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THE RIPPLE EFFECT: EXAMINING JUDICIAL ACTIVISM IN TWO LANDMARK CLIMATE CASES

*Dayna Smith**

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ABSTRACT

This article examines two landmark climate change litigation cases from the last decade: Massachusetts v. Environmental Protection Agency in the United States and Urgenda Foundation v. State of the Netherlands in the Netherlands. By analyzing these cases and how they have impacted climate regulation and litigation, this article explores the evolving role of courts in addressing climate change, the different legal frameworks employed, and the implications for future climate litigation. The comparison highlights the potential for judicial activism to drive climate policy and regulation across nations.

INTRODUCTION

Overwhelming evidence continues to demonstrate that the global climate system is changing due to human activities. Observational records from 2023 show that carbon dioxide, methane, and nitrous oxide—three of the main greenhouse gases (GHGs)—continue to reach record-high levels each year and that 2023 was the warmest year on record.¹ Other observations include record-high sea levels, record-low sea ice, and extreme weather events.² “Many lines of evidence demonstrate that human activities . . . are primarily responsible for the climate changes observed in the industrial era, especially over the last six decades.”³

The consequences of climate change have proven to be devastating. Scientists have linked climate change to the increase in severe weather events that often prove deadly.⁴ For example, the Mediterranean cyclone Storm Daniel produced extreme rainfall and flash flooding.⁵ The largest impacts were in Libya, with at least 4,700 confirmed deaths.⁶ As another example, Hawaii experienced the deadliest lone wildfire on the island of Maui, with at least 100 deaths reported.⁷ While not every extreme weather event carries such heavy death tolls, they can also be incredibly costly. For instance, Mexico experienced losses of about 12 billion USD during Hurricane Otis.⁸

Unfortunately, climate change is not an easy issue to tackle. It has been described as a “super wicked” policy problem due to three features.⁹ First, as more time passes, the problem compounds and gets more difficult to address.¹⁰ As nations delay reducing GHGs, humans emit more GHGs and need larger technological advances to address the increased emissions.¹¹

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1. WORLD METEOROLOGICAL ORG., WMO-No. 1347, STATE OF THE GLOB. CLIMATE 2023 ii (2024), <https://library.wmo.int/idurl/4/68835>.

2. *Id.*

3. Katharine Hayhoe et al., *Our Changing Climate*, in 2 IMPACTS, RISKS, AND ADAPTATION IN THE U.S.: FOURTH NAT’L CLIMATE ASSESSMENT 73, 76 (Linda O. Mearns ed., 2018), <https://nca2018.globalchange.gov/chapter/2/>.

4. *Based on Science: Global Warming is Contributing to Extreme Weather Events*, NAT’L ACADEMIES, <https://www.nationalacademies.org/based-on-science/climate-change-global-warming-is-contributing-to-extreme-weather-events> (Aug. 12, 2021); *see generally* WORLD METEOROLOGICAL ORG., *supra* note 1 (identifying deadly severe weather events).

5. WORLD METEOROLOGICAL ORG., *supra* note 1, at 23.

6. *Id.*

7. *Id.* at 24–25.

8. *Id.* at 24.

9. Richard J. Lazarus, *Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future*, 94 CORNELL L. REV. 1153, 1160 (2009).

10. *Id.* at 1160.

11. *Id.*

Second, those who are in the best position to address the problem are those who caused it and have little incentive to act.¹² The leading GHG emitters are those least susceptible to demands by other nations to reduce emissions and often the nations least likely to suffer the most intense climate change effects.¹³ Finally, because climate change is a global problem, there is no clear framework for a government to be able to address climate change's scope.¹⁴ Countries have attempted to address this third feature by measures such as the Kyoto Protocol, Nationally Determined Contributions, and the Paris Agreement, although none of these fully addressed the deficiency.¹⁵

The damages from climate change's impacts, in conjunction with the difficult policy problems, have led to an increase in climate change litigation. For instance, in the United States, state and local governments filed lawsuits against oil and gas producers, attempting to hold them accountable for knowingly contributing to climate change.¹⁶ In other cases, governments are the defendants, being asked to defend their policies and decisions.¹⁷ There have been five broad climate change litigation trends internationally: (1) holding governments accountable to their legislative and policy commitments; (2) linking resource extraction to climate change; (3) establishing particular emissions as the proximate cause of climate change impacts; (4) establishing liability for failures to adapt to climate change; and (5) applying the public trust doctrine to climate change.¹⁸

This article focuses on two significant cases in climate litigation from the last decade: *Massachusetts v. Environmental Protection Agency* (*Massachusetts*) and *Urgenda Foundation v. State of the Netherlands* (*Urgenda*). *Massachusetts* is a 2007 United States case that is significant because it was the first case dealing with climate change to go to the United States Supreme Court.¹⁹ The case defined the United States Environmental Protection Agency's (EPA) responsibility to regulate GHG emissions.²⁰

12. Richard J. Lazarus, *Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future*, 94 CORNELL L. REV. 1153, 1160 (2009).

13. *Id.*

14. *Id.* at 1160–61.

15. U.N. ENV'T PROGRAMME, THE STATUS OF CLIMATE CHANGE LITIG.: A GLOBAL REVIEW 8–9 (2017), <https://wedocs.unep.org/bitstream/handle/20.500.11822/20767/climate-change-litigation.pdf>.

16. Michael Burger & Jessica Wentz, *Holding Fossil Fuel Companies Accountable for Their Contribution to Climate Change: Where Does the Law Stand?*, 74 BULL. ATOMIC SCIENTISTS 397, 397 (2018).

17. U.N. ENV'T PROGRAMME, *supra* note 15, at 14.

18. *Id.*

19. Jonathan Z. Cannon, *The Significance of Massachusetts v. EPA*, 93 VA. L. REV. IN BRIEF 53, 53 (2007).

20. *Id.* at 54.

Urgenda is a 2019 Netherlands case that is significant because it is the first time a court has ordered a government to limit GHG emissions.²¹

Part II of this article explains the key issues and legal frameworks underlying both the *Massachusetts* and *Urgenda* decisions. Then, Part III performs a comparative analysis of the cases to examine the key commonality—judicial activism. It explains judicial activism generally, then evaluates how judicial activism played a role in both decisions. The comparison highlights the potential for judicial activism to drive climate policy and regulatory action across nations. Finally, Part IV identifies cases after *Massachusetts* and *Urgenda* where plaintiffs and judges used the legal frameworks of these landmark cases to advance climate change mitigation. These select cases serve as an example of the possible far-reaching impacts of judicial activism as a positive force to combat GHG emissions and climate change.

I. KEY ISSUES & LEGAL FRAMEWORKS

This section summarizes the facts, key issues, and legal framework for *Massachusetts* and *Urgenda*. It provides the necessary background to understand the underlying bases of these cases. In the next section, this information is used to examine the role of judicial activism in each case.

A. *Massachusetts v. Environmental Protection Agency*

In *Massachusetts*, a group of 19 private organizations petitioned EPA to begin regulating GHG emissions, using the Clean Air Act as a basis for the petition.²² The Clean Air Act requires that EPA “prescribe . . . standards applicable to the emission of any air pollutant from any class . . . of new motor vehicles . . . which in [the EPA Administrator’s] judgment cause, or contribute to, air pollution . . . reasonably be anticipated to endanger public health or welfare.”²³ EPA denied the petition on two grounds: (1) the Clean Air Act does not authorize it to issue mandatory regulations concerning climate change, and (2) even if it had authority, it would be unwise to do so because a causal link between GHGs and climate change had not been established with certainty.²⁴ EPA also raised concerns that a piecemeal

21. Jolene Lin, *The First Successful Climate Negligence Case: A Comment on Urgenda Foundation v. The State of the Netherlands (Ministry of Infrastructure and the Environment)*, 5 CLIMATE L. 65, 66, 80–81 (2015).

22. *Massachusetts v. EPA*, 549 U.S. 497, 510 (2007).

23. Clean Air Act, 42 U.S.C. § 7521(a)(1).

24. *Massachusetts*, 549 U.S. at 511, 513 (2007).

approach to regulating climate change would conflict with the President's more comprehensive plan.²⁵

The organizations, joined by 12 state and 4 local governments, sought review in the D.C. Circuit Court of Appeals.²⁶ Two judges at the Circuit Court held that EPA Administrator was within his discretion in denying the petition, and one of those judges raised concerns about standing.²⁷ Therefore, the court denied the petition for review.²⁸ One judge wrote a dissenting opinion that Massachusetts had established Article III standing, and the submitted affidavits supported the conclusion that failure to curb GHG emissions contributed to sea level changes threatening Massachusetts' coastal properties.²⁹

The organizations and state and local governments appealed to the United States Supreme Court, asking two questions: "[1] [W]hether EPA has the statutory authority to regulate [GHGs] from new motor vehicles; [2] and if so, whether its stated reasons for refusing to do so are consistent with the statute."³⁰ EPA raised the additional issue of standing on appeal.³¹

Addressing the issue of standing first, the Court examined whether the petitioners had "such a personal stake in the outcome of the controversy as to assure that concrete adverseness which sharpens the presentation of issues upon which the court so largely depends for illumination."³² The Court initially determined that the parties' dispute was properly before the federal court because it turned on a federal statute's construction.³³ It further reasoned that when a litigant has a procedural right, such as the right to challenge agency action, the litigant can assert that right if "there is some possibility that the request[ed] relief will prompt the injury-causing party to reconsider the decision that allegedly harmed the litigant."³⁴

Only Massachusetts satisfied that standard.³⁵ The Court held that Massachusetts had a procedural right to challenge a rejected rulemaking petition.³⁶ Additionally, the state had an interest in protecting its territory, which was threatened by EPA's refusal to regulate GHGs.³⁷ Specifically,

25. *Massachusetts*, 549 U.S. at 511, 513 (2007).

26. *Id.* at 505, 514.

27. *Id.* at 514–15.

28. *Id.* at 514.

29. *Id.* at 515.

30. *Id.*

31. *Massachusetts*, 549 U.S. at 511, 515 (2007).

32. *Id.* at 517 (quoting *Baker v. Carr*, 369 U.S. 186, 204 (1962)).

33. *Id.* at 516.

34. *Id.* at 518.

35. *Id.*

36. *Id.* at 519–20.

37. *Massachusetts*, 549 U.S. at 511, 521–22 (2007).

Massachusetts alleged particularized injuries to its coastline caused, at least in part, by EPA's failure to mitigate GHGs under the Clean Air Act.³⁸ Because the Court held that Massachusetts had standing, it continued to the case's merits.³⁹

The Court next turned to whether the Clean Air Act authorized EPA to regulate GHGs.⁴⁰ EPA concluded, in its denial of the petition for rulemaking, that it lacked authority, to which the Court accorded *Chevron* deference.⁴¹ However, the Court concluded that "[t]he statutory text foreclose[d] EPA's reading."⁴² The Clean Air Act has a "sweeping definition" of air pollutant that, on its face, includes GHGs.⁴³ The Court held that the statute was unambiguous and GHGs fit well within the broad definition, meaning EPA has the authority to regulate GHG emissions within the context of the Clean Air Act.⁴⁴

The Court's final issue was whether EPA's reasons for not regulating GHGs were consistent with the Clean Air Act.⁴⁵ The Court boiled down EPA's reasoning: "[E]ven if [EPA] does have statutory authority to regulate [GHGs], it would be unwise to do so at this time"⁴⁶ However, the Court was unconvinced. It noted that, while the Clean Air Act allows for judgment, this is "not a roving license to ignore the statutory text."⁴⁷ Under the Clean Air Act, EPA can only avoid acting if it determines GHGs do not contribute to climate change.⁴⁸ The "laundry list" of reasons EPA gave not to regulate GHGs did not comply with Congress's clear command.⁴⁹ EPA did not ground its reasons in the statute, making it arbitrary and capricious to refuse to act.⁵⁰

Massachusetts was a key moment in environmental law. It clarified EPA's responsibility under the Clean Air Act while setting a foundation for future regulatory actions related to climate change in the United States. Additionally, the United States Supreme Court's decision underscored the importance of both regulatory agencies and the judiciary in addressing

38. *Massachusetts*, 549 U.S. at 511, 522-23 (2007).

39. *Id.* at 526.

40. *Id.* at 527.

41. *Id.* at 527-28. *Chevron U.S.A., Inc. v. Nat. Res. Def. Council, Inc.*, 467 U.S. 837 (1984) has since been overturned by the U.S. Supreme Court in *Loper Bright Enterprises v. Raimondo*, 603 U.S. 369 (2024).

42. *Massachusetts v. EPA*, 549 U.S. 497, 528 (2007).

43. *Id.*

44. *Id.* at 532.

45. *Id.*

46. *Id.*

47. *Id.* at 533.

48. *Massachusetts*, 549 U.S. at 511, 533 (2007).

49. *Id.*

50. *Id.* at 534-35.

climate change; the judiciary's role is to ensure that federal agencies comply with statutory mandates regarding environmental protection.

B. Urgenda Foundation v. State of the Netherlands

In *Urgenda*, a Dutch environmental group, the Urgenda Foundation, and approximately 900 Dutch citizens sued the Dutch government, seeking to require it to do more to prevent climate change.⁵¹ The controversy stemmed from the Netherlands' decision to decrease its emission reduction targets from 30% to 20%.⁵² The Urgenda Foundation argued that the government's action violated provisions of the Dutch Constitution, the European Convention on Human Rights (ECHR), and the government's duty of care under the Dutch Civil Code.⁵³

The trial court rejected the constitutional and human rights claims, but it agreed that the government had violated its duty of care.⁵⁴ The trial court relied on Intergovernmental Panel on Climate Change reports in finding that anything less than a 25% reduction in Dutch GHG emissions by 2020 would be insufficient to prevent climate change impacts.⁵⁵ That failure was a breach of the government's duty of care.⁵⁶ The court ordered the government to reduce GHG emissions by at least 25%, relative to 1990 levels, by the end of 2020.⁵⁷

The Hague Court of Appeal upheld the judgment but on different grounds.⁵⁸ It held that the government violated the ECHR.⁵⁹ First, the court resolved a jurisdictional issue in the Urgenda Foundation's favor, finding that the "victim" requirement of Article 34 of the ECHR did not restrict access to Dutch courts.⁶⁰ Then, the court found that the Article 2 right to life and the Article 8 rights to a private life, family life, home, and correspondence placed an affirmative duty of care on the government to protect against risks that would adversely affect those rights, including climate change.⁶¹ The court

51. HR 20 december 2019, NJ 2020, 19/00135 m.nt. DJV (Urgenda/Nederland) (Neth.) [hereinafter Urgenda Supreme Court Opinion]; *Urgenda Foundation v. State of the Netherlands*, CLIMATE CHANGE LITIG. DATABASES, <https://climatecasechart.com/non-us-case/urgenda-foundation-v-kingdom-of-the-netherlands/> (last visited Mar. 15, 2025) (summarizing the case).

52. *Id.* ¶ 2.1(27).

53. *Id.* ¶¶ 2.2.1, 2.2.2.

54. Rb. 24 juni 2015, NJ 2015, C/09/456689 m.nt. DHA (Urgenda/Nederland) (Neth.).

55. *Id.* ¶ 4.31(vi), 4.93.

56. *Id.*

57. *Id.* ¶ 5.1.

58. Rb. 9 oktober 2018, NJ 2018, 200.178.245/01 m.nt. GHDHA (Urgenda/Nederland) (Neth.) [hereinafter Urgenda Appellate Court Opinion].

59. *Id.* ¶ 76.

60. *Id.* ¶¶ 34–37.

61. *Id.* ¶ 43.

explained that climate change poses a known and imminent threat of loss of life and disruption of family life for Dutch citizens, and at least a 25% reduction in GHG emissions by 2020 is necessary to prevent climate change.⁶² Therefore, the Dutch government has a duty to do so.⁶³

The government consistently argued that an order to reduce emissions would violate the Dutch system of separation of powers. Specifically, the government argued that policy decisions regarding GHGs should be left solely to the elected government.⁶⁴ The Hague Court of Appeal rejected this argument because the human rights violations required protective measures, but the specifics on how to comply with those measures were left to the government's discretion.⁶⁵ It also held that its decision was not an "order to create legislation" because the government retained its discretion on the means it used to comply with the 25% GHG emissions reduction mandate.⁶⁶

The Dutch government appealed to the Supreme Court of the Netherlands, which upheld the Court of Appeal decision.⁶⁷ The parties generally agreed on the effects of GHGs on climate change, making the key issue in front of the Court the pace and level of the state's mitigation rather than the need for it.⁶⁸ The Court grounded its decision to affirm the lower courts in the ECHR.⁶⁹ Like the appellate court, it held that Articles 2 and 8 placed a positive obligation on the Dutch government to take appropriate steps to safeguard its citizens.⁷⁰ The Court held that these obligations still applied, even though the risks may materialize in the long term.⁷¹ While it noted that the human rights obligations should not place an undue burden or impossible task on the government, the Court ordered the Dutch government to reduce GHG emissions by 25% by 2020.⁷² This marked the first time a court has ordered a government to curb GHG emissions.⁷³

II. JUDICIAL ACTIVISM: THE COMMON THREAD

While *Massachusetts* and *Urgenda* rely on different legal frameworks, they both demonstrate how judicial activism can contribute to mitigating

62. *Urgenda Appellate Court Opinion* ¶¶ 43, 73–75.

63. *Id.* ¶¶ 45, 73–76.

64. *Id.* ¶¶ 67–69.

65. *Id.* ¶¶ 67–68.

66. *Id.* ¶ 68.

67. *Urgenda Supreme Court Opinion* ¶ 8.3.5, 9.

68. *Id.* ¶ 2.1 (summarizing facts the parties agree upon, including climate change and its consequences), *see also* ¶¶ 4.1–4.8 (discussing climate change dangers).

69. *Id.* ¶ 8.3.4.

70. *Id.*

71. *Id.*

72. *Id.* ¶¶ 5.3.4, 8.3.4.

73. Lin, *supra* note 21, at 66.

climate change. Both decisions highlight the judiciary's potential to enforce and expand climate policy even when presented with different underlying claims. In both cases, the nations' highest Courts stepped in to ensure government entities met their obligations. As a result, future judges may exhibit greater willingness to engage in judicial activism, especially in areas where governmental action is perceived as inadequate.

A. Understanding Judicial Activism

The term “judicial activism” has been used in different contexts. It is also used differently across countries because not every judiciary has the same core responsibilities.⁷⁴ At its core, judicial activism occurs when a judge makes a decision contrary to precedent or “strikes down an action of the popular branches, whether state or federal, legislative, or executive.”⁷⁵ Generally speaking, if a judge invalidates a government action or goes against precedent, the judge is being an activist.⁷⁶ Some definitions, often used in the political sphere, extend the definition to mean that the judge is deciding on their own political viewpoints rather than a proper interpretation of the law.⁷⁷ However, most academic writing limits the usage to the willingness to either strike down a government action or overturn precedent, so this article embraces this definition.⁷⁸

Many people criticize judicial activism, with separation of powers principles being a common concern.⁷⁹ Critics argue that judicial activism can lead to an overreach of judicial power.⁸⁰ United States Supreme Court Justice Antonin Scalia believed that judicial activism is bad for democracy.⁸¹ He argued that judicial activism can undermine the democratic process by allowing unelected judges to make decisions ordinarily reserved for elected

74. Kermit Roosevelt, *Judicial Activism*, BRITANNICA, <https://www.britannica.com/topic/judicial-activism> (Feb. 13, 2025).

75. Suzanna Sherry, *A Summary of Why We Need More Judicial Activism*, VAND. UNIV.: VAND. L. SCH. (Mar. 24, 2014, 8:31 AM), <https://law.vanderbilt.edu/a-summary-of-why-we-need-more-judicial-activism/>.

76. Fuad Zarbiyev, *Judicial Activism in International Law—A Conceptual Framework for Analysis*, 3 J. INT'L DISP. SETTLEMENT 247, 249–50 (2012).

77. Kermit Roosevelt, *Judicial Activism*, BRITANNICA, <https://www.britannica.com/topic/judicial-activism> (Feb. 13, 2025).

78. *Id.*

79. Jorieke Manenschijn, *Defining and Defying Judicial Activism: Why Proceedings Based on Judicial Activism Should Always be Illegitimate* 11–12 (2021) (Philosophy (M.A.) thesis, Leiden University) (on file with the Leiden University Library system).

80. *Debating ‘Judicial Activism’: How Far Should Judges Go*, BRANDEIS UNIV. (Nov. 2010), <https://www.brandeis.edu/enact/archive/ethical-inquiry/2010/judicial-activism.html>.

81. Douglas Belkin, *Scalia Decries Judicial Activism in Harvard Talk* (Sept. 29, 2004), https://archive.boston.com/news/nation/articles/2004/09/29/scalia_decries_judicial_activism_in_harvard_talk/.

officials.⁸² Critics of judicial activism contend that this can destabilize legal and political systems.

The Dutch government in *Urgenda* raised these same concerns. The government argued that questions of climate change policy should be left to elected officials rather than the judiciary.⁸³ However, the Dutch Court was not concerned in *Urgenda* because elected officials still had control over the means to the mandated ends.⁸⁴ Yet, the Court's reasoning has not quieted critics. Since the judicial activism in the *Urgenda* case, a major Dutch political party proposed constitutional reforms that would restrict the judiciary's power.⁸⁵

Critics also point out that judges do not have the necessary understanding and training to create new laws.⁸⁶ Multiple United States Supreme Court justices, including Justices Scalia, Kagan, and Roberts, have expressed hesitation toward making new law.⁸⁷ Judicial activism has also been criticized as running contrary to *stare decisis*, a core principle creating predictability in courts across the globe.⁸⁸ By skirting *stare decisis*, an activist judge may create injustice for a party currently before the court by holding them to a new, unexpected interpretation of the law.⁸⁹ Finally, judicial activism may also be used to deny rights to individuals.⁹⁰ Because judicial activism simply means ruling against a government's action or precedent, it does not mandate a particular result, meaning it may be used for various purposes.⁹¹

There are also many proponents of judicial activism who believe it is necessary to address injustices and adapt the law to contemporary needs. They argue that courts have a role in protecting individual rights and ensuring that laws are applied in a way that reflects evolving modern values.⁹² First, an activist judiciary can help protect minorities.⁹³ For example, *Brown v. Board of Education* is a commonly cited United States decision reflecting judicial activism.⁹⁴ In *Brown*, the United States Supreme Court declared

82. Belkin, *supra* note 81.

83. *Urgenda* Appellate Court Opinion ¶¶ 68–69.

84. *Id.* ¶¶ 68–69.

85. Manenschijn, *supra* note 79, at 3.

86. *Debating 'Judicial Activism: How Far Should Judges Go?', supra* note 80.

87. *Id.*

88. *Id.*; Manenschijn, *supra* note 79, at 10.

89. *Judicial Activism*, CORNELL L. SCH. LEGAL INFO. INST., https://www.law.cornell.edu/wex/judicial_activism (June 2023).

90. *Debating 'Judicial Activism: How Far Should Judges Go?', supra* note 80.

91. *Id.*

92. *See* Sherry, *supra* note 75 (arguing for more judicial activism).

93. *Debating 'Judicial Activism: How Far Should Judges Go?', supra* note 80.

94. *Id.* (identifying *Brown v. Board of Education* as a judicial activism case).

racial segregation in public schools unconstitutional, thus protecting the rights of racial minority students.⁹⁵

Additionally, judicial activism can help shape the law to reflect where society currently is (or should be).⁹⁶ Throughout history, judges have endorsed a form of judicial activism by emphasizing the court's role in interpreting the United States Constitution considering modern views. For example, in the United States case *Trop v. Dulles*, Chief Justice Earl Warren stated: "The [Eighth] Amendment must draw its meaning from the evolving standards of decency that mark the progress of a maturing society."⁹⁷ Judge Richard Posner has further stated:

If you look at the entire body of constitutional law, that body of law bears very little resemblance to the text of the Constitution in 1789, 1791, and 1868 That's the reality. The only useful way to advocate with regard to constitutional law is to give a good contemporary argument for or against a particular interpretation.⁹⁸

There have been similar sentiments around the ECHR, with scholars examining whether the ECHR is a "living instrument."⁹⁹ Further, even judges who do not believe themselves to be activist judges likely allow their ideologies, experiences, and prejudices to influence their decisions, suggesting activism may be inevitable.¹⁰⁰

Further, judicial activism interacts seamlessly with judicial review, which is the power of the court to interpret the law.¹⁰¹ If a court were always too deferential on review, it could not provide the constitutional safeguard of the judicial branch.¹⁰² Some cases decided by overly deferential courts have turned out to be the most condemned.¹⁰³ For example, in *Plessy v. Ferguson*,

95. *Brown v. Bd. of Educ. of Topeka*, 347 U.S. 483, 483, 488, 493, 495 (1954).

96. *Debating 'Judicial Activism: How Far Should Judges Go?'*, *supra* note 80; see also Sherry, *supra* note 75.

97. *Trop v. Dulles*, 356 U.S. 86, 101 (1958).

98. Eric J. Segall, *The Constitution Means What the Supreme Court Says It Means*, 129 HARVARD L. REV. 176, 176 (2016).

99. See, e.g., George Letsas, *The ECHR as a Living Instrument: Its Meaning and Legitimacy*, in CONSTITUTING EUROPE: THE EUROPEAN COURT OF HUMAN RIGHTS IN A NATIONAL, EUROPEAN AND GLOBAL CONTEXT 106 (Andreas Føllesdal et al. eds., 2013) (examining the nature of the ECHR as "a living instrument that must be interpreted according to present-day conditions").

100. Allison Kilkenny, *Every Judge is an "Activist Judge,"* HUFFPOST, https://www.huffpost.com/entry/every-judge-is-an-activis_b_230696 (May 25, 2011).

101. See Sherry, *supra* note 75 ("Judicial review . . . produces one of two possible results: if the court invalidates the government action it is reviewing, then it is being activist; if it upholds the action, it is not.").

102. *Id.*

103. *Id.*

the United States Supreme Court upheld Louisiana's Separate Car Act, which mandated separate train cars for Black and white Americans, thus validating and advancing the "separate but equal" doctrine.¹⁰⁴ While judicial activism may be controversial at times, it has the potential to right societal and environmental harms that a judgment limited to precedent would allow to persist.¹⁰⁵

B. Judicial Activism & Climate Change Mitigation: Massachusetts & Urgenda

Both Courts in *Massachusetts* and *Urgenda* engaged in judicial activism by overturning or correcting government action. Both decisions reflected judicial activism informed by climate science, with the opinions relying heavily on scientific evidence to substantiate the risks posed by climate change and the need for government action. For instance, the *Massachusetts* Court gave a detailed explanation of the connection between human activity and the effects of climate change.¹⁰⁶ The Court also examined climate science and the effects of climate change when evaluating whether Massachusetts had standing.¹⁰⁷ The *Urgenda* case examined the Intergovernmental Panel on Climate Change reports to provide the scientific basis for the required emissions reductions.¹⁰⁸ The *Urgenda* Court also applied the precautionary principle, which advocates for proactive measures in the face of scientific uncertainty, to its decision to impose a 25% GHG reduction.¹⁰⁹

Both Courts' inclusion and acceptance of climate science as the basis of their activist decisions may encourage other courts to do the same.¹¹⁰ This approach could lead to more proactive judicial measures aimed at preventing environmental harm before it occurs.¹¹¹ Judicial activism, like in

104. See Sherry, *supra* note 75 (identifying *Plessy v. Ferguson* as a universally condemned case of judicial deference); *Plessy v. Ferguson*, 163 U.S. 537, 540, 542, 548–49 (1896).

105. See, e.g., Don C. Smith, *Environmental Court and Tribunals: Changing Environmental and Natural Resources Law Around the Globe*, 36 J. ENERGY & NAT. RES. L. 137, 137–38 (2018) (providing examples of how certain courts are uniquely positioned to engage in judicial activism to develop a "holistic" approach to climate change).

106. *Massachusetts v. EPA*, 549 U.S. 497, 507–10 (2007).

107. *Id.* at 521–24.

108. See *Urgenda Supreme Court Opinion* ¶ 2.1 (listing scientific bases for climate change science).

109. *Id.* ¶¶ 7.2.10–11, 8.3.5.

110. Some subsequent decisions similarly relied on climate science, demonstrating how activist judges can set examples for others. See, e.g., *KlimaSeniorinnen v. Switzerland*, App. No. 53600/20, ¶¶ 64–74 (Apr. 9, 2024), <https://hudoc.echr.coe.int/eng/?i=001-233206> (citing the Intergovernmental Panel on Climate Change report).

111. See Hari M. Osofsky, *Litigation's Role in the Path of U.S. Federal Climate Change Regulation: Implications of AEP v. Connecticut*, 46 VAL. U. L. REV. 447, 454 (2012) (noting the U.S. Supreme Court has presented itself as an arbiter "rather than as a forum for debating climate change science . . .").

Massachusetts and *Urgenda*, can significantly impact climate change in many ways.¹¹²

First, like in *Massachusetts*, activist judges can help address regulatory gaps. When existing laws are inadequate to address climate issues, activist judges might interpret them in ways that fill these gaps.¹¹³ This can include expanding the scope of existing environmental statutes to cover emerging climate challenges. The *Massachusetts* Court understood that the United States Congress did not specifically contemplate GHGs when the Clean Air Act was enacted, yet the Court read the definition of “pollutant” to include GHGs, a more contemporary concern.¹¹⁴ Through engaging in judicial activism, courts can interpret environmental laws to enforce stricter pollution controls or broader conservation measures in light of contemporary concerns.¹¹⁵ This can have significant impacts on national, and by extension, international GHG emissions.¹¹⁶

While activist judges will ideally act in the regulatory sphere to mitigate climate change, there may be concerns that judges may take an activist role against climate change mitigation measures. This concern is particularly felt in the United States following the 2024 *Loper Bright* decision that overruled the *Chevron* doctrine.¹¹⁷ Although not the topic of this article, to summarize, *Loper Bright* eliminated *Chevron* deference to administrative agencies.¹¹⁸ Instead, the Court directed judges to exercise their independent judgment to decide whether an agency has acted within its statutory authority.¹¹⁹ This may open the door to more judicial activism, whether for or against climate change mitigation.¹²⁰ However, many fear that more judges will use this

112. See, e.g., Smith, *supra* note 105, at 137–38 (explaining how certain courts are poised to engage in what some would consider judicial activism to impact climate change).

113. See Osofsky, *supra* note 111, at 447–48 (discussing the U.S. Supreme Court’s role in expanding EPA’s authority to regulate GHGs).

114. *Massachusetts v. EPA*, 549 U.S. 497, 507, 532 (2007).

115. *Id.* at 532 (forcing EPA to examine GHG under the Clean Air Act).

116. See, e.g., *The Evidence is Clear: The Time for Action is Now. We Can Halve Emissions by 2030*, IPCC (Apr. 4, 2022), <https://www.ipcc.ch/2022/04/04/ipcc-ar6-wgiii-pressrelease/> (explaining how targeting certain industries, cities, and neighborhoods can impact global GHG emissions).

117. *Loper Bright Enterprises v. Raimondo*, 603 U.S. 369, 412 (2024).

118. *Id.*

119. *Id.*

120. See, e.g., *Supreme Court Eliminates Longstanding Legal Principle in Ruling About Fisheries Management*, EARTH JUST. (June 28, 2024), <https://earthjustice.org/article/loper-bright-chevron-dctrine-relentless> (noting the negative implications of the *Loper Bright* decision, specifically that it opens the door to judges ignoring agency decisions and replacing with their own judgment); *Environmental Law Implications of Loper Bright and the End of Chevron Deference*, SIDLEY (July 2, 2024), <https://environmentalenergybrief.sidley.com/2024/07/02/environmental-law-implications-of-loper-bright-and-the-end-of-chevron-deference/> (noting more regulatory challenges may arise).

ruling to strike down climate change mitigation measures rather than promote them.¹²¹

Another opportunity for judicial activism is by protecting health and human rights. Judges generally do not have the authority to invent entirely new laws or rights without a legal basis.¹²² Judges can, however, interpret existing legal frameworks to shape jurisprudence that is conducive to positive climate policies.¹²³ Therefore, judicial activism can lead to decisions that protect public health and individual rights in the context of climate change. The *Urgenda* decision falls into this category. By identifying and enforcing the ECHR, the *Urgenda* Court protected the rights of Dutch citizens related to climate change.¹²⁴ As discussed below, subsequent court decisions have followed this line of activism, and future courts might continue to rule that climate change impacts infringe on human rights. The European Court of Human Rights, in particular, has been viewed as inclined toward activism in this regard.¹²⁵

Second, judicial rulings can shift public and political conversations about climate change.¹²⁶ High-profile judicial activism cases specifically bring greater attention to environmental issues, which may accelerate policy changes or inspire new legislation.¹²⁷ Both *Massachusetts* and *Urgenda* impacted public and political conversations. *Massachusetts*, on its face, affirmed EPA's regulatory authority; but more broadly, it enhanced awareness of how judges can impact regulatory practices and fueled debates over environmental regulation and policy.¹²⁸ Its impact influenced the 2015

121. See, e.g., *In the Wake of the Chevron Decision*, YALE SCH. OF THE ENV'T (July 16, 2024), <https://environment.yale.edu/news/article/wake-chevron-decision> (summarizing environmental law professors' reactions to *Loper Bright*).

