek to restore, given that habitats change dramatically over time even without human interference, and the mid-eighteenth century forests may or may not have been ideal for a large number of species.<sup>74</sup> Practically speaking, it seems near impossible to pinpoint the precise ecological conditions we should seek to restore in each American habitat, and even if we could identify the ideal pre-settlement landscapes, it is doubtful we could recreate them. Therefore, we must seek a broad historical perspective to species conservation, and the use of cultural conservation measures, such as intermittent farming, are the best current tools for the protection of early successional species, given the course of history.

It may be that the Golden-winged Warbler ought to return to its lower, pre-intensive human disturbance numbers; however, we must stabilize the species population before the bird becomes extinct, and in order to obtain this leveling off, research suggests

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<sup>71</sup> See Motzkin & Foster, *supra* note 66, at 374; Grassland Birds, [http://www.massaudubon.org/Birds\\_and\\_Birding/grassland/](http://www.massaudubon.org/Birds_and_Birding/grassland/) (last visited Dec. 13, 2009).

<sup>72</sup> See Motzkin & Foster, *supra* note 66, at 374.

<sup>73</sup> *Id.* at 372.

<sup>74</sup> *Id.*

we need to take proactive disturbance measures.<sup>75</sup> This is not to say that reforestation efforts should cease, or even be curtailed. To the contrary, research suggests that both early successional and mature forest species conservation efforts can co-exist, and may even be mutually beneficial when creative approaches are used. For example, the Cerulean Warbler, a mature forest warbler, and the Golden-winged Warbler, could be mutually protected and benefitted through the use of “small openings or narrow corridors” in mature forests.<sup>76</sup> These openings would provide successional space for the Golden-winged Warblers, but would not result in the usual forest fragmentation effects, and may even improve Cerulean habitat by encouraging a “more diverse canopy structure” that is particularly valued by the Cerulean Warbler.<sup>77</sup> Indeed, bird conservationists must strive to take such holistic approaches to species conservation, in light of the divergent habitat needs of individual species.

Adverse habitat modification is the primary obstacle to Golden-winged Warbler stabilization. Still, in spite of the resounding evidence of habitat loss, it is clear this threat is not a solitary one because the warblers were extirpated in an area of Massachusetts during a time period when there was still ample shrubland and utility rights-of-way.<sup>78</sup>

#### ii. Other Natural or Manmade Factors

In addition to habitat modification, the warbler suffers from at least two unfavorable encounters with other birds, which may be indirectly caused by human activities.<sup>79</sup> First, the warbler is being displaced by the expansion of Blue-winged Warblers, and these encounters are pushing the Golden-winged Warblers further north

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<sup>75</sup> See, e.g., National Audubon Society, Golden-winged Warbler, Guidance for Conservation, [www.audubon.org/chapter/ny/ny/PDFs/HRVC\\_Golden-wingedWarbler.pdf](http://www.audubon.org/chapter/ny/ny/PDFs/HRVC_Golden-wingedWarbler.pdf) (providing John Confer’s conservation recommendation of intermittent burning and farming).

<sup>76</sup> Hamel, et al., *supra* note 64, at 326.

<sup>77</sup> *Id.* at 326.

<sup>78</sup> See Confer, et al., *supra* note 17, at 142.

<sup>79</sup> See NatureServe, *supra* note 12, at Ecology & Life History (“Apparently, the abandonment of farmland and resultant areas of secondary succession provided routes for expansion of the blue-winged warbler into the Golden-winged Warbler range.”), Management Summary (noting that habitat loss, Blue-winged Warbler interactions, and cowbird parasitism are all either directly or indirectly caused by humans).

and west.<sup>80</sup> There is now significant interspecies contact between these two warblers, and, unfortunately, there is evidence that Golden-winged Warblers nearby Blue-winged warblers lay fewer eggs than those without any Blue-winged Warbler contact.<sup>81</sup> It should be noted that there is less proximity with Blue-winged Warblers in habitats experiencing the earliest stages of succession.<sup>82</sup> The expansion of Blue-winged Warblers appears to be correlated with the aforementioned habitat loss, and thus is likely indirectly caused by human conduct.<sup>83</sup>

Furthermore, there is some evidence that Brown-headed Cowbirds reduce fledgling success in warbler nests. A 2003 study of nests in Oswego County, New York, found that “warblers fledged from 68% . . . of unparasitized nests but only 32% . . . of parasitized nests.”<sup>84</sup> Although the authors of the study note that their small sample size decreases the statistical import of their research, the facts that Brown-headed Cowbirds are common parasites, and that Cowbirds are often found near Golden-winged Warblers, suggest that the problem of Brown-headed Cowbird parasitism is not an isolated one.<sup>85</sup> Still, it can be said that there is some evidence of Brown-headed Cowbird parasitism reducing fledgling success, and the 2003 study suggests the cowbirds, while not historically an inhibitor to success, may now be a contributing factor because it is coupled with other factors.<sup>86</sup>

### iii. Inadequacy of Existing Regulatory Mechanisms

In response to the Golden-winged Warbler population declines, many states, and Canada,<sup>87</sup> have listed the warbler on their state protected species lists. A summary of state listings is provided below in Table 1, below. Unfortunately, these state protections

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<sup>80</sup> Hamel, et al., *supra* note 64, at 323.

