STRATEGIES FOR MAKING SEA-LEVEL RISE ADAPTATION TOOLS "TAKINGS-PROOF"

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I. INTRODUCTION

> Sea level rise in this century is a scientifically documented fact. Our shoreline is suffering from its effects today. Moreover, a recent study conducted by the U.S. Environmental Protection Agency (EPA, 1983) predicts a possible one foot rise in sea level over the next thirty to forty years and approximately three feet over the next hundred years. It must be accepted that regardless of attempts to forestall the process, the Atlantic Ocean, as a result of sea level rise and periodic storms, is ultimately going to force those who have built too near the beach front to retreat.
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> *South Carolina Blue Ribbon Commission on Beachfront Management* (1987) [1]

> **§ 113A-107.1. Sea-level policy.**
> (a) The General Assembly does not intend to mandate the development of sea-level policy or the definition of rates of sea-level change for regulatory purposes.

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1. S.C. BLUE RIBBON COMM. ON BEACHFRONT MGMT. ii (1987), *available at* http://www.scdhec.gov/environment/ocrm/docs/SCAC/Blue%20Ribbon%20Report_Beachfront%20Management.pdf.

> (b) No rule, policy, or planning guideline that defines a rate of sea-level change for regulatory purposes shall be adopted except as provided by this section.
> (c) Nothing in this section shall be construed to prohibit a county, municipality, or other local government entity from defining rates of sea-level change for regulatory purposes.
> . . . .
> (e) The [North Carolina Coastal Resources] Commission shall be the only State agency authorized to define rates of sea-level change for regulatory purposes. If the Commission defines rates of sea-level change for regulatory purposes, it shall do so in conjunction with the Division of Coastal Management of the Department. The Commission and Division may collaborate with other State agencies, boards, and commissions; other public entities; and other institutions when defining rates of sea-level change.
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> North Carolina General Statutes § 113A-107.1 (2012) [2]

Sea-level rise (SLR) resulting from climate change is a reality, notwithstanding the protestations emanating from certain politicians who would like to ban references to SLR altogether or to fiddle with overwhelming scientific evidence and nearly universally approved methodology.[3] Rather than waiting for Rome to burn, or rather to sink, it makes much more sense for policy- and law-makers to join the ranks of experts in science, engineering,

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2. N.C. GEN. STAT. § 113A-107.1 (2012). *See also* Patrick Gannon, *Sea-level Rise Bill Becomes Law*, STARNEWS, Aug. 1, 2012, at 1B:

> Gov. Beverly Perdue on Wednesday declined to sign or veto a controversial bill on sea-level rise, allowing it to become law.
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> Instead, the Democratic governor urged the Republican-dominated legislature to reconsider its stand on the issue.
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> "North Carolina should not ignore science when making public policy decisions," Perdue said in a statement. "House Bill 819 will become law because it allows local governments to use their own scientific studies to define rates of sea level change. I urge the General Assembly to revisit this issue and develop an approach that gives state agencies the flexibility to take appropriate action in response to sea-level change within the next four years."
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> . . . .
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> An early version of the proposal would have prohibited the state from using projections of accelerated sea rise—which many scientists believe is coming because of global warming and the melting of polar ice caps—when forming coastal development policies and rules. Instead, under the earlier proposal, the state could have determined sea-level rise rates using historical data alone, which would have allowed the state only to plan for about 8 inches of rise this century.

3. *See, e.g.*, Fred Grimm, *Banned Words in Some States: Rising Sea Levels*, THE MIAMI HERALD (June 11, 2012), http://www.miamiherald.com/2012/06/11/2844468/banned-words-in-some-states-rising.html; Leigh Phillips, *Sea Versus Senators: North Carolina Sea-Level Rise Accelerates While State Legislators Put the Brakes on Research*, 486 NATURE 450 (2012).

construction, real estate, law, and many other fields who are seriously considering a range of strategies for adapting to the historic, ongoing, and anticipated rise in sea levels.

While the costs of some of these adaptation strategies are undeniably daunting, the American legal system poses an additional, potentially budget-busting impediment—the Takings Clause of the Fifth Amendment to the United States Constitution. The Clause, which somewhat innocuously reads, "nor shall private property be taken for public use, without just compensation,"[4] has since the late twentieth century been interpreted by zealous protectors of private property rights to reach not only the affirmative power of eminent domain (or condemnation) but also, and most problematically, statutes, ordinance, and other regulations by federal, state, and local governments that arguably effect the functional equivalence of an eminent domain taking. Moreover, just over the decisional horizon looms a novel variation that departs even farther from the language and original understanding of the Fifth Amendment—judicial takings.

Officials at all governmental strata—federal, state, and local—and from all three branches should keep the demands made by the Takings Clause, as interpreted by the judiciary, in mind as they choose tools from the diverse SLR-adaptation toolbox, as they justify their choices to the electorate and other constituencies, as they put those tools to use, and as they defend that use from litigants claiming abuse. This article sets out to achieve four tasks, and the remainder of the text is divided accordingly. First, the article locates the heart of the Takings Clause in a single sentence from a 1960 decision—*Armstrong v. United States*.[5] Second, the article reviews six taking varieties, ranging from the most concrete common—the affirmative exercise of eminent domain—to the most fanciful (at least to date)—judicial takings. Each variety in turn is matched with one representative Supreme Court decision and with operative language drawn from that opinion. Third, with *Armstrong* as a guiding principle, the article identifies which of the most common SLR tools already being deployed pose "no," "minimal," "moderate," and "serious" takings implications. Fourth, the article suggests methods that government officials can use to address the takings risk posed by tools with the highest takings risk.

4. U.S. CONST. amend. V.
5. 364 U.S. 40 (1960).

II. *ARMSTRONG* AND THE HEART OF THE TAKINGS CLAUSE

The regrettable morass known as regulatory takings has puzzled courts, litigators, and commentators for decades; controversies still rage over the extent and even legitimacy of this method for invalidating statutes, ordinances, and other regulations governing the use of land and other forms of private property. Nevertheless, after a quarter century of intermittent Supreme Court jurisprudence on the subject, dating from the decision in *Penn Central Transportation Company v. City of New York*,[6] it is possible to locate the heart—the quintessence—of the dozen words that bring the multifarious Fifth Amendment to a close.

The heart of Takings Clause jurisprudence does not reside in the Holmesian conundrum of *Pennsylvania Coal Co. v. Mahon*,[7] the seminal Supreme Court case in which the Yankee from Olympus offered up this memorable, though eminently unhelpful, sentence: "The general rule at least is that while property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking."[8] At this late date we can only mourn the forests of trees that have been sacrificed by the many writers (too many, present company not excepted[9]) who have done their damndest to discern just what exactly the Swami of the Hub meant by "too far."

To boil the dozen words down to their essence we should turn instead to the pen of Justice Hugo Black in 1960's *Armstrong v. United States*.[10] Near the close of the Court's opinion holding that the federal government's "total destruction" of the value of material liens "has every possible element of a Fifth Amendment 'taking' and is not a mere 'consequential incidence' of a valid regulatory measure,"[11] Justice Black offered the following sentence, which constitutes an apt lodestar for the judiciary to follow in all takings cases: "The Fifth Amendment's guarantee that private property shall not be taken for a public use without just compensation was designed to bar Government from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole."[12]

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6. 438 U.S. 104 (1978).
7. 260 U.S. 393 (1922).
8. *Id.* at 415.
9. *See, e.g.*, Michael Allan Wolf, *Pondering* Palazzolo*: Why Do We Continue to Ask the Wrong Questions?*, 32 ENVTL. L. REP. 10367 (2002).
10. 364 U.S. 40 (1960).
11. *Id.* at 48.
12. *Id.* at 49. For more recent Court takings cases quoting this language, see Ark. Game & Fish Comm'n v. United States, 133 S. Ct. 511, 518 (2012); Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Planning Agency, 535 U.S. 302, 336 (2002); Palazzolo v. R.I.,

In this simple, but by no means simplistic manner, Justice Black anticipated the notion of functional equivalence that the Court employed most recently in *Lingle v. Chevron U.S.A. Inc.*[13] Writing for a unanimous Court in that 2005 decision, Justice Sandra Day O'Connor explained that which the various tests employed in key regulatory takings have in common: "Each aims to identify regulatory actions that are functionally equivalent to the classic taking in which government directly appropriates private property or ousts the owner from his domain."[14] So, as we proceed to the remaining sections of this article, we should keep in mind two critical ideas: (1) that government, as Justice Black so eloquently explained, has an obligation to act justly and fairly by not imposing *public* burdens on one or a few private owners; and (2) that the Takings Clause (and the Due Process and Equal Protection Clauses, too, for that matter) are protections against the privations to property owners caused by *government* actors, not by the forces of nature. The italics in the previous sentence are intentional, for it is crucial to remember that the public coffers should be subject to a takings claim only when the burden carried by the private property owner is public in nature and the harm suffered by the private property owner was caused by the state (intentionally or otherwise).