122. See, e.g., *Am. Elec. Power Co., Inc. v. Connecticut*, 564 U.S. 410, 415 (2011) (holding private corporations cannot be sued for GHG emissions under current U.S. law and declining to create new laws).

123. Heather Colby et al., *Judging Climate Change: The Role of the Judiciary in the Fight Against Climate Change*, 7 OSLO L. REV. 168, 180–81 (2020).

124. *Urgenda* Supreme Court Opinion ¶ 8.3.4.

125. See generally Marko Bosnjak & Kacper Zajac, *Judicial Activism and Judge-Made Law at the ECtHR*, 23 HUM. RTS. L. REV. 1, 2 (2023) (summarizing the European Court of Human Rights as an activist court).

126. See generally Joana Setzer & Lisa C. Vanhala, *Climate Change Litigation: A Review of Research on Courts and Litigants in Climate Governance*, 10 WIREs CLIMATE CHANGE, Mar. 4, 2019, at 7–8 (discussing the role of courts and litigation in political and public discourse).

127. See Diya Kraybill, *Global Climate Change Litigation: A New Class of Litigation on the Rise*, 3 PRINCETON LEGAL J. F., Winter 2023, at 23, 26, <https://legaljournal.princeton.edu/wp-content/uploads/sites/826/2024/05/3-Prin.L.J.F.-23.pdf> (noting that, although not always successful, climate litigation can spur government action).

128. Liz Mineo, *How and Why the Supreme Court Made Climate-Change History*, HARVARD GAZETTE (Apr. 22, 2020), <https://news.harvard.edu/gazette/story/2020/04/massachusetts-v-epa-opened-the-door-to-environmental-lawsuits/>.

Paris Accord, where 195 nations agreed to reduce GHG emissions.¹²⁹ *Urgenda* established a legal precedent that inspired similar lawsuits in other countries while increasing government accountability. The case generated significant media and academic attention, highlighting the intersection of law, politics, and environmental policy.¹³⁰ It certainly stimulated discussions within the Netherlands about the adequacy of governmental climate commitments across the globe.¹³¹ After the first judgment, the idea that climate change is a governmental responsibility generally spread faster in the Netherlands than in the European Union.¹³²

Finally, environmental groups and activists often use courts to push for climate actions, arguing that governments are failing to meet their obligations to address climate change.¹³³ Courts can then compel governments to act on climate change if they find that current policies or inaction violate constitutional or statutory mandates.¹³⁴ The *Massachusetts* Court held that EPA had not been complying with its statutory mandate, emphasizing an obligation under the Clean Air Act.¹³⁵ The *Urgenda* Court set a specific GHG emission-reduction mandate for the government to achieve.¹³⁶ The Dutch government fell just short of the *Urgenda* mandate, but that still represented an improvement in GHG emission reduction.¹³⁷ Both cases demonstrate that activist courts have the potential to compel governments to take action on climate change and could be used to advance climate goals.

Specifically, judicial activism can serve as a mechanism for advancing environmental goals when the legislative and executive branches are slow to act. It can also serve as a catalyst for additional litigation and future judicial activism. As discussed below, both *Massachusetts* and *Urgenda* inspired

129. Mineo, *supra* note 128; Sam Evans-Brown, *Outside/In: How Massachusetts v. EPA Forced the U.S. Government to Take on Climate Change*, N.H. PUB. RADIO (May 8, 2021), <https://www.nhpr.org/environment/2021-05-08/outside-in-how-massachusetts-v-epa-forced-the-u-s-government-to-take-on-climate-change>.

130. See e.g., Jacqueline Peel et al., *Shaping the “Next Generation” of Climate Change Litigation in Australia*, 41 MELBOURNE UNIV. L. R. 739, 805 (2017) (discussing how the *Urgenda* decision influenced Australia’s perspective on climate change litigation).

131. Benoit Mayer, *The Contribution of Urgenda to the Mitigation of Climate Change*, 35 J. ENV’T L. 167, 180 (2022).

132. *Id.* at 180–81 (citing data compiled from Eurobarometer).

133. See Isabella Kaminski, *The Legal Battles Changing the Course of Climate Change*, BBC (April 10, 2024), <https://www.bbc.com/future/article/20231208-the-legal-battles-changing-the-course-of-climate-change> (discussing increasing lawsuits advocating for climate change mitigation).

134. See Louis J. Kotze & Anel du Plessis, *Putting Africa on the Stand: A Bird’s Eye View of Climate Change Litigation on the Continent*, 50 ENV’T L. 615, 623 (2020) (explaining that some environmental litigation arises to compel government action).

135. *Massachusetts v. EPA*, 549 U.S. 497, 532–33 (2007).

136. *Urgenda Supreme Court Opinion* ¶ 8.3.4.

137. By the end of 2020, the Netherlands reduced its emissions by approximately 24.5% compared to 1990 levels. Mayer, *supra* note 131, at 170–71.

additional climate change actions. Some of the subsequent cases were instances of judicial activism themselves.¹³⁸ As of July 2024, there are over 2,500 climate lawsuits globally—many have the potential for judicial activism to positively impact climate change mitigation across the globe.¹³⁹

III. THE RIPPLE EFFECT

Although the legal bases were distinct in *Massachusetts* and *Urgenda*, both helped set off a ripple effect that extended beyond their jurisdictions. *Massachusetts* demonstrated how to mobilize national regulatory frameworks to address climate change. *Urgenda* demonstrated how to apply international human rights law in domestic courts. Through inspiring future litigation, these cases could promote the harmonization of climate-related legal standards and the adoption of more rigorous climate policies internationally. This can lead to a more coordinated global response to climate change, facilitated through judicial channels. The widespread reach of each case also suggests they might influence future judges to engage in judicial activism, as defined and discussed below.

A. *Massachusetts v. Environmental Protection Agency*

The *Massachusetts* Court used the broad language of the Clean Air Act to mandate that EPA regulate GHGs unless EPA could justify its decision.¹⁴⁰ Broadly, this decision confirmed that existing environmental statutes like the Clean Air Act can be interpreted to include regulating GHGs. After *Massachusetts*, it seemed possible that courts could be more willing to interpret existing statutory provisions expansively to address climate change and other environmental challenges.¹⁴¹ This could potentially lead to increased litigation to encourage regulatory action by agencies tasked with environmental protection.

138. See, e.g., *KlimaSeniorinnen and Others v. Switzerland*, App. No. 53600/20 (April 9, 2024) <https://hudoc.echr.coe.int/eng?i=001-233206>; see also *KlimaSeniorinnen v. Switzerland*, CLIMATE CHANGE LITIG. DATABASES, <https://climatecasechart.com/non-us-case/union-of-swiss-senior-women-for-climate-protection-v-swiss-federal-council-and-others/#> (last visited Feb. 28, 2025) (summarizing basis for case before the European Court of Human Rights).

139. JOANA SETZER & CATHERINE HIGHAM, GLOBAL TRENDS IN CLIMATE CHANGE LITIGATION: 2024 SNAPSHOT 10 (June 2024).

140. *Massachusetts*, 549 U.S. at 534–35.

141. See, e.g., Johnathan H. Adler, *Massachusetts v. EPA Heats Up Climate Policy No Less than Administrative Law: A Comment on Professors Watts and Wildermuth*, 102 NORTHWESTERN UNIV. SCH. L. 32, 37 (2007) (highlighting EPA's likely obligation to reevaluate their regulations under the CAA to encompass GHGs).

However, more recent cases call into question this potential increase in courts encouraging regulatory action. For example, *West Virginia v. Environmental Protection Agency*, a 2022 United States Supreme Court case, limited agency authority.¹⁴² This case focused on the scope of EPA's authority under the Clean Air Act to implement the federal Clean Power Plan.¹⁴³ The Clean Power Plan aimed to reduce carbon dioxide emissions from power plants by setting state-specific targets and encouraging a shift to renewable energy sources.¹⁴⁴ The Court addressed two key issues: (1) whether EPA has authority under the Clean Air Act to implement the Clean Power Plan's approach, which involved regulating emissions beyond individual power plants by setting state-level goals; and (2) whether EPA's regulatory actions constituted a major question requiring clear congressional authorization, given the economic and political significance of regulating power plant emissions.¹⁴⁵

The Court held that EPA overstepped its authority under the Clean Air Act by attempting to regulate GHG emissions through the Clean Power Plan without explicit congressional authorization.¹⁴⁶ Specifically, the Court applied the major questions doctrine, emphasizing that significant regulatory decisions affecting the economy require clear authorization from Congress.¹⁴⁷ The ruling limited EPA's ability to use the Clean Air Act to enforce broad emissions reductions at a systemic level.¹⁴⁸

West Virginia had a chilling effect on environmentalists' high hopes after *Massachusetts*. It restricted federal agencies' ability to interpret broadly-worded statutes to implement significant policy changes.¹⁴⁹ It also hindered the federal government's ability to address large-scale climate change through regulatory actions alone, potentially requiring new legislation from Congress to achieve substantial GHG reductions.¹⁵⁰ Additionally, it opened the door to more litigation aimed at reducing the government's regulatory authority.¹⁵¹ The decision has profound implications for environmental regulation, climate policy, and the broader landscape of administrative law in the United States.

142. *West Virginia v. EPA*, 597 U.S. 697 (2022).

143. *Id.* at 706.

144. *See id.* at 714–716 (discussing Clean Power Plan generally).

145. *Id.* at 706, 732.

146. *Id.* at 735.

147. *Id.* at 732.

148. Shay Dvoretzky et al., *West Virginia v. EPA: Implications for Climate Change and Beyond*, SKADDEN INSIGHTS (Sept. 2022), <https://www.skadden.com/insights/publications/2022/09/quarterly-insights/west-virginia-v-epa>.

149. *Id.* (relating to the major questions doctrine).

150. *Id.*

151. *Id.*

However, *Massachusetts* remains a viable option for future regulatory litigation. After *West Virginia*, EPA still has the authority to regulate GHGs on a more individual level.¹⁵² *Massachusetts* remains an example of broad statutory language mandating agency action.¹⁵³ Several subsequent cases built on the themes and arguments in *Massachusetts* to reinforce EPA's authority to regulate GHGs.

For example, in *American Electric Power Co. v. Connecticut*, the United States Supreme Court heard a case in which eight states, New York City, and three land trusts sued four power companies and the federal Tennessee Valley Authority.¹⁵⁴ The plaintiffs in the case asserted federal common-law public nuisance claims.¹⁵⁵ The Court specifically considered whether the plaintiffs could maintain the claims or if EPA actions displaced common-law rights.¹⁵⁶ The Court held that the Clean Air Act displaced federal common law claims for GHGs and affirmed that EPA is the primary authority to regulate those emissions, noting: "*Massachusetts* made plain that emissions of carbon dioxide qualify as air pollution subject to regulation under the [Clean Air] Act."¹⁵⁷

As another example, in *Utility Air Regulatory Group v. Environmental Protection Agency*, the United States Supreme Court considered a challenge to EPA's authority under the Clean Air Act's permit requirements.¹⁵⁸ Specifically, the Court examined whether it was permissible for EPA to determine that motor-vehicle GHG regulations automatically triggered Clean Air Act permitting requirements for stationary sources that emit GHGs.¹⁵⁹ Ultimately, the Court upheld EPA's authority to regulate GHGs from stationary sources, allowing the agency to consider GHGs in permitting as long as the source required a permit for other pollutants.¹⁶⁰

The principles of *Massachusetts* can also be seen in international climate change litigation. Cases after *Massachusetts* used different legal frameworks to compel government action in the regulatory sphere. For example, in *Earthlife Africa Johannesburg v. Minister of Environmental Affairs and Others*, Earthlife Africa challenged the approval of a coal-fired power plant in South Africa, arguing that the environmental impact assessment failed to

152. Dvoretzky et al., *supra* note 148.

153. *Massachusetts v. EPA*, 549 U.S. 497, 532–35 (2007).

154. *Am. Elec. Power Co., v. Connecticut*, 564 U.S. 410, 415 (2011).

155. *Id.*

156. *Id.* at 415, 424.

157. *Id.* However, by using EPA's authority to preempt the nuisance claim, the Court also limited the types of cases that might be used to impact climate change mitigation.

158. *Util. Air Regul. Grp. v. EPA*, 573 U.S. 302, 307 (2014).

159. *Id.*

160. *Id.* at 333–34. However, the Court also ruled that EPA could not require permits solely based on GHGs. *Id.*

consider climate change impacts.¹⁶¹ The Gauteng Division of the High Court of South Africa agreed, ruling that the environmental impact assessment must include an evaluation of climate change impacts.¹⁶² This case emphasized the importance of integrating climate considerations into regulatory approvals.

In *DUH and BUND v. Germany*, Friends of the Earth Germany submitted a claim with the Berlin-Brandenburg Higher Administrative Court because Germany missed its emission targets for the building and transport sectors.¹⁶³ The plaintiffs argued that the sectors exceeded their permissible emissions, meaning they are required to draft an emergency program to quickly reduce their emissions.¹⁶⁴ The Berlin-Brandenburg Higher Administrative Court ruled that the government must adopt an immediate action program to meet emission targets between 2024 and 2030.¹⁶⁵

Ultimately, the activist Court in *Massachusetts* continues to have great potential to propel government action in the regulatory and regulatory-adjacent spheres. *Massachusetts* and subsequent decisions also illustrate the role of activist judges in shaping climate change policies. Although countries have different regulatory entities, many activist judges have the potential to compel regulatory action within the context of broad statutory language, like the *Massachusetts* Court.

B. Urgenda Foundation v. State of the Netherlands

While the Dutch government fell slightly short of the Court's mandate,¹⁶⁶ *Urgenda* underscored the legal responsibility of governments to protect their citizens from climate change effects. The decision set an influential precedent for climate litigation worldwide, particularly in the human rights sphere.¹⁶⁷ By grounding its decision in international human rights law, specifically the

161. *Earthlife Africa Johannesburg v. Minister of Env't Affs.*, 2017 (1) SA 519 (GNP) at para. 4 (S. Afr.).

162. *Id.* at paras. 98, 126.3.

163. *Oberverwaltungsgericht [OVG] [Higher Administrative Court]* Nov. 20, 2023, 11 A 11/22 (Ger.); *DUH and BUND v. Germany*, CLIMATE CHANGE LITIG. DATABASES, <https://climatecasechart.com/non-us-case/bund-v-germany/> (summarizing case background and outcome).

164. *DUH and BUND v. Germany*, CLIMATE CHANGE LITIG. DATABASES, <https://climatecasechart.com/non-us-case/bund-v-germany/> (summarizing case background and outcome).

165. *Id.*

166. Mayer, *supra* note 131, at 171. By the end of 2020, the Netherlands reduced its emissions by approximately 24.5% compared to 1990 levels. *Id.*

167. See Roger Cox, *A Climate Change Litigation Precedent Urgenda Foundation v The State of the Netherlands*, CIGI PAPERS, Nov. 2015, at 13 (discussing the potential for *Urgenda* to influence other courts). But see Mayer *supra* note 131 at 179-80 (acknowledging that courts of some other countries did not follow suit in imposing specific emissions reduction mandates on government actors).

ECHR, the Court emphasized the government's duty to protect the life and well-being of its citizens from the impacts of climate change.¹⁶⁸ This opened a legal pathway for climate litigation based on human rights violations. It could also expand the scope of judicial review to include evaluating the adequacy of governmental policies against human rights standards.

Since the Hague Court of Appeal decision in *Urgenda* in 2015, multiple human rights cases have been filed internationally. For example, in *Notre Affaire a Tous and Others v. France*, the Administrative Court of Paris considered a case where a coalition of NGOs filed against the French government.¹⁶⁹ Specifically, the plaintiffs argued that the French government failed to meet its climate change commitments, resulting in environmental and human rights violations.¹⁷⁰ The Court found the French government liable for failing to meet its climate commitments, ruling the government's inaction infringed upon the right to live in a healthy environment.¹⁷¹

In *Sacchi v. Argentina, Brazil, France, Germany, & Turkey*, 16 youth activists, including Greta Thunberg, filed a complaint arguing defendants' failure to take adequate action violated the youth activists' rights under the United Nations Convention on the Rights of the Child.¹⁷² This included the rights to life, health, and culture.¹⁷³ The petitioners specified a number of harms, such as severe asthma attacks from smog, impacts to an indigenous community's traditional reliance on reindeer herding, and impacts of sea level rise on island culture.¹⁷⁴ The United Nations Committee on the Rights of the Child ruled that, while climate change is a children's rights issue, the case was inadmissible due to procedural errors.¹⁷⁵ Specifically, the youth activists had not exhausted their domestic remedies.¹⁷⁶

Multiple cases have also used the same legal basis as *Urgenda* (ECHR Articles 2 and 8) with varying degrees of success. For instance, in *Greenpeace Nordic and Others v. Norway*, environmental organizations challenged the Norwegian government's decision to issue oil drilling licenses in the Barents Sea.¹⁷⁷ The plaintiffs argued the decision violated their

168. *Urgenda* Supreme Court Opinion ¶ 8.3.4.

169. Tribunal Administratif [TA] [Administrative Court] Paris, Feb. 3, 2021, No. 1904967, 1904968, 1904972, 1904976/4-1 (Fr.).

170. *Id.* at 24–25.

171. *Id.* at 37.

172. Brief for Petitioner ¶¶ 24–30, *Sacchi et al. v. Argentina, Brazil, France, Germany, & Turkey*, Comm. on the Rights of the Child, Communication No. 104/2019 (Sept. 23, 2019).

173. *Id.* ¶ 25–27.

174. *Id.* ¶¶ 112, 138, 121–25.

175. *Sacchi et al. v. Argentina, Brazil, France, Germany, & Turkey*, Communication 104/2019, Comm. on the Rights of the Child, ¶¶ 10.14, 10.21 (Sept. 22, 2021).

176. *Id.* ¶ 10.21.

177. *Greenpeace Nordic Ass'n & Nature and Youth v. Ministry of Petroleum and Energy*, HR-2020-2472-P, Case No. 20-051052SIV-HRET, ¶ 6 (Sup. Ct. of Nor., 2020).

constitutional rights to a healthy environment, Norway's commitments under the Paris Agreement, and Articles 2 and 8 of the ECHR.¹⁷⁸ The Norwegian Supreme Court ruled in favor of the government, finding the drilling licenses did not breach the constitution or the ECHR.¹⁷⁹ However, the plaintiffs have appealed to the European Court of Human Rights, narrowing their arguments to Articles 2 and 8 of the ECHR.¹⁸⁰ If the court takes the case, it could further clarify the relationship between resource extraction, climate change, and human rights.

Another case invoking the ECHR is *Carême v. France*.¹⁸¹ In that case, Carême, the former mayor of Grande-Synthe, France, filed a case against the French government, arguing its inadequate climate policies violated his and his constituents' rights.¹⁸² The Council of State accepted the application from the municipality but not from Carême as an individual.¹⁸³ It found for the municipality and ordered the government to take additional measures to reduce GHG emissions by 2022 to achieve the goal of reducing GHG emissions 40% by 2030.¹⁸⁴ Carême appealed his individual case to the European Court of Human Rights, arguing ECHR Article 8 violations had occurred.¹⁸⁵ In April 2024, the European Court dismissed his claim because he no longer lived in France or had relevant links with Grande-Synthe.¹⁸⁶

178. Greenpeace Nordic Ass'n & Nature and Youth v. Ministry of Petroleum and Energy, HR-2020-2472-P, Case No. 20-051052SIV-HRET, ¶¶ 3, 5 (Sup. Ct. of Nor., 2020).

179. *Id.* at ¶¶ 29–30.

180. Greenpeace Nordic Ass'n & Others v. Norway, App. No. 34068/21 (Eur. Ct. of Hum. Rts., filed June 8, 2021) (pending); *see also* Greenpeace Nordic and Others v. Norway, CLIMATE CHANGE LITIG. DATABASES, <https://climatecasechart.com/non-us-case/greenpeace-nordic-assn-v-ministry-of-petroleum-and-energy-ecthr/> (last visited Feb. 18, 2025) (summarizing basis for case before the European Court of Human Rights).

181. Carême v. France, App. No. 7189/21, (Apr. 9, 2024), <https://hudoc.echr.coe.int/eng?i=001-233174>.

182. Conseil D'État [CE] [Council of State], July 1, 2021, No. 427301, ¶¶ 1, at 3–4 (Fr.); *see Commune de Grande-Synthe v. France*, CLIMATE CHANGE LITIG. DATABASES, <https://climatecasechart.com/non-us-case/commune-de-grande-synthe-v-france/> (last visited Mar. 1, 2025) (summarizing basis for case presented to the French Council of State).

183. Carême v. France, App. No. 7189/21, ¶ 28 (Apr. 9, 2024), <https://hudoc.echr.coe.int/eng?i=001-233174>.

184. Conseil D'État [CE] [Council of State], July 1, 2021, No. 427301, at 4 (Fr.); *Commune de Grande-Synthe v. France*, CLIMATE CHANGE LITIG. DATABASES, <https://climatecasechart.com/non-us-case/commune-de-grande-synthe-v-france/> (last visited Mar. 1, 2025) (providing English summary).

185. Carême v. France, App. No. 7189/21, ¶¶ 3–4 (Apr. 9, 2024), <https://hudoc.echr.coe.int/eng?i=001-233174>; *see also* Carême v. France, CLIMATE CHANGE LITIG. DATABASES, <https://climatecasechart.com/non-us-case/careme-v-france/> (last visited Mar. 1, 2025) (summarizing basis for case before the European Court of Human Rights).

186. Carême v. France, App. No. 7189/21, ¶¶ 81–85, 88 (Apr. 9, 2024), <https://hudoc.echr.coe.int/eng?i=001-233174>.

In 2020, six Portuguese youth filed a lawsuit against 33 European countries in *Duarte Agostinho v. Portugal*.¹⁸⁷ Their complaint alleged that the countries violated Articles 2, 8, and 14 of the ECHR, which include the rights to life, privacy, and not to experience discrimination.¹⁸⁸ Specifically, they claimed their rights were violated by the failure to address climate change, causing adverse and dangerous effects.¹⁸⁹ The European Court of Human Rights dismissed the complaint on jurisdictional and procedural grounds.¹⁹⁰ It found that territorial jurisdiction was only proper with respect to Portugal, and the applicants did not exhaust their domestic remedies there.¹⁹¹

As a final example, another case argued before the European Court of Human Rights is *KlimaSeniorinnen [Senior Swiss Women for Climate Protection] v. Switzerland*.¹⁹² The case involved a group of Swiss senior women who argued that the Swiss government's inadequate climate policies violated their rights under the ECHR.¹⁹³ The Swiss Supreme Court held in favor of the government.¹⁹⁴ Having exhausted all available national remedies, the petitioners filed the case in the European Court of Human Rights.¹⁹⁵ The women argued that climate change had a disproportionate impact on older women, potentially setting an important precedent for addressing age and gender impacts as they relate to climate change and human rights.¹⁹⁶

In April 2024, the European Court of Human Rights found a violation of the women's Article 8 right to respect for private and family life.¹⁹⁷ Specifically, the Court found that Switzerland failed to comply with its

187. *Duarte Agostinho v. Portugal*, App. No. 39371/20, ¶ 1 (April 9, 2024), <https://hudoc.echr.coe.int/eng?i=001-233261>; see *Duarte Agostinho v. Portugal*, CLIMATE CHANGE LITIG. DATABASES, <https://climatecasechart.com/non-us-case/youth-for-climate-justice-v-austria-et-al/> (summarizing basis for case before the European Court of Human Rights).

188. *Duarte Agostinho v. Portugal*, App. No. 39371/20, ¶ 3 (Apr. 9, 2024), <https://hudoc.echr.coe.int/eng?i=001-233261>.

189. *Id.* ¶¶ 13–14.

190. *Id.* ¶ 231(1)–(4).

191. *Id.* ¶ 231(3)–(4).

192. *KlimaSeniorinnen v. Switzerland*, App. No. 53600/20, 1, 8, 10 at ¶ 9 (Apr. 9, 2024), <https://hudoc.echr.coe.int/eng?i=001-233206>.

193. *Id.* ¶ 1, 3; see *KlimaSeniorinnen v. Switzerland (ECtHR)*, CLIMATE CHANGE LITIG. DATABASES (2020), <https://climatecasechart.com/non-us-case/union-of-swiss-senior-women-for-climate-protection-v-swiss-federal-council-and-others/#> (summarizing basis for case before the European Court of Human Rights).

194. *Id.*

195. *KlimaSeniorinnen v. Switzerland (ECtHR)*, CLIMATE CHANGE LITIG. DATABASES, <https://climatecasechart.com/non-us-case/union-of-swiss-senior-women-for-climate-protection-v-swiss-federal-council-and-others/#> (last visited Feb. 18, 2025).

196. *KlimaSeniorinnen v. Switzerland*, App. No. 53600/20, ¶ 24.

197. *Id.* ¶ 481, 574.

affirmative duties under the ECHR concerning climate change.¹⁹⁸ The Court identified gaps in establishing a domestic regulatory framework and a failure to meet past GHG emission targets.¹⁹⁹

Following the *Urgenda* Court of Appeal decision, these cases represent a growing trend of invoking human rights as a basis for demanding stronger climate action and holding governments accountable for their environmental responsibilities. Three years after the first *Urgenda* decision, the United Nations Human Rights Committee confirmed that the right to life listed in the International Covenant on Civil and Political Rights includes affirmative obligations for nations to act against climate change, further cementing *Urgenda*'s reasoning.²⁰⁰ This, in addition to the subsequent cases, demonstrates the evolving global legal landscape, where human rights law increasingly intersects with environmental protection. The judicial activism in *Urgenda* and cases like it have helped solidify that connection.

CONCLUSION

Years later, the *Massachusetts* and *Urgenda* decisions remain landmark cases in climate litigation. While the legal frameworks behind each of these decisions differ, judicial activism links them. The idea of judicial activism is not new, but *Massachusetts* and *Urgenda* are examples of how far the influence of an activist judge can reach in setting climate policy. The cases that build on *Massachusetts* and *Urgenda* demonstrate the global impact of just two activist courts. Some of the resulting decisions are definitionally judicial activism themselves, illustrating the cascading effect a court can have on climate change mitigation.

To be clear, an activist court does not automatically mean that there will be a ruling in favor of climate change mitigation. However, *Massachusetts* and *Urgenda* demonstrate that there is a great opportunity for the judiciary to drive positive change in the climate change mitigation sphere. Environmental advocates can only hope that activist judges exercise their judgment responsibly to counteract humanity's impact on our planet.

198. *KlimaSeniorinnen v. Switzerland*, App. No. 53600/20, ¶¶ 573–74.

199. *Id.* ¶ 573.

200. United Nations Human Rights Committee, International Covenant on Civil and Political Rights, General Comment No. 36 Article 6: Right to Life, ¶ 62, CCPR/C/GC/36 (Sept. 3, 2019) (Comment No. 36 on Article 6 of the International Covenant on Civil and Political Rights on the right to life).

“TO HIS DOG, EVERY MAN IS NAPOLEON”: USING CONTINGENT VALUATION TO BRIDGE THE GAP BETWEEN ENVIRONMENTAL NONUSE DAMAGES AND COMPANION ANIMAL DAMAGES¹

*Dawson Vandervort**

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1. Aldous Huxley, *as quoted in* Robert Andrews, THE CONCISE COLUM. DICTIONARY OF QUOTATIONS 73 (1990).

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INTRODUCTION

One October morning in 2019, hours before dawn would break, a Neapolitan Mastiff named Hurley started crying.² Restless, he moved around from two in the morning until six. Hurley suffered immense pain as his stomach hardened, filled with air, and began to flip on itself.

Hurley’s human family members followed him throughout the house all night. Hurley laboriously climbed the stairs, went out the back door, back into the kitchen, and down the stairs again all while crying and whimpering. The family was at a loss; they had no idea what was causing his suffering. Around six in the morning the mother of the family came into the living room and guessed, correctly, that Hurley was suffering from gastric dilatation-volvulus—stomach flip.

The family raced Hurley to the nearest animal hospital for emergency care. The technicians there poked a hole into his underside to release air and depressurize his stomach, but the flip would continue until Hurley either had emergency surgery or died. The technicians forewarned that the surgery was costly and recommended another animal hospital forty minutes north where a surgeon and his team could perform the work for half the cost. After making the trip, the surgeon saved Hurley’s life within an hour. The surgeon even stapled Hurley’s stomach to his rib cage to prevent future stomach flipping.

While the family was overcome with joy that their beautiful, tawny boy had survived the ordeal, they struggled with the financial consequences—the vet bills stacked up in the thousands. They would not have made any other choice though. As with any family member, life-saving medical care is non-negotiable. To pay for the cost of the emergency surgery, the family cancelled their vacation for that year.

This story highlights a key fact about companion animals: they bring a noneconomic use to their families that fair market valuations will never reflect.³ For example, Hurley’s parents bought him as a puppy for a few hundred dollars, which is Hurley’s “fair market value.” But the cost of the emergency surgery far exceeded his market value—it was the cost of a family vacation. Yet, costs like these occur for millions of families—Americans spend upwards of \$16 million per year on vet bills.⁴

2. The story that follows is based on the author’s personal experience.

3. Larissa Parker, *Reconciling the Discrepancies Between Emotional Value of Companion Animals and the Insufficient Legal Remedies for Their Loss*, 45 W. STATE L. REV. 105, 118 (2015).

4. E.g., Jenna Goudreau, *I Spent \$7,000 on My Cat’s Medical Bills, and I Have Only One Regret*, CNBC: MAKE IT (June 21, 2022, 10:17 AM), <https://www.cnbc.com/2017/04/06/i-spent-7000-on-my-cats-medical-bills-and-i-have-only-one-regret.html> (explaining Americans spend upwards of 16 million dollars a year on vet bills to ensure the health of their companion animals).

Rules for companion animal damages fail to account for the true value of companion animals. In domineering fashion, anthropocentric courts focus their approach on a companion animal's fair market or economic value to their humans.⁵ The idea for this article came from the quote "[t]o his dog, every man is Napoleon."⁶ A Texas judge used this quote while denying noneconomic damages for companion animals.⁷ The comparison to Napoleon was apt; people use the word "Napoleonic" colloquially to refer to someone who is domineering to overcompensate for a perceived flaw or someone who exerts their will over another in an arrogant way.⁸ The common law approach to companion animal damages wholly encapsulates this colloquialism.

State courts generally classify companion animals as personal property despite a general cognizance and flippant quipping about their uniqueness and qualities distinct from typical personal property.⁹ Courts often ignore a biocentric perspective and the simple fact that companion animals contribute far more to life than any dollar amount could reflect.¹⁰ Mimicking Napoleon's hubris, state courts continue to overlook a method of valuation that, although imperfect, more accurately reflects the value companion animals bring to life: contingent valuation (CV). This article uses the downfall of Napoleon as a historical parallel to emphasize how the domineering approach courts take in companion-animal cases fails to keep pace with the noneconomic valuations of environmental statutes.

Harm done to companion animals results in abstract and, sometimes, unquantifiable monetary damages to both the nonhuman and human animal. By excluding the noneconomic value of companion animals, traditional damages calculations for torts against property fall short of making injured

5. Strickland v. Medlen, 397 S.W.3d 184, 198 (Tex. 2013).

6. Huxley, *supra*, note 1.

7. Strickland, 397 S.W.3d at 197.

8. *Napoleon Complex*, MERRIAM-WEBSTER DICTIONARY, <https://www.merriam-webster.com/dictionary/Napoleon%20complex> (last updated Jan. 20, 2025); *Domineering*, MERRIAM-WEBSTER DICTIONARY, <https://www.merriam-webster.com/dictionary/domineering> (last updated Feb. 25, 2025); David E. Sandberg & Linda D. Voss, *The Psychosocial Consequences of Short Stature: A Review of the Evidence*, 16 BEST PRAC. & RSCH. CLINICAL ENDOCRINOLOGY & METABOLISM 449, 450 (2002); Mark J. Kroll et al., *Napoleon's Tragic March Home from Moscow: Lessons in Hubris*, 14 ACAD. MGM'T EXEC. 117, 117 (2000).

