

A SURVEY OF STATE WILDLIFE AND ENDANGERED SPECIES PROTECTIONS

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One of Dale Goble's seminal works in the field of conservation biology and biodiversity law was the study he helped lead on state endangered species acts.¹ Prior to this article, state endangered species acts were often a footnote at best to discussions about the federal Endangered Species Act (ESA) in the law and conservation biology literature. But they have increasingly taken center stage as federal endangered species policy has been victim to deep gridlock with respect to federal legislation. Scholars and politicians have called for divestiture or delegation of a wide sweep of endangered species management from the federal government to state governments, whether based on claims about interpretation of existing provisions of the ESA, on claims about greater efficiency or effectiveness of state management agencies, on claims about the need to provide greater response to variations across states as to preferences with respect to endangered species policy, or perhaps because of a desire to dismantle the ESA *sub silentio*.²

Dale and his co-authors' initial piece was therefore not only important in starting a necessary debate, but also in providing crucial information to inform that debate. Proposals to devolve endangered species management to the state level should (in an ideal world) turn in a significant way on how effective state-level endangered species laws and policies are.³ That in turn necessarily requires a survey of what those laws say and do—something that had not been done in a comprehensive way before Dale's piece.

In many ways, the work was revelatory in showing the great variation across states in terms of the depth and breadth of protection that states provide to endangered species. The survey found that some states (e.g., Wisconsin, California, Hawaii) had relatively stringent statutes, including some states that are not known for endangered species protection (e.g., Nebraska).⁴ It also found a range of states

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1. Dale D. Goble et al., *Local and National Protection of Endangered Species: An Assessment*, 2 ENVTL. SCI. & POL'Y 43 (1999).

2. See, e.g., Legislative Hearing on a Discussion Draft Bill, S. ____, the Endangered Species Act Amendments of 2018: Hearing Before the S. Comm. on Env't & Pub. Works, 115th Cong. 20–21, 25 (2018) (statement of Governor Matt Mead of Wyoming); see also *id.* at 31–32 (statement of Senator Joni Ernst of Iowa); *id.* at 58 (statement of Bob Broscheid, Director of Colorado Parks and Wildlife); Temple Stoellinger, *Wildlife Issues Are Local – So Why Isn't ESA Implementation?*, 44 ECOLOGY L. Q. 681 (2017) (advocating for use of Section 6 of the ESA to devolve much endangered species management to states); John Copeland Nagle, *The Original Role of States in the Endangered Species Act*, 53 IDAHO L. REV. 385 (2017) (also advocating for use of Section 6 of the ESA to devolve much endangered species management to states); Press Release, Senator John Barrasso, *Barrasso Applauds Trump Administration Action to Modernize the Endangered Species Act* (Aug. 12, 2019) (on file with John Barrasso).

3. For other studies guided by this perspective, see Alejandro E. Camacho et al., *Assessing State Laws and Resources for Endangered Species Protection*, 47 ENVTL. L. REP. NEWS & ANALYSIS 10837 (2017); Robert L. Fischman et al., *State Imperiled Species Legislation*, 48 ENVTL. L. 81 (2018).

4. Goble et al., *supra* note 1, at 45, 47–54.

with no or almost no protection (e.g., West Virginia, Alabama, Idaho, Wyoming).⁵ And it further found that while some issues received wide coverage across many states (such as protection against hunting and commercial trafficking in animal species listed for protection under state endangered species statutes), others received almost none (with only a few states protecting state-listed species from habitat modification due to land development).⁶ In other words, while the article showed some surprises in terms of how much states protected endangered species—in tension with a perception that is sometimes held that the federal government is where all the action lies with respect to endangered species—it also laid clear the substantial gaps in state level protections, gaps that made exclusive reliance on the states to protect endangered species perilous indeed. As Dale and his co-authors noted, their findings were consistent with a wildlife management paradigm of state fish and game agencies that focus primarily on recreational and commercial hunting, rather than a biodiversity or conservation biology paradigm that considers protection of ecosystems and habitat to be central to management. That second paradigm has been adopted, at least to some extent, by implementation of the ESA through tools such as habitat conservation planning.⁷

The importance of the initial article is reflected in the subsequent literature that has updated its results—teams based at Indiana University and at the University of California, Irvine, as well as the advocacy group Defenders of Wildlife all have recently produced articles or reports examining the scope of endangered species protections at the state level.⁸ Those more recent reports—which responded to proposals to devolve much endangered species protection to the states—found results quite similar to those of Goble and his co-authors.⁹

All this work thus far has focused on state endangered species laws. However, there are a wide range of other state wildlife laws that may also protect endangered species and often may be as or more important for protections, particularly for direct take (i.e., hunting). For instance, state-level protections of birds from hunting may provide protection for federally-listed bird species, regardless of whether those species are listed as endangered by a state or even if the state has an endangered species statute. Indeed, one might expect that these traditional wildlife law tools may be more important at the state level in practice for protecting biodiversity given the historical orientation of the state regulatory schemes and

5. *Id.* at 46, 52.

6. *Id.* at 52–54.

7. *See id.* at 57.

8. *See* Camacho et al., *supra* note 3; *see also* Fischman et al., *supra* note 3; *State Endangered Species Laws*, DEFENDERS WILDLIFE: CTR. FOR CONSERVATION INNOVATION, https://defenders-cci.org/app/state_ESAs/ (last visited Jan. 27, 2020).