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533 U.S. 606, 633 (2001) (O'Connor, J., concurring); Pennell v. San Jose, 485 U.S. 1, 9 (1988); First English Evangelical Lutheran Church of Glendale v. County of L.A., 482 U.S. 304, 318-19 (1987); Webb's Fabulous Pharmacies, Inc. v. Beckwith, 449 U.S. 155, 163 (1980); and Penn Cent. Transp. Co., 438 U.S. at 123. *See also* William Michael Treanor, *The* Armstrong *Principle, The Narratives of Takings, and Compensation Statutes*, 38 WM. & MARY L. REV. 1151 (1997). The Bert J. Harris, Jr., Private Property Rights Protection Act includes the following as one of the meanings of the terms "inordinate burden" and "inordinately burdened" found in the statute: "that the property owner is left with existing or vested uses that are unreasonable such that the property owner bears permanently a disproportionate share of a burden imposed for the good of the public, which in fairness should be borne by the public at large." FLA. STAT. ANN § 70.001(3)(e)(1) (West 2012).

13. 544 U.S. 528 (2005).

14. *Id.* at 539. The fact that Justice Antonin Scalia participated in the *Lingle* majority does not necessarily mean that he endorsed the notion of functional equivalence. *See, e.g.*, Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1014 (1992) (citations omitted):

> Prior to Justice Holmes's exposition in *Pennsylvania Coal Co. v. Mahon*, it was generally thought that the Takings Clause reached only a "direct appropriation" of property, or the functional equivalent of a "practical ouster of [the owner's] possession," Justice Holmes recognized in *Mahon*, however, that if the protection against physical appropriations of private property was to be meaningfully enforced, the government's power to redefine the range of interests included in the ownership of property was necessarily constrained by constitutional limits. If, instead, the uses of private property were subject to unbridled, uncompensated qualification under the police power, "the natural tendency of human nature [would be] to extend the qualification more and more until at last private property disappear[ed]." These considerations gave birth in that case to the oft-cited maxim that, "while property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking."

III. TAKING: ONE WORD, SIX VARIETIES

Justice O'Connor, in her opinion for a unanimous Supreme Court in *Lingle*, did a commendable job of reviewing the justices' tangled takings web. The context for the Court's exploration of the takings taxonomy was the application by lower federal courts of the " 'substantially advances' formula [from *Agins v. City of Tiburon*[15]] to strike down a Hawaii statute that limits the rent that oil companies may charge to dealers who lease service stations owned by the companies."[16] The high court reversed, concluding "that the 'substantially advances' formula announced in *Agins* is not a valid method of identifying regulatory takings for which the Fifth Amendment requires just compensation."[17] Because the formula had appeared in several takings cases decided by the Court since its first appearance in 1980, Justice O'Connor and her colleagues took the opportunity to examine the Court's takings jurisprudence and to explain how dropping the "substantially advances" dictum would have no real impact on existing law. *Table 1* presents a taxonomy of takings cases that, with the exception of the final category, roughly tracks with the *Lingle* opinion's review, identifying operative language from a representative case that illustrates how each "variety" of taking differs from the others.

TABLE 1
WHAT EXACTLY IS A FIFTH AMENDMENT TAKING?

TYPE OF TAKING	**REPRESENTATIVE DECISION**	**OPERATIVE LANGUAGE**
Affirmative exercise of the sovereign power of eminent domain (**ED**)	*Kelo v. City of New London*[18]	"[I]t is equally clear that a State may transfer property from one private party to another if future 'use by the public' is the purpose of the taking."[19]

15. 447 U.S. 255, 260 (1980) (holding that "[t]he application of a general zoning law to particular property effects a taking if the ordinance does not substantially advance legitimate state interests . . .").
16. *Lingle*, 544 U.S. at 532.
17. *Id.* at 545.
18. 545 U.S. 469 (2005).
19. *Id.* at 477.

Government-required, permanent, physical occupation (**PO**)	*Loretto v. Teleprompter Manhattan CATV Corp.*[20]	"We conclude that a permanent physical occupation authorized by government is a taking without regard to the public interests that it may serve."[21]
Total deprivation of use and/or value (**TD**)	*Lucas v. S.C. Coastal Council*[22]	"[W]hen the owner of real property has been called upon to sacrifice *all* economically beneficial uses in the name of the common good, that is, to leave his property economically idle, he has suffered a taking."[23]
Partial taking that falls short of a total deprivation (**PT**)	*Penn Cent. Transp. Co. v. City of New York* [24]	"The economic impact of the regulation on the claimant and, particularly, the extent to which the regulation has interfered with distinct investment-backed expectations are, of course, relevant considerations. So, too, is the character of the governmental action. A 'taking' may more readily be found when the interference with property can be characterized as a physical invasion by government, than when interference arises from some public program adjusting the benefits and burdens of economic life to promote the common good."[25]

20. 458 U.S. 419 (1982).
21. *Id.* at 426.
22. 505 U.S. 1003 (1992).
23. *Id.* at 1019.
24. 438 U.S. 104 (1978).
25. *Id.* at 124 (citations omitted).

Exaction of a property interest even if the value of the subject property would be enhanced by grant of the conditional permit **(EX)**	*Dolan v. City of Tigard*[26]	"Under the well-settled doctrine of 'unconstitutional conditions,' the government may not require a person to give up a constitutional right—here the right to receive just compensation when property is taken for a public use—in exchange for a discretionary benefit conferred by the government where the benefit sought has little or no relationship to the property."[27]
Judicial taking (**JT**)	*Stop the Beach Renourishment, Inc. v. Fla. Dep't of Envtl. Prot.*[28]	"If a legislature *or a court* declares that what was once an established right of private property no longer exists, it has taken that property, no less than if the State had physically appropriated it or destroyed its value by regulation."[29]

The first takings category—the affirmative exercise of the sovereign power of eminent domain (delineated in this article by the abbreviation **ED**)—while very straightforward, is not without controversy, as illustrated by the uber controversy that followed the Court's announcement of its 2005 decision in *Kelo v. City of New London*[30] over the meaning of "public use."[31] In the last several years, state legislatures and voters have narrowed the definition of public use and provided additional procedural protections for landowners whose property is targeted for eminent domain.[32]

26. 512 U.S. 374 (1994).
27. *Id.* at 385.
28. 130 S. Ct. 2592 (2010) (plurality opinion) [hereinafter *STBR*].
29. *Id.* at 2602.
30. 545 U.S. 469 (2005).
31. *See, e.g.*, Michael Allan Wolf, *Hysteria Versus History: Public Use in the Public Eye*, *in* PRIVATE PROPERTY, COMMUNITY DEVELOPMENT, AND EMINENT DOMAIN 15 (Robin Paul Malloy ed., 2008).
32. *See, e.g.*, POWELL ON REAL PROPERTY § 79F.03[3][b][iv] (Michael Allan Wolf ed. 2013) [hereinafter POWELL] (detailing state legislative and constitutional changes in response to *Kelo*).