<sup>81</sup> Confer, et al., *supra* note 17, at 141-42.

<sup>82</sup> *Id.* at 142.

<sup>83</sup> NatureServe, *supra* note 12, at Ecology & Life History.

<sup>84</sup> See Confer, *supra* note 17, at 141.

<sup>85</sup> See *id.*; Klaus & Buehler, *supra* note 67, at 200 (noting that Brown-headed Cowbirds were often seen at their studied Golden-winged Warbler site in North Carolina); NATIONAL GEOGRAPHIC, FIELD GUIDE TO THE BIRDS OF NORTH AMERICA, Brown-headed Cowbird 404 (4th ed.) (noting that “all cowbirds lay their eggs in nests of other species”).

<sup>86</sup> See *id.* at 142.

<sup>87</sup> Government of Canada, Species at Risk Public Registry, [http://www.sararegistry.gc.ca/species/schedules\\_e.cfm?id=1](http://www.sararegistry.gc.ca/species/schedules_e.cfm?id=1) (last visited Dec. 10, 2009).

are inadequate to protect the species. Most states merely provide prohibitions on taking or selling protected species, and thus have limited conservation authority to protect habitat and engage in species recovery efforts.<sup>88</sup> A prohibition on taking and selling is an especially ineffective protection for Golden-winged Warblers because poaching and trafficking are not threats to this species. Instead, the warblers need habitat conservation, which is absent in most of its state conservation programs. Moreover, as is demonstrated in Table 1, many states in which the warbler is found do not provide any state protection at all for the birds. Finally, due to the warbler’s diffuse territory,<sup>89</sup> no matter how protective any individual state’s regulations, those protections will be inadequate to guard against the declines that are occurring because they will protect the bird in only one small portion of its range. Truly, the federal government is the only entity that can provide comprehensive protection for the bird because only the federal government can coordinate conservation efforts in all of the states and the other countries in North and South America in which this bird lives.

Table 1<sup>90</sup>

<u>State</u>	<u>Status</u>	<u>Primary Protection</u> <sup>91</sup>
Georgia	Endangered <sup>92</sup>	Prohibition on:

<sup>88</sup> See ENDANGERED SPECIES ACT: LAW, POLICY, AND PERSPECTIVES 346 (Donald C. Baur & WM. Robert Irvin Eds., 2009); Mary Jane Angelo & Anthony J. Cotter, *Redressing the Failure of Environmental Law to Protect Birds and their Habitat*, NAT’L RES. & ENVIRONMENT 26 (2005).

<sup>89</sup> See Audubon, *supra* note 2 (depicting the Golden-winged Warbler range map).

<sup>90</sup> The Golden-winged Warbler’s territory is very large, and the range tends to fluctuate with changing habitat conditions. See NatureServe, *supra* note 11, at Distribution. Therefore, this table is not intended to be an exhaustive list of every state in which the bird can be found; rather, the table reports the status of the bird’s protection in the states in which it is most common.

<sup>91</sup> Although a minority of states provide for additional species protections via statute, regulation, or nongame programs, such as habitat conservation programs, only the primary law or regulation that delineates the prohibited acts for endangered, threatened, or otherwise protected species, when one exists, is listed for each of the states here. It should be noted though that only thirty-two states have their own “recovery, consultation, or critical habitat designation” programs. ENDANGERED SPECIES ACT: LAW, POLICY, AND PERSPECTIVES, *supra* note 88, at 346.

		<ul style="list-style-type: none"> <li>• harassing, capturing, killing, or otherwise directly causing death</li> <li>• selling or buying</li> <li>• destroying habitat on public land<sup>93</sup></li> </ul>
New York	Species of Special Concern <sup>94</sup>	Not covered under the primary prohibition statute <sup>95</sup>
Kentucky	Threatened <sup>96</sup>	Prohibition on: <ul style="list-style-type: none"> <li>• importing, transporting, possessing for resale, or selling<sup>97</sup></li> </ul>
Massachusetts	Endangered <sup>98</sup>	Prohibition on: <ul style="list-style-type: none"> <li>• taking, possessing, transporting, exporting, selling, processing, offering to sell, buying, or offering to buy<sup>99</sup></li> </ul>
Ohio	Endangered <sup>100</sup>	Prohibition on: <ul style="list-style-type: none"> <li>• taking, transporting, selling, offering for sale or possessing<sup>101</sup></li> </ul>
Virginia	Species of Special Concern <sup>102</sup>	Not covered under the primary prohibition

<sup>92</sup> GA. COMP. R. & REGS. 391-4-10-.09. For a description of the special Golden-winged Warbler conservation efforts being undertaken in Georgia, see Golden-winged Warbler Conservation Effort in Georgia, <http://www.georgiawildlife.org/documentdetail.aspx?docid=468&pageid=3&category=other> (last visited Dec. 10, 2009).