9. See, e.g., Strickland, 397 S.W.3d at 185 (beginning the opinion with a joke about *Old Yeller* and recognizing dogs for their intrinsic value, but relegating dogs to their market value); Gluckman v. Am. Airlines, Inc., 844 F. Supp. 151, 158 (S.D.N.Y. 1994) (distinguishing a prior case, saying its decision to recognize pets as more than property was an "aberration[] flying in the face of overwhelming authority"); Goodby v. Vetpharm, 2009 VT 52, ¶ 11, 186 Vt. 63, 974 A.2d 1273 (explaining that companion animals have a value being anything markets will give them, but refusing to allow noneconomic recovery for companion animals until the legislature authorizes it).

10. Strickland, 397 S.W.3d at 198.

people whole again.¹¹ Companion animals, like the environment in general, fill a unique role in everyday life that cannot be reduced to fair market value. This article will compare environmental damages statutes with companion animal damages at common law and argue that injuries suffered by companion animals can and should include nonuse valuation estimated through CV.

This article consists of three main components. First, it examines the relevant background, including the common law rule for damages in companion animal cases and the statutory and regulatory rules for damages in environmental statutes. Second, it analyzes the disjunct between companion animal damages and environmental damages. This section also analyzes potential areas of compatibility between the two, including how CV may fit into both. Finally, this article provides policy arguments supporting the use of CV in companion animal damages calculations.¹²

I. A BRIEF BACKGROUND OF COMPANION ANIMAL LAW AND ENVIRONMENTAL LAW

Companion animal law and environmental law, despite some intuitive similarities, have wound up on vastly different paths. Companion animal law, as a common-law construct, generally draws no authority from state or federal legislatures.¹³ Most jurisdictions have soundly rejected the concept of noneconomic or nonuse values in damages calculations.¹⁴ In contrast, environmental law is a creature of statute, and courts rely on this statutory language to award damages. Though flaws exist, environmental statutes like the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) carve out a path for including noneconomic values in damages calculations.¹⁵ To understand the various methods for calculating damages, one must understand what nonuse values and CV involve.

11. See e.g., Mary Randolph, *When a Pet Is Injured or Killed: Compensating the Owner*, NOLO (Jan. 31, 2023), <https://www.nolo.com/legal-encyclopedia/free-books/dog-book/chapter9-6.html> (explaining that many states disallow noneconomic damages even if a companion animal's fair market value is zero).

12. Note that, while the better long-term solution would include freeing animals of their “property” classification, this paper focuses on reforming the domineering approach taken by courts through contingent valuation.

13. While federal and state animal cruelty laws do exist, they fall outside the scope of this paper. This paper focuses on common law causes of action and court-developed methods of valuing damages for injuries to companion animals.

14. *Goodby*, 2009 VT 52, ¶ 11; *Strickland*, 397 S.W.3d at 198; *Burgess v. Shampooch Pet Indus., Inc.*, 131 P.3d 1248, 1249–50 (Kan. Ct. App. 2006).

15. 42 U.S.C. § 9651(c)(2).

A. Contingent Valuation Primer

Nonuse values and CVs are methods economists use to infer a nonmonetary value. A nonuse value, also referred to as noneconomic, bequest, or existence value, is the monetary value associated with the conviction that parts of the natural world should remain unaltered.¹⁶ Nonuse values represent the value people place on knowing that a resource exists unaltered.¹⁷ The resource remains valuable regardless of whether somebody will consume, mine, produce, or use it. As such, nonuse values implicate an individual's willingness to pay¹⁸ for a resource to continue to exist without having a productive economic use.¹⁹ Failing to consider nonuse values leads to inefficiencies in court-awarded damages and a failure to truly reflect a resource's intrinsic value.²⁰

The most common way to measure noneconomic values is CV. In a CV, economists create a contingent or hypothetical market for a resource and ask individuals how they would act in that hypothetical market.²¹ Consumer answers to the hypotheticals help economists infer how much nonuse value a resource might have.²² For example, an economist may poll tourists at a national park to uncover how much a typical person would spend or has spent to see the national park.²³ The amount of money one spends or the tax increase one will stomach to see a national park contributes to the park's noneconomic value.²⁴ A tourist cannot utilize the national park for an economic end, like mining, so the nonuse value a consumer places on visiting a park is, approximately, the amount of money they spend on a trip to that national park.²⁵ With that in mind, the next two sections provide a brief history of relevant companion animal law and environmental law.

16. Jeffrey C. Dobbins, *The Pain and Suffering of Environmental Loss: Using Contingent Valuation to Estimate Nonuse Damages*, 43 DUKE L. J. 879, 902 (1994).

17. *Id.*

18. "Willingness to Pay" is a term of art in behavioral economics. Its use in environmental economics refers to how much consumers would pay to see a resource protected or for a resource's continued existence. TOM TIETENBERG & LYNNE LEWIS, ENV'T & NAT. RES. ECON. 81 (11th ed. 2018).

19. *Id.* at 75.

20. Dobbins, *supra* note 16, at 940.

21. *Id.* at 899 (noting that some CV studies also find nonuse value by measuring the amount of real money people have spent in the past to enjoy a resource, rather than creating a hypothetical market).

22. 43 C.F.R. § 11.83(d)(5)(i) (1992) ("The contingent valuation methodology includes all techniques that set up hypothetical markets to elicit an individual's economic valuation of a natural resource.").

23. TIETENBERG & LEWIS, *supra* note 18, at 87.

24. *Id.*

25. A 2016 study approximated the value of the United States' National Parks to be, at minimum, \$92 billion using a contingent valuation method like this, though much more complicated. That figure does not account for the value international visitors place on US National Parks. Michelle Haefele et al.,

B. Background of Companion Animal Common Law

Compensatory rules for companion animal damages stem from each state’s common law, but the general rule is consistent across jurisdictions: most state courts do not allow noneconomic damages for harm to companion animals and consider companion animals “personal property.”²⁶ Courts developed this rule to fill the gap in state statutes because states do not always have laws for damage to personal property.²⁷ The general rule exists because judges often say that placing monetary value on emotional attachment can lead to undisciplined or irrational damage amounts, or because judges would feel more comfortable with legislatures answering the question instead.²⁸ This judicial reluctance hints at the difficulty of calculating the value of noneconomic or abstract interests.

C. Background of Environmental Statute Damages Provisions

Compensatory rules for environmental damages, on the other hand, include alternative methods for calculating harm, opening the door for noneconomic valuation. Since the landmark 1989 case *State of Ohio v. United States Department of the Interior*,²⁹ courts, agencies, and private citizens alike have struggled with valuing abstractions like “the environment.” Congress and regulators have attempted to deal with such abstractions through the damages provisions of statutes like CERCLA and the Oil Pollution Act (OPA) and their respective regulations.³⁰

In *Ohio v. U.S. Dept. of the Interior*, the D.C. Circuit considered the Department of the Interior’s (DOI) regulations allowing for CV under CERCLA.³¹ CERCLA provides a broad foundation for measuring natural resource damages by requiring damages calculations to “take into consideration factors including, but not limited to, replacement value, use

Total Economic Valuation of the National Park Service Lands and Programs: Results of a Survey of the American Public, 71 HARV. ENV’T ECON. PROGRAM 1, 3 (2016).

26. *Sentell v. New Orleans*, 166 U.S. 698, 701 (1897); *Goodby v. VetPharm, Inc.*, 2009 VT 52, ¶ 11, 186 Vt. 63, 974 A.2d 1269; *Morgan v. Kroupa*, 702 A.2d 630, 631–32 (1997); *Strickland v. Medlen*, 397 S.W.3d 184, 198 (Tex. 2013); *Burgess v. Shampooch Pet Indus., Inc.*, 131 P.3d 1248, 1250 (Kan. Ct. App. 2006); *McDougall v. Lamm*, 48 A.3d 312, 326 (N.J. 2012).

27. *E.g., McDougall*, 48 A.3d at 324–25 (explaining that damages for trespass to chattel or conversion stem from common law causes of action).

28. *Scheele v. Dustin*, 2010 VT 45, ¶ 15, 188 Vt. 36, 998 A.2d 697 (“[W]e also recognize instances where the issue presented ‘is better left for legislative resolution.’” (quoting *State v. Leblanc*, 149 Vt. 141, 145, 540 A.2d 1037, 1040 (1987))).

29. *Ohio v. Dep’t of Interior*, 880 F.2d 432 (D.C. Cir. 1989).

30. 42 U.S.C. § 9651(c)(2); 33 U.S.C. § 2706(d)(1).

31. *Ohio*, 880 F.2d 432.

value, and ability of the ecosystem or resource to recover.”³² This implies that other values, such as noneconomic values, may hold significance.³³ CERCLA further provides that damages “shall not be limited” by restoration costs.³⁴ This language “carries with it the implication that restoration costs are the basic floor measure, not a ceiling,” and noneconomic valuation can find purchase under CERCLA claims.³⁵ The D.C. Circuit held that DOI incorrectly assumed that “natural resources are fungible goods,” which economists can measure,³⁶ and recognized “that natural resources have value that is not readily measured by traditional means.”³⁷ The D.C. Circuit ultimately allowed CV as a measurement methodology when economists could not determine values otherwise.³⁸ This case illustrates two key points: (1) the simple, but controversial, idea that abstractions like “the environment” have value beyond their economic uses, and (2) courts are cognizant of this fact.

The OPA similarly opens the door to CV. The statute provides for damages equal to the “cost of restoring, rehabilitating, replacing, or acquiring the equivalent of, the damaged natural resources” and “the diminution in value of those natural resources pending restoration.”³⁹ The National Oceanic and Atmospheric Administration (NOAA), the agency implementing the OPA, has had panels studying CV since the OPA’s enactment in 1990.⁴⁰ NOAA’s interest in CV stems not only from the OPA’s language, which is fairly broad, but from committee reports too. In a 1989 Senate Committee Report, one Senator remarked that the OPA highlights how “forests are more than board feet of lumber, and that seals and sea otters are more than just commodities traded on the market.”⁴¹ The OPA, while flawed, illustrates how federal environmental damages provisions allow CV where standard market valuation methods do not work.

Companion animal and environmental damages have developed along divergent paths. Companion animal common law limits companion-animal value to just fair market value. Environmental damages statutes have begun to accept the abstract nature of damage valuations, opening the door to CV

32. 42 U.S.C. § 9651(c)(2).

33. Judith Robinson, *The Role of Nonuse Values in Natural Resource Damages: Past, Present, and Future*, 75 TEX. L. REV. 189, 198 (1996).

34. 42 U.S.C. § 9607(f)(1).

35. Robinson, *supra* note 33, at 198.

36. *Ohio*, 880 F.2d at 456.

37. *Id.* at 457.

38. *Id.* at 476–77.

39. 33 U.S.C. § 2706(d)(1).

40. Ronald M. Pierce, *Valuing the Environment: NOAA’s New Regulations Under the Oil Pollution Act of 1990*, 22 PEPP. L. REV. 167, 170 (1994).

41. S. REP. NO. 101-94, at 15 (1989).

methods. Having defined CV and examined the divergent approaches to calculating damages, the next section analyzes the disparity between companion-animal damages and the environmental statute damages identified above.

II. TYRANT OR GENIUS: THE DISPARITY BETWEEN COMPANION-ANIMAL DAMAGES AND ENVIRONMENTAL STATUTE DAMAGES

“The man who gives France power over the world today only to trample her underfoot, this man whose genius I admire and whose despotism I abhor, this man encircles me with his tyranny as with a second solitude. . . .”⁴²

In the 200 years since Napoleon’s death, historians and the public have debated his legacy as a nation-builder, but also as a tyrant.⁴³ He is, at once, the savior of France and plunderer of Europe.⁴⁴ This dichotomy parallels the diverging paths of animal law and environmental law. Neither nonhuman animals nor the environment fits the label “property.” They both take on their own class as something other than property.⁴⁵ Yet, they have developed since the 19th century down diametrically opposed paths, much like Napoleon’s legacy.⁴⁶

This section analyzes the differences in policy that created the disparity between companion-animal damages and environmental damages, and ends with common ground from which the divergent policies could converge. The difference largely rests in the public’s diverging conception of “pets” and “the environment.”⁴⁷ Historically, and to this day, companion animals are legally considered the “personal property” of their “owners.”⁴⁸ On the other

42. FRANÇOIS-RENÉ DE CHATEAUBRIAND, *MEMOIRS FROM BEYOND THE GRAVE: 1768–1800*, at 10 (Alex Andriessse trans., N.Y. Rev. Books 2018) (1849).

43. Sudhir Hazareesingh, *Napoleonic Memory in Nineteenth-Century France: The Making of a Liberal Legend*, 120 *MLN* 747, 773 (2005).

44. *Id.*

45. Angela Fernandez, *Not Quite Property, Not Quite Persons: A ‘Quasi’ Approach for Nonhuman Animals*, 5 *CANADIAN J. COMPAR. & CONTEMP. L.* 155, 198 (2019).

46. The 1899 Rivers and Harbors Act “often is considered the first” U.S. environmental statute (this statute covers environmental crimes specifically). David M. Uhlmann, *Environmental Crime Comes of Age: The Evolution of Criminal Enforcement in the Environmental Regulatory Scheme*, 4 *UTAH L. REV.* 1223, 1223 (2009). As for animal law, *Pierson v. Post*, decided in 1805, represented one of the first U.S. cases dealing with animals as property. *Pierson v. Post*, 3 *Cai. R.* 175 (N.Y. Sup. Ct. 1805).

47. See *Strickland v. Medlen*, 397 S.W.3d 184, 198 (Tex. 2013) (explaining that pets are no more than personal property); for the “environment,” the concept typically manifests as the “tragedy of the commons.” See *Nat. Res. Def. Council, Inc. v. Costle*, 568 F.2d 1369, 1378 (D.C. Cir. 1977) (explaining the tragedy of the commons).

48. *Sentell v. New Orleans*, 166 U.S. 698, 701 (1897); *Strickland*, 397 S.W.3d at 198.

hand, policymakers view the environment as a public good and their approach to fixing environmental damage involves restoring the harms done.⁴⁹ Despite these varying conceptions, companion animals and the environment do share common ground that could serve as the foundation for elevating nonuse and CV to the forefront of damages calculations.

A. Living Up to the Name: The Domineering Companion-Animal Approach to Damages Fails to Reflect the Importance of Nonhuman Family Members

“Napoleon was able to convince himself that, despite all the obvious obstacles, he could, through force of will, succeed in bringing Russia and especially Emperor Alexander I, the sole power on the continent that refused to pay him homage, to their knees.”⁵⁰

People draw on the imagery of Napoleon Bonaparte as an autocratic ruler to characterize a person as domineering.⁵¹ Napoleon’s arrogant exertion of his will onto others led to his failed march on Moscow and defeat at Waterloo.⁵² Napoleon’s vices parallel the majority approach to companion animals—including rules for damages—because courts flippantly dismiss plaintiffs who would deign to assign a noneconomic value to companion animals.⁵³ This section illustrates the ways courts trivialize companion animals, then examines the three foundational reasons courts exert their will on companion animals: (1) the fair market value limitation for personal property, (2) the owner as the focus of restoration, and (3) the impermanence of the injury.

The remedy for damage to companion animals is compensation for the reduction in fair market value of the companion animal, also known as the “property,” as a result of the damage.⁵⁴ This results in courts rarely considering the life they call “property,” but instead treating that life like common machinery needing repairs.⁵⁵ Sometimes judges even quip throughout their opinions or fail to take seriously legal arguments for companion animals.⁵⁶ In many cases, judges show reverence for the value

49. 42 U.S.C. § 9651(c)(2).

50. Kroll et al., *supra* note 8.

51. *Id.*

52. *Id.*

53. See *Goodby*, 2009 VT 52, ¶ 11; *Strickland*, 397 S.W.3d at 198; *Burgess v. Shampooch Pet Indus., Inc.*, 131 P.3d 1248, 1249–50 (Kan. Ct. App. 2006).

54. *Gluckman v. Am. Airlines, Inc.*, 844 F. Supp. 151, 158 (S.D.N.Y. 1994).

55. *Id.*

56. See, e.g., *Strickland v. Medlen*, 397 S.W.3d 184, 185 (Tex. 2013) (“Even the gruffest among us tears up (every time) at the end of *Old Yeller*.”).

companion animals bring to their families, just to dismiss that value in favor of arcane precedent.⁵⁷ For example, then-Justice Don Willett of the Texas Supreme Court cited the quote in the title of this article. Justice Willett lauded the relationship between human and companion animals as one of great importance in society but lacking enough “sober-mindedness” for a brightline rule that could overturn a 122-year-old precedent.⁵⁸ By trivializing actions for companion-animal damages while acknowledging their ability to reform the common law, state courts exemplify the vices of arrogance and hubris many historians attribute to Napoleon’s downfall.

The first reason the companion-animal approach precludes noneconomic valuation is the severe limitation on courts to award damages for the fair market value of personal property. The common law rule provides that the appropriate measure of damages for personal property equals the property’s market value at the time of the loss, or the difference in its market value before and after taking damage.⁵⁹ When personal property has seemingly no market value, as is often the case with companion animals, courts look to other factors like cost of repair, original cost, loss of use, and cost of replacement, but limited still by market value.⁶⁰ Proponents of the fair market approach argue that the market provides consistency and allows courts to objectively measure and apply a dollar figure.⁶¹ The rigidity of fair market value, however, hinders any attempt to recognize the noneconomic value companion animals bring to their families. This means courts cannot give effect to the important role companion animals play in the lives of their families without overturning precedent.

The second reason the companion animal approach precludes a noneconomic valuation method involves the focus on the companion animal’s owner, rather than the companion animal as its own being. This issue manifests in two ways. Courts will not find for plaintiffs if the damage to their companion animal was directed at the companion animal rather than the plaintiffs themselves.⁶² For example, a veterinary clinic in Vermont was

57. See, e.g., *Strickland*, 397 S.W.3d at 197-98 (“[N]o one disputes that a family dog . . . is a treasured companion. But it is also personal property”); *Goodby v. VetPharm, Inc.*, 2009 VT 52, ¶ 8, 186 Vt. 63, 974 A.2d 1269 (citing *Morgan v. Kroupa*, 167 Vt. 99, 103, 702 A.2d 630, 633 (1997) (citing *Morgan v. Kroupa*, 167 Vt. 99, 103, 702 A.2d 630, 633 (1997) (emphasizing the proposition that pets are unique because of their emotional value to humans, yet still limiting recovery for noneconomic damages)).

58. *Strickland*, 387 S.W.3d at 197-98.

59. *Averett v. Shircliff*, 237 S.E.2d 92, 95-96 (Va. 1977).

60. *Burgess v. Shampooch Pet Indus., Inc.*, 131 P.3d 1248, 1250 (Kan. Ct. App. 2006).

61. Elaine T. Byszewski, *Valuing Companion Animals in Wrongful Death Cases: A Survey of Current Court and Legislative Action and a Suggestion for Valuing Pecuniary Loss of Companionship*, 9 ANIMAL L. 215, 231 (2003).

62. *Goodby v. VetPharm, Inc.*, 2009 VT 52, ¶ 12, 186 Vt. 63, 974 A.2d 1269; *Daughen v. Fox*, 539 A.2d 858, 864 (Pa. Super. Ct. 1988).

sued for negligent infliction of emotional distress when it prescribed a lethal dose of amlodipine to a pair of cats.⁶³ The court found the clinic not liable because it prescribed the amlodipine to the cats and not to the cats' owners; the owners, not the cats, were protected from negligence.⁶⁴ Courts also will not award damages based on the companion animal's injury or that injury's impact on the health of the family as a whole.⁶⁵ Rather, the award compensates the owner's economic injury to the extent of the companion animal's fair market value.⁶⁶ The common-law focus on the owners of companion animals, rather than the animals themselves, impedes any consideration of the noneconomic value of companion animals.

Finally, the companion-animal approach precludes noneconomic valuation because the fleeting nature of tort-type damages makes true restoration of noneconomic value impossible. Fair market valuations emphasize quick remedies to make the property owner economically whole again. Personal property is typically easily liquified and gets replaced all the time as part of the usual cost of business.⁶⁷ This approach fails to consider the noneconomic value of companion animals, and also of dear personal property.⁶⁸ The impermanence of companion-animal damages means monetary and market-based compensation look like the ideal form of restitution, when a market-based approach, in truth, lacks the equipment to deal with noneconomic values.

State courts have rejected noneconomic valuation of companion animals as too unprincipled, despite acknowledging the importance of companion animals to their families.⁶⁹ This domineering approach allows courts—humans—to exert their will on companion animals without due respect for the animals' noneconomic value. In contrast to the environmental approach, examined next, courts limit companion animal damages to fair market value while focusing on the owner and the impermanence of the injury.

*B. Consolidating Around Wellington: How Environmental Statutes
Integrate Nonuse Values into Damages*

63. *Goodby*, 2009 VT 52, ¶ 13.

64. *Id.*

65. *Id.* ¶ 11.

66. *Id.* ¶¶ 7, 11.

67. Alexandra Twin, *What is Replacement Cost and How Does It Work?*, INVESTOPEDIA, (June 28, 2024), <https://www.investopedia.com/terms/r/replacementcost.asp>.

68. For example, some courts express sympathy for plaintiffs who have lost family heirlooms and items of incredible personal importance that fetch nominal amounts in fair markets. *E.g.*, *Strickland v. Medlen*, 397 S.W.3d 184, 192 (Tex. 2013) (“Texas law would permit sentimental damages for loss of an heirloom but not an Airedale.”).

69. *Strickland*, 387 S.W.3d at 198.

“Wellington’s largely inexperienced army had withstood the shock and awe of a nineteenth-century battlefield The French had again and again attacked Wellington’s chosen strong position without any significant successes to encourage them”⁷⁰

Arthur Wellesley, 1st Duke of Wellington and former Prime Minister of the United Kingdom, was also the focal point of the allied counterattack on Napoleon during the Battle of Waterloo.⁷¹ British, Dutch, German, and Prussian forces teamed up, and under the leadership of General Wellington, defeated Napoleon.⁷² This historical convergence of interests, in the face of overwhelming odds, highlights how animal advocates and state courts could consolidate around the environmental approach to nonuse valuation. This section examines two reasons the environmental approach has more flexibility to use nonuse valuation: calculating an abstraction like environmental damage necessitates nonuse values, and statutory restoration costs are vague enough to allow nonuse valuation.⁷³

Congress, in drafting CERCLA, had the unique challenge of providing damages provisions for the environment—an abstraction that does not fit neatly into a category like “property.” The general conception of “environment” revolves around the public’s use of natural resources rather than an object somebody owns—it is held to exist for common use and enjoyment by human and nonhuman animals.⁷⁴ Environmental statutes like CERCLA provide for damages that would help *restore* the environment to its pre-injured state.⁷⁵ While this often includes fair market value calculations, it also gives agencies the latitude to use other valuation methods, such as CV.⁷⁶

The first reason the environmental approach has the flexibility to use CV is that environmental damages involve such abstract elements that using

70. DAVID KIRKPATRICK, *FIGHTING IN THE FOG OF WAR: DECISION-MAKING UNDER EXTREME UNCERTAINTY IN THE WATERLOO CAMPAIGN* 70 (Royal United Servs. Inst., 2015).

71. *Id.*

72. *See generally, id.* at 61–72 (explaining the stages of the Battle of Waterloo).

73. While federal environmental statutes may indirectly support nonuse valuation methods, it is important to note that federal law fails in many respects to protect the environment, keep the public healthy, and properly weigh ecosystem and abiotic interests, especially on multigenerational timescales. For example, 26 U.S.C. § 162(f)(2) allows businesses to deduct from gross income costs associated with restitution, so businesses can end up writing off otherwise taxable income when cleaning up business-related environmental damages. MOLLY F. SHERLOCK, CONG. RSCH. SERV., R41365, *TAX DEDUCTIBLE EXPENSES: THE BP CASE 1* (2010).

74. This idea typically manifests as the “tragedy of the commons.” *See* Nat. Res. Def. Council, Inc. v. Costle, 568 F.2d 1369, 1378 n.19 (D.C. Cir. 1977) (explaining the tragedy of the commons).

75. 42 U.S.C. § 9651(c)(2) (emphasis added).

76. *Ohio v. Dep’t of Interior*, 880 F.2d 432, 457 (D.C. Cir. 1989) (“[N]atural resources have value that is not readily measured by traditional means.”).

nonuse valuation methods becomes necessary to restore the damaged ecosystem. As the *Ohio* court mentioned, Congress understood that “natural resources have value that is not readily measured by traditional means.”⁷⁷ Beyond the fact that natural resources have a noneconomic intrinsic value, environmental damages also impact humans differently than companion animal damages. For example, environmental damages often occur globally, such as with greenhouse gas emissions, and courts cannot handle damages for this kind of untraceable environmental harm.⁷⁸ Additionally, no individual suffers from environmental damages in isolation because environmental damages harm everybody generally and take their toll over generations.⁷⁹ Unlike companion animal damages, courts cannot usually immediately calculate environmental damages.

Second, environmental damages statutes lend themselves to nonuse valuation methods because Congress has left restoration costs vague, allowing for variable methodologies. The OPA and CERCLA both provide for damage measurements by requiring agencies to consider a non-exhaustive list of factors.⁸⁰ Critics harp on this fact and scholars argue relentlessly about the proper valuation methodology.⁸¹ Such broad authority for determining what damages calculation will best restore the environment opens the door to nonuse valuation of all types. This broad authority also allows evolution as new methodologies emerge and, perhaps, better serve the interests of the public.⁸² Most importantly, statutory vagueness allows agencies to account for abstractions in the environment with unknowable fair market values.

Environmental statutes, though imperfect, allow for nontraditional valuation of noneconomic interests. The public’s conception of the “environment” and abstractions associated with such a broad term reinforces the importance of nonuse valuation methods. Animal advocates can consolidate around the valuation methods agencies use—much like the allied forces did with General Wellington—to overcome the common law

77. *Ohio*, 880 F.2d at 457.

78. See *City of New York v. Chevron Corp.*, 993 F.3d 81, 92 (2d Cir. 2021) (explaining that a suit to hold greenhouse gas emitters liable for the effects of emissions globally falls “beyond the limits” of state and common law).

79. *Our Natural Resources at Risk: The Short- and Long-Term Impacts of the Deepwater Horizon Oil Spill (Part 1 of 3) Before the Subcomm. on Insular Affs., Oceans and Wildlife of the Comm. on Nat. Res.*, 111th Cong. 17–26 (2010) (statement of Jane Lyder, Deputy Assistant Secretary for Fish and Wildlife and Parks, U.S. Department of the Interior).

80. 33 U.S.C. § 2706(d)(1); 42 U.S.C. § 9651(c)(2).

81. See, e.g., Martin Desjardins, *Ecosystem Services: Unifying Economic Efficiency and Ecological Stewardship Via Natural Resource Damage Assessments Under CERCLA*, 21 GEO. MASON L. REV. 717, 741 (2014) (arguing that a methodology called “habitat equivalency analysis” implements the principles of CERCLA better than CV).

82. *Id.*

restriction on noneconomic values. The failure of courts to adopt a modern approach to this issue is a major blunder on the part of a judicial system that purports to institutionalize evolving social values.

C. Capitalizing on a Blunder: From an Ill-Fitting Label, the Companion Animal and Environmental Approaches Could Converge

“Both armies fought in conjunction, to both went the honours of victory . . . Neither army beat Napoleon alone.”⁸³

Historians generally view Napoleon’s delay in attacking at Waterloo as his major blunder.⁸⁴ Napoleon delayed because a recent storm made the ground too soft for his offensive; he wanted to let the ground dry first.⁸⁵ By delaying his attack, Napoleon gave General Wellington an opportunity to consolidate British forces, rendezvous with the Prussian General Blücher, and launch a counterattack.⁸⁶ This major historical event gives insight into the current animal rights movement: animal and environmental advocates must capitalize on the broadening of damages calculations in environmental statutes. Like the allied opposition to Napoleon, these advocates must convert their advantage into a substantial step forward for their campaigns.

Companion animals and the environment fill special niches without neatly fitting into the “property” category. In fact, some legal scholars have started labeling companion animals “quasi-property.”⁸⁷ It is from this ill-fitting categorization that the companion animal approach could converge with the environmental approach. This section explains how contingent valuation could work for companion animal damages, address gaps in the literature that overlook the utility of CV, and rebut criticisms about CV.

Economists and valuation experts can use CV to fill in the gaps left behind by common law and statutory damages provisions. As mentioned earlier, CV works by measuring how much consumers are willing to spend to ensure something continues to exist, or how much consumers are willing to spend on an experience.⁸⁸ Statistical figures exist for how much nonuse

83. ROGER PARKINSON, *THE HUSSAR GENERAL: THE LIFE OF BLÜCHER, MAN OF WATERLOO* 240 (Wordsworth Editions Ltd. 2001) (1975).

84. *Id.* at 238.

85. John F. Fuller, *Weather and War*, 23 *AEROSPACE HISTORIAN* 24 (1976).

86. *Id.*

87. Fernandez, *supra* note 45, at 167–68.

88. TIETENBERG & LEWIS, *supra* note 18, at 79.

value an average person places on their companion animal, just as they do for how much nonuse value a person places on the environment.⁸⁹

The statistical figures for the value humans place on their nonhuman companions are staggering. According to the Pet Advocacy Network, the U.S. pet industry exceeded \$221.1 billion of total economic output in 2022, including \$32.3 billion spent on food and \$14.5 billion spent on pet products.⁹⁰ Studies indicate that annual costs for dog owners range from \$1,000 to \$7,080, not including benefits outside typical “pet spending” categories (such as shelter, energy, heating, etc.).⁹¹ These figures do not reflect additional costs associated with more exotic companion animals.⁹² Hurley’s story highlights the main message of this section: nonuse valuation works for companion animals because the large amounts of money families spend on their companion animals reflects the noneconomic value companion animals bring to their households.

CV in state courts would not completely invalidate other valuation methods. Critics may argue that CV would lead to enormous damages. Critics may also say this method would hurt lower income people who cannot spend as much on companion animals. Values derived from CV do not have to be determinative, however. This article suggests, rather, that CV methods should inform court-awarded damages to better reflect the value companion animals bring to society. Damage amounts do not necessarily have to reach the high amounts spent by wealthy households on their companion animals. Damage awards should, at minimum, afford companion animals the respect they are due as esteemed and loving members of the family.

Scholarship on companion animal damages generally recognizes that the current valuation methods are flawed, but scholars do not argue for CV.⁹³ Some articles argue for measurements based off models for the wrongful

89. See Lindsay Johnson et al., *How Valuable Are National Parks? Evidence from a Proposed National Park Expansion in Alaska*, 37 PUBMED CENT. 1, 2 (2020) (finding that US citizens have a “willingness to pay” of over \$79 billion for a proposed Alaskan National Park expansion using CV).

90. *Economic Impact of the U.S. Pet Industry*, PET ADVOCACY NETWORK, https://petadvocacy.org/wp-content/uploads/2022/02/National_PetCare_Economic_Impact.pdf (last visited Feb. 16, 2025).

91. Heidi Gollub & Kara McGinley, *Cost of Dog Ownership Statistics 2025*, USA TODAY, <https://www.usatoday.com/money/blueprint/pet-insurance/how-much-does-a-dog-cost-per-year/> (Sept. 25, 2024, 4:39 PM).

92. PET ADVOCACY NETWORK, *supra* note 90.

93. One interesting article does take a novel approach, suggesting that companion animal representation in court may develop similarly to guardianship rules for minor children, helping with proper valuation. Schyler P. Simmons, *What Is the Next Step for Companion Pets in the Legal System? The Answer May Lie with the Historical Development of the Legal Rights for Minors.*, 1 TEX. A&M L. REV. 253, 284 (2013).

death of children,⁹⁴ others would expand Tennessee's "T-Bo"⁹⁵ model to other states,⁹⁶ and others still call for various statutory reforms.⁹⁷ But these models ignore the similarities between the environment and animals as unique entities, or "quasi-property." The wrongful-death-of-children approach retains its anthropocentric focus as it emphasizes the recovery of lost investment put into a companion animal.⁹⁸ The T-Bo approach has a statutory cap of \$5,000, further limited when the harm stems from negligence.⁹⁹ Rather than reinvent the wheel, courts should look to environmental statutes and expert economists who have developed methods like CV to measure minimum noneconomic values without regard to one's actual investment.