Nevertheless, local, state, and federal officials continue to possess broad powers to take title to a wide variety of private property interests, as long as just compensation—typically equated with fair market value—is rendered.

The second taking type—a permanent physical occupation required by the government (**PO**)—is the first of what Justice O'Connor called the "two categories of regulatory action that generally will be deemed *per se* takings for Fifth Amendment purposes."[33] The representative decision, *Loretto v. Teleprompter Manhattan CATV Corp.*,[34] involved the owner of an apartment building who objected to a state law requiring her to permit the company to install cable television equipment on her property, and the *Lingle* Court acknowledged that this and the second *per se* category were "relatively narrow" in scope.[35]

The third type of taking (and second *per se* variety) involves government regulations that, in the words of Justice Scalia in *Lucas v. South Carolina Coastal Council*,[36] deprive the owner of "*all* economically beneficial uses" of his or her property.[37] Coincidentally, and not without importance to our current concerns, the state legislation that resulted in the landowner losing all value in his coastal parcels—the South Carolina Beachfront Management Act—grew out of the efforts of the Blue Ribbon Committee on Beachfront Management whose report contained the first epigraph to this article (concerning the reality of SLR), language that today would attract the negative attention of skeptical politicians and ideologues.[38]

The term *per se* is a bit misleading, as even a total deprivation (**TD**) would be legal if the government restriction responsible for the deprivation

> inhere[s] in the title itself, in the restrictions that background principles of the State's law of property and nuisance already place upon land ownership. A law or decree with such an effect must, in other words, do no more than duplicate the result that could have been achieved in the courts—by adjacent landowners (or other uniquely affected persons) under the State's law of private nuisance, or by the

33. Lingle v. Chevron U.S.A. Inc., 544 U.S. 528, 538 (2005).

34. 458 U.S. 419 (1982).

35. *Lingle*, 544 U.S. at 538. For failed efforts to expand the reach of *Loretto*, see Yee v. City of Escondido, 503 U.S. 519, 539 (1992) (holding that "[b]ecause the Escondido rent control ordinance does not compel a landowner to suffer the physical occupation of his property, it does not effect a *per se* taking under *Loretto*").

36. 505 U.S. 1003 (1992).

37 *Id.* at 1019.

38. *See supra* note 2 and accompanying text; *see also* sources cited *supra* note 4.

> State under its complementary power to abate nuisances that affect the public generally, or otherwise.[39]

While, as we will see, the prevention of private and public nuisances is very compatible with the goals of several SLR adaptation strategies, the most intriguing possibility for making such strategies takings-proof lies in the example that Justice Scalia provides as an illustration of the last word in the paragraph quoted above:

> The principal "otherwise" that we have in mind is litigation absolving the State (or private parties) of liability for the destruction of "real and personal property, in cases of actual necessity, to prevent the spreading of a fire" or to forestall other grave threats to the lives and property of others.[40]

The first case cited for this proposition by the *Lucas* majority—*Bowditch v. Boston*[41]—involved the demolition of a building to stop the spread of a fire and thus involved the Court's consideration of the so-called "conflagration rule." As Professors David Dana and Thomas Merrill have explained, one possible explanation for this rule "is based on causation. If the claimant's property would have been engulfed by fire in any event, then the government's intervention should not be regarded as the cause of its demise."[42] Or, as Professor Ernst Freund conceded more than a century ago in his classic exploration of the police power, "Of course there can be no constitutional or moral duty of compensation, where the property destroyed could not have been saved in any event."[43] This is yet another example of the *Armstrong* principle in operation, as the burden was placed on the landowner most immediately by the flames and only secondarily by public officials. Similarly,

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39. *Lucas*, 505 U.S. at 1029.

40. *Id*. at 1029 n.16 (citing Bowditch v. Boston 101 U.S. 16, 18-19 (1880).

41. 101 U.S. 16.

42. DAVID A. DANA & THOMAS W. MERRILL, PROPERTY: TAKINGS 119 (2002). In the sentence following Justice Holmes's articulation of his perplexing "general rule," he noted: "It may be doubted how far exceptional cases, like the blowing up of a house to stop a conflagration, go—and if they go beyond the general rule, whether they do not stand as much upon tradition as upon principle." Pennsylvania Coal Co. v. Mahon, 260 U.S. 393, 415-16 (1922) (citing *Bowditch*, 101 U.S. 16).

43. ERNST FREUND, THE POLICE POWER: PUBLIC POLICY AND CONSTITUTIONAL RIGHTS § 535, at 565 (1904). *See also* Robin Kundis Craig, *Public Trust and Public Necessity Defenses to Takings Liability for Sea Level Rise Responses on the Gulf Coast*, 26 J. LAND USE & ENVTL. L. 395 (2011); Michael Kamprath, *Addressing the Shaky Legal Foundations of Florida's Fight Against Citrus Canker*, 20 J. LAND USE & ENVTL. L. 453, 465-77 (2005); Dale A. Whitman, *Deconstructing* Lingle*: Implications for Takings Doctrine*, 40 J. MARSHALL L. REV. 573, 588-90 (2007); Derek T. Muller, *"As Much Upon Tradition as Upon Principle": A Critique of the Privilege of Necessity Destruction Under the Fifth Amendment*, 82 NOTRE DAME L. REV. 481 (2006).

those landowners who lose their land and their structures to rising seas should not be able to recover compensation for a taking occasioned primarily by the forces of nature and not by public officials who craft programs designed to prevent more widespread harm. After all, houses, condominium, and apartment buildings, as well as offices and businesses that lie on ecologically fragile barrier islands, can be envisioned as mere flotsam waiting to happen, not to mention the originating point for harmful fecal coliforms and other pollutants.

The fourth type of taking is a deprivation occasioned by the government that falls short of the total loss envisioned in *Lucas*. The first version of the multi-factor test that the Court applies to so-called "partial takings" (**PT**) appeared in 1978's *Penn Central Transportation Co. v. City of New York*,[44] an unsuccessful challenge to the city's landmark preservation ordinance. The "economic impact" of the challenged regulation is one of "several factors" that "the Court's decisions have identified" as having "particular significance" in the justices' attempts to "determin[e] when 'justice and fairness' require that economic injuries caused by public action be compensated by the government, rather than remain disproportionately concentrated on a few persons."[45] Analogizing the preservation ordinance to other regulatory schemes such as zoning, the *Penn Central* majority observed that, "in instances in which a state tribunal reasonably concluded that 'the health, safety, morals, or general welfare' would be promoted by prohibiting particular contemplated uses of land, this Court has upheld land-use regulations that destroyed or adversely affected recognized real property interests."[46]

The *Penn Central* test has become the default in regulatory takings challenges that do not fit comfortably into the other categories, and, while it is not impossible to find a case in which property owners have prevailed,[47] government counsel and their clients typically have reason to celebrate when a court opts for ad hoc balancing over the other takings alternatives.[48] There are two

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44. 438 U.S. 104 (1978).

45. *Id.* at 124.

46. *Id.* at 125.

47. *See, e.g.*, City of Monterey v. Del Monte Dunes at Monterey, Ltd., 526 U.S. 687, 694 (1999):

> After protracted litigation, the case was submitted to the jury on Del Monte Dunes' theory that the city effected a regulatory taking or otherwise injured the property by unlawful acts, without paying compensation or providing an adequate postdeprivation remedy for the loss. The jury found for Del Monte Dunes, and the Court of Appeals affirmed.

48. *See, e.g.*, Tahoe-Sierra Pres. Council, Inc, v. Tahoe Reg'l Planning Agency, 535 U.S. 302, 342 (2002) ("We conclude, therefore, that the interest in 'fairness and justice' will be best served by relying on the familiar *Penn Central* approach when deciding cases like

important reasons why *Penn Central* provides minimal solace for property owners who feel overburdened by government regulation, coastal and otherwise. First, the Court pointed out that the government's chances for victory were enhanced "when interference arises from some public program adjusting the benefits and burdens of economic life to promote the common good."[49] Second, the Court identified "the extent to which the regulation has interfered with distinct investment-backed expectations" as a "relevant consideration[],"[50] seriously hindering cases brought by landowners who acquired their property with knowledge of preexisting government regulations or even of reasonably foreseeable extensions of existing law. As the United States Court of Appeals for the Federal Circuit explained in a 2001 decision: "The reasonable expectations test does not require that the law existing at the time . . . would impose liability, or that liability would be imposed only with minor changes in then-existing law. The critical question is whether extension of existing law could be foreseen as reasonably possible."[51] Once government regimes have begun the process of sharply curtailing development in coastal regions, all existing and potential landowners should be on notice that further refinements are quite likely in the offing.