<sup>93</sup> GA. COMP. R. & REGS. 391-4-10-.06

<sup>94</sup> N.Y. COMP. CODES R. & REGS. Tit. 6, § 182.6 (2009). Species of Special concern are “at risk of becoming threatened in New York.” N.Y. ENVTL. CONSERV. LAW § 11-0535 (2009).

<sup>95</sup> N.Y. COMP. CODES R. & REGS. Tit. 6, § 182.3 (2009). Although Species of Special Concern are not protected by New York’s primary prohibition statute, birds in this category are eligible for habitat protection under New York’s state bird conservation area program, which designates some areas of state land as “important bird areas.” N.Y. ENVTL. CONSERV. LAW § 11-2001 (2009).

<sup>96</sup> Kentucky Department of Fish and Wildlife Resources, Species Information, <http://www.kdfwr.state.ky.us/kfwis/speciesInfo/speciesList.asp?strGroup=7&strSort1=Class&strSort2=CommonName> (last visited Dec. 15, 2009).

<sup>97</sup> KY. REV. STAT. ANN. 150.183.

<sup>98</sup> 321 MASS. CODE REGS. 10.90 (2009).

<sup>99</sup> 321 MASS. CODE REGS. 10.04(1) (2009).

<sup>100</sup> OHIO ADMIN. CODE 1501:31-23-01 (2009).

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

		statute <sup>103</sup>
North Carolina	Species of Concern <sup>104</sup>	Prohibition on: <ul style="list-style-type: none"> <li>• taking, possessing, transporting, selling, bartering, trading, exchanging, exporting, or offering for sale, barter, trade, exchange or export, or gift, any animal on a protected wild animal list<sup>105</sup></li> </ul>
Connecticut	Endangered <sup>106</sup>	Prohibition on people: <ul style="list-style-type: none"> <li>• taking</li> <li>• taking for the purpose of selling, offering for sale, transporting for commercial gain or exporting</li> </ul> Prohibition on state agencies: <ul style="list-style-type: none"> <li>• destroying or adversely modifying essential habitat</li> <li>• killing, injuring, or appreciably reducing the likelihood of survival<sup>107</sup></li> </ul>
Indiana	Endangered <sup>108</sup>	Prohibition on: <ul style="list-style-type: none"> <li>• taking, possessing, transporting, exporting, processing, selling or</li> </ul>

<sup>102</sup> Virginia Department of Game and Inland Fisheries, Special Status Faunal Species in Virginia, [www.dgif.virginia.gov/wildlife/virginiatespecies.pdf](http://www.dgif.virginia.gov/wildlife/virginiatespecies.pdf) (last visited Dec. 10, 2009).

<sup>103</sup> Va. Code Ann. § 29.1-564 (2009). The prohibition on taking endangered and threatened species in Virginia only applies to federally listed species under the ESA. *See id.* Any species that are listed by the state, but not by the federal ESA, are protected only by state nongame programs. ENDANGERED SPECIES ACT: LAW, POLICY, AND PERSPECTIVES, *supra* note 88, at 354.

<sup>104</sup> 15A N.C. ADMIN. CODE 10L.0105 (2009).

<sup>105</sup> 15A N.C. ADMIN. CODE 10L.0102 (2009).

<sup>106</sup> CONN. AGENCIES REGS. § 26-306-4 (2009).

<sup>107</sup> CONN. GEN. STAT. ANN. § 26-311 (West 2009).

<sup>108</sup> Indiana's Species of Greatest Conservation Need, [http://www.in.gov/dnr/fishwild/files/fw-Indiana\\_Species\\_of\\_Greatest\\_Conservation\\_Need.pdf](http://www.in.gov/dnr/fishwild/files/fw-Indiana_Species_of_Greatest_Conservation_Need.pdf) (last visited Dec. 10, 2009).

		offering for sale, or shipping <sup>109</sup>
Tennessee	In Need of Management <sup>110</sup>	Prohibition on: • taking, attempting to take, possessing, transporting, exporting, processing, selling, or offering for sale or shipping, nongame wildlife <sup>111</sup>
Pennsylvania	Watch List Species <sup>112</sup>	Not covered under the primary prohibition statute <sup>113</sup>
West Virginia	S2 ranking (“Six to 20 documented occurrences, or few remaining individuals within the state. Very rare and imperiled.”) <sup>114</sup>	No statutory protection <sup>115</sup>
Minnesota	Not Listed <sup>116</sup>	No statutory protection
Wisconsin	SC/M (Special Concern, but fully protected by federal and state laws under the Migratory Bird Act) <sup>117</sup>	No statutory protection

<sup>109</sup> IND. CODE ANN. § 14-22-34-12 (West 2009).

<sup>110</sup> Tennessee Wildlife Resources Commission Proclamation Wildlife In Need Of Management, [www.state.tn.us/twra/pdfs/wildlifeinneed.pdf](http://www.state.tn.us/twra/pdfs/wildlifeinneed.pdf) (last visited Dec. 10, 2009).

<sup>111</sup> TENN. CODE ANN. § 70-8-104 (2009).