9. *See* Camacho et al., *supra* note 3; *see also* Fischman et al., *supra* note 3; *State Endangered Species Laws*, DEFENDERS WILDLIFE: CTR. FOR CONSERVATION INNOVATION, https://defenders-cci.org/app/state_ESAs/ (last visited Jan. 27, 2020). An earlier version of my data was drawn upon in the Camacho and Defenders of Wildlife (“DOW”) studies, but with a focus on state endangered species statutes. The DOW data is based on the research by Camacho et al.

agencies towards wildlife management, rather than biodiversity—as Dale and his co-authors themselves noted.¹⁰

In addition, these prior studies in general focused on statutory, rather than regulatory provisions.¹¹ While statutory provisions are generally the foundation for state-level endangered species protections, they are not the only source of those protections—state agencies may use broad statutory authority to protect wildlife to effectively craft an endangered species protection program. Indeed in a few states, state constitutional provisions give direct rulemaking authority to state fish and game agencies, such that they can regulate without any explicit statutory authority.¹²

As part of a broader study on the potential impact of the repeal of the ESA on biodiversity protection in the United States, I conducted a complete survey, as of summer 2018, of all state wildlife and endangered species laws, creating a complete database of (a) what actions those laws protect against; and (b) what species are protected under those laws. I also reviewed all relevant state regulations to understand the definitions, scope, and implementation of the relevant provisions, as well as implementation in states with constitutional provisions that authorize direct agency action to protect wildlife. The survey took a functional approach—what are the protections the laws, in combination, provide for species, regardless of whether protection comes from a state endangered species law, state protected species law, state wildlife law, or otherwise.¹³

Here I present the results of the survey, as an update and expansion on the original work by Goble et al., as well as more recent studies. I find substantial continuities across those studies, but also some surprising new results, some of which indicate the extent to which states do protect biodiversity from hunting and commercial trade more than a review of just state endangered species legislation might reveal.

Before I begin, a brief notation in regard to terminology will be helpful for the reader to understand both my methods and my results. Species might be protected under state law because of their designation as an endangered or threatened species under a state endangered species law; however, species might also be protected independent of listing under a state endangered species law. The name of this category often varies from state to state. For purposes of this study, I call this category “protected” species.

10. Goble et al., *supra* note 1, at 57. For a full discussion of the historical, professional, managerial, and scientific differences between wildlife law, management and conservation biology, and biodiversity law, see Eric Biber, *Which Science? Whose Science? How Scientific Disciplines Can Shape Environmental Law*, 79 U. CHI. L. REV. 471, 493–512 (2012).

11. See Goble et al., *supra* note 1, at 46; see also Fischman et al., *supra* note 3, at 97. Camacho et al. and DOW drew in part on earlier coding from this project for their work, see Camacho et al., *supra* note 3, at 10837 n.5, but again with a focus on state statutory provisions.

12. See ARK. CONST. amend. XXXV (West, Westlaw through Dec. 2019); see also FLA. CONST. art. IV, § 9 (West, Westlaw through Nov. 2018).

13. Because of the scope of the broader study that this survey is part of, I cover only a limited subset of the wide range of questions that Goble et al. studied in their analysis. For instance, I do not cover whether states have recovery programs for listed species, or processes for designating critical habitat.

First, and most fundamentally, is the question of what species are eligible to be protected under state wildlife and endangered species laws—some states limit protections to a subset of taxonomic groups, either some or all vertebrates, while others allow protection to be extended to include invertebrates.

STATES THAT ALLOW FOR PROTECTION OF ANY VERTEBRATES AS ENDANGERED OR PROTECTED SPECIES:

These are states that make any and all vertebrates eligible for protection.

44 total: AZ, CA, CO, CT, DE, FL, GA, HI, ID, IL, IN, IA, KS, KY, LA, ME, MD, MA, MI, MN, MS, MO, MT, NE, NV, NH, NM, NY, NC, ND, OH, OK, OR, PA, RI, SC, SD, TN, TX, VT, WA, WI¹⁴

STATES THAT DO NOT HAVE A PROCESS FOR LISTING ANY VERTEBRATES AS ENDANGERED OR PROTECTED SPECIES (NOTE SOME OF THESE STATES MAY ALLOW PROTECTION OF SOME VERTEBRATES):

6 total: AL, AK, AR, UT, WV, WY

These totals are generally consistent with the data collected by Goble et al.¹⁵

STATES THAT ALLOW FOR PROTECTION OF ANY INVERTEBRATE AS ENDANGERED OR PROTECTED SPECIES:

These are states that make any and all invertebrates eligible for protection.

32 total: CT, DE, FL, GA, HI, ID, IL, IN, IA, KS, KY, LA, ME, MS, MI, MN, MO, MT, NE, NH, NJ, NY, ND, OH, OK, RI, SD, VT, VA, WA, WI

STATES THAT DO NOT ALLOW FOR PROTECTION OF ANY INVERTEBRATE AS ENDANGERED OR PROTECTED SPECIES (NOTE SOME OF THESE STATES MAY ALLOW PROTECTION OF SOME VERTEBRATES):¹⁶

18 total: AL, AK, AZ, AR, CA, CO, MD, NV, NM, NC, OR, PA, SC, TN, TX, UT, WV, WY

This data was not collected in the Goble et al. survey, but was covered in the study by Fischman et al.¹⁷ They found a group of 44 states that provided at least partial protection of some invertebrates—the difference with my results is that the

14. Arkansas has an administrative listing process that functions similarly to state listings in other states, but is excluded here because there is no overarching statutory authorizing provision.