The fifth taking category involves government exactions (**EX**) of property interests in exchange for the grant of development permission to the landowner. Most private landowners are happy to offer this quid pro quo voluntarily, knowing that the enhanced value of their real property will more than make up for the value of the fee or easement granted to the public. Indeed, it seems silly even to refer to this exercise as a "taking," at least when considering the financial aspects of the entire transaction. However, the justices comprising the majorities in the Court's first two exaction

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this, rather than by attempting to craft a new categorical rule."); Palazzolo v. R.I., 533 U.S. 606, 632 (2001) ("The court did not err in finding that petitioner failed to establish a deprivation of all economic value, for it is undisputed that the parcel retains significant worth for construction of a residence. The claims under the *Penn Central* analysis were not examined, and for this purpose the case should be remanded."). *See also* Palazzolo v. R.I., 2005 WL 1645974, at *15 (July 5, 2005) (footnote omitted) ("In sum, Plaintiff has failed to prove by a preponderance of the evidence that there has been a regulatory taking of his property. Moreover, because the development proposed by Plaintiff would constitute a public nuisance, his title did not include a property right to develop the parcel as he proposed.").

49. *Penn Cent.*, 438 U.S. at 124.

50. *Id.*

51. Commonwealth Edison Co. v. United States, 271 F.3d 1327, 1357 (Fed. Cir. 2001). *See also* Thomas Ruppert, *Reasonable Investment-Backed Expectations: Should Notice of Rising Seas Lead to Falling Expectations for Coastal Property Purchasers?*, 26 J. LAND USE & ENVTL. L. 239, 275 (2011) ("While no one part of the *Penn Central* analysis necessarily trumps, ensuring that coastal property owners have full understanding of the nature of the hazards, the dynamic coastal environment, and existing and potential regulatory limitations should demonstrate that owners' expectations which are drastically out of line with these realities and information are not reasonable.").

cases—*Nollan v. California Coastal Commission*[52] and *Dolan v. City of Tigard*[53]—focused their attention solely on what the landowner lost, not on what he or she gained from the entire development permission process.

The majority opinions in *Nollan* and *Dolan* contributed a two-step inquiry to the already terribly confusing takings canon. First, Justice Scalia in *Nollan* explained that when government regulators opt for conditional approval rather than outright denial of development permission, an "essential nexus" would be missing "if the condition substituted for the prohibition utterly fails to further the end advanced as the justification for the prohibition."[54] Second, Chief Justice William Rehnquist in *Dolan* clarified that if the essential nexus between "the 'legitimate state interest' and the permit condition exacted"[55] by government is present, the government would prevail only if "the degree of the exactions demanded by the city's permit conditions bears the required relationship to the projected impact of petitioner's proposed development."[56] The *Dolan* Court labeled that relationship "rough proportionality," noting that, while "[n]o precise mathematical calculation is required,'" government officials "must make some sort of individualized determination that the required dedication is related both in nature and extent to the impact of the proposed development."[57]

There are three possible explanations for the Court's characterization of an exaction as a taking. The first is that a poorly crafted exaction—one that asks a landowner to concede a property interest totally unrelated to the protection of the public interest or grossly out of proportion to any negative impact of the proposed development—would appear to violate the following takings test from a 1980 Supreme Court decision, *Agins v. City of Tiburon*[58]: "The application of a general zoning law to particular property effects a taking if the ordinance does not substantially advance legitimate state interests."[59] That was a possible rationale, at least until the unanimous Court decided a quarter-century later in *Lingle* "that the 'substantially advances' formula announced in

52. 483 U.S. 825 (1987).
53. 512 U.S. 374 (1994).
54. 483 U.S. at 837.
55. 512 U.S. at 386.
56. *Id.* at 388.
57. *Id.* at 391.
58. 447 U.S. 255 (1980).
59. *Id.* at 260. The key language from *Agins* makes an appearance in both *Nollan*, 483 U.S. at 834 n.3 (1987), and *Dolan*, 512 U.S. at 385 (1994).

Agins is not a valid method of identifying regulatory takings for which the Fifth Amendment requires just compensation."[60]

A second possible explanation for equating exactions of real property interests with takings is that what the government often obtains is a right for the *public* to use the easement or fee simple interest acquired from the *private* landowner. In her *Lingle* opinion, Justice O'Connor explained that "[a]lthough *Nollan* and *Dolan* quoted *Agins*' language, the rule those decisions established is entirely distinct from the 'substantially advances' test we address today,"[61] noting instead that the two earlier cases "involved dedications of property so onerous that, outside the exactions context, they would be deemed *per se* physical takings."[62] However, because those property dedications *did* occur in the exactions context, they lacked the element of government compulsion that characterizes unconstitutional, *Loretto*-like, physical occupation takings.

The third and, to the high court in *Lingle*, ultimately satisfactory explanation lies in what is known as the "unconstitutional conditions" doctrine. According to Chief Justice Rehnquist in *Dolan*, this controversial doctrine[63] provides that "the government may not require a person to give up a constitutional right—here the right to receive just compensation when property is taken for a public use—in exchange for a discretionary benefit conferred by the government where the benefit sought has little or no rela-

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60. Lingle v. Chevron U.S.A. Inc., 544 U.S. 528, 545 (2005).

61. *Id.* at 547 (citations omitted).

62. *Id.*

63. *See, e.g.*, Vicki Been, *"Exit" as a Constraint on Land Use Exactions: Rethinking the Unconstitutional Conditions Doctrine*, 91 COLUM. L. REV. 473, 543 (1991) ("Indeed, the unconstitutional conditions doctrine, in the form of the *Nollan* nexus test or the similar forms of heightened judicial scrutiny that Professors Epstein, Sullivan, and others propose, is quite costly."); Mitchell N. Berman, *Coercion Without Baselines: Unconstitutional Conditions in Three Dimensions*, 90 GEO. L.J. 1, 3 (2001) ("The persistent challenge, consequently, has been to articulate some coherent or at least intelligible principles or tests by which to determine which offers fall into which category—to explicate, in other words, a theory to support the doctrine. Regrettably, more than a century of judicial and scholarly attention to the problem has produced few settled understandings."); Richard A. Epstein, *Foreword: Unconstitutional Conditions, State Power, and the Limits of Consent*, 102 HARV. L. REV. 4, 11 (1988) (footnote omitted) ("The importance of the unconstitutional conditions doctrine has brought forth an extensive array of academic literature to explain and justify it. The received writing sensibly recognizes the essential place that the doctrine occupies in modern constitutional law, but it makes far less sense when it attempts to explain how the doctrine arises or what it does."); Kathleen M. Sullivan, *Unconstitutional Conditions*, 102 HARV. L. REV. 1413, 1415-16 (1989) ("[R]ecent Supreme Court decisions on challenges to unconstitutional conditions seem a minefield to be traversed gingerly. Just when the doctrine appears secure, new decisions arise to explode it."); Cass R. Sunstein, *Why the Unconstitutional Conditions Doctrine is an Anachronism (with Particular Reference to Religion, Speech, and Abortion)*, 70 B.U. L. REV. 593, 594 (1990) ("The various puzzles produced by the doctrine have created considerable doctrinal confusion and provoked a wide range of commentary.").

tionship to the property."[64] In such cases, Justice O'Connor explained in *Lingle*, "the issue was whether the exactions substantially advanced the *same* interests that land-use authorities asserted would allow them to deny the permit altogether."[65] Technically, the exaction itself does not really effect a taking, as a case such as *Dolan* in reality involves an action that in other contexts would be an uncompensated taking that is "wrapped inside" an illegal condition.