<sup>112</sup> Pennsylvania Game Commission - State Wildlife Management Agency, <http://www.pgc.state.pa.us/pgc/cwp/view.asp?a=496&q=164545&pp=12&n=1> (last visited Dec. 10, 2009).

<sup>113</sup> 58 PA. CODE § 75.1 (2009).

<sup>114</sup> Rare, Threatened And Endangered Animal Species, <http://www.wvdnr.gov/Wildlife/documents/Animals2007.pdf> (last visited Dec. 12, 2009); Explanation of Ranks, <http://www.wvdnr.gov/Wildlife/documents/rankings.pdf> (last visited Dec. 12, 2009).

<sup>115</sup> See ENDANGERED SPECIES ACT: LAW, POLICY, AND PERSPECTIVES, *supra* note 88, at 354 (noting that West Virginia does not protect its endangered and threatened species via statutes, and instead relies on nongame programs for its conservation efforts).

<sup>116</sup> Minnesota’s List of Endangered, Threatened, and Special Concern Species, [http://files.dnr.state.mn.us/natural\\_resources/ets/endlist.pdf](http://files.dnr.state.mn.us/natural_resources/ets/endlist.pdf) (last visited Dec. 12, 2009).

<sup>117</sup> Wisconsin Natural Heritage Working List, [http://dnr.wi.gov/org/land/er/wlist/WorkingList\\_07\\_09.pdf](http://dnr.wi.gov/org/land/er/wlist/WorkingList_07_09.pdf) (last visited Dec. 12, 2009).

Illinois	Not listed <sup>118</sup>	No statutory protection
Vermont	Not listed <sup>119</sup>	No statutory protection
Michigan	Not listed <sup>120</sup>	No statutory protection
Missouri	Not listed <sup>121</sup>	No statutory protection
Iowa	Not listed <sup>122</sup>	No statutory protection
Maryland	Not listed <sup>123</sup>	No statutory protection
Louisiana	Not listed <sup>124</sup>	No statutory protection
New Jersey	Species of Special Concern <sup>125</sup>	Prohibition on: • taking, possessing, transporting, exporting, processing, selling, offering to sell, or shipping <sup>126</sup>
North Dakota	Not listed <sup>127</sup>	Prohibition on taking unlisted species, including migratory birds. <sup>128</sup>

<sup>118</sup> Checklist of Endangered and Threatened Animals and Plants of Illinois, [http://dnr.state.il.us/espb/2009 Checklist FINAL for webpage October 09.pdf](http://dnr.state.il.us/espb/2009%20Checklist%20FINAL%20for%20webpage%20October%2009.pdf) (last visited Dec. 12, 2009).

<sup>119</sup> Endangered and Threatened Animals of Vermont, [http://www.vtfishandwildlife.com/library/Reports\\_and\\_Documents/NonGame\\_and\\_Natural\\_Heritage/Rare\\_Threatened\\_and\\_Endangered\\_Species --- lists/Endangered\\_and\\_Threatened\\_Animals\\_of\\_Vermont.pdf](http://www.vtfishandwildlife.com/library/Reports_and_Documents/NonGame_and_Natural_Heritage/Rare_Threatened_and_Endangered_Species_---lists/Endangered_and_Threatened_Animals_of_Vermont.pdf) (last visited Dec. 12, 2009).

<sup>120</sup> Michigan Department of Natural Resources Wildlife Division Endangered and Threatened Species, [http://www.michigan.gov/documents/dnr/2007-007\\_NR\\_Threatened\\_Endangered\\_Species\\_nonstrike\\_9-12\\_274586\\_7.pdf](http://www.michigan.gov/documents/dnr/2007-007_NR_Threatened_Endangered_Species_nonstrike_9-12_274586_7.pdf) (last visited Dec. 12, 2009).

<sup>121</sup> MO. CODE REGS. ANN. tit. 3 § 10-4.111 (2009).

<sup>122</sup> Endangered, threatened, and special concern animals, [http://search.legis.state.ia.us/NXT/gateway.dll/ar/iac/5710\\_\\_natural%20resource%20commission%20\\_5b571\\_5d/0770\\_\\_chapter%2077%20endangered%20and%20threatened%20plant%20and\\_\\_2e/\\_r\\_5710\\_0770\\_0020.xml?f=templates\\$fn=default.htm](http://search.legis.state.ia.us/NXT/gateway.dll/ar/iac/5710__natural%20resource%20commission%20_5b571_5d/0770__chapter%2077%20endangered%20and%20threatened%20plant%20and__2e/_r_5710_0770_0020.xml?f=templates$fn=default.htm) (last visited Dec. 12, 2009).

<sup>123</sup> Rare, Threatened, and Endangered Animals of Maryland, <http://dnrweb.dnr.state.md.us/download/rteanimals.pdf> (last visited Dec. 13, 2009).

<sup>124</sup> Threatened and Endangered Timetable, <http://www.wlf.louisiana.gov/experience/threatened/threatenedandendangeredtable/> (last visited Dec. 12, 2009).

<sup>125</sup> NJ Endangered and Nongame Species Program Special Concern – Species Status Listing, <http://www.state.nj.us/dep/fgw/ensp/pdf/spclspp.pdf> (last visited Dec. 13, 2009).