15. See Goble et al., *supra* note 1, at 46, 52 (finding AK, AR, UT, WV, and WY did not have endangered species legislation to protect animals).

16. Note that in many of these states the relevant wildlife laws provide a broad definition of “fish” species that includes aquatic invertebrates; because the state agencies have authority to protect fish, the agencies have authority to protect aquatic invertebrates. However, these states do not authorize protection of terrestrial invertebrates. Also note that some of these states have ambiguities as to whether the relevant statutes authorize protection of terrestrial invertebrates. For instance, in California, the state has moved to protect species of native bees under the state endangered species act, a decision that is being challenged in court. If it was uncertain whether a state provision authorized protection, I coded the state provision as not protecting invertebrates.

17. See Fischman et al., *supra* note 3, at 100.

Fischman et al. group included states that authorized protection of some but not all invertebrates.¹⁸

The results here may not easily align with perceptions of “protectiveness” of how stringent a particulate state’s environmental law in general is. For instance, Louisiana has sweeping statutory coverage authorizing protection of all invertebrates.¹⁹

STATES THAT ALLOW FOR PROTECTION OF PLANTS AS ENDANGERED OR PROTECTED SPECIES:

32 total: AZ, CA, CT, FL, GA, HI, IL, IA, KY, LA, MD, MA, MI, MN, MO, NE, NV, NH, NJ, NM, NY, NC, OH, OR, PA, RI, SD, TN, TX, VT, VA, WI

STATES THAT DO NOT ALLOW FOR PROTECTION OF PLANTS AS ENDANGERED OR PROTECTED SPECIES:

18 total: AL, AK, AR, CO, DE, ID, IN, KS, ME, MS, MT, ND, OK, SC, UT, WA, WV, WY

The numbers here are very similar to all of the prior studies.

The next category to review is the extent to which state law might authorize or mandate protection against state and local government actions that might harm listed endangered or protected species—a parallel to Section 7 of the federal ESA which prevents federal government agencies from taking actions that might jeopardize the existence of listed species or adversely modify critical habitat for those species.²⁰ I did not attempt to distinguish among the different forms of protection that exist across states, whether it is a form of jeopardy protection or some sort of special consideration for species present on state-owned or managed lands.²¹

STATES THAT PROVIDE SOME SORT OF PROTECTION AGAINST GOVERNMENT ACTION THAT MIGHT HARM LISTED ENDANGERED OR PROTECTED ANIMAL SPECIES:

13 states: CA, CT, GA, HI, IL, ME, MD, MA, NE, NH, OR, VT, WI

STATES THAT DO NOT PROVIDE PROTECTION AGAINST GOVERNMENT ACTION THAT MIGHT HARM LISTED ENDANGERED OR PROTECTED ANIMAL SPECIES:

37 states: AL, AK, AZ, AR, CO, DE, FL, ID, IN, IA, KS, KY, LA, MI, MN, MS, MO, MT, NV, NJ, NM, NY, NC, ND, OH, OK, PA, RI, SC, SD, TN, TX, UT, VA, WA, WV, WY

18. *Id.* at 101–02.

19. LA. STAT. ANN. § 56:1902(3) (2019).

20. Endangered Species Act of 1973 § 7, 16 U.S.C. § 1536(a)(2) (2018).

21. *See, e.g.*, ARIZ. REV. STAT. ANN. § 3-905 (West 2019) (establishing special protocols for state actions that would “appreciably reduce the likelihood of survival or recovery of the plant”); *see also* CONN. GEN. STAT. ANN. § 26-310 (West 2019) (restricting state actions that would threaten any listed species or its habitat).

STATES THAT PROVIDE SOME SORT OF PROTECTION AGAINST GOVERNMENT ACTION THAT MIGHT HARM LISTED ENDANGERED OR PROTECTED PLANT SPECIES:

12 states: CA, CT, GA, HI, IL, MD, MA, NE, NH, OR, VT, WI

STATES THAT DO NOT PROVIDE PROTECTION AGAINST GOVERNMENT ACTION THAT MIGHT HARM LISTED ENDANGERED OR PROTECTED PLANT SPECIES:

38 states: AL, AK, AZ, AR, CO, DE, FL, ID, IN, IA, KS, KY, LA, ME, MI, MN, MS, MO, MT, NV, NJ, NM, NY, NC, ND, OH, OK, PA, RI, SC, SD, TN, TX, UT, VA, WA, WV, WY

The results for both of these categories are similar to Goble et al.,²² Camacho et al., and Fischman.²³

The next question is the extent to which states might restrict commerce in species, whether they are protected under state endangered species laws or under broader state wildlife laws. I surveyed for states where permission is required for commerce, i.e., prohibitions on sale, trade, or commercial take. I exclude states if the state's restrictions on commerce are limited to game animals.²⁴ Note that the lists in this category are cumulative (if a state prohibits commerce in all animals, then I count that state as prohibiting commerce in all of the taxonomic subcategories), except for "list" categories (protected, endangered, and threatened).