Critics of CV often repeat some variation of the floodgate or slippery slope argument along with a handful of substantive critiques.¹⁰⁰ The floodgate concerns do not rise above mere public clamor. A well-implemented CV program would benefit companion animals and their families while increasing deterrence by increasing potential damages.¹⁰¹ A well-implemented CV program could also mitigate fraudulent or frivolous cases by establishing guidelines for CV use and the role of expert economists. In addition, litigants must still make a case for tortious conduct that harmed their companion animal; using CV does not create a blank check for opportunistic plaintiffs. A vague threat of potential litigation should not preclude affording companion animals the value they bring to families.

Critics of CV also express concerns about its accuracy. Opponents of CV generally take one or more of the following stances: CV does not accurately predict behavior or reflect rational choice; CV leads to implausible

94. Byszewski, *supra* note 61, at 234.

95. The T-Bo Act is a Tennessee statute that allows a plaintiff to sue for up to \$5,000 for noneconomic damages in the case of a death of a companion animal. That figure is reduced for negligent actions. The statute is helpful but lacks the nonuse valuation that makes a CV study so helpful. The arbitrary \$5,000 damages cap does not consider as wide a range of factors as a CV study could. Death of Pet Caused by Negligent Act of Another (T-Bo Act), TENN. CODE ANN. § 44-17-403 (2025).

96. Sabrina DeFabritiis, *Barking up the Wrong Tree: Companion Animals, Emotional Damages and the Judiciary's Failure to Keep Pace*, 32 N. ILL. UNIV. L. REV. 237, 256 (2012).

97. Parker, *supra* note 3, at 123; Morgan Phelps, *Damages for Tortious Harm to Pets: Minnesota's Market Value Approach Severely Undercompensates Plaintiffs*, 49 MITCHELL HAMLINE L. REV. 778, 796 (2023).

98. Note that this approach is different than contingent valuation because it is based on one's investment in their companion animal, while contingent valuation measurements attempt to reflect a companion animal's true noneconomic value *regardless* of one's investment. Byszewski, *supra* note 61, at 234.

99. T-Bo Act, TENN. CODE ANN. § 44-17-403 (2025); DeFabritiis, *supra* note 96, at 257.

100. See, e.g., Strickland v. Medlen, 397 S.W.3d 184, 195 (Tex. 2013) ("There seems to be no cogent stopping point, at least none that doesn't resemble judicial legislation.").

101. Margit Livingston, *The Calculus of Animal Valuation: Crafting a Viable Remedy*, 82 NEB. L. REV. 783, 829 (2004).

responses; CV leads to a lack of budgetary constraints; and consumers lack understanding about the contingent market presented to them, leading to inaccurate valuations.¹⁰² Critics have used such arguments since NOAA first considered using CV under the OPA, and their arguments have merit.¹⁰³

Two arguments, working together, should address these concerns. First, courts must allow tort damage measurements to evolve as societal values evolve; second, CV methods attain scientific credibility when implemented carefully. As to the first, this article does not posit that CV should remain the default valuation method. Valuation methods, tort law, and common law should continue to adapt with time and societal interests.¹⁰⁴ Second, even with its flaws and imperfections, CV methods already designed by agencies under environmental statutes provide a scientifically valid and more accurate estimate of companion animal damages than the current approach.¹⁰⁵ By borrowing from CV methods designed to administer federal statutes, state courts can begin proving how much they respect the relationship between companion animals and humans with noneconomic damages.

Companion animals fall outside the property classification in popular conception but remain trapped within it for legal purposes. CV offers a means to reflect the true value families and the courts place on companion animals. Accurate and updated statistics on companion animal spending can inform noneconomic valuation. While CV critics and legal scholars overlook the utility of CV, federal agencies have developed scientifically valid models that courts and advocates can adapt to common law damages. The frameworks exist, and public policy supports such an adaptation.

III. LEAVING NAPOLEON IN WATERLOO: POLICY ARGUMENTS SUPPORTING CONTINGENT VALUATION IN COMPANION ANIMAL DAMAGE AWARDS

“Then all the world flamed up in wrath;
Europe at last threw off her yoke;
And straight upon the tyrant’s path
The curse of all the nations broke.
The people’s vengeful hand upraised
The giant sees across his track,
And every wrong is now appraised,

102. Pierce, *supra* note 40, at 179–81.

103. *Id.* at 190.

104. Livingston, *supra* note 101, at 813 (noting that tort law seeks to effectuate social values).

105. Pierce, *supra* note 40, at 190, 212 (explaining that NOAA, under the OPA, crafted a scientifically valid CV with guidelines for survey instrument design and development, survey administration, and the nature of CV results, which state courts, state bar associations, or animal advocate groups could adapt to court systems).

And every injury paid back.”¹⁰⁶

Alexander Pushkin wrote the poem excerpted above on the day of Napoleon’s death in 1821.¹⁰⁷ The selected passage critiques Napoleon’s legacy. This critique is especially telling given that Pushkin was a contemporary of Napoleon; it did not take long for Napoleon’s legacy as a tyrant to crystallize.¹⁰⁸ As the poem asserts, the appraisal and paying back of injuries caused by past mistakes was the next step after Napoleon’s reign. This section of the article draws on that parallel, presenting policy rationales for adopting CV and attempting to repay the harm caused by failing to properly value companion animals. The onus may fall on state legislatures to implement these policy objectives, as courts have made clear their reluctance to change common law, regardless of the benefits.¹⁰⁹ The three policy arguments examined in this section include: (1) coming to terms with abstractions, (2) turning toward a new idea of “personhood,” and (3) garnering more respect for animal movements through serious damage provisions.

First, using the CV method for companion animal damages will enable policymakers and legal scholars to accept that abstractions incompatible with market valuations do exist. Courts use the fair-market-value metric to avoid unprincipled rationalizations for monetary relief.¹¹⁰ This metric does not account for abstract concepts that fair market values cannot reflect. For example, emotional attachment as it relates to companion animals, or aesthetic beauty as it relates to national parks, have no commensurate market value. CV allows policymakers and experts to attribute some value to the abstract variables that matter to consumers.

Second, using CV would enable policymakers and the wider public to start looking toward a new conception of personhood. By taking a stance on where companion animals fall on the person-to-property spectrum, legislatures and state courts can force people to reconsider where all nonhuman animals fall on that spectrum. If policymakers continue to view companion animals as personal property and reject the fact that companion animals have an intrinsic and noneconomic value, animals will remain legally undervalued. The small step of implementing methods of valuation that account for noneconomic and intrinsic uses can open the door for legislatures to completely reorganize the nonhuman hierarchical structure.

106. Alexander Pushkin & Bernard Pares, *Napoleon*, 15 SLAVONIC & E. EUR. REV. 493, 496 (1937).

107. *Id.* at 493.

108. *Id.*

109. Scheele v. Dustin, 2010 VT 45, ¶¶ 14–15, 188 Vt. 36, 998 A.2d 697.

110. Strickland v. Medlen, 397 S.W.3d 184, 198 (Tex. 2013).

Finally, recognizing the noneconomic value of companion animals through CV will afford nonhuman animals more respect than they currently garner. Allowing noneconomic damage valuations would solidify the growing movement toward animal rights by recognizing that companion animals and all nonhuman animals demand respect, and judicial enforcement reflects this respect. Human and nonhuman animals may not share a language, but in a market-based societal structure, policymakers can use money to make humans consider the nonhuman animal's perspective.

Just as France moved on from Napoleon, state courts can move on from market-based assessments. The natural world contains complexities incomprehensible to free markets. By using nontraditional valuation methods, policymakers can shed their dismay of abstractions, the legal system can move toward a reorientation of personhood, and human animals can finally look upon nonhuman animals with the respect they have earned over the last few millennia. Companion animals, like Hurley, are cherished family members and sentient beings, not replaceable trinkets or tools.

CONCLUSION

Napoleonic parallels and personal anecdotes aside, using contingent valuation in tort damage valuations is not radical or dramatic. This article does not call for a fundamental restructuring of the speciesist hierarchy.¹¹¹ This article does not even argue to explicitly remove nonhuman animals from the "property" label and recognize them as entities with personas—that is, as persons. This article instead calls for an extremely specific reform to state court damage calculations that better reflects the importance of companion animals. Such a narrow reform was born of pragmatism, not a just resolve; state courts have made clear a reluctance to shake up centuries of precedent. But the narrowness of this reform also means it has staying power. Advocates and judges alike can argue for its application and smooth out the wrinkles along the way.

This article contains three components: the relevant companion animal law and environmental law background; the disjunct between the public conceptualization of companion animals and the environment broadly, and where specific commonalities could justify new damages valuation methods; and the policy arguments for using CV. Courts exert their will on companion animals because courts view those nonhuman animals strictly as property. Courts focus on the owner of the property, and damages in general emphasize the impermanence of the injury. As opposed to environmental statutes, which

111. By this term the author refers to a hierarchy of earth's creatures in which humans are considered, by their own estimation, superior to all other species.

attempt to give value to an abstraction far removed from the property-ownership conception.

The main thesis of the article involves the use of CV in companion animal damages. CV, while not a perfect measurement method, reflects the true value of companion animals better than the fair-market method. Economists and policymakers create new valuation methods all the time, so CV will not remain the best method. Courts should continually evolve along with measurement methods to reflect social values more accurately. CV currently works best with companion animals because so much data exists that shows the noneconomic value humans place on their nonhuman family members. CV also maintains scientific credibility and has more utility than other solutions offered in the scholarship reviewed.

When Aldous Huxley wrote “to his dog, every man is Napoleon,” perhaps he meant not that dogs see their humans as Napoleon, but that humans see themselves through the dog’s eyes as Napoleon. Whatever he meant, humans can change that narrative and offer their nonhuman family members a first step toward proper recognition. By rejecting the historically domineering approach in favor of a more cooperative, open-minded valuation method, humans can consolidate around noneconomic values and leave market valuation behind.

**LONGLEAF PINE RESTORATION: LEVERAGING FEDERAL
LEGAL MECHANISMS FOR LANDSCAPE CONSERVATION
ACROSS THE SOUTHEAST**

*Wesley Peebles**

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The story of who I am cannot be severed from the story of the flatwoods.¹

INTRODUCTION

When most think of the American Southeast, it is unlikely the region's status as a biodiversity hotspot is the first thing that comes to mind. Yet the Southeast's native longleaf pine forests are just that. The longleaf pine, *Pinus palustris*, is a distinctive species, even amongst other native pines. Forming park-like forests, the longleaf historically dominated the landscape in the southern United States, providing a home to a wide array of unique species.²

Like much in nature, however, the longleaf forest has faced serious threats to its existence. Longleaf forests established roots and importance in the environment and society after the last ice age by adapting to frequent fire, providing food and homes under Native stewardship, and sustaining a thriving timber and naval stores industry. But the rapid anthropogenic change following European colonization led longleaf stands to decline to just 3% of their historic range by the 1990s.³

Longleaf pine's decline, however, has not been a death knell. Since reaching historic lows in land coverage, the concerted efforts of policymakers and communities across the Southeast have reversed the longleaf pine forest's fortunes. Understanding how the Southeast has changed course in management of longleaf pine forests is key to understanding how to further conservation efforts in both this and other important ecosystems. Thanks in part to deliberate use of law and policy to collaborate and expand conservation, longleaf forests have experienced a slowing in reduction of acres, enhancement in functionality, and ultimately an expansion in coverage throughout the Southeast.⁴ Regulatory enforcement to protect imperiled species, coordination and management across government agencies, and efforts to expand voluntary conservation measures

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1. JANISSE RAY, *ECOLOGY OF A CRACKER CHILDHOOD* 4 (1999).

2. KENNETH W. OUTCALT & RAYMOND M. SHEFFIELD, USFS, *THE LONGLEAF PINE FOREST: TRENDS AND CURRENT CONDITIONS* 1 (1996), https://www.srs.fs.usda.gov/pubs/rb/rb_srs009.pdf.

3. Marianne Lavelle et al., *Longleaf Pine Restoration—A Major Climate Effort in the South—Curbs Its Ambitions to Meet Harsh Realities*, *INSIDE CLIMATE NEWS* (Dec. 17, 2023), <https://insideclimatenews.org/news/17122023/axed-longleaf-pine-restoration-nature-based-solutions-challenges/>.

4. *See generally*, AM.'S LONGLEAF RESTORATION INITIATIVE, 2023 RANGE-WIDE ACCOMPLISHMENTS (2023), <https://americaslongleaf.org/media/lewpa34w/2023-accomplishment-report.pdf> (describing recent efforts of partners to restore longleaf pine forests).

have all provided the tools to ensure that longleaf forests are not relics of the past. Though not all legal avenues are created equally, a survey of the many available can help provide a greater understanding of how a tool might be leveraged.

This article explores relevant background and legal systems largely at the federal level, in an effort to demonstrate trends and resources that states across the longleaf pine's range can utilize. Part I describes the longleaf pine ecosystem, its history, and unique ecological features. Part II then explores why we should engage in conservation as a normative matter, particularly at a landscape level. Part III describes legal mechanisms available for landscape conservation in the Southeast before Part IV turns to how these mechanisms are actually applied to conserve longleaf forests. Finally, this article concludes with some insights and recommendations moving forward.

I. THE LONGLEAF PINE ECOSYSTEM

The longleaf pine ecosystem (LLPE) is the name for a diverse forest system historically stretching across the southeastern United States from Virginia, south to Florida, and west to Texas.⁵ The LLPE encompasses not only the many longleaf pine forests that inhabit the region, but also the broader communities of species and their interactions with other organisms and their physical environment. While longleaf pine forests “once dominated the coastal plain blanketing more than 90 million acres” of land, longleaf forests today make up just 5.2 million acres.⁶ What the LLPE currently lacks in raw landmass, however, it more than makes up for in biological diversity and richness of culture. The LLPE has proved to be an enduring ecosystem, shaped by nature and people for generations. All the while, the LLPE itself has shaped nature and people in return.

A. Ecosystem and Characteristics

The LLPE is set apart from other natural landscapes due to unique ecological characteristics, notably a broad understory and historically frequent, low-intensity fires. The variety of landscapes occupied by the LLPE, importance of regular fire, and dynamic interactions between species shape the unique ecology of the ecosystem.

5. *Longleaf Pine*, NAT'L WILDLIFE FED'N, <https://www.nwf.org/Educational-Resources/Wildlife-Guide/Plants-and-Fungi/Longleaf-Pine> (last visited Apr. 2, 2025).

6. Historical lows were 3.2 million acres around the turn of the century. *Longleaf Pine: A Tree for Our Time*, THE NATURE CONSERVANCY (Feb. 13, 2024), <https://www.nature.org/en-us/what-we-do/our-priorities/protect-water-and-land/land-and-water-stories/longleaf-pine-restoration/>.

Longleaf pine forests populate diverse physical landscapes, each providing assorted types of forests in the broader LLPE.⁷ Various abiotic conditions, particularly soil type and drainage, influence the growth of the longleaf pine as well as understory composition and the broader forest community. While extant stands give a false impression that longleaf pine forests grow primarily in sandhills, “ridges of loose, porous sand,” longleaf pine forests occupy many environments, including rolling hills and mountainside slopes.⁸ These varying physical environments produce sub-types of forest, each with slightly different natural histories. For example, low-lying and poorly draining flatwoods often produce swampy bogs, providing habitat to rare species of orchids and carnivorous plants.⁹ Meanwhile, the loose, sandy soils of the sandhills more typically support various scrub oaks, grasses, and herbaceous plants.¹⁰ These longleaf forest sub-types thus create greater diversity for the ecosystem as a whole by supporting different plant communities and forest types.¹¹

Longleaf forests depend on regular, low-intensity fires to clear out the understory and allow the system’s unique assemblage of species to thrive.¹² Fire is vital for longleaf pine, both for providing satisfactory habitat

7. These physical landscapes include “sub-types” such as the low mountain slopes in the Southern Appalachians; previously mentioned sandhills; low, rolling hills; and the flatwoods and savannas of the lowest lying lands nearer the ocean. *Habitats*, THE LONGLEAF ALL., <https://longleafalliance.org/what-is-longleaf/the-ecosystem/habitats/> (last visited Apr. 2, 2025). See also CHRISTOPHER M. OSWALT ET AL., HISTORY AND CONDITION OF LONGLEAF PINE IN THE SOUTHERN UNITED STATES, USFS 3–4 (2012), https://www.srs.fs.usda.gov/pubs/gtr/gtr_srs166.pdf (discussing general types of longleaf pine vegetation).

8. Today, the LLPE is associated with sandhills—not because it is the most common environment for longleaf pine forests to grow, but because most well-preserved, extant longleaf pine forests now exist on this land. *Habitats*, THE LONGLEAF ALL., <https://longleafalliance.org/what-is-longleaf/the-ecosystem/habitats/> (last visited Apr. 2, 2025).

9. *Id.*

10. *Id.*

11. *Id.*

12. Jennifer H. Carey, *Fire Effects Information System: Pinus palustris*, USFS (1992), <https://www.fs.usda.gov/database/feis/plants/tree/pinpal/all.html>.

Carey summarizes the importance of fire in maintaining a longleaf pine dominated forest:

With frequent fire, uneven-aged pure stands of longleaf pine form parklike savannas. Because longleaf pine regenerates in openings created by the death of mature trees, small clusters of trees of the same age are dispersed throughout the stand. In the absence of frequent fire, longleaf pine is replaced by hardwoods and other southern pines. Loblolly pine and shortleaf pine will invade and soon dominate a site of grass-stage longleaf pine. Recruitment of longleaf pine ceases 15 years after fire. Invasion by hardwoods accelerates the decline of mature longleaf pine.

See also *Built by Fire*, THE LONGLEAF ALL., <https://longleafalliance.org/what-is-longleaf/the-ecosystem/built-by-fire/> (last visited Mar. 13, 2024) (explaining the ecology of fires shaping the LLPE).

conditions¹³ and as part of the longleaf pine's life cycle.¹⁴ Benefits of fire also accrue to many charismatic species in the LLPE who would otherwise not have access to food and shelter provided by the open mid- and understories created by fire.¹⁵

The presence of and dynamic interactions between the many species that inhabit longleaf forests set the broader LLPE apart from other landscapes. Longleaf forests are “some of the world's most biologically diverse ecosystems and are home to nearly 600 plant and animal species, including 29 threatened and endangered species.”¹⁶ They are home to important game species like white-tailed deer, eastern wild turkey, and northern bobwhite quail;¹⁷ as well as many species of concern, including the red-cockaded woodpecker, gopher tortoise, and eastern indigo snake.¹⁸ Some areas of the LLPE contain such unique environmental conditions that they support several endemic (or nearly so) species.¹⁹

Biodiversity richness enables species interactions within the landscape to create the character of longleaf forests. For example, the longleaf's resinous needles (along with the many grasses and herbaceous plants that grow on the forest floor) provide kindling for frequent, low-intensity fires.²⁰ Because adult longleaf pine can withstand these low-intensity fires, the

13. Longleaf pine is intolerant to shade and requires easy access to sunlight to grow. NAT'L WILDLIFE FED'N, *supra* note 5.

14. See Jennifer H. Carey, *Fire Effects Information System: Pinus palustris*, USFS (1992), <https://www.fs.usda.gov/database/feis/plants/tree/pinpal/all.html> (describing in detail the life cycle of the longleaf, noting the “germination” and “grass-stage” in particular are aided by fire).

15. David H. Van Lear et al., *History and Restoration of the Longleaf Pine-Grassland Ecosystem: Implications for Species at Risk*, 211 FOREST ECOLOGY & MGMT. 150, 155 (2005). Frequent fire also provides space for many rare plant species to thrive in the understory. *Id.*

16. *Longleaf Pine Initiative (LLPI)*, AMBROOK, <https://ambrook.com/funding/longleaf-pine-initiative> (Sept. 11, 2024).

17. R. KEVIN MCINTYRE ET AL., RESTORATION OF LONGLEAF PINE IN THE SOUTHERN UNITED STATES: A STATUS REPORT, USFS 297 (2018), https://www.srs.fs.usda.gov/pubs/gtr/gtr_srs234/gtr_srs234-44.pdf.

18. THE NATURE CONSERVANCY, *supra* note 6.

19. Some examples include *Sarracenia* species (pitcher plants), Venus flytrap, St. Francis' Satyr Butterfly, Florida scrub jay, Bachman's sparrow, and flatwoods salamander. See generally *Sarracenia*, N.C. EXTENSION GARDENER, <https://plants.ces.ncsu.edu/plants/sarracenia/> (last visited Apr. 23, 2025); 5 *Things You Didn't Know About Venus Flytraps*, N.C. STATE UNIV.: COLL. OF NAT. RES. NEWS (Jan. 6, 2021), <https://cnr.ncsu.edu/news/2021/01/five-things-about-venus-flytraps/>; *St. Francis' Satyr Butterfly*, U.S. FISH & WILDLIFE SERV., <https://www.fws.gov/species/saint-francis-satyr-butterfly-neonympha-mitchellii-francisci> (last visited Apr. 1, 2025); *Bachman's Sparrow*, AUDUBON, <https://www.audubon.org/field-guide/bird/bachmans-sparrow> (last visited Apr. 1, 2024); *Flatwoods Salamander (Ambystoma cingulatum)*, SAVANNAH RIVER ECOLOGY LAB'Y, UNIV. OF GA., <https://srelherp.uga.edu/salamanders/flatwoods-salamander/> (last visited Apr. 1, 2025); *Florida Scrub Jay*, FLA. FISH & WILDLIFE CONSERVATION COMM'N, <https://myfwc.com/wildlifehabitats/profiles/birds/songbirds/florida-scrub-jay/> (last visited Apr. 30, 2025).

20. Benjamin O. Knapp et al., *Fire Effects on a Fire-Adapted Species: Response of Grass Stage Longleaf Pine Seedlings to Experimental Burning*, 14 FIRE ECOLOGY, no. 2, 2018, at 2, <https://fireecology.springeropen.com/articles/10.1186/s42408-018-0003-y>.

landscape is left with a clear understory scattered with the surviving pines.²¹ Extant pines later shed additional pine needles, establishing the basis for future fire. This cyclical pattern allows for many species of grasses to repopulate unobstructed by shading hardwoods and providing kindling for future fires themselves, while also freeing space for gopher tortoises to dig burrows within exposed soils.²² When gopher tortoises vacate their homes, these burrows then provide shelter for dozens of other species.²³

B. History, Decline, and Future

The LLPE's decline from 90 million acres is the consequence of human influence. Factors impacting the decline of the longleaf forests range from incompatible land use, overconsumption of forest resources, lack of reforestation, and fire suppression. Only in recent decades have these factors been addressed through proactive management and allowing the LLPE to recover a portion of its former range.

The history of the modern LLPE begins a few thousand years before European settlement in the southeastern United States. After the last ice age, a history of frequent lightning and Native-induced fires helped to shape the LLPE ecosystem.²⁴ These fires created a "mosaic" across the landscape, leaving open patches and creating a "park-like" forest.²⁵ For Native people, fire was a tool "to improve wildlife habitat and create more palatable forages, drive game during hunts, make travel easier, and increase their ability to protect themselves from attack by warring tribes."²⁶

21. Knapp et al., *supra* note 20, at 2–3.

22. See *Gopher Tortoise*: *Gopherus polyphemus*, FLA. FISH & WILDLIFE CONSERVATION COMM'N, <https://myfwc.com/wildlifehabitats/profiles/reptiles/gopher-tortoise/> (last visited Apr. 1, 2024).

23. *Id.*

24. DALE G. BROCKWAY ET AL., RESTORATION OF LONGLEAF PINE ECOSYSTEMS, USFS 8 (2006), https://www.srs.fs.usda.gov/pubs/gtr/gtr_srs083.pdf (discussing early history of longleaf pine forests); Janet Steele, *The Story of the Longleaf Ecosystem*, CLEMSON EXTENSION FORESTRY & WILDLIFE, <https://blogs.clemson.edu/fnr/2024/01/08/the-story-of-the-longleaf-ecosystem/> (last visited Apr. 20, 2025) (noting impact of both natural and human-induced fire on landscape). See also Van Lear et al., *supra* note 15 at 151–52 ("In all likelihood, a combination of Native American- and lightning-caused fire helped genetically fix fire-adapted characteristics in species in this ecosystem."). For years the role of Native Americans in shaping the "wild" landscape of the South the European settlers later found was discounted. *Id.* at 152. Today, recognition of the Native interplay with the landscape not only allows us to recognize the importance of fire in land management but also allows us to respect and appreciate the LLPE as a cultural object. See generally Van Lear et al., *supra* note 15.

25. Steele, *supra* note 24.

26. *Id.*; see also Van Lear et al., *supra* note 15, at 152 (detailing Native use of fire to manage the landscape).

European colonists also adopted fire as a tool. Unlike Native uses, however, colonists utilized fire to manage livestock grazing.²⁷ As increasing numbers of colonists immigrated to the region, many longleaf forests were cleared to provide space for agriculture. These changes in land use coincided with the forced displacement of Native people in the Southeast.

Industrial development and changing attitudes in the nineteenth and early twentieth centuries further eroded the historic range of the longleaf. By the mid-1800s, new technology and development allowed the South to become a leading producer of naval stores and lumber.²⁸ Production increased longleaf pine harvest and led to suppression of frequent fire. The combination of increased harvest and fire suppression often left behind denuded forestlands where longleaf pine could not effectively regenerate. Alongside continued land conversion from forest to field to support agricultural land use, the increased harvest of longleaf pine caused a decline in “virgin stands” of longleaf forest and increased competition from other tree species.²⁹

Beginning in the 1930s, a new shift in the Southeast’s economy occurred as paper pulp mills became locally important. Pulp mills, which chose to grow their raw lumber resources in pine plantations, did not cultivate longleaf; instead, these mills favored planting loblolly and slash pine.³⁰ As the century wore on, rapidly growing populations and urban sprawl exacerbated longleaf decline.³¹ By “2000, the ecosystem was at a record low of 3.2 million acres, a loss of 97% across its historic range.”³²

Yet, since hitting a historic low, the LLPE has seen a revival. Over the past two-plus decades, conservation efforts increased LLPE acreage to approximately 5.2 million acres.³³ However, the same causes of the LLPE’s decline remain its most serious threats.³⁴ Maintenance of the ecosystem’s gains depends not only upon preservation, but also active conservation and restoration that expressly addresses land use.

27. Steele, *supra* note 24.

28. *Id.*

29. CHRISTOPHER M. OSWALT ET AL., HISTORY AND CONDITION OF LONGLEAF PINE IN THE SOUTHERN UNITED STATES, USFS 6–8 (2012), https://www.srs.fs.usda.gov/pubs/gtr/gtr_srs166.pdf.

30. *Id.*

31. Van Lear et al., *supra* note 15, at 155.

32. Steele, *supra* note 24.

33. AM.’S LONGLEAF RESTORATION INITIATIVE, RANGE-WIDE CONSERVATION PLAN FOR LONGLEAF PINE: 2025–2040 3, <https://nri.tamu.edu/media/3823/conservation-plan-2025-2040-002.pdf>.

34. *Cf.* Van Lear et al., *supra* note 15, at 155 (“The major threats to species of risk in the longleaf ecosystem have been and continue to be conversion to other land uses—especially to agriculture and intensively managed tree plantations, urbanization, and fire exclusion.”).

II. WHY PRESERVE THE LONGLEAF PINE ECOSYSTEM?

Many rationales exist to support protecting natural landscapes, and no single approach is likely to fuel sustained conservation efforts. Protection of the LLPE can be justified by a number of theories: economic benefit, biodiversity protection, climate change resilience, cultural preservation, and so on. Further, modern science suggests that ecosystem health is tied to maintaining sufficient amounts of interconnected habitat to allow for necessary biotic and abiotic exchanges.

This Part proceeds in two Sections. Section A begins with a description of the general rationales and philosophies that help support the reasoning for conservation efforts, while noting how they fit in specifically with the goals of conserving the LLPE. No single system of thought motivates conservation, and a more complete assessment of potential drivers is vital to understanding which laws and policies may be most effective at engaging stakeholders of differing opinions. Section B ties together justifications for conservation in light of modern principles of biology and ecology. In doing so, that Section advocates for action mindful of the need for a landscape-level framework, working to expand isolated habitat and increase connectivity across broader scales to preserve biodiversity throughout the LLPE.

A. The Various Rationales Supporting Conservation

The most common rationales cited to support environmental protection tend to fall into three camps: (1) utilitarianism, (2) esthetic philosophy, and (3) ethical philosophy.³⁵

1. Utilitarianism: The Greatest Good

The basic thrust of utilitarianism is that “the morally right action is the action that produces the most good.”³⁶ To achieve that, utilitarianism contemplates the value of the thing in question, asking “what good does it do?”³⁷ It then considers the value of a given group of options against another, with the “morally right” choice as the one maximizing value for the greatest

35. Holly Doremus, *Patching the Ark: Improving Legal Protection of Biological Diversity*, 18 *ECOLOGY L. Q.* 265, 269 (1991). Other thinkers have divided these categories into the slightly more specific categories of (1) utilitarianism, (2) recreational and esthetic values, and (3) intrinsic, spiritual, and ethical values. REED F. NOSS & ALLEN Y. COOPERRIDER, *SAVING NATURE’S LEGACY: PROTECTING AND RESTORING BIODIVERSITY* 19, 21–22 (1994).

36. *The History of Utilitarianism*, STAN. ENCYCLOPEDIA OF PHIL. (Sept. 22, 2014), <https://plato.stanford.edu/entries/utilitarianism-history/>.

37. See NOSS & COOPERRIDER, *supra* note 35, at 19 (explaining utilitarianism values).

number of people. These “greatest good” arguments that seek to advance maximum social value are commonly referenced to justify conservation, particularly by politicians and agencies.³⁸

In the environmental sphere, utilitarianism considers both direct and indirect values. Direct values are those derived from the natural resource’s immediate or instrumental use.³⁹ Direct values consider use of natural resources as crops or livestock; as medicine; as products; as raw materials; for genetic material; to promote human health and well-being; and for recreational value.⁴⁰ Indirect values encompass the less tangible, concurrent worth that flows from a natural resource.⁴¹ Ecosystem services are a good example of an indirect value justifying natural resource conservation.⁴² The ecosystem service concept contemplates the naturally occurring functions of an ecosystem in providing good to society for things like “climate control, oxygen production, removal of carbon dioxide from the atmosphere, soil generation, nutrient cycling, and purification of freshwater supplies.”⁴³ Indirect use also contemplates incalculable benefits⁴⁴ and existence value.⁴⁵

Utilitarianism provides much support for the protection of the LLPE. First, restoration and protection of the LLPE support direct economic use. Longleaf pine has several advantages as a forest crop. The growth of additional longleaf pine on private lands can provide direct benefits to the

38. See, e.g., Doremus, *supra* note 35, at 275 (“Utilitarian grounds have been most often cited in and to Congress as justifying a national policy of protecting biological resources . . .”); see DANIEL R. WILLIAMS, USFS, POST-UTILITARIAN FORESTRY: WHAT’S PLACE GOT TO DO WITH IT? 114–123 (2002) (describing turn from a utilitarian “commodity” theory of forestry that the Forest Service practiced to a postmodern “post-utilitarian” theory of forestry that takes a more holistic view of resources), https://www.fs.usda.gov/rm/pubs_other/rmrs_2002_williams_d003.pdf.

39. NOSS & COOPERRIDER, *supra* note 35, at 19.

40. See *id.* at 19–20 (describing the medicinal value of natural resources); see also Doremus, *supra* note 35, at 269–71 (noting some potential direct uses of natural resources).

41. See NOSS & COOPERRIDER, *supra* note 35, at 20–21 (explaining indirect value); Doremus, *supra* note 35, at 272.

42. See generally, James Salzman et al., *Protecting Ecosystem Services: Science, Economics, and Law*, 20 STAN. ENV’T L. J. 309 (2001) (describing importance of ecosystem services).

43. Doremus, *supra* note 35, at 271.

44. Doremus describes the potential implication for utilitarianism of currently unknown values of natural resources, particularly in regard to biodiversity protection, stating “that the potential uses of many biotic resources are not yet known, both because many species have not been fully investigated and because we cannot know in advance the needs of future generations.” *Id.* Therefore, utilitarians should attempt to consider value that may become important later.

45. Existence value in a conservation context considers the value people may place on natural resources simply for existing. In other words, “people may value nature not only for its actual use or for having the option of using it in the future, but also for its mere existence.” Marc D. Davidson, *On the Relation Between Ecosystem Services, Intrinsic Value, Existence Value and Economic Valuation*, 95 ECOLOGICAL ECON. 171, 174 (2013) (citation omitted).

landowner through forestry and recreation.⁴⁶ For example, opportunities for hunting wildlife (particularly quail, deer, and turkey) in longleaf forests are abundant in a region where such sport is popular.⁴⁷ Second, indirect benefits in the form of ecosystem services and climate change mitigation also accrue to the landowner. The LLPE is drought and pest-resistant, withstands heavy winds, and is fire-adapted—all advantageous in light of the effects of a changing climate.⁴⁸ In addition to more easily-appreciated ecosystem services like nutrient cycling and water filtration, the LLPE is valuable as a habitat for a rich host of biodiversity.⁴⁹

2. Esthetic Philosophy: The Power of Nature

Esthetic philosophy advocates for the protection of nature from an appreciation standpoint. An esthetic basis for environmental protection recognizes that “[m]any people find beauty in the natural world, viewing natural objects, both living and nonliving, with a sense of admiration, wonder, or awe.”⁵⁰ This is perhaps the most intuitive reason for protecting natural things; because a natural landscape or its components mean something to an individual, a group, or a culture—it should be protected.