<sup>126</sup> N.J. STAT. ANN. 23:2A-6 (2009).

<sup>127</sup> North Dakota Game and Fish Department, Wildlife Action Plan, <http://gf.nd.gov/conservation/toc.html> (follow “Section 3 – Species of Conservation Priority” hyperlink) (last visited Jan. 29, 2010).

Alabama	Diligent searches have revealed no information.	
Arkansas	Diligent searches have revealed no information.	

In addition to the state government protections, the FWS should consider any existing federal regulatory protections.<sup>129</sup> In this case, the Golden-winged Warbler is protected under the federal Migratory Bird Treaty Act (MBTA).<sup>130</sup> The MBTA's primary protection is a provision that makes it unlawful to capture, kill, or engage in the trafficking of birds listed under the Act.<sup>131</sup> Thus, the MBTA, like many of the state conservation programs, is inadequate to protect birds that primarily need habitat protection, such as the Golden-winged Warbler. In fact, most birds no longer face over-hunting and exploitation for trade, as they did at the time of the Act's creation in 1918; therefore, the Act's protection has been rendered anachronistic and somewhat futile.<sup>132</sup> Indeed, the federal government has already implicitly found that the MBTA is an inadequate protection for at least fifty two migratory birds, because it has listed fifty two MBTA-protected birds under the ESA.<sup>133</sup>

In sum, the state and federal regulatory programs do not provide any meaningful protection for the Golden-winged Warbler because they largely provide a mere

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<sup>128</sup> North Dakota Game and Fish Department, 2009 Small Game Hunting Guide, <http://gf.nd.gov/regulations/smallgame/index.html#other> (last visited Jan. 29, 2010).

<sup>129</sup> It should be noted that although § 4(b)(1)(A) does not expressly allow the contemplation of federal conservation programs, as it only explicitly mentions state and foreign government practices, the regulatory agencies are likely at liberty to consider federal programs because the FWS has consistently examined both state and federal conservation programs in the United States under § 4(a)(1)(D). *See* *Western Watersheds Project v. Fish and Wildlife Service*, 535 F.Supp.2d 1173, 1187 (D. Idaho 2007) (considering federal regulations in the §4(a)(1)(D) listing determination for the sage-grouse); *Defenders of Wildlife v. Kempthorne*, 535 F.Supp.2d 121, 124 (D. D.C. 2008) (noting that the FWS considered both state and federal regulations when making a listing decision for the black bear). Therefore, both the state endangered species programs and the federal Migratory Bird Treaty Act should be allowable regulations that warrant consideration under § 4(a)(1).

<sup>130</sup> 50 C.F.R. § 10.13 (2009).

<sup>131</sup> 16 U.S.C.A. § 703(a).

<sup>132</sup> *See* Angelo & Cotter, *supra* note 88, at 25.

<sup>133</sup> Birds Protected by the Migratory Bird Treaty Act, <http://www.fws.gov/migratorybirds/RegulationsPolicies/mbta/compare.pdf> (last visited Dec. 12, 2009).

prohibition on taking and trafficking the species, and these activities are not threats to the bird. The ineffectiveness of these regulatory regimes is further evidenced by the significant population declines the species has experienced since 2002.<sup>134</sup> Although the Secretary must consider state government opinions and data from the states concerning the species,<sup>135</sup> the Secretary cannot place the species “in the hands of state agencies.”<sup>136</sup> Therefore, in cases like this, when the state and federal regulations largely provide insignificant protections and the population numbers continue to rapidly decline,<sup>137</sup> the Secretary should find the existing regulatory mechanisms inadequate.

#### b. Relevant Data

ESA § 4(b)(1)(A) dictates the type of information that must be used when making listing determinations pursuant to the five factors in § 4 (a)(1). Specifically, the Secretary may only consider the

best scientific and commercial data available . . . after taking into account those efforts, if any, being made by any State or foreign nation, or any political subdivision of a State or foreign nation, to protect such species, whether by predator control, protection of habitat and food supply, or other conservation practices . . . .”<sup>138</sup>

The data identified in the second half of this mandate, the evidence of state and foreign government conservation programs, is self-explanatory. However, the phrase “best scientific and commercial data available,” has been the subject of much contention.

The requirement that listing decisions be informed by only the “best scientific and commercial data available” demonstrates the strong desire of the drafters of the ESA to buttress listing decisions with sound, scientific rationales.<sup>139</sup> However, the meaning of the phrase is not immediately clear upon a mere review of the statute. Therefore, subsequent to the passage of the ESA, the phrase was modified and explicated by amendment and guidance. First, the ESA amendments in 1982 added the significant

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<sup>134</sup> SAUER, ET AL., *supra* note 54.

<sup>135</sup> *See San Luis & Delta-Mendota Water Auth. v. Badgley*, 136 F. Supp. 2d 1136, 1151 (E.D. Cal. June 23, 2000), *aff'd*, 2000 U.S. App. LEXIS 23983 (9<sup>th</sup> Cir. Sept. 11, 2000) (without opinion).