The sixth variety—judicial takings (**JT**)—is at this point one vote shy of realizing Justice William Brennan's "rule of five."[66] That is, only four current justices have gone on record in support of the notion that members of the judiciary, like their counterparts in the legislative and executive branches, can effect a taking of private property without compensation. In a 2010 decision inextricably tied to the realities of climate change in the coastal zone—*Stop the Beach Renourishment, Inc. v. Florida Department of Environmental Protection*[67]—four justices (Justice Scalia writing, joined by Justices Samuel Alito and Clarence Thomas and Chief Justice John Roberts) held out the possibility that judges on a state high

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64. *Dolan*, 512 U.S. at 385.

65. *Lingle*, 544 U.S. at 547. Justice O'Connor then seeks to distinguish this kind of substantial advancement from the first prong of *Agins* that the Court has just deemed to be a due process test:

> That is worlds apart from a rule that says a regulation affecting property constitutes a taking on its face solely because it does not substantially advance a legitimate government interest. In short, *Nollan* and *Dolan* cannot be characterized as applying the "substantially advances" test we address today, and our decision should not be read to disturb these precedents.

Id. at 547-48. In this way, *Nollan* and *Dolan* maintained their jurisprudential vigor, as demonstrated by the Court's decision to hear an exactions takings challenge during the October 2012 Term. *See* Koontz v. St. Johns River Water Mgmt. Dist., No. 11-1447 (June 25, 2013). In *Koontz*, a five-member majority reiterated Justice O'Connor's point in *Lingle*:

> So long as the building permit is more valuable than any just compensation the owner could hope to receive for the right-of-way, the owner is likely to accede to the government's demand, no matter how unreasonable. Extortionate demands of this sort frustrate the Fifth Amendment right to just compensation, and the unconstitutional conditions doctrine prohibits them.

Id. at 7.

66. *See, e.g.*, Mark Tushnet, *Themes in Warren Court Biographies*, 70 N.Y.U. L. REV. 748, 763 (1995):

> [Brennan's] law clerks report an annual event: At some point early in their clerkships, Brennan asked his clerks to name the most important rule in constitutional law. Typically they fumbled, offering *Marbury v. Madison* or *Brown v. Board of Education* as their answers. Brennan would reject each answer, in the end providing his own by holding up his hand with the fingers wide apart. This, he would say, is the most important rule in constitutional law. Some clerks understood Brennan to mean that it takes five votes to do anything, others that with five votes you could do anything. In either version, though, Brennan's "rule of five"—or, as the narrative of activism and restraint would have it, rule *by* five—was about the meaning of five votes on the Court. It was not a substantive rule of constitutional law.

67. 130 S.Ct. 2592 (2010).

court could take property simply by "declar[ing] that what was once an established right of private property no longer exists, . . . no less than if the State had physically appropriated it or destroyed its value by regulation."[68] While the four remaining justices participating in the case expressed their doubts,[69] some Court observers have been intrigued by this embryonic takings theory, a theory that, if it reaches maturity, could well have a chilling effect on the adaptation of ancient common-law concepts such as accretion, reliction, and avulsion[70] to twenty-first century climatic and hydrologic realities.

IV. THE RICH AND DIVERSE ADAPTATION TOOLKIT

Having set the jurisprudential table, it is now time to review some of the major strategies that government at all strata are and will be taking to adapt to dramatic and potentially devastating sea level rise. Several helpful compendia of SLR adaptation tools are available in hard copy and on the Internet, obviating the need to reinvent the wheel in this increasingly important field.[71] Table 2 includes more than twenty such tools, and Tables 2A through 2D groups these tools together by the degree of risk that takings law, as applied by judges who have a competent understanding of the current state of this evolving jurisprudence,[72] poses to their use.

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68. *Id.* at 2602 (plurality).

69. *See id.* at 2617 (Kennedy, J., concurring in part and concurring in the judgment) ("These difficult issues are some of the reasons why the Court should not reach beyond the necessities of the case to recognize a judicial takings doctrine."); *id.* at 2618 (Breyer, J., concurring in part and concurring in the judgment) ("I agree that no unconstitutional taking of property occurred in this case, and I therefore join Parts I, IV, and V of today's opinion. I cannot join Parts II and III, however, for in those Parts the plurality unnecessarily addresses questions of constitutional law that are better left for another day.").

70. *See id.* at 2598; POWELL, *supra* note 32, at § 66.01.

71. *See, e.g.*, JESSICA GRANNIS, GEORGETOWN CLIMATE CTR., ADAPTATION TOOL KIT: SEA-LEVEL RISE AND COASTAL LAND USE: HOW GOVERNMENTS CAN USE LAND-USE PRACTICES TO ADAPT TO SEA-LEVEL RISE (2011) [hereinafter ADAPTATION TOOL KIT], *available at* http://www.georgetownclimate.org/sites/default/files/Adaptation_Tool_Kit_SLR.pdf; BARBARA J. LAUSCHE, MOTE MARINE LAB., TECH. REPORT NO. 1419, SYNOPSIS OF AN ASSESSMENT: POLICY TOOLS FOR LOCAL ADAPTATION TO SEA LEVEL RISE (2009) [hereinafter MOTE], *available at* http://www.mote.org/clientuploads/MPI/Synopsis-Policy%20Tools%20for%20Local%20Adaptation%20to%20Sea%20Level%20Rise(fin).pdf; NAT'L RESEARCH COUNCIL, ADAPTING TO THE IMPACTS OF CLIMATE CHANGE (2010) (especially ch. 3 "What Are America's Options for Adaptation?"), *available at* http://www.nap.edu/catalog.php?record_id=12783#toc. There are resources on specific tools as well. *See, e.g.*, JAMES G. TITUS, CLIMATE READY ESTUARIES EPA, ROLLING EASEMENTS (2011), *available at* http://water.epa.gov/type/oceb/cre/upload/rollingeasementsprimer.pdf.

72. The Supreme Court heard two takings cases during the October 2012 Term. *See* Ark. Game & Fish Comm'n v. United States, 133 S. Ct. 511, 515 (2012) ("[R]ecurrent floodings, even if of finite duration, are not categorically exempt from Takings Clause liability."); St. Johns River Water Mgmt. Dist. v. Koontz, No. 11-1447, slip op. at 22 (June 25, 2013) ("We hold that the government's demand for property from a land-use permit applicant must satisfy the requirements of *Nollan* and *Dolan* even when the government denies the

The risks run from nonexistent and minimal (Tables 2A and 2B) to moderate (Table 2C), and up to serious (Table 2D).

TABLE 2 ***SLR ADAPTATION TOOLS*** ***A REPRESENTATIVE LIST***
• Notice to landowners of impending SLR • Comprehensive plan SLR element • Building code changes to accommodate SLR • Government purchase of fee in properties vulnerable to SLR • Government purchase of (or truly voluntary donation of) conservation easements on properties vulnerable to SLR • SLR overlay zoning and downzoning (affecting height, area, and use of undeveloped or underdeveloped parcels) • Restrictions on existing, nonconforming buildings/uses in SLR overlay zone • Enhanced floodplain restrictions in SLR areas • Permits for soft-armoring in SLR areas (e.g., beach nourishment) • Requiring living shorelines in place of hard-armoring structures • Transferable development rights exchange with owners in SLR zone • Special assessments for beach nourishment and other soft-armoring in SLR zones • Increased buffers and setbacks for landowners directly affected by SLR • Prohibition of hard-engineered structures (armoring) in designated SLR zones • Massive public land acquisition in SLR areas and areas nearby financed by new taxes and bond issues followed by resale with restrictions to private owners • Land banking in upland areas for future private use • Exaction of coastal impact fees on all permitted development in the SLR • Development exactions of conservation easements or of fee title interests, and imposition of coastal impact fees on all permitted development in the SLR • Prohibition of new, permanent structures in designated SLR zones, declaring them to be public nuisances • Ban on hard- and soft-armoring financed by owners of developed parcels • New judicial decisions that impose rolling easement ambulatory boundaries and expand public property interests in the coastal zone

permit and even when its demand is for money."). The tables in this article identify the takings claims that plaintiffs are most likely to make in litigation. Of course, litigants on all sides and the courts may choose to resolve these issues outside the takings context.