The esthetic basis for protecting the LLPE is reflected in narratives of the longleaf pine forest. In the 18th century, famed naturalist William Bartram described the region as containing “a vast forest of the most stately pine trees that can be imagined.”⁵¹ Environmental author Janisse Ray notes how the longleaf and its forests define a sense of place and home for a broader community.⁵² Indeed, states themselves have weighed in, with Alabama

46. BROCKWAY ET AL., *supra* note 24, at 24 (“The economic value of longleaf pine forests is considerable, and commercial products can be extracted from a properly functioning forest without significantly disrupting ecological processes. Longleaf pine is the most versatile of all the southern pines and provides a wide variety of products, many of which are highly valued.”).

47. *Id.* at 11, 25.

48. THE NATURE CONSERVANCY, *supra* note 6; CONSERVATION RESERVE PROGRAM: LONGLEAF PINE INITIATIVE, FARM SERV. AGENCY 1–2 (2015), https://www.fsa.usda.gov/sites/default/files/documents/Longleaf_Pine_Initiative.pdf (last visited Apr. 20, 2025); Lisa J. Samuelson, et al., *Drought Tolerance of a Pinus palustris Plantation*, 451 FOREST ECOLOGY & MGMT no. 17557, at 1–2, 9 (2019), <https://www.sciencedirect.com/science/article/pii/S0378112719311806>.

49. BROCKWAY ET AL., *supra* note 24, at 25.

50. Doremus, *supra* note 35, at 271.

51. *Longleaf Pine*, LANDSCOPE AM., https://web.archive.org/web/20240807145459/http://www.landscope.org/explore/ecosystems/disappearing_landscapes/longleaf_pine/ (last visited Apr. 20, 2025).

52. One of Ray’s most moving passages describes connections between herself, her family history, and the landscape.

adopting the longleaf pine as its state tree.⁵³ Today, countless folks find beauty and meaning in the longleaf pine forest, whether through direct interaction with the landscape or the art it produces.

3. Ethics Philosophy: Doing What Is “Right”

The final justification for environmentally protective action flows from a wider distillation of ethical philosophies.⁵⁴ These varied approaches tend to support actions following “right rules,” with moral and ethical obligations supporting those rules. For example, deontology “emphasize[s] rules, principles, duties, rights, or some combination of these,” to achieve environmental protection and would thus recognize a human right to a healthy environment.⁵⁵ Another example is an intrinsic value approach, in which “ethicists believe that elements of nature have intrinsic values and that these values often trump values instrumental to humans.”⁵⁶ This view considers the inherent value all elements of the natural ecosystem have, either because of or regardless of humanity’s connection to them.⁵⁷ Further

I was born from people who were born from people who were born from people who were born here. The Crackers crossed the wide Altamaha into what had been Creek territory and settled the vast, fire-loving uplands of the coastal plains of southeast Georgia, surrounded by a singing forest of tall and widely space pines whose history they did not know, whose stories were untold. The memory of what they entered is scrawled on my bones, so that I carry the landscape inside like an ache. The story of who I am cannot be severed from the story of the flatwoods.

RAY, *supra* note 1.

53. *Longleaf Pine – Pinus palustris*, UNIV. OF ALA. ARBORETUM, <https://arboretum.ua.edu/whats-growing-on/longleaf-pine-pinus-palustris/> (last visited Apr. 20, 2025).

54. See, e.g., Doremus, *supra* note 54, at 273–75 (discussing ethical basis for preservation of biodiversity); NOSS & COOPERRIDER, *supra* note 35, at 22–23 (discussing intrinsic, spiritual, and ethical values supporting biodiversity protection).

55. Clare Palmer et al., *Environmental Ethics*, 39 ANN. REV. ENV’T & RES. 419, 431 (2014).

56. Bryan G. Norton, *Valuing Ecosystems*, NATURE EDUC. KNOWLEDGE (2012), <https://www.nature.com/scitable/knowledge/library/valuing-ecosystems-71373110/>.

57. *Id.*

examples include Aldo Leopold's famous "land ethic,"⁵⁸ indigenous epistemologies,⁵⁹ and a host of spiritual and theological arguments.⁶⁰

Many of these ethical and moral approaches would provide a sufficient basis for protection of the LLPE. A deontological approach, for example, might find an inherent environmental right to access clean, healthy, functioning ecosystems throughout the Southeast.⁶¹ Further, charismatic species such as the red-cockaded woodpecker and gopher tortoise might serve as a means for protection of the LLPE as both species have intrinsic value to exist and persist across the landscape.⁶²

4. Tying Various Approaches Together

Janisse Ray describes southern Georgia as a comparatively uninspiring landscape:

There's nothing in south Georgia, people will tell you, except straight, lonely roads, one-horse towns, sprawling farms, and tracts of planted pines. It's flat, monotonous, used-up, hotter than hell in summer and cold enough in winter that orange trees won't grow. No

58. Leopold's general approach is typically summed up by an oft-quoted phrase: "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise." ALDO LEOPOLD, *A SAND COUNTY ALMANAC: AND SKETCHES HERE AND THERE* 211 (2020 ed. 1949).

59. These approaches are as varied and diverse as the overall people that hold them. *See, e.g.*, Wendee Nicole, *What We Can Learn from Indigenous Communities About Conservation*, DEFENDERS OF WILDLIFE (Oct. 8, 2021), <https://defenders.org/blog/2021/10/what-we-can-learn-indigenous-communities-about-conservation> ("Many indigenous communities have a reciprocal relationship with nature, rather than viewing it as existing to serve people. That is a lesson we can learn from Indigenous peoples who know this already as part of their culture, and who are actively conserving and managing wildlife and wildlands."); *Indigenous People and Nature: A Tradition of Conservation*, U.N. ENV'T PROGRAMME (Apr. 26, 2017), <https://www.unep.org/news-and-stories/story/indigenous-people-and-nature-tradition-conservation> ("Their traditions and belief systems often mean that they regard nature with deep respect, and they have a strong sense of place and belonging. This sustains knowledge and ways of life that match up well with modern notions of nature conservation and the sustainable use of natural resources.").

60. *Cf.* BRYAN G. NORTON, *WHY PRESERVE NATURAL VARIETY?* 140–143 (1987) (noting importance of overcoming Judeo-Christian scriptural ideals promoting anthropocentrism in effectuating environmental protection).

61. *See* Simona Sacchi, et al., *Moral Reasoning and Climate Change Mitigation: The Deontological Reaction Toward the Market-Based Approach*, 38 J. ENV'T PSYCH. 252, 253 (2014), <https://www.sciencedirect.com/science/article/pii/S0272494414000206>, (noting that a deontological rules and moral obligations undergird many protected values such as "those pertaining to human rights or natural resources").

62. *See* Doremus, *supra* note 35, at 273 (noting people "find it easiest to emphasize and identify with individual beings and with vertebrate animals" making it easier for some species to be a rallying cry for environmentally protective action).

mountains, no canyons, no rocky streams, no waterfalls. . . . Unless you look close, there's little majesty.⁶³

But as Ray further explains, it was not always that way. In some pockets, she says, “you can see how south Georgia used to be, before all the old longleaf pine forests that were our sublimity and our majesty were cut.”⁶⁴

As a normative matter, adherents to the many systems of thought discussed would likely agree that conservation of the LLPE is a shared value. Depending on the particular strain of thought driving an individual, however, the relevant ends and means of how to advance that value may differ greatly. In other words, restoring a semblance of the “old” vision of longleaf forests Ray describes may find support from many views, but stakeholders are unlikely to share identical ideas about which laws and policies should be used, nor what amount of conservation is sufficient. This leaves the previous discussion somewhat unsettling, resulting in the question of which view should drive us.

No one idea works perfectly to justify conservation.⁶⁵ If effective protection and restoration of the LLPE is to occur, law and policy makers must engage groups of all kinds and backgrounds. To protect the health of the LLPE, there will have to be wide buy-in from stakeholders—whether public or private landowners, conservation- or extraction-minded, an individual or a community. The ability to leverage a slate of motivations to effectuate conservation is not only optimal but necessary.

As a result, the answer to the question “which view should drive us?” is whichever view or views build consensus. These philosophical justifications for conservation do not operate in a vacuum but inform which laws and policies should be selected as tools for a given community or particular landowner. Understanding the motivating values undergirding conservation efforts thus allows an advocate to make smart decisions and to work alongside stakeholders in the process.

63. RAY, *supra* note 1, at 13.

64. *Id.* at 14.

65. Doremus, *supra* note 35, at 275 (“The different bases for preservation do not, however, necessarily justify protection of the same proportion of the total, nor of the same resources.”); Norton, *supra* note 56 (“[A]s opponents try to enforce their monistic theory of value, an alternative approach, which accepts pluralism and pays attention to processes by which communities can balance and trade off among competing values, is gaining in acceptance.”).

B. Protecting Landscapes

Following developments within the fields of conservation biology and ecology since the mid-twentieth century,⁶⁶ land managers and conservationists are now highly aware of the importance of maintaining habitat at a sufficient scale and with a sufficient level of productivity.⁶⁷ The growing understanding of the role of providing intact and connected lands, particularly for habitat, to protect ecological functioning has reoriented how land managers regulate landscapes.⁶⁸ This has produced coordinated conservation efforts of larger regions, and a move from protecting enclaves of pristine, isolated lands to a focus on ecosystem management across larger landscapes.⁶⁹ The shift to ecosystem management across broad regions is what this article refers to as management on a landscape scale, or landscape conservation.

One of the most-cited rationales for landscape conservation is to support biodiversity protection.⁷⁰ “Biodiversity” encompasses “the variety of life and its processes. It includes the variety of living organisms, the genetic differences among them, the communities and ecosystems in which they occur, and the ecological and evolutionary processes that keep them functioning, yet ever changing and adapting.”⁷¹ Importantly, biodiversity exists at multiple scales, from genetic to regional.⁷² A goal of biodiversity protection at a regional landscape level is to create and maintain “complete, unfragmented environmental gradients.”⁷³ This protection goal responds to the major threat posed to biodiversity by habitat loss and fragmentation.⁷⁴ By protecting gradients, landscapes can support both a variety of life (including

66. See Robert B. Keiter, *Toward a National Conservation Network Act: Transforming Landscape Conservation on the Public Lands into Law*, 42 HARV. ENV'T L. REV. 61, 88–93 (2018) (discussing the growth of science in nature conservation).

67. See *id.* at 90–93 (describing “science-based movement toward ecologically-driven conservation”); Robert B. Keiter, *Beyond the Boundary Line: Constructing a Law of Ecosystem Management*, 65 U. COLO. L. REV. 293, 296–303 (1994) (discussing the importance of ecosystem management).

68. Keiter, *Beyond the Boundary Line*, *supra* note 67.

69. Keiter, *Toward a National Conservation Act*, *supra* note 66, at 62–64.

70. The literature is full of these mentions. See e.g., Doremus, *supra* note 35; Matthew Shuckman, *Making the Hard Choices: A Collaborative Governance Model for the Biodiversity Context*, 79 WASH. UNIV. L. Q. 343, 349 n. 29 (2001); Gordon Steinhoff, *Restoring Nature in Protected Areas*, 5 ARIZ. J. ENV'T L. & POL'Y 302, 329–331 (2015); Robert B. Keiter, *Landscape Conservation, Wildlife Management, and the Federal Public Lands: A Primer*, 56 IDAHO L. REV. 49 (2020).

71. NOSS & COOPERRIDER, *supra* note 35, at 5.

72. *Id.* at 5–13.

73. *Id.* at 11–12.

74. The threat of habitat fragmentation is a result of two types of action: (1) “decrease in some habitat type or perhaps all natural habitat in a landscape,” and (2) “apportionment of the remaining habitat into smaller, more isolated pieces.” *Id.* at 51.

species that require certain micro-environments within the landscape) and life processes (such as ensuring linkages for breeding between distinct populations). Providing protections at a broad level also helps maintain biodiversity at smaller scales.

Another impetus for landscape protection is to maintain and enhance ecosystem services. The natural processes providing ecosystem services benefit both humans and the environment.⁷⁵ Actions converting land from its natural state to a “built environment”⁷⁶ (e.g., through road or housing construction) or altering land following extractive uses (e.g., through mining or timber harvesting) often negatively impact the ability of an ecosystem’s natural processes to function properly. For example, an important function of forest environments is water filtration and aquifer replenishment.⁷⁷ Conversion to land uses altering the natural environment (e.g., cut for timber or developed for neighborhoods), diminish the land’s ability to perform essential water filtration and aquifer recharge as impacted soils and less vegetation produce greater runoff and less soil infiltration. While acknowledging that portions of our broader environment will always be impacted by urban and agricultural uses, these same urban and agricultural lands are connected to “natural” spaces and are impacted by ecosystem services as well. Landscape-level conservation provides flexibility to balance the impacts of the built environment with necessary support for natural environments and the services they perform.

The final rationale for landscape protection is to increase resiliency to climate change. While measures to address climate change often incorporate biodiversity and ecosystem services, increasing resiliency specifically examines how climate change impacts (and exacerbates) ongoing challenges

75. NOSS & COOPERRIDER, *supra* note 35, at 20 (“Every habitat on Earth, including urban and agricultural environments, is an ecosystem that receives and transforms energy, produces and recycles wastes, and relies on complex interactions among species to carry out these functions. But urban and agricultural ecosystems are dependent on natural ecosystems for their sustenance.”).

76. The built environment may be defined as “human-made space in which people live, work, and recreate on a day-to-day basis.” Lingqiang Kong, et al., *A Systematic Review of Big Data-Based Urban Sustainability Research: State-of-the-Science and Future Directions*, 273 J. CLEANER PROD. 4 (2020). In general, these are spaces that humans have altered from baseline environmental conditions to provide for social use. It includes things like buildings, neighborhoods, and cities, but is broad enough to also capture things such as parks, agricultural fields, and mines.

77. See Ying Ouyang, et al., *Estimating Impact of Forest Land on Groundwater Recharge in a Humid Subtropical Watershed of the Lower Mississippi River Alluvial Valley*, 26 J. HYDROLOGY: REGIONAL STUDS., Oct. 2019, at 1, 11 (studying how forest land compared to agricultural land affects groundwater recharge, including filtration of water and replenishment of aquifers); Salzman, et al., *supra* note 42, at 314–15.

in managing land health.⁷⁸ With devastating impacts caused by climate change in the immediate horizon, “[i]t will often also be necessary to expand the spatial scale at which systems are managed and policies and plans are developed.”⁷⁹ Preexisting natural adaptations within longleaf forests make these ecosystems more resilient to changing conditions from climate change in the Southeast. Adaptation to fire enhances landscape resiliency in a world with more frequent drought and wildfire occurrences.⁸⁰ Further, the deep, sturdy taproots of longleaf pines make these trees much more resilient to high winds than other trees, enhancing their ability to withstand more frequent or intense tropical storms and hurricanes.⁸¹ Additional resiliency benefits include pest resistance, ability to facilitate increased water yield, habitat provision for imperiled species, and carbon sequestration—all important considerations in climate change adaptation and mitigation.⁸²

III. LEGAL APPROACHES TO LANDSCAPE CONSERVATION AND PROTECTION

While the importance of the LLPE is clear, choices regarding its protection and restoration raise more complex questions. With longleaf forests depleted across the region and the threats causing their decline remaining, conservation work requires a combination of restoration, protection, and thoughtful management to ensure the ecosystem is healthy enough to provide benefits. The efforts of nonprofit and private parties are incredibly important to furthering LLPE conservation.⁸³ But voluntary action

78. See JJ Lawler et al., *Mitigation and Adaptation Strategies to Reduce Climate Vulnerabilities and Maintain Ecosystem Services*, 4 CLIMATE VULNERABILITY 315, 316 (2013) (“For example, recent studies have documented shifts in the distribution of plants and animals, advances in the timing of key ecological processes, and extinctions of wildlife populations and species that are likely linked to recent increases in temperature.”) (citation omitted).

79. *Id.* at 324 (“As species move and ecosystems change, it will be necessary to think well beyond neighborhood, park, refuge, state, or even national boundaries. Planning will need to occur at multiple, integrated scales and will need to involve local, regional, and sometimes national participants.”) (citations omitted).

80. Celeste Gracia & Kaia Findlay, *Resiliency to Climate Change Could Be Key in Longleaf Pine Restoration*, WUNC (Sept. 28, 2021, 7:39 PM), <https://www.wunc.org/environment/2021-09-28/longleaf-pine-resiliency-restoration-climate-change-southern-north-carolina>.

81. *Id.*

82. *Id.*; see also Lavelle et al., *supra* note 3 (describing how forest restoration advocates view restoration as a solution for storing carbon and promoting regional resiliency to climate change).

83. See, e.g., Jennifer Winger, *Pine Country*, THE NATURE CONSERVANCY (Aug. 26, 2022), <https://www.nature.org/en-us/magazine/magazine-articles/longleaf-pine/> (“But with less than 5% of longleaf pine forests remaining, states, the federal government and conservation groups, including The Nature Conservancy, are working to save these Southern forests—and the species that depend on them—before it’s too late.”); Britt Holewinski, *Restoring Longleaf Pine Forests and Keystone Species Habitat*, NAT’L FOREST FOUND., <https://www.nationalforests.org/blog/restoring-longleaf-pine-forests-and-keystone-species-habitat> (“Working with the US Forest Service, The Longleaf Alliance, and donors such

to provide landscape conservation alone is likely insufficient given the vast scale of the LLPE and the sheer number of stakeholders involved.

Luckily, law and policy both push and pull to provide conservation at a landscape scale. This toolbox of legal mechanisms, whether through statute, regulation, policy, or funding programs, helps “grease the wheels” and lower opportunity costs of collaboration and conservation. Legal tools supply much-needed leverage, whether by requiring action by landowners, creating an opportunity for stakeholder collaboration, or incentivizing working landowners to implement actions.

This Part examines federal law and policy mechanisms utilized for landscape-scale conservation. Section A discusses the Endangered Species Act, focusing on habitat-protective mechanisms in its regulatory scheme. Section B examines the history, role, and legal dimensions of federal public land management agencies with a significant presence in the Southeast. Finally, Section C discusses voluntary programs run by the U.S. Department of Agriculture to assist and fund private landowners engaging in conservation on private working lands.

A. The Endangered Species Act

Despite its emphasis on single-species regulation, the Endangered Species Act (ESA) has provided a major federal mechanism for land protection since Congress passed the modern iteration of the ESA in 1973.⁸⁴ Today, a species “in danger of extinction throughout all or a significant portion of its range,” or likely to become so “within the foreseeable future throughout all or a significant portion of its range” is eligible for “listing” as endangered or threatened, respectively.⁸⁵ Once listed, the ESA provides a host of regulatory mechanisms for maintenance and protection of a species.

While used to protect habitat and larger environments, the ESA often falls short of directly advancing its habitat protection goals. In the ESA’s declaration of purpose, Congress boldly declares that the ESA is driven to “provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved”⁸⁶ Yet the individual

as Endangered Species Chocolate, the National Forest Foundation plants longleaf pine trees, helping to restore the longleaf pine range, improve ecosystem and habitat connectivity, and help reestablish habitat for many species, including the gopher tortoise.”) (last visited Apr. 24, 2025).

84. While the original version of the ESA passed by Congress in 1966 focused primarily on federal land protection for endangered species, the modern 1973 version took a more expansive view. Though it has undergone multiple revisions since passage, the main legal mechanisms remain largely the same. See *Endangered Species*, USFWS, <https://www.fws.gov/program/endangered-species/about-us> (last visited Apr. 20, 2025).

85. 16 U.S.C. § 1532(6), (20).

86. *Id.* § 1531(b).

species approach and mitigation mechanisms of the ESA do not always allow a proactive and coordinated approach to habitat protection.⁸⁷ Even in the most forceful of its applications, the ESA retains a reactive regulatory scheme.⁸⁸

Despite its limitations, the ESA is a major vehicle for habitat protection. Notably, the ESA applies to both public and private lands. This broad application provides a particularly vital legal hook for private land conservation, where fewer legal requirements supporting conservation exist. This Section considers habitat-productive mechanisms provided under the ESA, including critical habitat designations, land acquisitions, and habitat conservation plans.

1. Critical Habitat Designation: Section 4

Critical habitat designations under Section 4 of the ESA provide an early mechanism for habitat conservation under the Act. Alongside listing a species as threatened or endangered, the Secretary of the Interior is directed to determine whether to designate critical habitat for the listed species.⁸⁹ The U.S. Fish and Wildlife Service (USFWS) defines critical habitat as:

[S]pecific areas within the geographic area, occupied by the species at the time it was listed, that contain the physical or biological features that are essential to the conservation of endangered and threatened species and that may need special management or protection. Critical habitat may also include areas that were not occupied by the species at the time of listing but are essential to its conservation.⁹⁰

A critical habitat designation guides decision-making by triggering the ESA consultation process if federal agency action would result in the

87. See Jason Totoiu, *Building a Better State Endangered Species Act: An Integrated Approach Toward Recovery*, 40 ENV'T L. REP. NEWS & ANALYSIS 10299, 10309–10 (2010); Doremus, *supra* note 35, at 307–08 (“The species-by-species nature of the ESA requires those interested in preserving ecosystems to work through surrogate species. However, opponents of such listings criticize those who seek to list indicator species for ‘misusing’ the Act to achieve a purpose other than species protection.”) (citations omitted).

88. NOSS & COOPERRIDER, *supra* note 35, at 26.

89. 16 U.S.C. § 1533(a)(3). Jurisdiction over terrestrial species is granted to the Secretary of the Interior (through the U.S. Fish and Wildlife Service), with marine species under the jurisdiction of the Secretary of Commerce (National Marine Fisheries Service). Therefore, this Article refers to the Secretary of the Interior for relevant ESA activity.

90. *Critical Habitat: What Is It?*, USFWS 1 (Mar. 2017), <https://www.fws.gov/sites/default/files/documents/critical-habitat-fact-sheet.pdf>.

destruction or adverse modification of critical habitat.⁹¹ The consultation process, governed by Section 7 of the ESA, provides that federal agencies must ensure that agency actions do not jeopardize the existence of threatened or endangered species nor result in the adverse modification of their habitat.⁹² Section 7 consultation presents an opportunity for federal agencies to ensure actions taken within their discretion do not contribute to species decline.⁹³

Critical habitat designations, however, are limited in scope. First, designations affect only federal and federally-funded or -permitted activities.⁹⁴ Second, though many species-focused factors are considered in potential designations,⁹⁵ so are the economic impacts of habitat designation.⁹⁶ This is in contrast to the listing process, in which the wildlife agency *may not* consider economic impacts of listing a species.⁹⁷ Finally, critical habitat designations are limited to “the geographical area occupied by the species,”⁹⁸ and in most circumstances, “shall not include the entire geographical area which can be occupied” by the listed species.⁹⁹ Therefore, while designations expand the scope of activities falling under the ESA’s reach, actual effects may vary.¹⁰⁰

2. Acquisition of Lands: Section 5

ESA Section 5 provides another statutory mechanism for landscape conservation with the Secretary of the Interior “authorized to acquire by purchase, donation, or otherwise, lands, waters, or interest therein”¹⁰¹

91. *Critical Habitat: What Is It?*, USFWS 1 (Mar. 2017), <https://www.fws.gov/sites/default/files/documents/critical-habitat-fact-sheet.pdf>; 16 U.S.C. § 1536(a).

92. 16 U.S.C. § 1536(a)(2).

93. *See ESA Section 7 Consultation*, USFWS, <https://www.fws.gov/service/esa-section-7-consultation> (last visited Apr. 20, 2025) (explaining Section 7’s authority, project development process, and legal justification).

94. USFWS, *Critical Habitat: What Is It?*, *supra* note 90, at 1.

95. *See id.* at 1–2 (arguing that the consideration process for critical habitat designation should contemplate species specific information).

96. *Id.* at 2 (“The Service is required to consider potential economic impacts, as well as any other benefits or impacts of designating critical habitat—and may exclude an area if the benefits of excluding it outweigh the benefits of including it unless that would result in the extinction of the species.”).

97. *Compare* 16 U.S.C. § 1533(a)(1) (not listing economics as a consideration for listing) *with id.* § 1533(b)(2) (noting economic impact may be considered in habitat designation).

98. *See* 16 U.S.C. § 1532(5).

99. *See Weyerhaeuser v. U.S. Fish & Wildlife Serv.*, 586 U.S. 19–21 (2018) (defining the scope of “habitat” under ESA).

100. *Cf. Ya-Wei Li, When Does Critical Habitat Designation Benefit Species Recovery?*, CTR. FOR GROWTH & OPPORTUNITY, UTAH ST. UNIV. (2020), <https://www.thecgo.org/research/when-does-critical-habitat-designation-benefit-species-recovery/>.

101. 16 U.S.C. § 1534(a)(2).

Funding is provided through the Land and Water Conservation Fund.¹⁰² While Section 5 is not the primary driver of ESA protections, it does provide a method to acquire outright federal ownership interests in land to support the recovery of listed species.¹⁰³

3. Prohibitions and Permits: Sections 9 and 10

The so-called “take prohibition” and exceptions provide the final mechanisms for habitat protection under the ESA, in Sections 9 and 10, respectively. Section 9 of the ESA provides that it is “unlawful for any person . . . [to] take any such species within the United States or the territorial seas”¹⁰⁴ Federal regulations define “take” broadly to encompass many activities negatively impacting listed species.¹⁰⁵ Unlike provisions of the ESA that apply only to federal agencies and actions, the Section 9 take prohibition applies to public and private parties alike.¹⁰⁶ This blanket application can thus restrict private landowner action when a listed species is present.

Lest the freedom of the private landowner become too stifled, however, Section 10 of the ESA provides an “incidental take permit” exception. Section 10 provides that “[t]he Secretary may permit, and under such terms and conditions as he shall prescribe . . . any taking otherwise prohibited by [Section 9’s take prohibition] if such taking is *incidental to, and not the purpose of*, the carrying out of an otherwise lawful activity.”¹⁰⁷ In order to

102. 16 U.S.C. § 1534(b); *About LWCF*, LAND & WATER CONSERVATION FUND COAL., <https://lwcfcoalition.org/about-lwcf> (last visited Apr. 20, 2025).

103. It is important to note that the “interest therein” language in the statute gives the appropriate federal agency (either the USFWS or the Department of Commerce’s National Marine Fisheries Service) the ability to acquire “lesser” real property interests, such as conservation easements. 16 U.S.C. § 1534(a)(2); *see, e.g., Recovery Land Acquisition Grants*, USFWS, <https://www.fws.gov/service/recovery-land-acquisition-grants>.

104. 16 U.S.C. § 1538(a)(1)(B). Note that this take prohibition applies only to listed animal species. *Id.* However, a similar statutory provision applies to plant species. *Id.* § 1538(a)(2).

105. Take is defined to mean “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” *Id.* § 1532(19). 50 C.F.R. § 17.3 (“Harm in the definition of ‘take’ in the Act means an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.”) (emphasis added).

106. Compare 16 U.S.C. § 1536 (requiring federal agencies to engage in consultation) with *id.* § 1538(a) (establishing no “person,” including private and public actors as defined in 16 U.S.C. § 1532(13), may engage in take of species).

107. 16 U.S.C. § 1539(a)(1)(B) (emphasis added).

receive an incidental take permit, the landowner must first obtain approval of a conservation plan,¹⁰⁸ referred to as a “habitat conservation plan” (HCP).¹⁰⁹

HCPs, which often plan for governance of broader areas, are a valuable tool for achieving conservation throughout a landscape.¹¹⁰ HCPs outline conservation actions a landowner will take in order to obtain an incidental take permit and avoid liability under the ESA.¹¹¹ For an HCP to be approved, it must satisfy several statutory requirements that justify grant of an incidental take permit to the applicant. Satisfaction requires an HCP include impacts from the incidental taking, steps the applicant will take to reduce action impacts on listed species, and alternatives to proposed actions and explanations for the proposed choice.¹¹² Notably, an HCP may also include any additional measures that “the Secretary may require as being necessary or appropriate”¹¹³ The fact-specific nature of an incidental take permit application and the formation of an HCP ensure targeted efforts to implement conservation for affected species. Further, discretion statutorily delegated to the Secretary of the Interior in adding permit conditions allows for flexibility in achieving conservation goals to protect listed species. If the HCP is deemed sufficient and statutory requirements are met,¹¹⁴ the agency may issue an incidental take permit making the HCP plan legally binding.

108. 16 U.S.C. § 1539(a)(2).

109. BRIAN J. MACGOWAN, CONSERVING ENDANGERED AND THREATENED SPECIES ON PRIVATE LAND, PURDUE UNIV. DEP’T OF FORESTRY & NAT. RES. & USFWS 7 (2001), <https://www.extension.purdue.edu/extmedia/FNR/FNR-172.pdf>.

110. In fact, some habitat conservation plans have even been designed to cover lands and actions across an entire state. *See Georgia Red-Cockaded Woodpecker Safe Harbor Program*, LAND CONSERVATION ASSISTANCE NETWORK, <https://www.landcan.org/local-resources/Georgia-Redcockaded-Woodpecker-Safe-Harbor-Program/39923/> (last visited Apr. 20, 2025) (“In 1999, Georgia DNR developed the nation’s first statewide Red-cockaded Woodpecker Habitat Conservation Plan to provide management options for private landowners.”).

111. Note that HCPs are not themselves legally binding, but are made binding through the grant of an incidental take permit. *Habitat Conservation Plans*, USFWS, <https://www.fws.gov/service/habitat-conservation-plans> (last visited Apr. 20, 2025).

112. 16 U.S.C. § 1539(a)(2)(A).

113. *Id.* § 1539(a)(2)(A)(iv).

114. The Secretary must find, with regard to the application and HCP and after public comment; (i) the taking will be incidental; (ii) the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking; (iii) the applicant will ensure that adequate funding for the plan will be provided; (iv) the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and (v) the measures, if any, required under subparagraph (A)(iv) will be met; and he has received such other assurances as he may require that the plan will be implemented, the Secretary shall issue the permit. The permit shall contain such terms and conditions as the Secretary deems necessary or appropriate to carry out the purposes of this paragraph, including, but not limited to, such reporting requirements as the Secretary deems necessary for determining whether such terms and conditions are being complied with.

Id. § 1539(a)(2)(B).

The Safe Harbor Agreement (SHA) is a newer option utilized to avoid potential ESA liability for landowners. An SHA “is a voluntary agreement involving private or other non-federal property owners whose actions contribute to the recovery of species listed as endangered or threatened under the Endangered Species Act”¹¹⁵ In exchange for conservation, private property owners receive assurances from the USFWS that if landowners fulfill obligations within their SHA, the USFWS will not require additional or different management activities without their consent.¹¹⁶ The advantage of an SHA, then, is encouraging proactive land management that provides a “net conservation benefit”¹¹⁷ in exchange for regulatory certainty. The structure of SHAs thus addresses a perverse incentive under the ESA. Without an SHA, a landowner might take actions that degrade land condition to avoid attracting listed species and thus falling under the regulatory scope of the ESA. With an SHA, however, a landowner can engage in actions to improve the health of their land while potentially attracting listed species while also being insured by the terms of the SHA from taking on greater regulatory responsibilities.

Neither HCPs nor SHAs are immune from criticism, however. HCPs (and Section 10 of the ESA) can allow intentional habitat degradation. SHAs, meanwhile, are temporary and allow landowners to return enrolled lands to the original condition they were in when the SHA began.¹¹⁸ Both HCPs and SHAs, however, do provide major footholds for conservation. Both ensure conservation actions are legally enforceable on the lands they apply to. Given that both apply to private, non-federal lands—where many listed species live—they are also vital to broader landscape conservation goals by drawing private lands into the fold.

B. Federal Public Lands in the Southeast

Federal public lands throughout the Southeast play a key role in landscape conservation, despite making up nowhere near the mass of public lands in the western United States.¹¹⁹ Managed in part by various agency

115. *Safe Harbor Agreements*, USFWS, <https://www.fws.gov/service/safe-harbor-agreements> (last visited Apr. 20, 2025).