<sup>136</sup> *Save Our Springs v. Babbitt*, 27 F. Supp. 2d 739, 748 (W.D. Tex. Mar. 25, 1997).

<sup>137</sup> *See supra* part III.B.2.a.(1).iii.

<sup>138</sup> 16 U.S.C. § 1533 (b)(1)(A).

<sup>139</sup> 16 U.S.C. § 1533 (b)(1)(A).

word “solely” before the phrase in the statute.<sup>140</sup> The House Conference Report accompanying these amendments states that the purpose of this and other changes was “to ensure that decisions in every phase of the process pertaining to the listing or delisting of species are based solely upon biological criteria, and to prevent non-biological considerations from affecting such decisions.”<sup>141</sup> The FWS has also promulgated a regulation that provides examples of permissible scientific data. In this regulation, the FWS states that allowable data includes, but is not limited to, “scientific or commercial publications, administrative reports, maps or other graphic materials, information received from experts on the subject, and comments from interested parties.”<sup>142</sup>

These amendments and regulations provide much guidance on what constitutes “best scientific or commercial data;” however, Congress has also specifically cautioned the agencies about the usage of particular categories of data. In brief, trade data is relevant because it is commercial data,<sup>143</sup> economic considerations are irrelevant to listing decisions,<sup>144</sup> emotional considerations are likewise irrelevant,<sup>145</sup> and improper biological considerations may not be used.<sup>146</sup>

(1) The Data that Supports a Golden-winged Warbler Listing is the Best Scientific and Commercial Data Available, After Considering Evidence of State Conservation Practices.

When the evidence of the three § 4(a)(1) threats is scrutinized under the data requirements in § 4(b)(1)(A), it becomes clear that the data satisfies the standards. There are procedural processes, adopted via guidelines, for determining the reliability of both scientific data and evidence of existing regulatory mechanisms. However, after engaging in these two procedural processes, the FWS should determine that the scientific evidence of the Golden-winged Warbler decline is the best available scientific evidence, and the

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<sup>140</sup> H.R. CONF. REP. NO. 97-835, at 20, *reprinted in* 1982 U.S.C.C.A.N. 2807, 2861.

<sup>141</sup> *Id.*

<sup>142</sup> 50 C.F.R. § 424.13 (1999).

<sup>143</sup> *See* H.R. CONF. REP. NO. 97-835, at 20, *reprinted in* 1982 U.S.C.C.A.N. 2807, 2861.

<sup>144</sup> *See id.*

<sup>145</sup> H.R. REP. 97-567, at 22, *reprinted in* 1982 U.S.C.C.A.N. 2807.

<sup>146</sup> *See id.*

existing state regulatory mechanisms will not prove effective in the protection of this species.

i. The Data that Supports a Golden-winged Warbler Listing is the Best Scientific and Commercial Data Available.

Once the FWS receives scientific data for a listing decision, there are guidelines it must follow in assessing whether it is the “best available” data under § 4(b)(1)(A). In 1994, the regulatory agencies jointly drafted guidelines for the Services to follow when assessing the reliability of the scientific data they are given during the petition process.<sup>147</sup> These guidelines require that decision-makers critically review all data, “gather and impartially evaluate” all data that is in opposition to the position of the Services, document all biological evaluations, use primary and original sources when possible, follow the time schedules in the ESA, and “conduct management-level review” of the data used to support the decision.<sup>148</sup> In a separate regulation drafted that year, the agencies imposed a requirement on themselves that they obtain three independent peer reviewers to evaluate all scientific and commercial data used in listing decisions, and then publish summaries of these reviews in the administrative record.<sup>149</sup>

The data regarding threats to the Golden-winged Warbler will survive this procedural process. The scientific data in this petition satisfies the best scientific and commercial data standard because the research regarding habitat loss, Blue-winged Warbler interbreeding, and Brown-headed Cowbird parasitism is taken from recent scientific publications, including scholarly articles, reports, graphs, and maps.<sup>150</sup> Thus, the data is consistent with the FWS’s examples of the best available data, which included “scientific or commercial publications, administrative reports, maps or other graphic materials.”<sup>151</sup>

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<sup>147</sup> See 59 Fed. Reg. 34271 (July 1, 1994).

<sup>148</sup> *Id.*

<sup>149</sup> *Id.* at 34270.

<sup>150</sup> See, e.g., Hunter, et al., *supra* note 51 (a scholarly article from a scientific journal); Hamel, et al., *supra* note 64 (a USDA Forest Service report); Rossell, et al., *supra* note 15 (providing graphs of necessary Golden-winged Warbler habitat); NatureServe, *supra* note 12 (providing maps of the Golden-winged Warbler’s range).

<sup>151</sup> 50 C.F.R. § 424.13 (1999).

ii. The State Conservation Practices are not Effective.