Identifying the takings risk of SLR adaptation strategies serves two distinct but related purposes. First, government officials can use this information to anticipate when serious legal challenges may be mounted in anticipation, or in response to the implementation, of specific tools. Armed with this information, these officials can then seek legal counsel regarding the best ways of mitigating the takings risks, such as modulating the intensity of a regulation or mitigating the impact of a regulation on specific private property owners who carry the heaviest burden.

Second, by measuring SLR adaption tools by their takings risks, we can keep in the forefront of our policymaking the heart and spirit of the takings clause as embodied in the *Armstrong* principle: avoiding those regulations and other *governmental* activities that place a special burden on the few that, in the name of justice and fairness, should be borne by the many. In other words, adhering to the demands of takings jurisprudence should not be an exercise in legal brinkmanship, but rather an attempt to achieve an effective, forward-looking strategy without causing needless harm.

TABLE 2A ***SLR ADAPTATION TOOLS*** ***LEVEL 1, NO TAKINGS RISK***
• Notice to landowners of impending SLR • Comprehensive plan SLR element • Building code changes to accommodate SLR • Government purchase of fee in properties vulnerable to SLR • Government purchase of (or truly voluntary donation of) conservation easements on properties vulnerable to SLR

The tools that pose no takings risks (Table 2A) are those that have no current financial impact on current owners (such as informing coastal owners of impending SLR,[73] modifying comprehensive plan elements to reflect SLR concerns,[74] and using public funds to purchase conservation easements[75] and fee title) or that involve the exercise of the state's traditional police power

73. *See* Ruppert, *supra* note 51, at 262-66 (discussing a few state disclosure requirements referring specifically to coastal property).

74. *See, e.g.*. ADAPTATION TOOL KIT, *supra* note 71, at 16-18; MOTE, *supra* note 71, at 8-9.

75. *See, e.g.*, J. Peter Byrne, *The Cathedral Engulfed: Sea-Level Rise, Property Rights, and Time*, 73 LA. L. REV. 69, 83 (2012); John D. Echeverria, *Regulating Versus Paying Land Owners to Protect the Environment*, 26 J. LAND RESOURCES & ENVTL. L. 1 (2005); John R. Nolon, *Regulatory Takings and Property Rights Confront Sea Level Rise: How Do They Roll?*, 21 WIDENER L.J. 735 ,764-66 (2012); Jessica Owley, *Conservation Easements at the Climate Change Crossroads*, 74 LAW & CONTEMP. PROBS. 199 (2011).

(such as modifications of building codes[76]). Unfortunately, but not surprisingly, the most effective of these tools—public acquisition of title to private lands on barrier islands and in other highly vulnerable locations—is cost-prohibitive given current and anticipated budget restraints at all levels of government.[77] Because of this hard economic reality, governments have resorted to alternative regulatory tools in hopes of accomplishing the same goals, much the same way that some early experimentation with eminent domain to impose land use restrictions gave way to the nearly ubiquitous reality of zoning without compensation.[78]

TABLE 2B ***SLR ADAPTATION TOOLS*** ***LEVEL 2, MINIMAL TAKINGS RISK***
• SLR overlay zoning and traditional downzoning (affecting height, area, and use of undeveloped or underdeveloped parcels) (**PT**) • Restrictions on existing, nonconforming buildings/uses in SLR overlay zone (**PT**) • Enhanced floodplain restrictions in SLR areas (**PT**) • Permits for soft-armoring in SLR areas (e.g., beach nourishment) (**PT**) • Requiring living shorelines in place of hard-armoring structures (**PT**, **EX**) • Transferable development rights exchange with owners in SLR zone (**ED**)
KEY: **ED**=Eminent Domain (*Kelo*), **PT**=Partial Taking (*Penn Central*), **EX**=Exaction (*Dolan*)

76. *See, e.g.*, Sean Reilly, *Finding Silver Linings*, 68 LA. L. REV. 331, 334 (2008) (footnote omitted) ("The LRA [Louisiana Recovery Authority] was active in the first Special Session of the Legislature called by Governor Blanco in the fall of 2005. One early victory was the enactment of the first uniform statewide residential building code in our state's history. Modeled after the code enacted by Florida after its series of hurricanes, this code will serve the state well when future disasters visit Louisiana's shores and its structures survive."); Thomas Kaplan, *Experts Advise Cuomo on Disaster Measures*, N.Y. TIMES, Jan. 3, 2013, at 18 ("Two panels of experts charged with studying how New York can better prepare for disasters like Hurricane Sandy said Thursday that the state should create a strategic fuel reserve, require some gas stations to install generators and update its building codes.").

77. Patricia E. Salkin & Charles Gottlieb, *Engaging Deliberative Democracy at the Grassroots: Prioritizing the Effects of the Fiscal Crisis in New York at the Local Government Level*, 39 FORDHAM URB. L.J. 727, 728-29 (2012) ("Local governments are facing unprecedented fiscal challenges across the country. These challenges have forced many municipalities to examine insolvency and have subjected others to state-initiated fiscal control boards. In March 2011, The New York Times reported that states across the nation were planning severe budget cuts in aid to cities and other local governments. These cuts were expected to lead to more lay-offs, cuts in services, and increases in local taxes").

78. *See* CHARLES M. HAAR & MICHAEL ALLAN WOLF, LAND USE PLANNING AND THE ENVIRONMENT: A CASEBOOK 262-64 (2012) [hereinafter LAND USE PLANNING] (discussing "early attempts to zone entirely by eminent domain").

As Table 2B indicates, several regulatory tools involve only minimal takings risks, largely because of a long, relatively uncontroversial record of the use of these same or highly analogous strategies for the past several decades. The use of overlay zoning[79] to impose greater restrictions on environmentally sensitive properties (floodplains, wetlands, critical habitat for protected species, and the like) has become routine in American cities and counties, and the Takings Clause has not posed a significant barrier for governments who pursue this strategy. Neither does the typical downzoning of a group of undeveloped parcels—that is, the imposition of more intense use (and perhaps height and area) restrictions by changing the zoning classification—warrant serious consideration by courts in which landowners cry "taking."[80] Ever since the United States Supreme Court established in its 1926 decision in *Village of Euclid v. Ambler Realty Co.*[81] "that there is no fundamental constitutional right to the speculative value of a piece of property,"[82] landowners seeking to maximize their investment in real estate have for the most part been frustrated in their attempts to use the Due Process, Equal Protection, and Takings Clauses to reverse zoning and other comprehensive, expert-based, state and local land use restrictions.[83]

Landowners challenging new restrictions imposed on their nonconforming uses and buildings—occasioned by the imposition of zoning controls for the first time or by zoning changes—have also been frustrated when they turn to the courts. Local zoning ordinances commonly feature provisions that prescribe the expan-

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79. *See, e.g.*, Robert J. Blackwell, Comment, *Overlay Zoning, Performance Standards, and Environmental Protection after* Nollan, 16 B.C. ENVTL. AFF. L. REV. 615, 616 (1989) (footnotes omitted):

> Overlay zones are those that are specifically tailored to protect the environmental area at issue, whether it be a reservoir, aquifer, forest, or beach area. An outgrowth of Euclidean zoning, overlay zones in effect circumscribe an environmental area that is already subject to Euclidean regulation, and impose additional requirements thereon. Overlay zones are more effective than other land use controls in environmental protection because of their flexibility, their concentrated focus on specific environmental areas, and their use of performance standards.

80. *See, e.g.*, Intermountain W., Inc. v. Boise City, 728 P.2d 767, 769 (Idaho 1986) ("A zoning ordinance which downgrades the economic value of property does not constitute a taking of property without compensation at least where some residual value remains in the property.").