116. *Id.*

117. MACGOWAN, *supra* note 109, at 5. While there is no set time period for the duration of an SHA, the length is set prior to implementation and must be long enough to achieve “net conservation benefit.” *Id.*

118. USFWS, *Safe Harbor Agreements*, *supra* note 115.

119. See AM.’S LONGLEAF RESTORATION INITIATIVE, 2023 RANGE-WIDE ACCOMPLISHMENTS, *supra* note 4, at 4 (noting importance of public lands throughout Southeast in advancing conservation of

mandates to provide habitat for species and natural ecosystem functionality, these public lands provide a “core” for conservation efforts regionally. That is, in an effort to protect biodiversity, provide for ecosystem services, and increase resilience to climate change through the protection and restoration of the LLPE, federal public lands provide strongholds from which to build out.

Due to the land use history and decline of longleaf throughout the Southeast, the lands containing intact longleaf forests tend to be publicly held. Whether through federal efforts to purchase deforested, degraded lands and rebuild forest resources, or through acquisition of intact virgin forests, the federal government maintains some of the best examples of extant longleaf forests. Given the importance of (1) having enough land to sustain ecosystem functioning and (2) providing interconnectivity amongst separate areas of habitat, federal public lands provide a focal point for conservation efforts.

1. National Forests

Eastern national forests got off to a slower start than their western cousins. Nationally, executive action created the precursors of modern national forests as “forest reserves.”¹²⁰ Following these initial forest reserves, legislative action from Congress in the nineteenth century establishing forest reserves was largely limited to the West, where larger blocks of forestland remained intact and held by the United States.¹²¹ Increasing land degradation and growing political concern for conservation, however, led to a push to acquire federally-owned forests in the East.¹²² The result was the beginning

longleaf forests); CAROL HARDY VINCENT & LAURA A. HANSON, CONG. RSCH. SERV., R42346, FEDERAL LAND OWNERSHIP: OVERVIEW AND DATA 7–9, 20 (2020) (listing federal public lands acreage by state).

120. WILLIAM E. SHANDS & ROBERT G. HEALY, THE LANDS NOBODY WANTED 10–11 (1977). Forest reserves were public lands withdrawn and designated by the President under the Forest Reserve Act of 1891. *See Our History*, USFS, <https://www.fs.usda.gov/learn/our-history> (last visited Mar. 27, 2025) (describing the creation of forest reserves).

121. Patterns of settlement throughout the early history of the United States as well as a larger population in the East led to the decline of suitable forestlands in the East. By the advent of the “conservation era” in the late nineteenth century, much of the East’s forests had disappeared. SHANDS & HEALY, *supra* note 120, at 9–10. Concern the West would follow the same trends as the East led to the first “forest reserves” action in the West. *Id.* at 10–11.

122. *See generally id.* at 3–17 (describing political developments preceding and establishing eastern national forests).

of federal action to acquire national forests in the East in the early twentieth century.¹²³

The Weeks Act of 1911 emerged as the early major piece of legislation governing eastern national forests.¹²⁴ Building on the political capital of the decade prior, the Weeks Act gave the federal government the authority to acquire private lands for national forest purposes, particularly for the protection of stream flows.¹²⁵ Eastern national forests were not the “pristine” lands protected in the West. Rather, the building of national forests in the East contemplated purchasing poor-quality lands to drive forest acquisition. This was especially true in the aftermath of the Great Depression when farmers were forced to abandon their lands.¹²⁶ Over time, a combination of human management and natural functions restored the degraded lands, creating fuller, healthier forests.¹²⁷

Laws governing national forest management reflect the growing trend of “environmental awareness” in management from the late nineteenth century to the present day.¹²⁸ One of the earliest relevant laws that provided a management mandate for the Forest Service (USFS) was the Organic Act of 1897. The Organic Act established the two main purposes for those early national forests: “securing favorable conditions of water flows, and to furnish a continuous supply of timber”¹²⁹ In 1960, Congress built on the Organic Act by passing the Multiple Use and Sustained Yield Act, or MUSYA, to provide “national forests are established and shall be administered for

123. Some of those earliest actions included: (1) Congress directing the Secretary of Agriculture to investigate forest conditions in Southern Appalachia in western North Carolina and nearby states in 1900; (2) Secretary (of Agriculture) James Wilson providing a report advocating for the establishment of a Southern Appalachian forest reserve in 1901; (3) Monongahela River flooding in 1907 leading to growing political pressure to establish forests in the East to address land degradation; and (4) West Virginia’s legislature passing legislation permitting the United States to purchase lands for its national forest creation in 1909. SHANDS & HEALY, *supra* note 120, at 13–15.

124. Weeks Act of 1911, Pub. L. No. 61-435, 36 Stat. 961, <https://www.loc.gov/item/lsl-v36/>.

125. *Id.*; Lincoln Bramwell, *1911 Weeks Act: The Legislation that Nationalised the US Forest Service*, 30 J. ENERGY & NAT. RES. L. 325, 333–35 (2012).

126. *Protection and Restoration*, FOREST HIST. SOC’Y, <https://foresthistory.org/research-explore/us-forest-service-history/policy-and-law/the-weeks-act/protection-and-restoration/> (last visited Apr. 11, 2025); SHANDS & HEALY, *supra* note 120, at 16.

127. SHANDS & HEALY, *supra* note 120, at 3 (“Some of this rehabilitation resulted from the federal investment in replanting, fire protection, and timber-stand improvement. Some can be attributed to the remarkable, if brief, efforts of the Civilian Conservation Corps. Most was simply a function of time and nature’s healing processes.”); JOHN D. LESHY, *OUR COMMON GROUND: A HISTORY OF AMERICA’S PUBLIC LAND* 343 (2022) (“By 1933, about 4.5 million acres in the East and South had been acquired, much of it cutover land where forests would be restored.”).

128. The overall trend to management has been one generally marking the following contours: reservation of forest lands, timber harvesting, environmental consciousness. JOHN D. LESHY ET AL., COGGINS & WILKINSON’S FEDERAL PUBLIC LAND AND NATURAL RESOURCES LAW 711–13 (8th ed. 2022).

129. 16 U.S.C. § 475.

outdoor recreation, range, timber, watershed, and wildlife and fish purposes.”¹³⁰ The additional uses would be “supplemental to” those established by the Organic Act,¹³¹ and national forests would be managed according to principles of multiple use and sustained yield.¹³²

Notably, the Multiple Use and Sustained Yield Act’s multiple-use mandate broadened the scope of expected management requirements of the USFS beyond timber production.¹³³ The Multiple Use and Sustained Yield Act required “management of . . . resources of the national forests so that they are utilized in the combination that will best meet the needs of the American people”¹³⁴ Consideration was to be “given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest output.”¹³⁵

The National Forest Management Act of 1976, or NFMA, elevated concern for conservation and ecology within the management practice of the USFS.¹³⁶ Today, the USFS implements most substantive requirements of the National Forest Management Act through its forest plans.¹³⁷ The National Forest Management Act directs the Secretary of Agriculture to “achieve integrated consideration of physical, biological, economic, and other sciences.”¹³⁸ This provision is a benefit for achieving conservation-oriented management, as national forests have the legal flexibility to engage in ecologically-focused projects. Therefore, though making up a small portion of landmass, southeastern national forests provide flexible laboratories for

130. 16 U.S.C. § 528 (emphasis added).

131. *Id.*

132. *See id.* § 529 (“The Secretary of Agriculture is authorized and directed to develop and administer the renewable surface resources of the national forests for multiple use and sustained yield of the several products and services obtained therefrom.”).

133. Sandra B. Zellmer & Robert L. Glicksman, *A Critical 21st Century Role for Public Land Management: Conserving 30% of the Nation’s Lands and Waters Beyond 2030*, 54 ARIZ. ST. L. J. 1313, 1336 (2022) (“Sustained yields of timber, watershed protection, and other uses listed in MUSYA remain key to forest management, but wildlife conservation and ecological values were elevated in NFMA.”).

134. 16 U.S.C. § 531(a).

135. *Id.*

136. Sandra Zellmer et al., *Restoring Beavers to Enhance Ecological Integrity in National Forest Planning*, 33 NAT. RES. & ENV’T 43, 43 (2019) (“NFMA ‘requires Forest Service Planners to treat the wildlife resource as a controlling, co-equal factor in forest management and, in particular, as a substantive limitation on timber production.’”) (quoting Charles F. Wilkinson & H. Michael Anderson, *Land Use Source Planning in the National Forests*, 64 OR. L. REV. 1, 296 (1985)).

137. Projects authorized by the USFS must comply with the provisions of the national forest’s applicable forest plan. LESHY ET AL., *supra* note 128, at 725.

138. 16 U.S.C. § 1604(b).

protecting and enhancing longleaf forests (and others) as a resource.¹³⁹ This provides a foothold for expanding the LLPE into surrounding private lands.

Congress has also granted authority to acquire and exchange lands to the USFS.¹⁴⁰ The Weeks Act grants the Secretary of Agriculture general authority to acquire national forest lands for watershed protection and lumber production.¹⁴¹ Beyond this general power, the USFS may also acquire new lands through more narrow means. The USFS may obtain corridors on non-federal lands to national forests,¹⁴² exchange lands within the boundary of a national forest,¹⁴³ and accept donations for national forest purposes.¹⁴⁴ Additional acquisition authority granted by Congress allow for special purpose land acquisitions in addition to the primary authorities of the USFS discussed.¹⁴⁵ Today, the federal government is not actively in the business of purchasing large blocks of non-public lands for incorporation into national forests. Despite this, building on important holdings for various purposes, including for landscape conservation, is still viable under the law. Indeed, the history of eastern national forests makes clear the importance of degraded land acquisition, restoration, and conservation by public land managers.

Due to the historical requirement that southeastern national forests be cobbled together from private lands and donations, the boundaries of eastern national forests often encompass patches of private lands.¹⁴⁶ For consolidated habitat and connectivity throughout the forest to be best realized, land managers either have to constrain or direct private activity or work toward “infill” within the boundaries of the forest.

Regardless, eastern national forests today make up a large portion of federal public lands in the Southeast. In the USFS Southern Region, thirteen states now have national forest lands, with many located in the longleaf

139. CAROL HARDY VINCENT & LAURA A. HANSON, CONG. RSCH. SERV., R42346, FEDERAL LAND OWNERSHIP: OVERVIEW AND DATA 9–10, 20 (2020) (showing national forest acreage by state). Lavelle et al., *supra* note 3 (describing longleaf pine forest restoration ongoing in Tuskegee National Forest).

140. *See generally*, CAROL HARDY VINCENT ET AL., CONG. RSCH. SERV., RL34273, FEDERAL LAND OWNERSHIP: ACQUISITION AND DISPOSAL AUTHORITIES 6–7 (2023) (describing USFS land acquisition authority).

141. 16 U.S.C. § 515.

142. 43 U.S.C. § 1715(a).

143. *Id.* § 1716(a).

144. Clarke-McNary Act, 16 U.S.C. § 569.

145. CAROL HARDY VINCENT ET AL., CONG. RSCH. SERV., RL34273, FEDERAL LAND OWNERSHIP: ACQUISITION AND DISPOSAL AUTHORITIES 6 (2023) (discussing authority granted to the Secretary of Agriculture to acquire lands for endangered species under ESA § 5, lands within or near designated wilderness areas, Wild and Scenic River corridors, and segments of designated National Trails).

146. *See* SHANDS & HEALY, *supra* note 120, at 13–18 (describing process of stitching together eastern national forests).

forest's historical range.¹⁴⁷ National forest management for environmental benefits means that forest planning and resulting regulations offer serious opportunities for conservation.

2. National Wildlife Refuges

The history of the National Wildlife Refuge System (NWRS) is long and winding. The NWRS grew from the broader conservation movement of the early twentieth century.¹⁴⁸ President Theodore Roosevelt established the very first unit of what would become the NWRS at Pelican Island in Florida.¹⁴⁹ From that time, special designations of public lands for wildlife grew; however, these designations were not very coordinated until the 1930s. Reflecting modern science of the era, policy during the Franklin D. Roosevelt Administration “shifted from the Pelican Island-era concern of protecting a few rich sites of wildlife habitat to maintaining a series of connected, stepping-stone habitats that birds could use in their migrations.”¹⁵⁰ During this time, President Franklin D. Roosevelt issued a proclamation to reflect this change: in 1940, the various units were given the common title of national wildlife refuges.¹⁵¹

Inspired by the growing environmental movement and scientific developments, Congress adopted a management scheme for the wildlife refuges in the 1960s, in part to help endangered species recover.¹⁵²

147. The Southern region (defined as the states of Virginia, North Carolina, South Carolina, Tennessee, Kentucky, Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas, Oklahoma and Texas) contains 30 national forests. Those are, by state, Sam Houston (Tex.); Davy Crockett (Tex.); Angelina (Tex.); Sabine (Tex.); Ouachita (Ark. & Okla.); Ozark-St. Francis (Ark.); Holly Springs (Miss.); Delta (Miss.); Tombigbee (Miss.); Bienville (Miss.); Homochitto (Miss.); De Soto (Miss.); Kisatchie (La.); William B. Bankhead (Ala.); Talladega (Ala.); Tuskegee (Ala.); Conecuh (Ala.); Apalachicola (Fla.); Osceola (Fla.); Ocala (Fla.); Chattahoochee-Oconee (Ga.); Francis Marion and Sumter (S.C.); Cherokee (Tenn.); Nantahala (N.C.); Pisgah (N.C.); Uwharrie (N.C.); Croatan (N.C.); George Washington and Jefferson (Va. & Ky.); Daniel Boone (Ky.); Land Between the Lakes (Ky. & Tenn.). *Southern Region*, U.S. FOREST SERV., <https://www.fs.usda.gov/r08> (last visited May 1, 2025).

148. Robert L. Fischman, *The Significance of National Wildlife Refuges in the Development of U.S. Conservation Policy*, 21 J. LAND USE 1, 10–11 (2005).

149. *Pelican Island Nation Wildlife Refuge*, USFWS, <https://www.fws.gov/refuge/pelican-island> (last visited Apr. 7, 2025) (“[I]n 1903, President Theodore Roosevelt’s executive order designated the island as the nation’s first national wildlife refuge for the protection of nesting birds.”).

150. Fischman, *supra* note 148, at 11–12.

151. *Id.* at 12 & n.65 (citing Proclamation No. 2416, 5 Fed. Reg. 2677 (July 30, 1940), and in 54 Stat. 2717 (1940)).

152. *Id.* at 12–13; *see also id.* at 14 (showing that one major benefit of the era’s science-driven legal and policy reforms was the introduction and application of island biogeography theory to wildlife refuge management). No matter how important the isolated habitat protected was, or how the refuge itself was managed, species would still have threats without linkage between refuge habitat and other habitat lands. *Id.*

Throughout the 1970s and 1980s, management schemes on the wildlife refuges lagged behind the updates to other federal public lands, and uses incompatible with the protection of wildlife abounded.¹⁵³ Congress alleviated frustrations with management by passing the National Wildlife System Refuge Improvement Act (Refuge Improvement Act) in 1997.¹⁵⁴ The Refuge Improvement Act transformed the management ability for the nation's wildlife refuges, giving a clear, shared mandate of managing the refuges for the benefit of wildlife.¹⁵⁵

Today, the USFWS has a clear dominant-use policy directing the agency to manage the NWRS for conservation purposes. The Refuge Improvement Act “gave the [US]FWS a clear-cut . . . conservation mission, prioritized wildlife-dependent recreation among permitted uses, mandated comprehensive conservation planning, and established a progressive ecological management standard.”¹⁵⁶ As a part of this mission, the Refuge Improvement Act also included the sweeping requirement that “the biological integrity, diversity, and environmental health of the System are maintained for the benefit of present and future generations of Americans”¹⁵⁷ Since passage of the Refuge Improvement Act, the USFWS implemented this mandate to focus on scientific management, including through policy recognizing fragmentation as undesirable for promoting wildlife health and requiring managers to focus on external threats to refuges.¹⁵⁸

Acquiring additional NWRS lands is possible through a variety of legal mechanisms. The major lever for acquisition is the Migratory Bird Conservation Act of 1929.¹⁵⁹ This Act establishes a process in which the Secretary of the Interior may recommend certain lands “necessary for the conservation of migratory birds” to a commission after consultation with

153. Fischman, *supra* note 148, at 15–16.

154. *Id.* at 16.

155. *Id.*

156. Keiter, *Toward a National Conservation Act*, *supra* note 66, at 71 (quoting 16 U.S.C. § 668dd(a)(4)(B)).

157. 16 U.S.C. § 668dd(a)(4)(B). Scholars describe this mandate as “the most ecological standard in all of U.S. public land law.” Fischman, *supra* note 148, at 17.

158. See Fischman, *supra* note 148, at 17 (citing Final Compatibility Policy Pursuant to the National Wildlife Refuge System Improvement Act of 1997, 65 Fed. Reg. 62,484, 62,486 (U.S. Fish & Wildlife Serv. Oct. 18, 2000) (“[A] 2000 Service policy finds incompatible those uses that reasonably may be anticipated to cause habitat fragmentation.”)); see also *id.* at 18 (citing Policy on Maintaining the Biological Integrity, Diversity, and Environmental Health of the National Wildlife Refuge System, 66 Fed. Reg. 3,810, 3,811 (USFWS Jan. 16, 2001) (“External threats are those sources of degradation that originate from actions that occur outside of the refuge boundary.”)).

159. See generally CAROL HARDY VINCENT ET AL., CONG. RSCH. SERV., RL 34273, FEDERAL LAND OWNERSHIP: ACQUISITION AND DISPOSAL AUTHORITIES 7 (2023) (discussing USFWS land acquisition authority).

state and local government officials.¹⁶⁰ If the state has enacted a consent statute approving federal acquisition, the Secretary may then acquire these conservation lands.¹⁶¹ Much like the USFS, the USFWS may also acquire lands through donation.¹⁶² Acquisition authority is frequently utilized thanks to the funding provided expressly to expand migratory bird refuges. The Migratory Bird Conservation Fund, established by the Migratory Bird and Conservation Stamp Act (commonly referred to as the Duck Stamp Act), has provided funding for the “location, ascertainment, and acquisition of suitable areas for migratory bird refuges,” through the sale of Duck Stamps and taxes on ammunition and arms.¹⁶³ These authorities enable the NWRS to maintain its goals by targeting valuable habitats for wildlife, increasing connectivity across an entire region or landscape.

The main drawback of the NWRS is its small size. The NWRS lacks the large footprint of other public lands systems and receives “the smallest per acre appropriations.”¹⁶⁴ Further, individual units were created in response to crises and external factors, leading to a somewhat haphazard formation of the system as a whole.¹⁶⁵

The uniqueness of the NWRS, however, is also its greatest strength—a robust ecologically focused management mandate. The ability to advance wildlife conservation makes NWRS units important factors for landscape conservation. USFWS policies not only require the refuges to be managed in an ecologically sound manner, but also that refuge managers examine how their refuge fits into conservation efforts at a broader scale.¹⁶⁶ Steady funding (through the Duck Stamp Act) and proactive focus on wildlife conservation efforts make expansion of the NWRS more probable than in other federal land systems. Today, 17 units of the NWRS are within the LLPE.¹⁶⁷

160. 16 U.S.C. §§ 715a, 715c.

161. *See id.* § 715f (“No deed or instrument of conveyance in fee shall be accepted by the Secretary of the Interior under this subchapter unless the State in which the area lies shall have consented by law to the acquisition.”).

162. *Id.* § 715d.

163. *Id.* § 718d(b)(2); CAROL HARDY VINCENT ET AL., CONG. RSCH. SERV., RL 34273, FEDERAL LAND OWNERSHIP: ACQUISITION AND DISPOSAL AUTHORITIES 7 (2023) (quoting 16 U.S.C. § 718(b)).

164. Fischman, *supra* note 148, at 2.

165. *Id.* at 3 (“Units were created in response to crises, personal preferences of high-ranking officials (and legislators), funding availability, social program priorities, donations, and, of course, wildlife needs.”).

166. The managing directive of USFWS with the NWRS is that “nature reserves need to be interconnected” and the “mission of the refuge system” is “to serve as a ‘national network’ of lands and waters to sustain plants and animals.” *Id.* at 16.

167. The national wildlife refuges (NWRs) in the historic range of the LLPE include the following units: Caddo Lake, Cameron Prairie, Mountain Longleaf, St. Marks, Lower Suwannee, Merritt Island, Okefenokee, Harris Neck, Savannah, Ernest F. Hollings Ace Basin, Santee, Waccamaw, Carolina Sandhills, Pee Dee, Cedar Island, Swanquarter, and Alligator River. *National Wildlife Refuge System*,

3. Defense Installations

Many of the Department of Defense (DoD) installations in the Southeast were established as military training bases around the outbreaks of World Wars I and II.¹⁶⁸ The government often sited installation locations for their unique geographic characteristics to best train for military operations.¹⁶⁹ From the start, the national defense interests of the installations were intimately tied to the local landscapes. The South was found particularly desirable for sparsely populated areas unlikely to be as negatively impacted by military operations.¹⁷⁰ The federal government purchased private lands, often cheaply, from local landowners to create these installations.¹⁷¹

Though not often considered bastions of conservation, military installations—particularly in the Southeast—provide some of the best-protected habitats across the landscape. For example, one critically

U.S. FISH & WILDLIFE SERV., <https://www.fws.gov/program/national-wildlife-refuge-system> (last visited May 1, 2025).

168. See, e.g., *Fort Stewart*, MILITARY ONESOURCE, <https://installations.militaryonesource.mil/in-depth-overview/fort-stewart> (last visited Apr. 7, 2025) (“Fort Stewart traces its history back to November 1940, when the Anti-Aircraft Artillery Training Center was officially designated as Camp Stewart”); *History*, U.S. ARMY FORT EISENHOWER, (last visited Apr. 7, 2025) (“Camp Gordon [the original designation for Fort Eisenhower], named for Confederate Lieutenant General John Brown Gordon, was activated for infantry and armor training during World War II.”); *Fort Liberty History*, U.S. ARMY FORT LIBERTY, <https://web.archive.org/web/20230827101733/https://home.army.mil/liberty/about/fort-liberty-history> (last visited Apr. 7, 2025) (“Consequently, Camp Bragg came into existence on Sept. 4, 1918 as an artillery training center.”); Beryl I. Diamond, *Fort Moore*, NEW GA. ENCYCLOPEDIA, <https://www.georgiaencyclopedia.org/articles/government-politics/fort-moore/> (Sept. 21, 2023) (“At the entry of the United States into World War I (1917–18), government officials recognized that Fort Sill was not large enough to accommodate the training of both the infantry and the artillery units housed there. . . . Because of its climate, terrain, and transportation outlets, Columbus, Georgia, was chosen to house the new school.”).

169. *Fort Liberty History*, *supra* note 168 (“In 1918, the Chief of Field Artillery General William J. Snow, seeking an area with suitable terrain, adequate water, rail facilities, access to a port (via Lower Little River), low population density and a climate for year-round training, decided the area now known as Fort Liberty met all the desired criteria.”).

170. *Id.*

171. Fort Bragg provides an example:

At the beginning of World War I, only 7% of the land was occupied. The population consisted of approximately 170 landowners and several hundred tenant farmers. The War Department began purchasing the lands in 1918 and continued until 1923, for the initial 50,000 acres. Some lands were leased prior to purchasing. During the first year of its existence, \$6 million was spent in purchasing land, and any structures on the parcels, and erecting cantonments for six artillery brigades.

Id. Fort Moore’s story is similar. *A Brief History of Fort Benning*, U.S. ARMY FORT BENNING, [https://www.benning.army.mil/infantry/magazine/issues/2018/JUL-SEP/PDF/12\)BenningHistory_txt.pdf](https://www.benning.army.mil/infantry/magazine/issues/2018/JUL-SEP/PDF/12)BenningHistory_txt.pdf) (last visited Apr. 7, 2025) (“Since the Bussey Plantation satisfied his requirements, [COL Henry E.] Eames sought—and obtained—War Department approval to locate the boundaries of the reservation practically as he chose. Action then began to acquire the property, including the large frame house which now serves as the home of the commanding general.”).

endangered butterfly species, the St. Francis' Satyr Butterfly (*Neonympha mitchellii francisci*) is found exclusively within the bounds of Fort Bragg (formerly Fort Liberty)¹⁷² in North Carolina, in part due to the preservation of natural characteristics.¹⁷³ Thanks to a marriage of goals that serve both national defense and conservation concerns, these lands perform an outsized role in longleaf forest conservation.

Legally, conservation management on DoD lands is largely carried out by the Sikes Act.¹⁷⁴ The Sikes Act requires DoD “to provide for the conservation and rehabilitation of natural resources on military reservations” through the preparation of an Integrated Natural Resource Management Plan for their installations.¹⁷⁵ These resource plans are prepared in coordination with USFWS and state wildlife agencies, and solidify actions to benefit ecosystem enhancement and military operations.¹⁷⁶ Each Integrated Natural Resource Management Plan is evaluated through an in-depth review by the federal and state wildlife management agencies at least once every five years.¹⁷⁷ Although subordinated to national security and military training when in conflict, these plans place affirmative requirements for conservation on applicable DoD installations.¹⁷⁸

The DoD is also a partner in the Sentinel Landscapes Program.¹⁷⁹ Founded in 2013 through a partnership of the Department of Agriculture (USDA), DoD, and Department of the Interior, the Sentinel Landscapes Program mirrors the goals of Integrated Natural Resource Management Plans—blending military and conservation priorities in a strategic plan.¹⁸⁰

172. The North Carolina fort now called Fort Bragg, was originally named for a Confederate general Braxton Bragg. The fort was renamed to Fort Liberty in 2023 before being renamed again as Fort Bragg, this time for Private Roland L. Bragg in early 2025. Chris Cameron, *Fort Liberty Renamed Fort Bragg, Fulfilling a Trump Campaign Promise*, N.Y. TIMES (Mar. 7, 2025), <https://www.nytimes.com/2025/03/07/us/politics/fort-liberty-renamed-bragg.html>.

173. *Saint Francis' Satyr Butterfly*, USFWS, <https://fws.gov/species/saint-francis-satyr-butterfly-neonympha-mitchellii-francisci> (last visited Apr. 21, 2025).

174. 16 U.S.C. § 670a.

175. Keiter, *Toward a National Conservation Act*, *supra* note 66, at 82.

176. *Military Lands Conservation*, USFWS, <https://www.fws.gov/program/military-lands-conservation/what-we-do> (last visited Apr. 7, 2025); *Integrated Natural Resources Management Plans (INRMPs)*, USFWS, <https://www.fws.gov/service/integrated-natural-resources-management-plans-inrmpps> (last visited Apr. 7, 2025).

177. *Integrated Natural Resources Management Plans (INRMPs)*, USFWS, <https://www.fws.gov/service/integrated-natural-resources-management-plans-inrmpps> (last visited Apr. 7, 2025).

178. See 16 U.S.C. § 670a(b) (providing for various wildlife and natural resource protections).

179. Congress codified the program in statute at 10 U.S.C. § 2693.

180. *The Sentinel Landscapes Partnership*, USDA, DoD & DOI, <https://sentinellandscapes.org/> (last visited Apr. 6, 2025) (“[T]he partnership aligns the objectives of the U.S. Department of Agriculture, Department of Defense, and Department of the Interior to strengthen military readiness, conserve natural resources, bolster agricultural and forestry economies, increase public access to outdoor recreation, and enhance landscape resilience.”).

Focused on providing “[n]atural open space and sustainably managed working lands used for farming, ranching and forestry,” the Sentinel Landscapes Program provides economic opportunity, conservation achievements, and critical buffers for military activity on bases.¹⁸¹

Both programs provide strategic advantages for conservation of the LLPE. With their focus on conservation management of DoD lands, Integrated Natural Resource Management Plans help military bases provide core habitat in otherwise highly impacted landscapes. The relative lack of land development lends DoD installations high utility for imperiled species and ecosystems. The Sentinel Landscapes Program builds on those core DoD lands by putting into place buffers and helping to provide potential connections between the base and surrounding pockets of habitat across the landscape.

C. Farm Bill and USDA Programs

A majority of direct conservation action by the federal government on private lands is done through implementing Farm Bill-funded voluntary USDA programs.¹⁸² The Farm Bill USDA programs are direct, voluntary incentives that require a private landowner to seek assistance.¹⁸³ These types of programs, often informally referred to as “carrot” approaches, contrast the “sticks” most traditional environmental regulatory schemes impose. The USDA’s Natural Resource Conservation Service (NRCS) administers a majority of these programs, with a few handled by the Farm Service Agency.¹⁸⁴ Congress passed the most recent Farm Bill in 2018,¹⁸⁵ and extended its provisions most recently in 2024.¹⁸⁶

Justifications for voluntary conservation programs, like those in the Farm Bill, include proactive management to avoid regulatory expectations and the necessity of bringing private lands into the conservation fold. USDA generally favors advancing voluntary practices to address environmental ills

181. *Landscapes*, USDA, DOD & DOI, <https://sentinellandscapes.org/landscapes/> (last visited Feb. 21, 2024).

182. Arthur Middleton et al., *The Role of Private Lands in Conserving Yellowstone’s Wildlife in the Twenty-First Century*, 22 WYO. L. REV. 237, 282–83 (2022) (“Most of the federal government’s human and financial capacity to deliver voluntary conservation on private lands sits in the U.S. Department of Agriculture (USDA), and is authorized and funded through the Farm Bill, an omnibus piece of legislation that Congress updates every four to six years, most recently through the Agriculture Improvement Act of 2018.”).

183. *Id.* at 282–83.

184. *Id.* at 283.

185. Agriculture Improvement Act of 2018, Pub. L. 115-334, 132 Stat. 4490 (2018).

186. American Relief Act, 2025, Pub. L. 118-158, 138 Stat. 1722; *Farm Bill Home*, FARM SERV. AGENCY, U.S. DEP’T OF AG., <https://www.fsa.usda.gov/tools/informational/farm-bill> (last visited May 1, 2025).

without the involvement of traditional regulatory schemes.¹⁸⁷ Farm Bill programs can be divided into roughly five categories based on their goals and methods of implementing conservation. These categories, explained in greater detail below, include (1) technical assistance, (2) working lands programs, (3) land retirement programs, (4) easements, and (5) other programs targeting specific conservation goals.

1. Conservation Technical Assistance

The first category of Farm Bill incentives is the provision of technical assistance.¹⁸⁸ Conservation technical assistance is agency aid provided to farmers, ranchers, and forestland owners who opt to conserve and restore parts of their lands.¹⁸⁹ Landowners opting into the program work with the NRCS to create a conservation plan and apply for funding to install and carry out that plan.¹⁹⁰ Many uses qualify landowners to receive conservation technical assistance.¹⁹¹ Most purposes supported by technical assistance would help support landscape conservation practices by enhancing ecological functioning and providing additional wildlife habitat on private lands.

2. Working Lands

The second category of Farm Bill incentives are working lands conservation programs, which allow a qualifying landowner to continue using lands while also engaging in conservation.¹⁹² Landowners qualifying for these programs receive the conservation planning and technical assistance

187. See MEGAN STUBBS, CONG. RSCH. SERV., R45698, AGRICULTURAL CONSERVATION IN THE 2018 FARM BILL 16 (2019) (explaining the rationale for voluntary conservation practices).

188. Agriculture Improvement Act of 2018, Pub. L. 115-334, title II, §§ 2502, 2821(e), 132 Stat. 4579, 4603 (2018) (codified at 16 U.S.C. § 3842).

189. *Conservation Technical Assistance*, NRCS, <https://www.nrcs.usda.gov/getting-assistance/conservation-technical-assistance> (last visited Feb. 14, 2024).

190. *Id.*

191. Qualifying purposes include the following: reduction of soil loss from erosion; solving soil, water quality, water conservation, air quality, and agricultural waste management problems; reduction of potential damage caused by excess water and sedimentation or drought; enhancement of fish and wildlife habitat; improvement of long-term land sustainability; and assisting others in facilitating changes to land use to protect natural resources and sustainability values. FISCAL YEAR 2009 EXPLANATORY NOTES, NAT. RES. CONSERVATION SERV. 18-2 (2008).

192. MEGAN STUBBS, CONG. RSCH. SERV., R45698, AGRICULTURAL CONSERVATION IN THE 2018 FARM BILL 5 (2019).

described above, while also receiving financial support from the federal government to engage in affirmative conservation agreed to in contract.¹⁹³

The landscape conservation benefits of working lands programs flow from decreasing the negative effects of land use. Tempering negative impacts to the land helps reduce fragmentation and enables the land to provide functional wildlife habitat. Working lands programs do not prevent landowners from engaging in activities that may adversely impact healthy, intact longleaf forests. The ability to obtain federal funds while continuing use of land for agricultural or forestry purposes in these programs does, however, have potential to draw more private landowners into the conservation fold. By tailoring conservation goals with the needs of a particular landowner, working lands programs can create new opportunities to link and expand conservation across a region by meeting landowners where they are.