This scientific data must be supplemented with evidence of state conservation practices, in accordance with § 4(b)(1)(A).<sup>152</sup> However, the regulatory agencies may only use the evidence of existing regulatory mechanisms in limited ways, pursuant to the “Policy for Evaluation of Conservation Efforts When Making Listing Decisions,” or “PECE.” The regulatory agencies announced PECE as a set of guidelines for how they use data about existing regulatory mechanisms in listing decisions.<sup>153</sup> According to the PECE, if the conservation efforts have not yet been implemented, the agencies must consider (1) the certainty that the programs will be implemented, and (2) the certainty that the programs will be effective in sustaining the species.<sup>154</sup> On the other hand, if the conservation programs have already been implemented, but have not yet been proven effective, the agencies must consider only the certainty that the programs will be effective in protecting the species.<sup>155</sup> Furthermore, the PECE states that in order to properly evaluate the certainty of effectiveness of the conservation programs, the agencies must consider six non-exhaustive criteria:

1. The nature and extent of threats being addressed by the conservation effort are described, and how the conservation effort reduces the threats is described.
2. Explicit incremental objectives for the conservation effort and dates for achieving them are stated.
3. The steps necessary to implement the conservation effort are identified in detail.
4. Quantifiable, scientifically valid parameters that will demonstrate achievement of objectives, and standards for these parameters by which progress will be measured, are identified.
5. Provisions for monitoring and reporting progress on implementation (based on compliance with the implementation schedule) and effectiveness (based on evaluation of quantifiable parameters) of the conservation effort are provided.
6. Principles of adaptive management are incorporated.<sup>156</sup>

In sum, the conservation efforts of states and other entities cannot be considered when making listing determinations unless the efforts are “sufficiently certain to be

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<sup>152</sup> 16 U.S.C. § 1533 (b)(1)(A).

<sup>153</sup> 68 Fed. Reg. 15100 (March 28, 2003).

<sup>154</sup> *See id.* at 15114-15.

<sup>155</sup> *See id.* at 15115.

<sup>156</sup> *Id.*

implemented and effective so as to have contributed to the elimination or adequate reduction of one or more threats to the species identified through the section 4(a)(1) analysis.”<sup>157</sup> Finally, the agencies have stated that:

Regardless of the adoption of a conservation agreement or plan, however, if the best available scientific and commercial data indicate that the species meets the definition of "endangered species" or "threatened species" on the day of the listing decision, then we must proceed with appropriate rule-making activity under section 4 of the Act.<sup>158</sup>

Therefore, if the best available data indicates that a species currently meets the definition of a threatened or endangered species, the species must be listed under the ESA in spite of any existing regulations. This vital language is consistent with the District Court of Oregon’s reminder in *Oregon Natural Resources Council v. Daley* that when a species is currently likely to become endangered in the foreseeable future unless significant changes occur, the species is already a threatened species under the ESA.<sup>159</sup> The court warned that regulatory agencies cannot delay a listing in the hopes that a change in conditions will prevent the species from becoming endangered.<sup>160</sup> Moreover, at least one District Court has indicated that regulatory agencies cannot use PECE as a shield when their listing decision is unwarranted. When the FWS applied the PECE to a listing decision for the first time, their decision not to list the slickspot peppergrass was struck down by the District Court of Idaho in an opinion that, while failing to rule on the agency’s usage of the PECE, was circumspect at best in its treatment of the new application.<sup>161</sup>

Arguably, under PECE, the state regulatory programs should not even be considered in this case because the Golden-winged Warbler already satisfies the

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<sup>157</sup> *Id.*

<sup>158</sup> *Id.*

<sup>159</sup> *See Or. Natural Res. Council v. Daley*, 6 F. Supp. 2d 1139, 1152 (D. Or. 1998) (noting that “if the Oregon ESU is likely to become endangered in the foreseeable future unless Oregon implements significant changes in its environmental laws and policies (and even then success is by no means assured), then by definition the Oregon ESU *is* presently a threatened species.”).

<sup>160</sup> *See id.*

<sup>161</sup> *See W. Watersheds Project v. Foss*, 2005 WL 2002473, at \*18 (D. Idaho 2005).

definition of a threatened, if not endangered, species.<sup>162</sup> However, even if the agency decides to consider the existing conservation programs, the agency may only consider the certainty that the programs will be effective in protecting the species because the programs have been implemented, but not yet proven effective.<sup>163</sup> The data resoundingly supports a negative answer to this inquiry, as was clearly proven in *infra* section III.B.2.a.(1).iii.<sup>164</sup>

In sum, the evidence of severe population declines throughout the eastern United States is sufficient to constitute a threat of extinction throughout a significant portion of the Golden-winged Warbler's range, in accordance with the definitions of threatened and endangered species in section three of the ESA. Additionally, the threats that are causing the warbler population declines satisfy the listing criteria in Section four because three of the five permissible threats under § 4(a)(1) are fulfilled, and the data used to fulfill the requirements meets the mandates of § 4(b)(1)(A). Therefore, the Golden-winged Warbler should be listed as threatened or endangered under the ESA.