81. 272 U.S. 365 (1926).

82. Charles M. Haar & Michael Allan Wolf, Commentary, Euclid *Lives: The Survival of Progressive Jurisprudence*, 115 HARV. L. REV. 2158, 2158 (2002).

83. *See, e.g.*, STEVEN J. EAGLE, REGULATORY TAKINGS § 1-6 (5th ed. 2012) ("Since the late 1930s the Supreme Court has viewed property interests as economic rather than personal. With the exception of cases in which 'property' has been closely linked to protected rights, such as free speech and preservation of the family, regulations arguably depriving landowners of their property rights have been reviewed under the relaxed scrutiny of the rational basis test").

sion, enlargement, or alteration of nonconformities,[84] with the courts' blessings.[85] There is no reason to believe that judges would be any less accommodating of new restrictions placed on existing structures and uses in an SLR overlay zone. Similarly, requiring permits for landowner-funded, soft-armoring projects such as beach nourishment and enhancing floodplain protections would basically involve intensifying what are already widely accepted forms of land use control,[86] thus minimizing the chances that a court would find a violation of the Takings Clause. Standing in the way of success for landowners making regulatory takings arguments in opposition to any of the Table 2B tools discussed to this point is the *Penn Central* ad hoc balancing test that courts employ in partial, as opposed to total, deprivation situations. While it is theoretically possible for government officials to flunk the *Penn Central* balancing test,[87] the goal of the lawyers in the front lines of private property rights movement has been to avoid or even eliminate what they perceive to be a losing legal paradigm.[88] Despite their best efforts, justice and judges seem comfortable with the dual framework of *Penn Central*, which seeks to balance the Holmesian concern over severe diminution in value attributable to government action[89] with the Brandeisian caveat that the state has the power, indeed the obligation, to act in order to protect overall health, safety, and general welfare.[90] Or, stated in Armstrongian terms, courts are comfortable with saddling private owners with some burdens that should not fairly and justly be carried by the public.

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84. *See, e.g.*, DANIEL R. MANDELKER, LAND USE LAW §§ 5.79-5.80 (5th ed. 2003); LAND USE PLANNING, *supra* note 78, at 252.

85. *See, e.g.*, Baxter v. City of Preston, 768 P.2d 1340 (Idaho 1989) (reviewing caselaw from other jurisdictions).

86. *See, e.g.*, POWELL, *supra* note 32, at §§ 79C.16[2] (on building permits), 79A.02 (on floodplain regulation).

87. *See, e.g.*, Ruckelshaus v. Monsanto Co., 467 U.S. 986 (1984); Hodel v. Irving, 481 U.S. 704 (1987).

88. *See, e.g.*, Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Planning Agency, 535 U.S. 302, 333 n.28 (2002) (noting that the "primary argument" of the Institute for Justice in its *amicus* brief is that *Penn Central* should be overruled: "All partial takings by way of land use restriction should be subject to the same prima facie rules for compensation as a physical occupation for a limited period of time").

89. *See* Pa. Coal Co. v. Mahon, 260 U.S. 393, 413 (1922) ("One fact for consideration in determining such limits is the extent of the diminution. When it reaches a certain magnitude, in most if not in all cases there must be an exercise of eminent domain and compensation to sustain the act.").

90. *See id.* at 417 (Brandeis, J., dissenting) ("Every restriction upon the use of property imposed in the exercise of the police power deprives the owner of some right theretofore enjoyed, and is, in that sense, an abridgment by the state of rights in property without making compensation. But restriction imposed to protect the public health, safety or morals from dangers threatened is not a taking.").

While almost certainly safe under *Penn Central*, the strategy of requiring coastal landowners to install a living shoreline—"utiliz[ing] a variety of structural and organic materials, such as wetland plants, submerged aquatic vegetation, oyster reefs, coir fiber logs, sand fill, and stone" as a "more natural bank stabilization technique" than "hardened structures, such as bulkheads, revetment[s], and concrete seawalls"[91]—could pose an additional, though still minimal, takings risk. If government officials establish such a requirement as a condition for securing permission by a property owner to initiate or intensify development, *Nollan/Dolan* analysis would be triggered. There is a strong likelihood that the government would prevail, however, (1) given the many legitimate state interests in protecting the fragile coast, interests that would be furthered either by an outright development ban or by the installation of a living shoreline as a development condition, and (2) so long as the requirement to employ the living shoreline technique bears a roughly proportional relationship to the impact the development would have on the coastal environment.

The final tool listed in Table 2B—transferable development rights (TDR)—has a track record dating back several decades, as a way of protecting not only environmentally sensitive properties but also historically and architecturally significant structures and diminishing farm acreage.[92] Because the essence of TDR is to make the landowner, who is informed that the right to develop Greenacre (the protected parcel) may be shifted to Blueacre (the developable parcel), financially whole, the key takings concern is the "justness" of the compensation, as would be true of any affirmative use of the power of eminent domain. So long as the government restores the fair market value of the development rights lost, the demands of the Takings Clause will be met.

91. *Living Shorelines*, NOAA HABITAT CONSERVATION RESTORATION CTR., http://www.habitat.noaa.gov/restoration/techniques/livingshorelines.html (last visited Mar. 28, 2013). *See also Living Shoreline Planning and Implementation*, NOAA HABITAT CONSERVATION RESTORATION CTR., http://www.habitat.noaa.gov/restoration/techniques/lsimplementation.html (last visited Mar. 28, 2013).

92. *See, e.g.*, MANDELKER, *supra* note 84, at §§ 11.38, 12.16.

TABLE 2C ***SLR ADAPTATION TOOLS*** ***LEVEL 3, MODERATE TAKINGS RISK***
• Special assessments for beach nourishment and other soft-armoring in SLR zones (**PT**, **EX**) • Increased buffers and setbacks for landowners directly affected by SLR (**PT**, **PO**) • Prohibition of government-financed hard-engineered structures (armoring) in designated SLR zones (**PT**) • Massive public land acquisition in SLR areas and areas nearby financed by new taxes and bond issues followed by resale with restrictions to private owners (**ED**) • Land banking in upland areas for future private use (**ED**)
KEY: **PO**=Physical Occupation (*Loretto*), **ED**=Eminent Domain (*Kelo*), **PT**=Partial Taking (*Penn Central*), **EX**=Exaction (*Dolan*)

Some SLR-adaptation strategies pose a more significant, though still moderate, risk, as shown in Table 2C. No fewer than four out of the six varieties of takings (all but a *Lucas*-type total deprivation and a still-theoretical judicial taking) are applicable to one or more of the tools listed in this table. Nevertheless, if government regulators take special care to adhere to the letter and spirit of takings law, they should ultimately avoid negative court rulings.

The first three strategies—special assessments, increased buffers and setbacks, and prohibition of potentially harmful structures—all have regulatory pedigrees stretching back several decades. Judges have consistently rejected landowner claims that the out-of-pocket expenditures involved in special assessments are unfair or unduly burdensome under the Due Process and Equal Protection Clauses.[93] Indeed, near the close of the 2011-2012 Term, the Supreme Court majority in *Armour v. City of Indianapolis*[94] found a rational basis for the city's adoption of a new assessment and payment plan, despite the fact that landowners who had already made a lump sum payment under the prior plan did not receive a refund, while the city forgave any unpaid installments by other landowners who had opted to make partial payments.[95]

93. *See, e.g.*, Fire Dist. No. 1 v. Jenkins, 221 So. 2d 740, 742 (Fla. 1969) ("The basis of apportionment upon the property subject to special assessment in this case is without unjust discrimination among those specially assessed, nor are the assessments burdensome and oppressive in their operation upon the lands affected."); POWELL, *supra* note 32, at § 39.03.

94. 132 S. Ct. 2073 (2012).

95. *Id.* at 2078-90.