The two major working lands programs are the Environmental Quality Incentives Program and the Conservation Stewardship Program. The Environmental Quality Incentives Program,¹⁹⁴ or EQIP, allows landowners who utilize working lands to enter contractual plans with the government to alleviate environmental problems arising from working uses of the land.¹⁹⁵ This program provides financial and technical assistance for implementing mitigation practices approved by USDA and is legally enforceable.¹⁹⁶

The Conservation Stewardship Program,¹⁹⁷ or CSP, is more proactive than the Environmental Quality Incentives Program. It provides financial and technical assistance to qualified landowners to not only maintain conditions on their land but to improve conservation and adopt additional conservation-minded activities.¹⁹⁸ For a contract to be approved, activities required of the landowner in the Conservation Stewardship Program must “meet or exceed a stewardship threshold” for identified resource concerns on the land.¹⁹⁹ In its current form, the Conservation Stewardship Program enrollment may be

193. For example, a rancher may receive funding to vegetate and maintain a riparian buffer around streams utilized by their cattle. *See id.* (describing funds for the installation and maintenance of conservation-friendly management practices).

194. Agriculture Improvement Act of 2018, Pub. L. 115-334, title II, subtitle C, §§ 2301–2306, 132 Stat. 4555 (2018) (codified at 16 U.S.C. 3939aa *et seq.*).

195. MEGAN STUBBS, CONG. RSCH. SERV., R45698, AGRICULTURAL CONSERVATION IN THE 2018 FARM BILL 6 (2019).

196. *Id.*

197. Agriculture Improvement Act of 2018, Pub. L. 115-334, title II, subtitle C, §§ 2301, 2308, 132 Stat. 4551, 4565 (codified at 16 U.S.C. § 3839aa-22).

198. MEGAN STUBBS, CONG. RSCH. SERV., R45698, AGRICULTURAL CONSERVATION IN THE 2018 FARM BILL 6 (2019).

199. *Id.*

renewed, but contract renewal requires landowners to complete new applications to continue after their initial participation period lapses.²⁰⁰

3. Land Retirement

The third type of Farm Bill incentives are land retirement programs, which authorize USDA to pay private landowners to retire their lands and allow recovery from resource-intensive use.²⁰¹ These initiatives depart from the goals of working lands programs by focusing on land use changes, as opposed to mitigation or conservation activity alongside continuing land use.

Land retirement programs go a step further than working lands programs by expressly requiring less consumptive uses to advance conservation on enrolled lands.²⁰² While these actions are temporary, the opportunity for re-enrollment and the affirmative actions of landowners to create habitat and improve environmental quality help to provide valuable linkages across the landscape on private lands.

The Conservation Reserve Program,²⁰³ or CRP, provides funds to landowners to remove lands from production for a set period, typically ten to fifteen years.²⁰⁴ The goals of removing lands from production are to improve water quality, reduce erosion, and preserve wildlife habitat.²⁰⁵ The program represents a major, longstanding player in the land retirement programs carried out by USDA agencies.²⁰⁶ Enrollment is divided into three options: General, Grassland, and Continuous—each with its own process for acceptance.²⁰⁷

The Conservation Reserve Enhancement Program,²⁰⁸ or CREP, is an adjunct program to the Conservation Reserve Program. The Conservation

200. MEGAN STUBBS, CONG. RSCH. SERV., R45698, AGRICULTURAL CONSERVATION IN THE 2018 FARM BILL 6 (2019).

201. *Id.* at 2.

202. *Id.*

203. Agriculture Improvement Act of 2018, Pub. L. 115-334, title II, subtitle B, § 2201, 132 Stat. 4530 (2018) (codified at 16 U.S.C. § 3831).

204. MEGAN STUBBS, CONG. RSCH. SERV., R45698, AGRICULTURAL CONSERVATION IN THE 2018 FARM BILL 2 (2019).

205. *Id.*

206. CRP was originally authorized by the 1985 Farm Bill and has been a staple since. *Id.*

207. *See id.* at 2–4 (“General enrollment provides an opportunity for landowners to enroll in CRP through a nationwide competition during a specific period of time. Continuous enrollment is designed to enroll the most environmentally desirable land into CRP through specific conservation practices or resource needs. Unlike general enrollment, under continuous enrollment, land is typically enrolled at any time and is not subject to competitive bidding.”); *Conservation Reserve Program*, FARM SERV. AGENCY, <https://www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-program/index> (last visited Apr. 14, 2025).

208. Agriculture Improvement Act of 2018, Pub. L. 115-334, title II, subtitle B, § 2202, 132 Stat. 4534 (2018) (codified at 16 U.S.C. § 3831a).

Reserve Enhancement Program authorizes USDA to enter agreements with states and non-governmental organizations targeting project areas with continuous enrollment contracts.²⁰⁹ This program's purpose is to prioritize conservation on particularly valuable lands by using greater incentives than most other Conservation Reserve Program-enrolled landowners receive.²¹⁰

Additional programs exist for more specialized circumstances, and, in some cases, may be utilized concurrently with the Conservation Reserve Program.²¹¹ First is the Farmable Wetlands Program.²¹² This program works within the Conservation Reserve Program to enroll farmable wetlands or wetlands that have been converted into farmlands to be retired in exchange for financial incentives.²¹³ Second is CLEAR30,²¹⁴ which is devoted to enrolling Conservation Reserve Program lands into thirty-year contracts that work to protect and improve water quality.²¹⁵ Lastly is the Soil Health and Income Protection Pilot,²¹⁶ which is a pilot program designed to remove impacted farmlands from production in favor of planting cover crops.²¹⁷ Each of these programs has likely limited application to restoration and protection of the LLPE, but in special cases may be combined with traditional Conservation Reserve Program enrollment to further incentivize conservation activity for qualifying landowners.

4. Easements

Easement programs are the fourth type of Farm Bill incentives and can be powerful tools for conservation.²¹⁸ A conservation easement, the type of

209. MEGAN STUBBS, CONG. RSCH. SERV., R45698, AGRICULTURAL CONSERVATION IN THE 2018 FARM BILL 4 (2019).

210. *Id.*

211. *Id.* at 4–5 (describing other specific programs exist under the CRP).

212. Agriculture Improvement Act of 2018, Pub. L. 115-334, title II, subtitle B, § 2203, 132 Stat. 4538 (2018) (codified at 16 U.S.C. § 3831b).

213. MEGAN STUBBS, CONG. RSCH. SERV., R45698, AGRICULTURAL CONSERVATION IN THE 2018 FARM BILL 4 (2019).

214. Agriculture Improvement Act of 2018, Pub. L. 115-334, title II, subtitle B, § 2204, 132 Stat. 4538 (2018) (codified at 16 U.S.C. § 3831c).

215. MEGAN STUBBS, CONG. RSCH. SERV., R45698, AGRICULTURAL CONSERVATION IN THE 2018 FARM BILL 5 (2019).

216. Agriculture Improvement Act of 2018, Pub. L. 115-334, title II, subtitle B, § 2204, 132 Stat. 4538 (2018) (codified at 16 U.S.C. § 3831c).

217. MEGAN STUBBS, CONG. RSCH. SERV., R45698, AGRICULTURAL CONSERVATION IN THE 2018 FARM BILL 5 (2019).

218. Sarah A. Brown et al., *Conservation Easements: A Tool for Preserving Wildlife Habitat on Private Lands*, WILDLIFE SOC. BULLETIN, June 2023, at 1, 2 (“In the United States, there is an important role for private land conservation particularly in the eastern states, where a significant portion of land is privately owned. . . . Conservation easements are one mechanism for protecting private lands.”); cf. Middleton et al., *supra* note 182, at 288 (“While easements are certainly important in limiting habitat loss, other tools are better suited to promoting specific management practices.”).

easement discussed here, is an agreement between a landowner and an approved easement holder in which the landowner agrees to certain restrictions on land use.²¹⁹ Conservation easement agreement restrictions are permanent and may be enforced in perpetuity, including against a subsequent landowner.²²⁰ The purpose of imposing these restrictions is to limit activity that would degrade the health of the land, thus providing conservation benefits to the public.²²¹ In exchange for imposing restrictions, a landowner typically receives an incentive, usually in the form of tax benefits.²²²

Farm Bill easement programs leverage federal funding to provide additional incentives to implement a conservation easement.²²³ If leveraged to target ideal lands, conservation easements can bring high-value habitat on private lands into the regional conservation fold. A potential concern, however, is that easements must be carefully drafted to maintain adaptive management and flexibility for conservation over time.²²⁴

The Agricultural Conservation Easements Program,²²⁵ or ACEP, is an agriculturally-focused easement program funded by the Farm Bill.²²⁶ The Agricultural Conservation Easements Program provides financial and technical assistance for two types of easements.²²⁷ The first type of easements are agricultural land easements.²²⁸ These easements restrict land to agricultural use, thus preventing more intensive land uses.²²⁹ Second, are wetland reserve easements,²³⁰ meant to restore wetlands impacted by farming

219. Brown et al., *supra* note 218, at 1, 2.

220. *Id.* at 2.

221. *Id.* at 3.

222. *Id.* at 2, 4. *See also* 26 U.S.C. § 170(b)(1)(E) (describing statutory requirements for federal tax deductions for qualified conservation contributions, e.g., conservation easements).

223. MEGAN STUBBS, CONG. RSCH. SERV., R45698, AGRICULTURAL CONSERVATION IN THE 2018 FARM BILL 8 (2019) (“Easement programs impose a permanent land-use restriction that is voluntarily placed on the land in exchange for a government payment.”).

224. Middleton et al., *supra* note 182, at 288 (“The benefits of conservation easements to wildlife should be considered in the context of the specific terms of individual easements, but the range of terms and specificity in agreements makes any comprehensive assessment challenging at this time.”).

225. Agriculture Improvement Act of 2018, Pub. L. 115-334, title II, subtitle F, §§ 2601–2605, 132 Stat. 4585 (2018).

226. Additional funds were provided by the 2021 Inflation Reduction Act. *See Agricultural Conservation Easement Program*, NRCS, <https://www.nrcs.usda.gov/programs-initiatives/acep-agricultural-conservation-easement-program> (last visited Apr. 14, 2025).

227. *Id.*

228. Agriculture Improvement Act of 2018, Pub. L. 115-334, title II, subtitle F, § 2603, 132 Stat. 4586 (2018) (codified at 16 U.S.C. § 3865b).

229. MEGAN STUBBS, CONG. RSCH. SERV., R45698, AGRICULTURAL CONSERVATION IN THE 2018 FARM BILL 8 (2019)

230. Agriculture Improvement Act of 2018, Pub. L. 115-334, title II, subtitle F, § 2604, 132 Stat. 4589 (2018) (codified at 16 U.S.C. § 3865c).

activity.²³¹ Both private and tribal lands may be enrolled in the Agricultural Conservation Easements Program.²³²

The Healthy Forests Reserve Program,²³³ or HFRP, is a USDA program administered by the NRCS. The Healthy Forests Reserve Program allows private and tribal land enrollment in contractual periods, temporary easements, or traditional permanent conservation easements to protect and enhance forest ecosystems.²³⁴ In addition to financial incentives, these programs may also provide some regulatory certainty around ESA regulations and restrictions, much like SHAs.²³⁵

5. Other Programs

A final set of Farm Bill programs targeting narrower conservation goals, such as conservation of a given species or a particular type of ecosystem, are also available. The Regional Conservation Partnership Program,²³⁶ or RCPP, “is a partner-driven approach to conservation that funds solutions to natural resource challenges on agricultural land.”²³⁷ By aligning interests between public and private entities, the Regional Conservation Partnership Program funds direct conservation activities by farmers, ranchers, and forest landowners through land management practices, land rentals, and easements.²³⁸ Funding is divided evenly between two pools: state or multistate projects, and critical conservation areas.²³⁹ Designated critical conservation areas have particular utility in advancing landscape conservation activity by leveraging planning at a regional scale, which pursues goals at a larger scale than any individual conservation project.²⁴⁰

231. MEGAN STUBBS, CONG. RSCH. SERV., R45698, AGRICULTURAL CONSERVATION IN THE 2018 FARM BILL 8 (2019).

232. NRCS, *Agricultural Conservation Easement Program*, *supra* note 226.

233. Agriculture Improvement Act of 2018, Pub. L. 115-334, title VIII, § 8407(a)(1), 132 Stat. 4845 (2018) (codified at 16 U.S.C. § 6571).

234. See *Healthy Forests Reserve Program*, NRCS, <https://www.nrcs.usda.gov/programs-initiatives/hfrp-healthy-forests-reserve-program> (last visited Apr. 14, 2025) (“HFRP provides landowners with 10-year restoration agreements and 30-year or permanent easements for specific conservation actions. For acreage owned by an American Indian tribe, there is an additional enrollment option of a 30-year contract.”).

235. *Id.* (“Some landowners may avoid regulatory restrictions under the Endangered Species Act by restoring or improving habitat on their land for a specified period of time.”).

236. Agriculture Improvement Act of 2018, Pub. L. 115-334, title II, subtitle G, §§ 2701–07, 132 Stat. 4592 (2018) (codified at 16 U.S.C. § 3871 *et seq.*).

237. *Regional Conservation Partnership Program*, NRCS, <https://www.nrcs.usda.gov/programs-initiatives/rcpp-regional-conservation-partnership-program> (last visited Apr. 14, 2025).

238. *Id.*

239. *Id.*

240. *Id.*

The Working Lands for Wildlife (WLFW) is a framework for NRCS partners and other entities, especially the USFWS, to work with private landowners to preserve habitat for imperiled species.²⁴¹ USDA developed the WLFW program as an expansion of the Sage Grouse Initiative, created to protect greater sage grouse habitat and prevent the species' listing.²⁴² Species protected in this program tend to be listed species, but may also be those in danger of listing.²⁴³ Landowners voluntarily partner under this program and agree to make and maintain habitat improvements on their land through NRCS conservation programs.²⁴⁴ Agreements under WLFW typically last for fifteen to thirty years and provide some of the same regulatory security as SHAs do.²⁴⁵

IV. ACTIONS TAKEN TOWARD CONSERVATION OF THE LONGLEAF PINE ECOSYSTEM

Conservation activities across the Southeast have been essential to ensuring the overall health and longevity of the LLPE. Since the historic decline in acreage of longleaf pine forests across the LLPE around the late 1990s, restoration and protection activities have been vital in reversing the downward trend.²⁴⁶ Today, nearly 5.2 million acres of longleaf forest exist across the southeastern United States.²⁴⁷

Legal mechanisms and opportunities serve to further conservation efforts of the LLPE, both as a backstop and as tools to achieve further conservation across the landscape. Nearly all of the federal legal mechanisms discussed have been leveraged to increase the reach of conservation efforts across the LLPE. Whether to increase habitat for the species, provide for ecosystem functioning, or simply enhance the direct benefits the landowner derives from the land, longleaf pine forest conservation efforts appear to have

241. MEGAN STUBBS, CONG. RSCH. SERV., R45698, AGRICULTURAL CONSERVATION IN THE 2018 FARM BILL 16 (2019); *Working Lands for Wildlife*, NRCS, <https://www.nrcs.usda.gov/programs-initiatives/working-lands-for-wildlife> (last visited Apr. 22, 2025). The WLFW program was codified in the 2018 Farm Bill, Agriculture Improvement Act of 2018, Pub. L. 115-334, title II, subtitle D, § 2407, 132 Stat. 4573 (2018) (codified at 16 U.S.C. § 1531).

242. Middleton et al., *supra* note 182, at 293.

243. MEGAN STUBBS, CONG. RSCH. SERV., R45698, AGRICULTURAL CONSERVATION IN THE 2018 FARM BILL 16 (2019).

244. SUPPORTING AMERICA'S WORKING LANDS, NRCS 9 (2021), https://www.nrcs.usda.gov/sites/default/files/2022-10/FINAL_WLFW_March_10-2021_0.pdf.

245. MEGAN STUBBS, CONG. RSCH. SERV., R45698, AGRICULTURAL CONSERVATION IN THE 2018 FARM BILL 16 & n.25 (2019).

246. *See generally* AM.'s LONGLEAF RESTORATION INITIATIVE, 2023 RANGE-WIDE ACCOMPLISHMENTS, *supra* note 4 and accompanying text.

247. THE NATURE CONSERVANCY, *supra* note 6.

reversed the decline of this unique ecosystem.²⁴⁸ This Part considers conservation actions accomplished across the LLPE with identified tools before turning to future considerations in the conclusion.

A. Public Lands & Longleaf Pine Forest: Providing Core Lands in Landscape Network

Public lands across the Southeast provide an incredible opportunity to advance LLPE landscape conservation. First, public lands are important banks for existing longleaf forests. An estimated 37% of extant longleaf forests are located on either federal or state public lands.²⁴⁹ Advancing conservation throughout southeastern federal public lands has created a “core lands” function and strongholds of viable habitat.²⁵⁰ That is, these public lands provide “islands” of functioning longleaf forest, making up the center of a push to expand efforts and restore the landscape. Though these public lands are often somewhat fragmented themselves, agencies and their partners “have been successful in connecting and building upon ‘core’ public lands through interagency collaboration, the purchase of key additional lands from willing sellers, and the establishment of conservation easements through public or private efforts.”²⁵¹

Second, there are many management opportunities to promote ecosystem values and conservation activity on public lands.²⁵² Federal agencies in the Southeast have favored restoration-oriented activities on public lands to further their land-use goals.²⁵³ For example, the DoD has many landholdings within the historic LLPE range, including Eglin Air Force Base in Florida.²⁵⁴

248. See generally AM.’S LONGLEAF RESTORATION INITIATIVE, 2023 RANGE-WIDE ACCOMPLISHMENTS, *supra* note 4 and accompanying text.

249. AM.’S LONGLEAF RESTORATION INITIATIVE, RANGE-WIDE CONSERVATION PLAN, *supra* note 33, at 12.

250. *Id.* at 12–13.

251. *Id.* at 13.

252. See, e.g., Jeff M. Matthews et al., *Restoration of Longleaf Pine in the Southern Region of the U.S. Forest Service: An Overview of the Million-Acre Challenge* in PROCEEDINGS OF THE 20TH BIENNIAL SOUTHERN SILVICULTURAL RESEARCH CONFERENCE 114–17 (Don C. Bragg et al. eds., 2020), <https://www.fs.usda.gov/research/treesearch/61574> (describing the “Million Acre Challenge” of the USFS to restore an additional million acres of longleaf forest).

253. BROCKWAY ET AL., *supra* note 24, at 22 (“Restoration activities are taking place on almost all other Federal and State lands that have longleaf pine or sites suitable for its establishment.”).

254. See *Operation Reforest: Restoring Eglin Air Force Base*, ARBOR DAY FOUND. (Feb. 12, 2025), <https://www.arborday.org/perspectives/operation-reforest-restoring-eglin-air-force-base> (“Eglin is the largest Air Force base in the world, spanning nearly 500,000 acres of the Florida Panhandle — roughly half of which is covered by diverse and ancient forest lands. In fact, Eglin houses the world’s largest contiguous acreage of old-growth longleaf pine, which was once the primary tree species found across more than 80 million acres in the southeastern United States. Today, those trees cover less than

Today, use of the land for military training operations is mutually beneficial, as frequent fires from those operations maintains necessary conditions for mature longleaf pine.²⁵⁵ However, the Base also contained a large area of forest that had developed a hardwood midstory.²⁵⁶ Beginning in 1993, land managers on the Base began an intensive restoration program on that portion of land, utilizing not only fire, but also mechanical and herbicidal treatments to restore the landscape to longleaf forest.²⁵⁷

These two benefits flow from the management responsibilities and authorities of public land management agencies. The qualities of public lands generally, regardless of management agency, tend to provide more accommodating opportunities for longleaf forest conservation than private lands.²⁵⁸ The management mandates of these agencies provide flexibility in advancing conservation. For example, the most recent forest plan of the Francis Marion National Forest in South Carolina includes provisions for ecosystem protection and restoration, with an eye to longleaf forest within the national forest.²⁵⁹

Serious conservation action has also been completed through federal agency collaboration. One major action to advance LLPE conservation was in a Memorandum of Understanding between DoD, USDA, and Department of the Interior.²⁶⁰ This agreement affirmed the commitment of these executive departments to advance longleaf conservation,²⁶¹ while also establishing a “Federal Coordinating Committee” to coordinate activity amongst the departments.²⁶² The Memorandum commits the departments and

two million acres.”); W.D. Boyer, *Longleaf Pine*, USFS, https://www.srs.fs.usda.gov/pubs/misc/ag_654/volume_1/pinus/palustris.htm (showing natural range of longleaf pine).

255. BROCKWAY ET AL., *supra* note 24, at 22.

256. *Id.*

257. *Id.*

258. Public land managers have greater ability to engage in prescribed fire and management that allows longleaf to reach maturity at forty to fifty years. Further, land ownership does not change over time, allowing for consistency in management on public lands as opposed to private lands. All of these factors are beneficial for longleaf forest management and restoration. *Id.* at 15.

259. *See generally*, FINAL REVISED LAND MANAGEMENT PLAN: FRANCIS MARION NATIONAL FOREST, USFS (2017), https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd530182.pdf (noting that the Forest Service has developed a detailed land management plan for USDA and USFS to follow to protect Francis Marion’s restored longleaf pine ecosystems).

260. AM.’S LONGLEAF RESTORATION INITIATIVE, RANGE-WIDE CONSERVATION PLAN, *supra* note 33, at 9.

261. *Memorandum of Understanding Among the Department of Agriculture, Department of Defense, and Department of the Interior*, at 1, June 28, 2010, https://www.repi.mil/Portals/44/Documents/Resources/Signed_MOU_on_LL.P.pdf [hereinafter MOU].

262. AM.’S LONGLEAF RESTORATION INITIATIVE, RANGE-WIDE CONSERVATION PLAN, *supra* note 33, at 9.

agencies within them to a host of guiding principles,²⁶³ as well as to maintain, improve, and restore longleaf forests on their respective lands.²⁶⁴

Federal managers have also built on the “core lands” function of public lands, expanding efforts at restoration onto surrounding private lands.²⁶⁵ The Sentinel Landscapes Partnership prioritizes expansion of longleaf forest restoration beyond the borders of participating DoD installations out into the surrounding community.²⁶⁶ By utilizing funding to incentivize private landowners to increase activities that are supportive of the LLPE’s viability, the Partnership achieves both conservation and national security purposes.

Despite successes, three limitations exist: (1) fragmentation of public lands from private inholdings; (2) expanding conservation onto surrounding private lands to achieve landscape conservation goals; and (3) providing funding.²⁶⁷ Fragmentation concerns are common on federal lands throughout the Southeast. Though agencies have authority to acquire certain lands via exchange, this is often costly and time-consuming.²⁶⁸ Further, federal efforts to engage private landowners in conservation is largely voluntary, apart from enforcing the ESA.²⁶⁹ Finally, funding concerns are always a question for land management agencies, both for management of public lands themselves and when providing land management assistance to adjacent private landowners.²⁷⁰

263. Those principles include: Strategic, Science-based Approach; Site-based Conservation Efforts in the Context of Sustainable Landscapes; Involvement by Public and Private Sectors; Involvement by Public and Private Sectors; Partnerships and Collaboration; and Use the Conservation Plan as a Framework and Catalyst. MOU, *supra* note 261 261, at 1–2.

264. *Id.* at 3.

265. See *The Sentinel Landscapes Partnership*, USDA, <https://sentinellandscapes.org/> (“We empower landowners and managers to implement sustainable land management practices that have ecological, economic, and national defense benefits. We accomplish this by providing connections with voluntary state and federal assistance programs that meet their individual needs.”) (last visited Apr. 23, 2025).

266. See e.g., *Georgia Sentinel Landscape*, U.S. DEP’T OF AG., U.S. DEP’T OF DEF. & U.S. DEP’T OF THE INTERIOR, <https://sentinellandscapes.org/landscapes/georgia/> (last visited May 1, 2025) (noting the program encompasses “large swaths of longleaf pine forests”).

267. See AM.’S LONGLEAF RESTORATION INITIATIVE, RANGE-WIDE CONSERVATION PLAN, *supra* note 33, at 13 (“Many publicly owned land tracts . . . can be somewhat fragmented, of insufficient size to contribute to overall restoration goals, or inefficient to manage at a landscape scale.”).

268. See USFS, A GUIDE TO LAND EXCHANGES ON NATIONAL FOREST LANDS, <https://www.ntc.blm.gov/krc/system/files?file=legacy/uploads/23110/The%20Guide%20to%20Land%20Exchanges.pdf> (“Land exchanges can be effective tools because the Forest Service has very limited authority to sell lands and limited funds for acquiring key tracts. Exchanges have become more costly and take multiple years to complete due to increased regulatory requirements in recent years. The National Forests receive many more land exchange proposals than it has the resources to accomplish.”).

269. See Keiter66, *Toward a National Conservation Network Act*, *supra* note 66, at 107–10 (discussing options for private land conservation).

270. AM.’S LONGLEAF RESTORATION INITIATIVE, RANGE-WIDE CONSERVATION PLAN, *supra* note 33, at 13.

The ideal path forward involves allocating serious funding to land management agencies for conservation activities and creating mechanisms for purchasing key public lands. Though the political opportunities for large-scale federal land acquisition are low, where any opportunity exists, acquisition provides a powerful tool to create connectivity between isolated patches of public lands. Where the authority and political will do not exist, continued expansion of voluntary programs, such as leasing and easements on adjacent lands, helps provide similar functions. In sum, it is vitally important Congress continues to fund land management agencies and promote landscape conservation in yearly appropriations.

B. Longleaf Pine & the Endangered Species Act: Red-Cockaded Woodpecker Case Study

One of the most charismatic federally-listed species that calls the LLPE home is the red-cockaded woodpecker, *Picoides borealis*.²⁷¹ The red-cockaded woodpecker—the only woodpecker species to excavate its nest cavities in living pine trees—thrived historically across the pine forests of the southeastern United States.²⁷² The woodpecker requires large expanses of “open, mature, frequently burned pine stands,” like those of the fire-managed longleaf pine forest, in order to forage without a dense ground story and to allow the requisite pines to reach maturity for nest cavities.²⁷³ Major threats include habitat loss through deforestation, urbanization and incompatible forestry practices, as well as the compounding issue of habitat fragmentation and population isolation.²⁷⁴ Recovery has historically focused on conservation on federal lands, with supplemental activities conducted on private lands, especially where connectivity of populations was otherwise unachievable.²⁷⁵

271. The red-cockaded woodpecker, listed as endangered since 1973, was recently downlisted to threatened in October of 2024. *Interior Department Announces Downlisting of Red-Cockaded Woodpecker from Endangered to Threatened*, USFWS (Oct. 24, 2024), <https://www.fws.gov/press-release/2024-10/downlisting-red-cockaded-woodpecker-endangered-threatened>.

272. *Georgia Partners in Flight*, GA. DEP'T NAT. RES., <https://georgiawildlife.com/conservation/birds#red-cockaded-woodpecker-conservation> (last visited Apr. 23, 2025).

273. *Id.* (“Sufficient foraging habitat has been defined as a minimum of 3000 square feet basal area of pines at least 10 inches in diameter nearby and contiguous to the cavity trees.”).

274. *Id.*

275. See Availability of a Draft Combined Environmental Assessment and Habitat Conservation Plan, Preliminary Finding of No Significant Impact, and Notice of Receipt of an Application for an Incidental Take Permit by Plum Creek Timber Company for Forest Management and Timber Harvest on Plum Creek Lands in Arkansas and Louisiana, 66 Fed. Reg. 19792 (Apr. 17, 2001), <https://www.govinfo.gov/content/pkg/FR-2001-04-17/pdf/01-9454.pdf> [hereinafter Plum Creek HCP].

The ESA does not require that private landowners take affirmative action to improve conservation outcomes for listed species such as the red-cockaded woodpecker, only that they avoid further harm in the form of a “take” of the species.²⁷⁶ The “take” prohibition limits negative impact on the species, including by avoiding habitat destruction adversely affecting the species.²⁷⁷ The following two subsections explore how Habitat Conservation Plans (HCPs) and Safe Harbor Agreements (SHAs) under the ESA provide conservation incentives for interested landowners affected by red-cockaded woodpecker presence by providing “shields” against the enforcing wildlife agency’s regulatory action.

1. Habitat Conservation Plans

HCPs are plans required to accompany an application for an incidental take permit.²⁷⁸ In exchange for implementation of conservation measures benefitting a listed species, parties covered under an HCP receive insulation from the ESA’s prohibition on the take of listed species.²⁷⁹ One example of a private HCP for protection of the red-cockaded woodpecker is a plan proposed by Jack Primus, L.P. in South Carolina.²⁸⁰ In this case, landowners proposed to sell a 996-acre tract of land just north of North Charleston for development, but the land contained two active clusters of red-cockaded woodpeckers.²⁸¹ The nearest known populations of red-cockaded woodpeckers were located miles away on the Francis Marion National Forest and on private lands adjacent to the Jack Primus Tract, at Medway Plantation.²⁸² Because development of the tract would potentially “result in death of, or harm to, any remaining [red-cockaded woodpeckers] through the loss of nesting and foraging habitat,” the landowners had to apply for an incidental take plan.²⁸³ Here, the solution was fairly simple—the adjacent parcel of land (the Medway Plantation) had been placed in a conservation easement that protected, in part, intact portions of longleaf forest.²⁸⁴ To ensure the health of the population of woodpeckers located in the area, the

276. See 16 U.S.C. § 1538(a)(1) (highlighting activities that the ESA prohibits).

277. See MACGOWAN, *supra* note 109, at 3 (discussing the ESA and HCPs).

278. See *id.* at 7 (explaining HCPs).

279. *Id.*

280. Availability of an Environmental Assessment and Receipt of an Application Submitted by Jack Primus Partners, L.P. for an Incidental Take Permit for Red-cockaded Woodpeckers in Association with the Sale and Development of a Property in Berkeley County, South Carolina, 60 Fed. Reg. 39418 (Aug. 2, 1995) [hereinafter Jack Primus HCP].

281. *Id.*

282. *Id.*

283. *Id.*

284. *Id.* at 39418–19.

HCP called for “six clusters with artificial starts and cavities on suitable habitat” to be located on the easement.²⁸⁵ These clusters were then to be subject to ongoing monitoring.²⁸⁶ In other words, the HCP required landowners to maintain a suitable number of trees for breeding pairs of red-cockaded woodpeckers on protected lands adjacent to those subject to development, subject to ongoing monitoring.

A similar example is the HCP implemented by Plum Creek Timber Company, Inc.²⁸⁷ This case involved the management of nearly 261,000 acres of commercial forestlands in Arkansas and Louisiana.²⁸⁸ Though red-cockaded woodpeckers prefer longleaf pine for nesting, they will tolerate other types of pine stands, such as “loblolly, pond, slash, shortleaf, and Virginia pine stands.”²⁸⁹ What is good for the red-cockaded woodpecker, however, is not always best for the commercial forest manager. The presence of 26 active woodpecker clusters on the Plum Creek land meant commercial forestry operations might produce an incidental take of the red-cockaded woodpecker, requiring an incidental take plan.²⁹⁰ In response, Plum Creek proposed to create a 3,069-acre conservation area, translocating the 11 active clusters located outside the bounds of the conservation area.²⁹¹ The proposed conservation area, which was adjacent to two national wildlife refuges, was thought to “provid[e] demographic support.”²⁹² The incidental take plan’s duration was set at 30 years, and “would authorize take of up to 11 Red-cockaded woodpecker groups outside the [conservation area] incidental to timber management activities, plus incidental take of any clusters in excess of conservation obligation within the [conservation area].”²⁹³ Maintenance of habitat and pairs exceeding that outlined within the agreement could produce mitigation credits that Plum Creek could trade with other operators.²⁹⁴

Both examples demonstrate the general contours of a generic HCP. A private landowner wishes to conduct a lawful use of their land, but that use would negatively impact a listed species. In order to avoid liability for the “take” of that species, the landowner must apply for an incidental take plan

285. Clusters are the “aggregate of cavity trees used by a breeding group” of red-cockaded woodpeckers. Jack Primus HCP, *supra* note 280, at 39418–19.

286. *Id.* at 39419.

287. Plum Creek HCP, *supra* note 275, at 19792.

288. *Id.*

289. *Id.* at 19793.