This survey takes a more fine grained (because it distinguishes between different categories of taxonomic groups), and more complete (because it goes beyond state endangered species laws) approach to understanding commerce than prior studies. Accordingly, I find that Arkansas has commerce restrictions for all animal species even though it does not have an endangered species statute.²⁵ As with my earlier findings and as the example of Arkansas makes clear, it is not always intuitive which states have broad restrictions on commercial trade in animals. These states might be drawing on a wildlife law paradigm that is extremely skeptical of commercial trade. Finally, it is quite possible that states that in theory prohibit all

22. Goble et al. *supra* note 1, at 51, 50 figs.3c & 3d. Goble et al.'s categorization is somewhat different than mine. Goble et al. distinguish between protections against all government action, and protections against government action on private lands, categories that I combine. On the other hand, Goble et al. do not distinguish between plants and animals.

23. See Camacho et al., *supra* note 3, at 10839 (finding the following states had at least some restrictions on state agency action: CA, CT, IL, KS, MA, MD, NE, NH, OR, VT WA, WI); see also Fischman et al., *supra* note 3, at 107 (finding the following states had at least some restrictions on state agency action: CT, HI, IL, ME, MD, MA, NE, NH, OR, VT, WI).

24. "Game animals" include "wild animals and birds considered objects of pursuit, for food or sport; esp., animals for which one must have a license to hunt." *Game*, BLACK'S LAW DICTIONARY (11th ed. 2019).

25. Compare 002-00-001 ARK. CODE R. § 05.27 (LexisNexis 2019) (prohibiting commercial interactions of federally and state listed species), with ARK. CONST. amend. XXXV, § 1 (West, Westlaw through Apr. 2020) (reserving conservation and management of birds, fish, and wildlife to the State Game and Fish Commission).

commerce do not enforce much, and/or are very willing to grant permits (or have blanket approvals that are not in the regulations).

STATES THAT RESTRICT COMMERCE IN ALL ANIMAL SPECIES:

States in this category restrict commerce for wildlife, which generally excludes domesticated animals. These states may also have limited species-specific exceptions for invasive species, very common species, or specific game species. (These exceptions are also often present for the subsidiary taxonomic subcategories.)

5 states: AR, DE, KS, NH, VA

STATES THAT DO NOT RESTRICT COMMERCE IN ALL ANIMAL SPECIES:

45 states: AL, AK, AZ, CA, CO, CT, FL, GA, HI, ID, IL, IN, IA, KY, LA, ME, MD, MA, MI, MN, MS, MO, MT, NE, NV, NH, NM, NY, NC, ND, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VT, WA, WV, WI, WY

STATES THAT RESTRICT COMMERCE IN ALL MAMMAL SPECIES:

21 states: AZ, AR, CO, CT, DE, FL, GA, IN, IA, KS, KY, MA, NV, NJ, NC, OR, SC, TN, UT, VA, WY

STATES THAT DO NOT RESTRICT COMMERCE IN ALL MAMMAL SPECIES:

29 states: AL, AK, CA, HI, ID, IL, LA, ME, MD, MI, MN, MS, MO, MT, NE, NH, NM, NY, ND, OH, OK, PA, RI, SD, TX, VT, WA, WV, WI

Again, note how the list of species with broad protections for mammals from commercial trade does not overlap well with states that have strong endangered species programs. States such as Wyoming or Utah that do not have statutory endangered species programs at all nonetheless have strong programs to restrict commerce and commercial take of all wildlife, which can backfill some (but definitely not all!) of the provisions of the federal ESA or other state endangered species statutes.²⁶

STATES THAT RESTRICT COMMERCE IN ALL BIRD SPECIES:

37 states: AL, AZ, AR, CA, CO, CT, DE, FL, GA, ID, IL, IN, IA, KS, KY, ME, MD, MA, MS, MT, NV, NJ, NC, ND, OK, OR, PA, SC, SD, TN, UT, VT, VA, WA, WV, WI, WY

STATES THAT DO NOT RESTRICT COMMERCE IN ALL BIRD SPECIES:

13 states: AK, HI, LA, MI, MN, MO, NE, NH, NM, NY, OH, RI, TX

A large number of states provide broad protections for birds from commerce, presumably influenced by the federal Migratory Bird Treaty Act (“MBTA”), which

26. See, e.g., WYO. STAT. ANN. § 23-3-401 (West 2019); see also UTAH CODE ANN. § 23-13-13 (West 2019).

provides sweeping protections from take and commerce for almost all bird species in North America.²⁷ Indeed, some states explicitly draw on federal MBTA in codifying this prohibition.²⁸ The MBTA mostly makes these provisions redundant, and also provides an additional backstop to the federal ESA for commerce in bird species.²⁹

STATES THAT RESTRICT COMMERCE IN ALL REPTILE AND AMPHIBIAN SPECIES:

22 states: AZ, AR, CA, CO, CT, DE, FL, ID, IN, IA, KS, KY, ME, MA, NE, NV, NJ, OR, RI, TN, UT

STATES THAT DO NOT RESTRICT COMMERCE IN ALL REPTILE AND AMPHIBIAN SPECIES:

28 states: AL, AK, GA, HI, IL, LA, MD, MI, MN, MS, MO, MT, NH, NM, NY, NC, ND, OH, OK, PA, SC, SD, TX, VT, WA, WV, WI, WY

The number of states protecting reptiles and amphibians is perhaps surprisingly high, even higher than mammals. And again, lots of states without stringent (or any!) state ESA provisions have protections here.