#### *IV. The Golden-winged Warbler Deserves Priority Review under the U.S. Endangered Species Act Listing Priority Guidance*

##### A. Listing Priority Guidance under the Endangered Species Act

In 1983, the FWS published Listing Priority Guidelines, which provide three priority factors.<sup>165</sup> In 1999, the FWS expanded these guidelines to include a ranking of types of listing actions.<sup>166</sup> The FWS' three ranking criteria are the magnitude of the

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<sup>162</sup> See *supra* part III.B (demonstrating that the Golden-winged Warbler is a threatened or endangered species); 68 Fed. Reg. 15100, 15115 (March 28, 2003) ("Regardless of the adoption of a conservation agreement or plan, however, if the best available scientific and commercial data indicate that the species meets the definition of "endangered species" or "threatened species" on the day of the listing decision, then we must proceed with appropriate rule-making activity under section 4 of the Act.").

<sup>163</sup> 68 Fed. Reg. 15100, 15115 (March 28, 2003).

<sup>164</sup> See *supra* part III.B.2.a.(1).iii.

<sup>165</sup> See 48 Fed. Reg. 43098 (Sept. 21, 1983).

<sup>166</sup> 64 Fed. Reg. 57114 (Oct. 22, 1999).

threat, the immediacy of the threat, and the distinctiveness of the taxon.<sup>167</sup> Additionally, the types of listing actions are ranked in the following order: “emergency listing actions,” “processing final decisions on proposed listings,” “resolving the conservation status of candidate species (resulting in a new proposed rule or a candidate removal),” “processing administrative findings on petitions to add species to the lists and petitions to reclassify species.”<sup>168</sup> The agencies hold considerable,<sup>169</sup> but not absolute,<sup>170</sup> discretion in making findings under these guidelines.

### B. The Golden-winged Warbler Deserves Priority Review

The Golden-winged Warbler deserves priority review. First, the magnitude of the species’ threat is high because the rate of population decline in recent years is elevated, at around eight percent per year.<sup>171</sup> In addition, the immediacy of the threat is high because while declines have been occurring since the mid 1960s, the most severe declines occurred most recently from 2002 to 2007.<sup>172</sup> Finally, the species is a distinct taxon, not a subspecies or a distinct population segment.<sup>173</sup> Therefore, although this basic listing petition does not fall within the higher priority varieties of listing actions, the high score the warbler ought to receive under the Listing Priority Guidance criteria should be sufficient to make this listing a priority. If the warbler is not awarded a ranking that is in congruence with the best scientific data on the species, the agency risks court invalidation. In *Friends of Wild Swan, Inc. v. U.S. Fish and Wildlife Service*, the District Court of Oregon held that the FWS’ decision that the Bull Trout faced only a “moderate” threat under the guidelines, based on “its widespread range, the existence of populations in protected areas, and ongoing management changes,” was arbitrary and capricious because while true, the three findings about the Bull Trout did not reduce its threat of

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<sup>167</sup> See 48 Fed. Reg. 43098, 43102 (1983).

<sup>168</sup> 64 Fed. Reg. 57114, 57118-57119 (Oct. 22, 1999).

<sup>169</sup> See *Coos County Bd. of County Com'rs v. Kempthorne*, 531 F.3d 792, 807 (9th Cir. 2008).

<sup>170</sup> See *Friends of Wild Swan, Inc. v. U.S. Fish and Wildlife Serv.*, 945 F.Supp. 1388, 1397-98 (D. Or. 1996) (holding that an agency ranking decision under the guidelines was arbitrary and capricious).

<sup>171</sup> SAUER, ET AL., *supra* note 54.

<sup>172</sup> See *id.*

<sup>173</sup> See *supra* part III.A.

extinction.<sup>174</sup> Similarly, although the Golden-winged Warbler has a widespread range, and enjoys state and federal management programs aimed at protecting it, these factors do not decrease the threats it faces. The warbler's large range does not prevent its demise because the bird is not plentiful in most of these areas, and furthermore, the fact that it can be found in many places does not indicate its stability or success because this dispersal is simply a function of the fact that it the bird is migratory.<sup>175</sup> Moreover, the state and federal protections for the warbler are ineffective because they almost exclusively merely prohibit the killing or sale of the species, and these activities do not currently threaten the bird.<sup>176</sup>

## *V. Conclusion*

In conclusion, the Golden-winged Warbler warrants protection under the ESA. Credible scientific evidence indicates that the species faces significant population declines due to adverse habitat modification, interaction with Blue-winged Warblers, and possibly Brown-headed Cowbird parasitism. Additionally, the existing state conservation programs and the Migratory Bird Treaty Act will not stop the rapid declines of this species because those programs almost exclusively provide only one regulatory mechanism, a prohibition on killing and trafficking. This protection will fail in its essential purpose because the primary threat to warblers is habitat alteration. If the Golden-winged Warbler is not listed under the ESA, it will face the threat of extinction in the foreseeable future because it faces significant annual population declines throughout the eastern United States. Truly, this migratory songbird will not survive unless it benefits from comprehensive conservation measures and interstate cooperation that only an ESA listing can provide.

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<sup>174</sup> *Friends of Wild Swan, Inc.*, 945 F.Supp. at 1397-98.

<sup>175</sup> *See supra* part II.B.

<sup>176</sup> *See supra* part III.B.2.a.(1).iii.