290. *Id.*

291. *Id.*

292. *Id.*

293. Plum Creek HCP, *supra* note 275, at 19793.

294. *Id.* The possibility of mitigation credits is an example of a conservation term that may be implemented at the discretion of the Secretary of the Interior (through the U.S. Fish & Wildlife Service) provided in 16 U.S.C. § 1539(a)(2)(A)(iv).

requiring an HCP to offset the impact of their actions. The HCP then provides for responsive conservation activities on private lands, such as the Jack Primus installation on an adjacent conservation easement or the Plum Creek conservation area.²⁹⁵

These examples also highlight, however, some criticisms of HCPs generally as applied to red-cockaded woodpeckers in the LLPE. First, HCPs and incidental take plans are licenses to develop. Here, Jack Primus developed a portion of land that had living pairs of red-cockaded woodpeckers, removing potential habitat for future pairs of woodpeckers. Of course, the HCP supported conservation of affected red-cockaded woodpeckers generally but did not create any new habitat. This species-level focus does not reflect the ESA's strong language affirming that ecosystem protection is the ESA's primary concern.²⁹⁶ Second, once terms are set, there are limited opportunities to modify an HCP for greater or modified conservation on HCP-covered lands. On public lands, land managers are free to adapt to changing conditions and may generally exceed the ESA's required protections, whereas HCPs need only satisfy Section 10 of the ESA.²⁹⁷ Landowners, then, only have the incentive to abide by the minimum requirements contained within an HCP, with little reason to create additional ecosystem benefits for listed species. For example, if Plum Creek's conservation area proves a hot spot for red-cockaded woodpeckers, the landowners must only protect the woodpeckers covered by the HCP.²⁹⁸

Ultimately, if the goal is to provide red-cockaded woodpeckers with a functioning habitat and connectivity between populations, the reactive and less flexible nature of HCPs may be only an "okay" fit. Although incredibly important mitigation tools, HCPs fall short of the full protection and restoration necessary to support LLPE recovery. Further, the species-specific

295. Jack Primus HCP, *supra* note 280, at 39418–19; Plum Creek HCP, *supra* note 275, at 19792.

296. See 16 U.S.C. § 1531(b) (showing that Congress used strong language to describe the ESA's purpose).

297. Compare 16 U.S.C. §§ 1604(g)(3)(B) (requiring USFS to develop measures to "provide for diversity of plant and animal communities based on the suitability and capability of the specific land area" in forest plans) and 668dd(a)(4)(A) (requiring USFWS to "provide for the conservation of fish, wildlife, and plants, and their habitats" within the refuge system) with *id.* § 1539(a)(2)(C) (requiring only that a landowner comply with the terms of the HCP, which are made binding through an incidental take permit).

298. The important caveat here is that an ITP places a limit on incidental take, meaning insulation from regulation under the ESA may be removed if the action unduly affects an imperiled species. See 50 C.F.R. § 17.22 (c)(9) (outlining criteria for permit revocation).

focus limits an HCP's ability to consider the broader LLPE and ecological interactions at play.²⁹⁹

2. Safe Harbor Agreements

SHAs are voluntary agreements that provide landowners with assurance against further regulatory requirements from a wildlife agency in exchange for implementation of conservation on the landowner's property.³⁰⁰ The primary objective of the East Texas Pineywoods SHA is to "encourage voluntary [red-cockaded woodpecker] habitat restoration or enhancement activities."³⁰¹ The SHA incentivizes entry into cooperative agreements between private landowners and the Texas Parks & Wildlife Department and Texas Forest Service by releasing landowners from additional ESA liability beyond what exists when entering the cooperative agreement.³⁰² The plan encompasses the southeastern portion of the Pineywoods ecoregion in Texas, which includes all or part of 22 counties.³⁰³ The program prevents distorted incentives from destroying conservation opportunities on private lands. Landowners with red-cockaded woodpeckers who might take action that would prevent woodpeckers from nesting on their land are protected under "safe harbor" from additional ESA regulatory obligations if they take action to foster red-cockaded woodpeckers on their property.³⁰⁴ Landowner actions preventing nesting may include "harvesting their timber sooner than they would have otherwise, allowing hardwood midstory to encroach on open pine forests, eliminating potential cavity trees, [or] destroying abandoned clusters."³⁰⁵

On the whole, SHAs appear to be a net benefit for red-cockaded woodpeckers. As the East Texas Pineywoods SHA demonstrates, SHAs are

299. For example, concern for the red-cockaded woodpecker may result in protection of intact longleaf pine that has trickle-down effects for other species and ecological processes in the LLPE, but it may not. An HCP may simply focus on protection of bird numbers alone by increasing nesting cavities and translocating populations. The flexibility to meet the needs of listed species also means that the broader landscape is not always a winner.

300. *Safe Harbor Agreements*, USFWS, <https://www.fws.gov/service/safe-harbor-agreements> (last visited Apr. 6, 2025) (explaining SHAs).

301. RED-COCKADED WOODPECKER HABITAT CONSERVATION PLAN STEERING COMM., REGIONAL HABITAT CONSERVATION PLAN FOR THE RED-COCKADED WOODPECKER ON PRIVATE LAND IN THE EAST TEXAS PINEYWOODS 3 (1997), https://ecos.fws.gov/docs/plan_documents/tsha/tsha_2366.pdf.

302. *Id.* at 6.

303. *Id.* at 7.

304. *Id.* at 6.

305. *Id.*

affirmative incentives for conservation, not mitigation techniques.³⁰⁶ Even if the worst is realized and a landowner reverts their land to baseline conditions (thus undoing conservation progress), the landowner provided conservation that would not otherwise have been implemented.³⁰⁷ Given that the woodpeckers would have to be relocated and would benefit from conservation activity during landowner coverage under an SHA, there is a possible net benefit.³⁰⁸

SHAs, however, are temporary,³⁰⁹ and the conservation benefits they produce may be as well. Though better than taking no action, SHAs—like HCPs—fall short of introducing enforceable restoration of lands and protection of longleaf forests (i.e., landscapes) specifically.³¹⁰ While participation in an SHA, such as the East Texas SHA for RCWs, *might* produce tangible benefits through the protection of mature longleaf pine forests, this is not a guarantee. Further, because the plan relies on incentives, entering an SHA is wholly voluntary on the part of a landowner.³¹¹

306. RED-COCKADED WOODPECKER HABITAT CONSERVATION PLAN STEERING COMM., *supra* note 301, at 3 (“The ‘safe harbor’ program is unique because it offers landowners an *incentive* to provide habitat for threatened or endangered species, in advance of any specific activity that may harm the species. Conversely, standard habitat conservation plans are typically designed to offset or ‘mitigate’ some adverse impact to endangered species.”).

307. The plan specifically addresses this point.

Even if all the landowners who participate in the program eventually drop out, their responsibility to maintain their [red-cockaded woodpecker] baseline will mean, at the very least, a return to the same circumstances that would have existed without the plan. Even in this worst-case scenario, the program will have had the potential to provide interim benefits in the form of population and demographic maintenance throughout its duration.

Id. at 8.

308. The Plan also argues that even where take is possible, it is not assured. *Id.* at 8. Even when the landowner is released from the obligations of an SHA, that does not mean they will immediately (or possibly ever) return the land to baseline conditions. *Id.*

309. See 50 C.F.R. § 17.22 (detailing regulatory requirements for permit duration and renewal); SAFE HARBOR AGREEMENTS FOR LANDOWNERS, U.S. FISH & WILDLIFE SERV. 2 (2017), <https://www.fws.gov/sites/default/files/documents/safe-harbor-agreements-fact-sheet.pdf> (“The SHA can be renewed for as long as the property landowner and the FWS mutually agree. If the landowner does not renew the agreement, the assurances tied to the Enhancement of Survival Permit expire.”).

310. Cf. N.C. WILDLIFE RES. COMM’N & U.S. FISH & WILDLIFE SERV., NORTH CAROLINA STATE-WIDE RED-COCKADED WOODPECKER SAFE HARBOR AGREEMENT 11–12 (2006), <https://www.ncwildlife.gov/nc-sha-final-march-2006pdf/download?attachment> (describing certain affirmative measures landowners *could* take to satisfy the SHA and restore and protect intact longleaf pine forests such as prescribed fire, forest management, and hardwood midstory control in addition to species-specific measures).

311. RED-COCKADED WOODPECKER HABITAT CONSERVATION PLAN STEERING COMM., *supra* note 301, at 3.

C. Farm Bill & USDA Programs: Reforesting Private Lands & Protecting Wildlife

This Section explores two major avenues that exist to support the LLPE's protection and restoration. First, Working Land for Wildlife (WLFW) programs support conservation by leveraging USDA Farm Bill programs and funding to avoid ESA implications. Second, independent, voluntary engagement by private landowners (particularly farmers and foresters) supports conservation with Farm Bill-funded programs. Both efforts seek to include private stakeholders in coordinated conservation efforts by providing financial and technical support.

1. Working Lands for Wildlife

WLFW represents one of the most targeted, direct federal funding applications to enhance conservation on private lands to improve the health of an entire landscape. In the LLPE, the NRCS operates two relevant WLFW programs: one for the northern bobwhite quail and one for the gopher tortoise.³¹² Both programs leverage Farm Bill programing and funding to target private lands for conservation while advancing land health and creating economic incentives for landowners. WLFW selected the gopher tortoise and northern bobwhite not only due to declining population numbers, but also due to their unique role within the ecosystem and the effects flowing from conservation to increase and strengthen the stability of their populations.³¹³

The WLFW northern bobwhite program focuses on the restoration of grassland and savanna habitats throughout the eastern United States, including the longleaf pine savannas of the Southeast.³¹⁴ While the northern bobwhite has not been threatened with ESA action like many other species covered by a WLFW program, their numbers have declined by over 80% in the past 30 years.³¹⁵ This decline mirrors a parallel loss in coverage of

312. See generally NAT. RES. CONSERVATION SERV. & WORKING LANDS FOR WILDLIFE, GOPHER TORTOISE: FY 2020–2024 IMPLEMENTATION STRATEGY (establishing a four-year conservation strategy for the gopher tortoise) [hereinafter WLFW GOPHER TORTOISE STRATEGY]; see also NAT. RES. CONSERVATION SERV. & WORKING LANDS FOR WILDLIFE, NORTHERN BOBWHITE, GRASSLANDS, AND SAVANNAS: A FRAMEWORK FOR CONSERVATION ACTION (establishing a conservation strategy for northern bobwhite, grasslands, and savannas) [hereinafter WLFW NORTHERN BOBWHITE FRAMEWORK].

313. For example, bobwhite quail are edge species and require “a variety of cover types during their annual life cycle to meet daily needs.” WLFW NORTHERN BOBWHITE FRAMEWORK, *supra* note 312, at 5. Meanwhile, movement, feeding, and nesting behaviors of the gopher tortoise depend on a thinner overstory and forest floor. WLFW GOPHER TORTOISE STRATEGY, *supra* note 312, at 3.

314. WLFW NORTHERN BOBWHITE FRAMEWORK, *supra* note 312, at 1.

315. *Id.* at 5.

grasslands and savannas across the northern bobwhite's range.³¹⁶ The role of the northern bobwhite as an "indicator species"³¹⁷ means that "success in saving bobwhite can translate into success in saving other species, especially grassland birds."³¹⁸ Further, implementation of this program "could result in collateral benefits to many and varied agriculture industries . . ."³¹⁹ Benefits to wildlife and landowners flow from the restoration of functioning longleaf forest.³²⁰ Land conversion in the Southeast, especially conversion from pine savannas to monoculture commercial pine forests, has driven much of the decline in northern bobwhite populations.³²¹ Restoring lands can improve both biodiversity and timber quality. Further, as with all WLFW programs, the partnership between the NRCS and USFWS provides both improvement to species populations and regulatory certainty to landowners.³²²

Management actions in the northern bobwhite program throughout the Southeast focus mostly on the implementation of prescribed burns and timber thinning.³²³ Burning and thinning "creates space that maximizes growth of high-quality timber while benefiting bobwhite, gopher tortoise, and other wildlife."³²⁴ Most funding for the northern bobwhite program is provided by the Farm Bill's Environmental Quality Incentives Program funds.³²⁵ However, the NRCS recognizes that the implementation of the Agricultural Conservation Easement Program and the Conservation Stewardship Program has the potential to expand future conservation efforts in some states.³²⁶

316. WLFW NORTHERN BOBWHITE FRAMEWORK, *supra* note 312, at 5.

317. Indicator species are those "which can provide information on ecological changes and give early warning signals regarding ecosystem processes in site-specific conditions due to their sensitive reactions to them." *Indicator Species*, NASA EARTHDATA, <https://earthdata.nasa.gov/topics/biosphere/indicator-species> (last visited Mar. 30, 2025). In other words, in the case of bobwhite quail, their growth or decline may function as a sort of shorthand for the health of the overall ecosystem. Healthier, robust quail populations throughout a region can provide greater evidence that ecological processes and ecosystem functioning are similarly healthier and more robust.

318. WLFW NORTHERN BOBWHITE FRAMEWORK, *supra* note 312, at 4.

319. *Id.* at 6.

320. *See, e.g., id.* at 28–33 (describing various benefits to wildlife, agriculture, and the climate).

321. *Id.* at 5.

322. *Working Lands for Wildlife*, NAT'L RES. CONSERVATION SERV., USDA, <https://www.nrcs.usda.gov/programs-initiatives/working-lands-for-wildlife> (last visited Mar. 27, 2024) (explaining that the Natural Resources Conservation Service and the U.S. Fish and Wildlife Service partner "to provide regulatory predictability under the Endangered Species Act," which in turn gives landowners "peace of mind that no matter the legal status of a species, they can keep their working lands working with an NRCS conservation plan in place").

323. WLFW NORTHERN BOBWHITE FRAMEWORK, *supra* note 312, at 12. *See also id.* at 24 (noting that Southeast Region landowners most frequently engage in prescribed burning as compared to other conservation activities).

324. *Id.* at 24.

325. *Id.* at 20.

326. *Id.* at 25.

The WFW gopher tortoise program provides similar benefits and opportunities but focuses on the gopher tortoise as a LLPE “keystone species.”³²⁷ The life cycle and behavior of the gopher tortoise require conditions supporting healthy longleaf forests, which in turn supply ecosystem and biodiversity benefits across the landscape. The benefits of participation in the WFW gopher tortoise program are similar to the northern bobwhite program in improving wildlife and ecosystem health, timber production, and reducing the risk of additional regulation.³²⁸ The last point is perhaps the most salient for the gopher tortoise—an October 2022 decision by the USFWS determined listing the gopher tortoise as threatened throughout most of its range was not warranted.³²⁹ Conservation action achieved through the WFW program helps ensure that additional listing of the gopher tortoise will not occur, a major selling point for the program.³³⁰

Implementation and funding for the WFW gopher tortoise program are very similar to that of the bobwhite quail program. Prescribed burns are the major conservation practice, constituting 76% of the program’s practice goals.³³¹ Funding is provided through Farm Bill programs, chiefly the Environmental Quality Incentives Program, with implementation assistance provided by Conservation Technical Assistance.³³² NRCS notes, however, in its most recent gopher tortoise plan, that landowners “may sign up for multiple programs to achieve their goals,” including the NRCS’s Longleaf Pine Initiative, Conservation Stewardship Program, and Regional Conservation Partnerships Program.³³³

327. Keystone species are those which “enable other species to survive, occupying a key role in the ecosystem they are part of.” Jatinder Sidhu & Madeleine North, *What Are Keystone Species, and Why do They Matter?*, WORLD ECON. F. (Nov. 28, 2024), <https://www.weforum.org/stories/2024/11/what-is-a-keystone-species/>. These species help to define the landscape and have a fairly outsized influence on their environment relative to other species. *Id.* For example, the gopher tortoise is vital to the ecosystem due to their burrows providing shelter to over 360 other species. WFW GOPHER TORTOISE STRATEGY, *supra* note 312, at 3.

328. WFW GOPHER TORTOISE STRATEGY, *supra* note 312, at 4–5.

329. Specifically, listing was not warranted for the eastern portion of the gopher tortoise’s range (Florida, Georgia, South Carolina, and most of Alabama). *Gopher Tortoise*, NAT. RES. CONSERVATION SERV., <https://www.nrcs.usda.gov/programs-initiatives/working-lands-for-wildlife/gopher-tortoise> (last visited Apr. 3, 2024). The gopher tortoise remains listed as threatened in the western portion of its range (part of Alabama, Mississippi, and Louisiana). *Id.* This action follows the work of WFW’s actions to “conserve or create more than 278,000 acres of longleaf pine forests” since 2012. *Id.*

330. *See id.* (“NRCS continues to work with FWS and other partners to support landowners in restoring sufficient habitat to make expanded federal listing unnecessary, and to provide regulatory peace of mind for land management actions in areas where the species is already listed.”).

331. WFW GOPHER TORTOISE STRATEGY, *supra* note 312, at 9. Timber thinning is the second most emphasized goal, with a target of 9%. *Id.*

332. *Id.* at 11.

333. *Id.*

The unique habitat requirements of both the northern bobwhite and gopher tortoise make these species particularly valuable in simplifying the task of LLPE conservation.³³⁴ Because both species' life histories require landscapes characteristic of longleaf forests, landowners must conserve functioning land to conserve the species. Active conservation of land health that supports species viability puts to rest many of the problems of the single-species focus of the ESA, common for listed species.³³⁵ Because of the vast amounts of private land throughout the Southeast, conservation on a landscape scale would be impossible without the benefit of interested private landowners.³³⁶ WLFW capitalizes on the need to engage private landowners as partners in regional conservation efforts by using both carrots and sticks. Not only does WLFW provide funding to landowners, but the program also leverages the potential that regulatory requirements may kick in absent action to affect valuable conservation.

However, the northern bobwhite and gopher tortoise programs suffer from drawbacks of WLFW programs generally. WLFW programs remain voluntary for landowners,³³⁷ and funding requires favorable politics.³³⁸ Further, long-term management may be limited through this program. Private landowners bind themselves to conservation efforts, but often only for a set period.³³⁹ Management opportunities on these private lands must, at the very least, look toward long-term goals to "lock in" conservation if the opportunities are to persist.

334. See, e.g., WLFW GOPHER TORTOISE STRATEGY, *supra* note 312, at 2 ("Wildlife experts agree that the fate of the gopher tortoise is linked to habitat quality, and efforts to conserve habitat on private lands will be critical to its continued survival.").

335. See WLFW NORTHERN BOBWHITE FRAMEWORK, *supra* note 312, at 4 (explaining that, although conservation triage once was controversial, "triage approaches that invest in critical landscapes and wildlife communities are now considered a commonsense approach to the practical problem of limited funds and staffing within the conservation agencies and larger partnerships").

336. *Id.* at 1 (The WLFW Areawide Planning Team shared: "We can't buy or regulate our way to healthy landscapes as the financial and social costs are too high. Therefore our challenge is to build shared visions with landowners and industries to identify conservation approaches that are palatable to those controlling the land throughout most of the U.S.").

337. WLFW NORTHERN BOBWHITE FRAMEWORK, *supra* note 312, at 4.

338. See Maya C. Miller, *As Congress Feuds over Farm Bill, Growers Are 'Stuck in Limbo'*, N.Y. TIMES (Nov. 27, 2024), <https://www.nytimes.com/2024/11/27/us/politics/farm-bill-congress.html>. While the program's dual focus of providing benefits to landowners and wildlife (while focusing on charismatic species as flagbearers) appears to be politically palatable now, there is always the possibility that will not continue long-term.

339. See, e.g., WLFW NORTHERN BOBWHITE FRAMEWORK, *supra* note 312, at 25 (noting temporary Conservation Stewardship Program is more heavily used than permanent Agricultural Conservation Easement Program).

2. Longleaf Pine Initiative & Other Targeted Programs

The Longleaf Pine Initiative provides a direct route to LLPE conservation by focusing the NRCS's efforts to work with agricultural producers and conservation partners in restoring forests across its range.³⁴⁰ Since the program's inception in 2010, "NRCS has helped producers restore more than 870,000 acres on private lands."³⁴¹ The Longleaf Pine Initiative works through the provision of financial and technical assistance to private landowners to identify and implement conservation practices.³⁴² The Initiative not only reforests lands but also helps owners to maintain and improve forests through prescribed burns and other techniques.³⁴³ Notably, the Longleaf Pine Initiative leverages Farm Bill funding to target private lands near the "core public lands" across the Southeast; these actions increase forest density and habitat connectivity across the range of the LLPE.³⁴⁴ Both the Conservation Stewardship Program and the Conservation Reserve Program support the efforts of the NRCS's Longleaf Pine Initiative.³⁴⁵

Other USDA-allied programs focus on the restoration of longleaf pine, including the Virginia Longleaf Pine State Acres for Wildlife Enhancement (SAFE). The Virginia Longleaf Pine SAFE represents a partnership between USDA and Virginia Department of Forestry to enroll agricultural land in Virginia in a program to "re-establish longleaf pine stands at densities that will provide critical habitat"³⁴⁶ The SAFE program, which focuses on the northern range of the LLPE where some of the greatest decline in existing longleaf forest has occurred, is a unique application of the Conservation

340. *Longleaf Pine Initiative*, NRCS, <https://www.nrcs.usda.gov/programs-initiatives/longleaf-pine-initiative> (last visited Apr. 3, 2024).

341. *Id.*

342. *Id.*

343. *Id.*

344. *Id.* ("LLPI targets efforts in priority counties because of their favorable growing conditions and value in connecting existing stands of longleaf pine. . . . These targeted areas are usually located in the vicinity of a military installation, a national forest, national wildlife refuge, state forest or heritage reserve.").

345. See NAT. RES. CONSERVATION SERV., CONSERVATION STEWARDSHIP PROGRAM: LANDSCAPE CONSERVATION INITIATIVES LONGLEAF PINE INITIATIVE (LLPI), https://www.nrcs.usda.gov/sites/default/files/2022-10/CSP_LLPI.pdf (last visited Apr. 22, 2025) ("The CSP LLPI encourages forest landowners to address priority resource concerns . . . in a comprehensive manner by undertaking additional conservation activities, and by improving, maintaining, and managing existing conservation activities."). FARM SERV. AGENCY, CONSERVATION RESERVE PROGRAM: LONGLEAF PINE INITIATIVE 1, https://www.fsa.usda.gov/sites/default/files/documents/Longleaf_Pine_Initiative.pdf (last visited Apr. 22, 2025).

346. FARM SERV. AGENCY, VIRGINIA LONGLEAF PINE SAFE 1 (2023), https://www.fsa.usda.gov/sites/default/files/documents/state_acres_for_wildlife_enhancement_virginia_longleaf_pine_safe.pdf. Landowners are compensated for participation "with annual per acre rental payments, cost-share to assist with habitat establishment expenses, and in some cases additional monetary incentives." *Id.* at 2.

Reserve Program.³⁴⁷ SAFE works “to identify the wildlife species, the vegetative cover that provides habitat for the target species, and the location in the state where the habitat is needed.”³⁴⁸ This enables individuals in the program to focus on where habitat is most critically needed on private lands. Landowners implement conservation efforts by complying with a conservation plan developed with the assistance of the NRCS.³⁴⁹

Both the Longleaf Pine Initiative and SAFE represent targeted efforts toward conservation in applying Farm Bill funding. It is undeniable that these types of programs have produced tangible benefits for restoration. Yet, while participation in these programs has been promising, there may also be a ceiling for participation. While the programs mentioned have helped reverse declining acres of longleaf pine forests, efforts are voluntary and dependent on funding as an incentive for landowner participation. As opposed to WLFW, these programs rely on “carrots” and lack the regulatory “stick” of mandatory and enforceable standards, like those in the ESA, to push landowners toward participation. At a certain point, the reach of these incentives, especially without a legally enforceable requirement on the horizon, may become limited. Long-term maintenance of the LLPE’s conservation may require creative environmental solutions with mandatory and legally enforceable standards.

CONCLUSION

The path to protection and restoration of the LLPE has been marked by collaborative efforts between the government, nonprofits, and the private sector; public and private landowners; and voluntary and compelled actors. Underlying it all are legal mechanisms providing for enforcement and opportunity in conservation. While voluntary collaboration is a vital part of protection and restoration, the law also plays an important role in bolstering and expanding conservation opportunities.

Although the law can further opportunities for conservation, not all methods are equal in impact. Depending on the exigencies of a particular location or time, costs may be allocated differently, and capital may be stretched further by utilizing a particular method over another. Adaptability and flexibility in management and a willingness to pursue new or previously

347. FARM SERV. AGENCY, VIRGINIA LONGLEAF PINE SAFE 1 (2023), https://www.fsa.usda.gov/sites/default/files/documents/state_acres_for_wildlife_enhancement_virginia_longleaf_pine_safe.pdf.

348. *Id.*

349. *Id.*

disfavored methods to achieve conservation goals will be required to restore the LLPE to a fraction of its former majesty.

Acknowledging that land management requirements (particularly for conservation on a landscape scale) require flexibility over time to adapt to new and ongoing challenges, a snapshot of where efforts are currently can provide insights for longleaf forest restoration moving forward. Given the altered trajectory of the longleaf forest's fortunes, with a growth of nearly 2 million acres in only the past few decades, it is clear that efforts to conserve longleaf forests are working. As with any system, however, these gains are not guaranteed and will face ongoing challenges, burdened by changing threats and conditions. For all of these reasons, targeted legal strategies to effect conservation throughout the LLPE can draw on a few insights.

A. Insights

Collaboration is key. Legal efforts to protect the LLPE employ mechanisms that reduce obstacles to collaboration, information sharing, and decision-making among stakeholders. These efforts have been particularly valuable at bridging the divide between interested nonprofits and government actors on one side and private landowners on the other. Meanwhile, instruments such as the Memorandum of Understanding between federal government departments and agencies advance longleaf forest conservation at the federal government level. In each case, collaboration brings a few commonalities that allow for conservation advancements.

The first commonality is resource sharing. Collaboration, especially when backed by legal mechanisms and enforceable provisions, is an important tool for conservationists to lower opportunity costs. For the LLPE, *so much* of the land is in private hands that a complete "public lands solution" using only public lands to enable conservation across the region would be impractical, if not impossible. The same could also be said, however, of relying on altruism by private landowners to implement conservation. Collaborative programs help "reallocate" resources: the government obtains security in land stewardship, and the private landowner obtains resources in the form of funding and technical support.

The second commonality is a greater exchange of information. Because land ownership is fragmented and landowners and land managers have varying motivations, promoting a freer flow of information can help form stronger relationships between stakeholders, making conservation more efficient. With the need for action informed by science, politics, and the law, as well as the need for collaboration between public and private landowners,

greater information sharing can help provide opportunities to make smarter decisions and avoid increased costs.

Public lands provide a vast array of benefits absent in private land conservation. Not only do public land managers have affirmative conservation mandates and greater flexibility in carrying them out, but they also benefit from stability in management over time. Public lands, however, can also provide a broader conservation benefit beyond their borders. The ability of public lands to provide a base for conservation efforts to build upon is essential to linking lands of varying ownership and quality throughout the landscape. Connection and importance to the network of land conservation throughout the Southeast make public lands vital bulwarks in times of threats and important drivers of action in times of opportunity. The law provides not only enforceable standards for public land managers but also the flexibility to think creatively and proactively about how to advance conservation.

There are a few limitations to focusing on advancing conservation through public land ownership. Most importantly, public lands alone are not sufficient to achieve the goal of rehabilitating a functional LLPE from its all-time low. The history of the ESA bears this point out, with the pre-1973 version of the act falling short of rehabilitating imperiled species on publicly-owned and -managed habitat. The lack of ability for public lands to provide for all necessary environmental processes and wildlife habitat is an even more acute concern in the Southeast, where public lands are far fewer, and fragmentation is more common. Of course, the drawbacks may be mitigated if the acquisition focuses on high-value and politically-feasible land acquisitions, namely high-value conservation lands adjacent to or within current public land boundaries for which agencies have the funds and ability to acquire.

Incentives are easier to mobilize but do not provide as many guarantees. For landscape conservation efforts, particularly throughout the LLPE, incentive-based voluntary conservation programs abound. These programs are incredibly important for advancing longleaf forest conservation on private lands. A few benefits appear to accompany these programs. First, funding is more easily mobilized at the federal level by targeting working lands and private conservation in the Farm Bill. The regular nature of the Farm Bill and its inclusion of a host of interests make it perhaps easier to include (and increase) conservation efforts over time. Second, the wide array of incentives available means that these voluntary legal programs cast a wide net, furthering the potential reach of conservation. From permanent protections enshrined in conservation easements to temporary measures, such as mitigation funding and technical assistance, voluntary programs can be tailored to the needs of the particular landowner and their land. Finally, in

the absence of a program affirmatively enforcing regulatory conservation, voluntary programs that provide legal mechanisms for the implementation of conservation can produce a net benefit that would otherwise be unobtainable.

B. Recommendations

Congress and federal agencies should continue to provide legal and regulatory frameworks for collaboration and communication that bind the government and require public input. The law must prioritize forming working relationships among agencies and interested parties. Whether at a high level, such as with the Memorandum of Understanding amongst federal executive departments, or at a more localized level, through collaborative agreements between the NRCS and a farmer, these types of relationships provide a strong basis for conservation efforts that produce real results. The ease with which the law can provide for these types of working relationships (particularly as it relies on executive agencies developing policy and private landowners voluntarily entering agreements) makes them more politically palatable and thus more effective at mobilizing action.

Government investments should focus on acquiring title to high-value private lands (or interests in those lands) for public ownership and management. The outsized role that public lands can play in advancing landscape conservation makes targeted, informed expansion of those holdings a highly desirable goal. The history of eastern public lands, particularly in the Southeast, is a history of acquisition followed by restoration and management for conservation. Building on this history can help to advance conservation efforts well into the future, as these lands can be managed under legal mandates that advance environmental health.

The recommendation to build upon current public land holdings is not without caveats, however. It would be impractical, as mentioned above, to rely solely on public lands to advance conservation efforts. Additional acquisitions and expansions of public lands would likely be small and require efforts to carefully target the most important lands. For example, work to infill national forest lands where fragmented or to carefully target pockets of high-value wildlife habitat for inclusion within the refuge system may be most realistic and beneficial.

Stakeholders should continue efforts that advance conservation activities on working lands. Landscape conservation in the Southeast must cast a wide net. This is in part due to the large amount of private land in the region and to the economic and social necessities of stakeholders who rely on those lands. When conservation can be framed as more than protection and preservation and expressly made to include additional practices such as

mitigation, enhancement, and restoration, a greater number of lands can be incorporated into the landscape conservation fold. A greater number of people engaging in more beneficial land use practices provides not only for net conservation benefits but can also help change the political dialogue about the role and place of conservation within the region.

The federal government should provide funding and assistance to private landowners to encourage conservation, while prioritizing uniformity and compliance with requirements. Voluntary private landowner conservation programs are essential to the landscape-scale conservation of the LLPE. With so much land across the region held by private landowners, it would be impossible to create the necessary linkage and functional habitat across the landscape without their involvement. These funding programs provide a win-win for private landowners and conservationists: private landowners receive funding that helps them conduct their business and improve the health of their land, while conservationists receive the benefit of enforceable limitations and affirmative conservation practices. With a new Farm Bill due for passage and renewed at regular intervals, it is also quite possible to achieve consistency in targeting private lands.

Congress should bolster laws that provide regulatory enforcement for habitat conservation. While the ESA is a powerful legal vehicle, its focus on single-species conservation limits the lengths to which the USFWS may utilize it as a tool to protect large swaths of ecosystems. Without an affirmative mandate to protect habitat specifically, its protection will remain, at best, a peripheral goal. While federal regulation of land use is often decried as politically impractical, changing conditions, especially in the face of climate change, may warrant an effort to provide greater control over land use through legislation and regulation. Especially when combined with voluntary efforts, some of the sting of enforcement may be taken out if used mostly as a regulatory “floor.”

Regulators should continue to rely on the ESA as a backstop to prevent the most egregious reductions in intact and functioning habitat across the landscape. Under the current system, the ESA performs an incredibly valuable role as a backstop against wholesale habitat destruction. The strength of the ESA’s legal mandates and its general acceptance as a scheme (having been in effect in a similar form for 50 years) means that reliance on it as a tool is fairly sound. Expansion and aggressive use, however, are not politically assured and could limit the strength of the ESA’s application for affirmative landscape conservation efforts.

Regardless of the particular path to landscape conservation chosen for the LLPE, it is clear that the use of a variety of methods across the region has produced results in the previous few decades. Continual engagement and

flexibility will be necessary to ensure continued gains into the future, but the goal is surely worth the effort. By leveraging and pushing the law to provide for conservation goals as well, these efforts can be made easier to implement and more likely to produce net benefits across the LLPE. In doing so, conservationists can work to protect the environment, heritage, and health of the Southeast.