STATES THAT RESTRICT COMMERCE IN ALL FISH SPECIES:

17 states: AZ, AR, CO, DE, FL, IA, KS, MA, NV, NJ, NC, OR, SD, TN, UT, VT, VA

STATES THAT DO NOT RESTRICT COMMERCE IN ALL FISH SPECIES:

33 states: AL, AK, CA, CT, GA, HI, ID, IL, IN, IA, KY, LA, ME, MD, MI, MN, MS, MO, MT, NE, NH, NM, NY, ND, OH, OK, PA, RI, SC, TX, WA, WV, WI, WY

STATES THAT RESTRICT COMMERCE IN ALL CRUSTACEAN AND MOLLUSK SPECIES:

12 states: AZ, AR, CO, KS, NV, NJ, NC, OR, TN, UT, VT, VA

STATES THAT DO NOT RESTRICT COMMERCE IN ALL CRUSTACEAN AND MOLLUSK SPECIES:

38 states: AL, AK, CA, CT, DE, FL, GA, HI, ID, IL, IN, IA, KY, LA, ME, MD, MA, MI, MN, MS, MO, MT, NE, NH, NM, NY, ND, OH, OK, PA, RI, SC, SD, TX, WA, WV, WI, WY

It is perhaps not surprising that this taxonomic group is protected in the fewest number of states, given that it is perhaps the least charismatic of all the groups.

27. Migratory Bird Treaty Act of 1918, 16 U.S.C. § 703 (2018).

28. See, e.g., S.C. CODE ANN. § 50-11-10 (West 2020); W. VA. CODE ANN. § 20-2-4(c) (West 2020).

29. Migratory Bird Treaty Act of 1918, 16 U.S.C. § 703 (2018).

**STATES THAT RESTRICT COMMERCE IN SPECIFICALLY LISTED PROTECTED
NONGAME SPECIES:**

As noted above, these are states with a list of protected nongame species—not necessarily endangered or threatened—that also restrict commerce in those species.

30 states: AL, CA, CO, CT, GA, ID, IL, IN, KS, LA, MD, MA, MN, MS, MT, NE, NV, NJ, NM, NY, OH, OR, SC, TN, TX, UT, WA, WV, WI, WY

In contrast, there are states that do not either have a protected nongame list and/or don't restrict commerce in listed protected nongame species.

20 states: AK, AZ, AR, DE, FL, HI, IA, KY, ME, MI, MO, NH, NC, ND, OK, PA, RI, SD, VT, VA

There are a lot of states that have substantial lists of protected nongame species, including states that otherwise do not have endangered species programs (e.g., Utah, Wyoming).³⁰ Some of these state lists are quite long and substantial (e.g., California, Utah).³¹

**STATES THAT RESTRICT COMMERCE IN SPECIFICALLY LISTED ENDANGERED
ANIMAL SPECIES:**

This category is the one that matches up with prior studies which examined the extent to which state endangered species laws regulate commerce in species that are listed as endangered under state law.³²

46 states: AK, AZ, AR, CA, CO, CT, DE, FL, GA, HI, ID, IL, IN, IA, KS, KY, LA, ME, MD, MA, MI, MN, MS, MO, MT, NE, NV, NH, NJ, NM, NY, NC, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VT, VA, WA, WI

**STATES THAT DO NOT RESTRICT COMMERCE IN SPECIFICALLY LISTED
ENDANGERED ANIMAL SPECIES:**

4 states: AL, ND, WV, WY

Again, some states which are usually listed as not having endangered species programs (Utah, Arkansas) have regulatory programs that protect species listed as endangered from commerce, sometimes piggy-backing on the federal system (e.g., Arkansas).³³ Thus, this list is broader than prior studies (though the differences are not large).

30. See, e.g., 040-52 WYO. CODE R. §§ 4–9 (LexisNexis 2019); see also UTAH ADMIN. CODE r. 657-14-8, 19-4 (2019).

31. See, e.g., CAL. FISH & GAME CODE §§ 3800, 4150 (West 2019); see also UTAH ADMIN. CODE r. 657-14-8, 19-4 (2019).

32. See, e.g., Fischman et al., *supra* note 3, at 109.

33. 002-00-001 ARK. CODE R. § 05.27 (LexisNexis 2020).

STATES THAT RESTRICT COMMERCE IN SPECIFICALLY LISTED THREATENED ANIMAL SPECIES:

These states have a category of “threatened” species under state endangered species law, and those threatened species are covered by restrictions on commerce.

38 states: AZ, AR, CA, CO, CT, FL, GA, HI, ID, IL, IA, KS, LA, ME, MD, MS, MI, MN, MO, NE, NV, NH, NJ, NY, NC, OH, OK, OR, PA, SC, SD, TN, TX, UT, VT, VA, WA, WI

STATES THAT DO NOT RESTRICT COMMERCE IN SPECIFICALLY LISTED THREATENED ANIMAL SPECIES OR DO NOT HAVE THREATENED SPECIES LISTS:

12 states: AL, AK, DE, IN, KY, MS, MT, NM, ND, RI, WV, WY

STATES THAT RESTRICT COMMERCE IN SPECIFICALLY LISTED ENDANGERED PLANT SPECIES:

26 states: AZ, CA, CT, FL, GA, HI, IL, IA, MD, MA, MI, MN, MO, NE, NH, NM, NC, OH, OR, PA, RI, SD, TX, VT, VI, WI

STATES THAT DO NOT RESTRICT COMMERCE IN SPECIFICALLY LISTED ENDANGERED PLANT SPECIES:

24 states: AL, AK, AR, CO, DE, ID, IN, KS, KY, LA, ME, MS, MT, NV, NJ, NY, ND, OK, SC, TN, UT, WA, WV, WY

This list is very similar to Goble et al.’s list³⁴—not much has changed here over time—and to the updated list from Defenders of Wildlife³⁵ and Camacho et al.³⁶

STATES THAT RESTRICT COMMERCE IN SPECIFICALLY LISTED THREATENED PLANT SPECIES:

22 states: AZ, CA, CT, GA, HI, IA, MD, MA, MI, MN, NE, NH, NC, OH, OR, PA, RI, SD, TX, VT, VA, WI

STATES THAT DO NOT RESTRICT COMMERCE IN SPECIFICALLY LISTED THREATENED PLANT SPECIES, OR DO NOT HAVE THREATENED SPECIES LISTS FOR PLANTS:

28 states: AL, AK, AR, CO, DE, FL, ID, IL, IN, KS, KY, LA, ME, MS, MO, MT, NV, NJ, NM, NY, ND, OK, SC, TN, UT, WA, WV, WY

34. See Goble et al., *supra* note 1, at 52–53.

35. See Defenders Wildlife: Ctr. for Conservation Innovation, *supra* note 8.

36. See Camacho et al., *supra* note 3, at 10838.

STATES THAT RESTRICT COMMERCE IN SPECIFICALLY LISTED PROTECTED PLANT SPECIES:

A number of states have a separate category for protected plant species (species that are listed for protection, but not as endangered/threatened species), and some of those states provide regulatory protections for those species.

7 states: AZ, GA, HI, MA, NC, PA, TX

STATES THAT DO NOT RESTRICT COMMERCE IN SPECIFICALLY LISTED PROTECTED PLANT SPECIES, OR DO NOT HAVE PROTECTED PLANT SPECIES LISTS:

43 states: AL, AK, AR, CA, CO, CT, DE, FL, ID, IL, IN, IA, KS, KY, LA, ME, MD, MI, MN, MS, MO, MT, NE, NV, NH, NJ, NM, NY, ND, OH, OK, OR, RI, SC, SD, TN, UT, VT, VA, WA, WV, WI, WY

The next category covers the extent to which states restrict take of species. First, I focus on “direct take,” or take that involves hunting, capturing, and killing, even if killing is unintentional or for non-commercial purposes. As with prohibitions on commercial activity, there may often be limited exceptions even when a state is coded as having protections for a broad category—for instance, exceptions for domesticated animals, for specified game animals, or for pest or invasive species.

STATES THAT RESTRICT DIRECT TAKE FOR ALL ANIMALS:

As with the lists for restrictions on commercial activity, states coded as “yes” here are coded as “yes” for all of the subsidiary categories except for the categories for specific lists of endangered, threatened, or protected species. Note that for these states, in theory even killing an individual insect without a permit is illegal, though presumably prosecution for such an act is highly unlikely.

2 states: CT, KS

STATES THAT DO NOT RESTRICT TAKE FOR ALL ANIMALS:

48 states: AL, AK, AZ, AR, CA, CO, DE, FL, GA, HI, ID, IL, IN, IA, KY, LA, ME, MD, MA, MI, MN, MS, MO, MT, NE, NV, NH, NJ, NM, NY, NC, ND, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VT, VA, WA, WV, WI, WY

STATES THAT RESTRICT TAKE FOR ALL MAMMALS:

18 states: AK, AZ, CA, CO, CT, FL, GA, IA, KS, ME, MA, MO, NC, PA, TN, UT, VA, WY

STATES THAT DO NOT RESTRICT TAKE FOR ALL MAMMALS:

32 states: AL, AR, DE, HI, ID, IL, IN, IA, LA, MD, MI, MN, MS, MT, NE, NV, NH, NJ, NM, NY, ND, OH, OK, OR, RI, SC, SD, TX, VT, WA, WV, WI

A significant number of states have these kinds of broad restrictions on take on mammals, again including states that do not otherwise have endangered species protections.

STATES THAT RESTRICT TAKE FOR ALL BIRDS:

41 states: AL, AK, AZ, AR, CA, CT, DO, DE, FL, GA, HI, ID, IL, IN, IA, KS, ME, MD, MA, MN, MS, MO, MT, NJ, NM, NC, ND, OK, OR, PA, RI, SC, SD, TN, UT, VT, VA, WA, WV, WI, WY

STATES THAT DO NOT RESTRICT TAKE FOR ALL BIRDS:

9 states: KY, LA, MI, NE, NV, NH, NY, OH, TX

This list has a lot of overlap with the list of states that have commercial take prohibitions, and again it appears to build off of the MBTA and is generally duplicative of that statute.

STATES THAT RESTRICT TAKE FOR ALL REPTILES AND AMPHIBIANS:

14 states: AK, CA, CT, FL, ID, IA, KS, MA, NE, NH, NM, RI, TN, UT

STATES THAT DO NOT RESTRICT TAKE FOR ALL REPTILES AND AMPHIBIANS:

36 states: AL, AZ, AR, CO, DE, GA, HI, IL, IN, KY, LA, ME, MD, MI, MN, MS, MO, MT, NV, NJ, NY, NC, ND, OH, OK, OR, PA, SC, SD, TX, VT, VA, WA, WV, WI, WY

STATES THAT RESTRICT TAKE FOR ALL FISH:

14 states: AK, CA, CO, CT, FL, IA, KS, ME, MA, NC, TN, UT, VT, WA

STATES THAT DO NOT RESTRICT TAKE FOR ALL FISH:

36 states: AL, AZ, AR, DE, GA, HI, ID, IL, IN, KY, LA, MD, MI, MN, MS, MO, MT, NE, NV, NH, NJ, NM, NY, ND, OH, OK, OR, PA, RI, SC, SD, TX, VA, WV, WI, WY

STATES THAT RESTRICT TAKE FOR ALL CRUSTACEANS AND MOLLUSKS:

12 states: AK, CA, CO, CT, KS, ME, MD, NC, TN, UT, VT, WA

STATES THAT DO NOT RESTRICT TAKE FOR ALL CRUSTACEANS AND MOLLUSKS:

38 states: AL, AZ, AR, DE, FL, GA, HI, ID, IL, IN, IA, KY, LA, MA, MI, MN, MS, MO, MT, NE, NV, NH, NJ, NM, NY, ND, OH, OK, OR, PA, RI, SC, SD, TX, VA, WV, WI, WY

These last three categories (reptiles, fish, and crustaceans and mollusks) are the least charismatic of the major vertebrate groups, and therefore it is not surprising that fewer states protect these groups—perhaps what is surprising is how many do.

STATES THAT RESTRICT TAKE OF SPECIFICALLY LISTED PROTECTED NONGAME SPECIES:

These are states with a list of protected nongame species—not necessarily endangered or threatened—that also restrict take in those species.

30 states: AL, CA, CO, CT, FL, GA, ID, IL, IN, KS, LA, MD, MA, MN, MS, MT, NE, NV, NY, ND, OH, OR, SC, TN, TX, UT, WA, WV, WI WY

STATES THAT DO NOT RESTRICT TAKE OF SPECIFICALLY LISTED PROTECTED NONGAME SPECIES OR DO NOT HAVE SUCH A LIST:

20 states: AK, AZ, AR, DE, HI, IA, KY, ME, MI, MO, NH, NJ, NM, NC, OK, PA, RI, SD, VT, VA

STATES THAT RESTRICT TAKE OF SPECIFICALLY LISTED ENDANGERED ANIMAL SPECIES:

45 states: AK, AZ, AR, CA, CT, DO, DE, FL, GA, HI, ID, IL, IN, IA, KS, LA, ME, MD, MA, MI, MN, MS, MO, MT, NE, NV, NH, NJ, NM, NY, NC, OH, OK, OR, PA, SC, SD, TN, TX, UT, VT, VA, WA, WV, WI

STATES THAT DO NOT RESTRICT TAKE OF SPECIFICALLY LISTED ENDANGERED ANIMAL SPECIES:

5 states: AL, KY, ND, RI, WY

I find more states protecting take of listed species than Goble et al. did,³⁷ and also more than Fischman did³⁸—partly because I include protections in states like Arkansas that only have a regulatory, not statutory, program. The numbers are very similar to Defenders and Camacho et al.³⁹

STATES THAT RESTRICT TAKE OF SPECIFICALLY LISTED THREATENED ANIMAL SPECIES:

38 states: AR, CA, CO, CT, FL, GA, HI, ID, IL, IA, KS, LA, ME, MD, MA, MI, MN, MO, NE, NV, NH, NJ, NY, NC, OH, OK, OR, PA, SC, SD, TN, TX, UT, VT, VA, WA, WV, WI

STATES THAT DO NOT RESTRICT TAKE OF SPECIFICALLY LISTED THREATENED ANIMAL SPECIES OR DO NOT HAVE SUCH LISTS:

12 states: AL, AK, AZ, DE, IN, KY, MS, MT, NM, ND, RI, WY

37. See Goble et al., *supra* note 1, at 52.

38. See Fischman et al., *supra* note 3, at 110–116.

39. See DEFENDERS WILDLIFE: CTR. FOR CONSERVATION INNOVATION, *supra* note 8; Camacho et al., *supra* note 3, at 10841.

STATES THAT RESTRICT TAKE OF SPECIFICALLY LISTED ENDANGERED PLANT SPECIES:

Note I count a state as prohibiting take even if it allows a landowner to incidentally destroy a plant species on their property (this is rarely prohibited by states).

28 states: AZ, CA, CT, FL, GA, HI, IL, IA, LA, MA, MI, MN, MO, NE, NV, NH, NM, NY, NC, OH, OR, PA, SD, TN, TX, VT, VA, WI

STATES THAT DO NOT RESTRICT TAKE OF SPECIFICALLY LISTED ENDANGERED PLANT SPECIES, OR DO NOT HAVE SUCH LISTS:

22 states: AL, AK, AR, CO, DE, ID, IN, KS, KY, ME, MD, MS, MT, NJ, ND, OK, RI, SC, UT, WA, WV, WY

These numbers are quite similar to Goble et al.⁴⁰—again showing not much change over time—and to the updated Defenders of Wildlife data.⁴¹ The Camacho et al. paper was silent to plant take restrictions.⁴²

STATES THAT RESTRICT TAKE OF SPECIFICALLY LISTED THREATENED PLANT SPECIES:

24 states: AZ, CA, CT, FL, GA, HI, IL, IA, LA, MA, MI, MN, NE, NH, NY, NC, OH, OR, PA, SD, TX, VT, VA, WI

STATES THAT DO NOT RESTRICT TAKE OF SPECIFICALLY LISTED THREATENED PLANT SPECIES, OR DO NOT HAVE SUCH LISTS:

26 states: AL, AK, CO, DE, ID, IN, KS, KY, ME, MD, MO, MS, MT, NV, NJ, NM, ND, OK, RI, SC, UT, TN, WA, WV, WY

STATES THAT RESTRICT TAKE OF SPECIFICALLY LISTED PROTECTED PLANT SPECIES:

12 states: AZ, FL, GA, HI, MA, MO, NV, NY, NC, OR, PA, TX

STATES THAT DO NOT RESTRICT COMMERCE IN SPECIFICALLY LISTED PROTECTED PLANT SPECIES, OR DO NOT HAVE PROTECTED PLANT SPECIES LISTS:

38 states: AL, AK, AR, CA, CO, CT, DE, ID, IL, IN, IA, KS, KY, LA, ME, MD, MI, MN, MS, MT, NE, NH, NJ, NM, ND, OH, OK, RI, SC, SD, TN, UT, VT, VA, WA, WV, WI, WY

Finally, I look at states that include habitat modification within their definition of take for endangered or threatened species, a protection that is vital for

40. Goble et al., *supra* note 1, at 53–54.

41. See *State Endangered Species Law – Data*, DEFENDERS WILDLIFE: CTR. FOR CONSERVATION INNOVATION, https://defenders-cci.org/app/state_ESAs/#section-data (last visited Apr. 6, 2020)(under the “plant take restrictions” variable column).

42. See Camacho et al., *supra* note 3.

biodiversity but is generally not within the scope of traditional wildlife law.⁴³ I coded statutes that have incidental take permits as (likely) prohibiting habitat modification.⁴⁴

STATES THAT DEFINE “TAKE” TO INCLUDE HABITAT MODIFICATION FOR SPECIFICALLY LISTED ENDANGERED AND THREATENED ANIMAL SPECIES:⁴⁵

9 states: CA, FL, HI, IL, ME, MD, MA, NY, WI

STATES THAT DO NOT DEFINE “TAKE” TO INCLUDE HABITAT MODIFICATION FOR SPECIFICALLY LISTED ENDANGERED AND THREATENED ANIMAL SPECIES:

41 states: AL, AK, AZ, ARK, CO, CT, DE, GA, ID, IN, IA, KS, KY, LA, MI, MN, MS, MO, MT, NE, NV, NH, NJ, NM, NC, ND, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VT, VA, WA, WV, WY

My results here are very similar to Goble et al., Camacho et al., and Defenders/CLEANR results.⁴⁶ As with other areas, there is remarkable consistency over time in the states that provide these protections.

CONCLUSION

Our results show broad continuities with the results of Goble et al., and indeed emphasize the patterns that Goble et al. found in their initial research. I find a broad suite of states provide a wide range of protections against direct take and commercial trade to the taxonomic groups that have been the traditional focus of wildlife law (mammals and birds). In contrast, protections for less charismatic taxonomic groups (such as amphibians and reptiles or mollusks and crustaceans) are much less widespread, as are protections against habitat modification.

Our results also raise real questions about the extent to which state law can and would provide a backstop in the event of a significant retrenchment of the

43. No state appears to protect state-listed species from habitat modification in general, though there are some states that have provided specific protections from habitat modification for specifically identified species, such as salmon or sage grouse, usually as an effort to avoid the listing of those species under the ESA. *See, e.g.*, OR. REV. STAT. ANN. § 498.500 (West 2020) (establishing a policy to mitigate impacts on sage grouse habitat); *see also* Montana Greater Sage-Grouse Stewardship Act, MONT. CODE ANN. §§ 76-22-101 to 118 (West 2019).

44. Our coding decisions here are informed in part on the analyses by Fischman et al., *supra* note 3, DEFENDERS WILDLIFE: CTR. FOR CONSERVATION INNOVATION, *supra* note 8, and Camacho et al., *supra* note 3.

45. As with the federal ESA, 16 U.S.C. §§ 1531–1544, states do not generally protect plants on private lands from incidental take from habitat modification. *Compare* 16 U.S.C. § 1538(a)(1) (making it unlawful to “take” any endangered fish or wildlife within United States territory), *with* § 1538(a)(2)(B) (protecting endangered plants on federal lands from destruction, but not those plants on private lands unless done in violation of state law or trespass).

46. Our list of states with these protections is longer than Fischman et al., primarily because of our inclusion of states with incidental take permits in this category, and is shorter than Camacho et al., which include states where restrictions on habitat modification on private land are triggered where state authorization or funding is involved. *See* Fischman et al., *supra* note 3, at 110; Camacho et al., *supra* note 3, at 10841.

federal ESA—an issue that other scholars who have worked on the topic have noted.⁴⁷ A more detailed assessment of what retrenchment of the federal ESA would entail requires a species-specific analysis of how much state law would protect species currently listed under the ESA, an assessment that I plan to undertake in the near future.

47. See, e.g., Goble et al., *supra* note 1, at 57; Camacho et al., *supra* note 3, at 10843–44; Fischman et al., *supra* note 3, 116–24.