Property owners faced with initial or expanded setback and buffer requirements under zoning and other traditional land use regulations have also been frustrated in mounting legal challenges.[96] While it is undisputed that the inability to utilize the entire developable area of a parcel quite often reduces the speculative value of that parcel, in the spirit of *Euclid* and other early zoning cases, state and federal courts have consistently upheld reasonable bulk, area, and height restrictions as well within the state's police power.[97] Given the severe risks posed to coastal regions by SLR, there is every reason to believe that the police power justification will shield new and additional coastal buffers and setbacks as well. One caveat is in order at this point, however. Should government officials seek to couple these setbacks with permission to the public to use the land unavailable for private development, this could trigger a physical occupation takings challenge. There is Supreme Court precedent for the notion that depriving a private property owner of the "essential" right to exclude others (particularly the public) could trigger a successful takings challenge.[98]

Government regulators may opt to prohibit hard-engineered structures on- or offshore such as bulkheads, sea walls, groins, and dikes,[99] as a way of eliminating potential harms to the coastal environment and to neighboring properties and residents: "Armoring can increase flooding and erosion on neighboring property and destroy beaches and wetlands that provide natural flood protections and other ecological services. They also encourage development in vulnerable areas and can increase risks to people and property in the event of catastrophic failure."[100]

Modern building, fire, and electrical codes—creatures of the police power—contain ample examples of devices and improvements favored by landowners that are prohibited owing to serious

96. *See generally* MANDELKER, *supra* note 84, at § 5.71; POWELL, *supra* note 32, at § 79C.05[4][a].

97. *See generally* MANDELKER, *supra* note 84, at § 5.74; POWELL, *supra* note 32, at § 79C.05[2].

98. *See* Ruckelshaus v. Monsanto Co., 467 U.S. 986, 1011 (1984) ("With respect to a trade secret, the right to exclude others is central to the very definition of the property interest. Once the data that constitute a trade secret are disclosed to others, or others are allowed to use those data, the holder of the trade secret has lost his property interest in the data."); Kaiser Aetna v. United States, 444 U.S. 164, 179-80 (1979) (footnote omitted) ("In this case, we hold that the 'right to exclude,' so universally held to be a fundamental element of the property right, falls within this category of interests that the Government cannot take without compensation."). *But see* Andrus v. Allard, 444 U.S. 51, 65-66 (1979) ("But the denial of one traditional property right does not always amount to a taking. At least where an owner possesses a full 'bundle' of property rights, the destruction of one 'strand' of the bundle is not a taking, because the aggregate must be viewed in its entirety.").

99. ADAPTATION TOOL KIT, *supra* note 71, at 36.

100. *Id.* at 37 (footnote omitted).

negative externalities. Government-mandated, often-costly, drainage and stormwater improvements are ubiquitous in American cities and suburbs. Landowners who are prohibited from using one form of protection from SLR would almost certainly be unable to prove a total deprivation taking, which would mean their counsel would be consigned to the government-friendly partial taking framework in which judges could easily deem this SLR tool, like so many others, a "public program adjusting the benefits and burdens of economic life to promote the common good."[101]

The next two tools possibly, though not necessarily, involve moderate takings risks of the eminent domain variety. First, government agencies could orchestrate the purchase of undeveloped coastal properties that are currently in private hands and then resell those parcels to other private owners subject to severe restrictions (setbacks, use and development controls, agreements not to rebuild after coastal storms, and the like). If these potentially massive purchases are funded by new taxes, bond issues, or other traditional forms of public revenue-raising, they should be free from takings problems. Should government officials instead choose to employ the power of eminent domain to achieve the same goal, changes in some states' constitutional and statutory takings rules adopted after the Supreme Court's controversial decision in *Kelo v. City of New London*[102] may pose a problem. After the furor over *Kelo*,[103] many states clarified that it would be inappropriate and illegal to use eminent domain solely for economic development or revenue-enhancing purposes.[104] Therefore, officials in those states who plan to use eminent domain to effect this strategy must clarify that the properties are being taken and resold to further environmental protection purposes, not as a money-making scheme. Some states have added additional procedural and substantive hurdles to the taking of land from one private owner

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101. Penn Cent. Transp. Co. v. City of New York, 438 U.S. 104, 124 (1978).

102. 545 U.S. 469 (2005).

103. *See, e.g.*, Wolf, *supra* note 31.

104. *See, e.g.*, KY. REV. STAT. ANN. § 416.675(3) (West 2012):

> No provision in the law of the Commonwealth shall be construed to authorize the condemnation of private property for transfer to a private owner for the purpose of economic development that benefits the general public only indirectly, such as by increasing the tax base, tax revenues, or employment, or by promoting the general economic health of the community.

See also NEB. REV. STAT. § 76-710.04(1)-(2) (2012):

> A condemner may not take property through the use of eminent domain under sections 76-704 to 76-724 if the taking is primarily for an economic development purpose. . . . For purposes of this section, economic development purpose means taking property for subsequent use by a commercial for-profit enterprise or to increase tax revenue, tax base, employment, or general economic conditions.

For a chronological review of post-*Kelo* changes, with details from each state, see POWELL, *supra* note 32, at § 79F.03[3][b][iv].

followed by the transfer to another. In Florida, for example, voters in 2006 approved a constitutional amendment specifying that "[p]rivate property taken by eminent domain . . . may not be conveyed to a natural person or private entity except as provided by general law passed by a three-fifths vote of the membership of each house of the Legislature."[105] This would not be the first nor the last time that politicians, eager to please constituents who were stirred up by alarmist accounts of judicial developments, implemented short-sighted changes that will result in long-range problems.

As with the purchase and resale of undeveloped coastal properties, the next strategy—creating a land bank[106] in upland areas for future use by private owners displaced by SLR—would require very large expenditures during a period of fiscal austerity on the state and local levels. Unfortunately, the depressed real estate market, greatly influenced by extremely high foreclosure rates, makes it an opportune time for governments to buy low today in order to sell high later. If state and local officials can overcome the admittedly significant financial obstacles, the post-*Kelo* eminent domain law changes discussed in the previous paragraph would again pose a moderate threat to this scheme. Indeed, should those officials choose to take rather than purchase title to the upland tracts, another feature of the new breed of eminent domain law would come into effect: a "use it or lose it" requirement that government use the condemned lands for a public purpose, and if not offer the properties to the previous owners at the condemnation price.[107] Even if government officials can find ways to comply with the letter of these new takings statutes and constitutional provisions, the message lawmakers and voters conveyed after *Kelo* was strong displeasure with the notion of the state's taking from Peter and selling to Paul (or Mary). This is reason enough for public officials to think purchase first and eminent domain only as a last resort.

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105. FLA. CONST. art. X, § 6(c).

106. For a good working definition suitable for today's economic realities, see FRANK S. ALEXANDER, CTR. FOR CMTY PROGRESS, LAND BANKS AND LAND BANKING 10 (2011), *available at* http://www.communityprogress.net/filebin/pdf/new_resrcs/LB_Book_2011_F.pdf:

> Land banks are governmental entities that specialize in the conversion of vacant, abandoned and foreclosed properties into productive use. The primary thrust of all land banks and land banking initiatives is to acquire and maintain properties that have been rejected by the open market and left as growing liabilities for neighborhoods and communities. The first task is the acquisition of title to such properties; the second task is the elimination of the liabilities; the third task is the transfer of the properties to new owners in a manner most supportive of local needs and priorities.

107. *See, e.g.*, TEX. CONST. art. III, § 52j; CONN. GEN. STAT. § 8-193(c) (2012).

TABLE 2D ***SLR ADAPTATION TOOLS*** ***LEVEL 4, SERIOUS TAKINGS RISK***
• Development exactions of conservation easements or of fee title interests, and imposition of coastal impact fees on all permitted development in the SLR (**EX**) • Prohibition of new, permanent structures in designated SLR zones, declaring them to be public nuisances (**PT**, **TD**) • Ban on hard- and soft-armoring financed by owners of developed parcels (**PT**, **TD**) • New judicial decisions that impose rolling easement ambulatory boundaries and expand public property interests in the coastal zone (**PT**, **PO**, **JT**) *KEY*: **PO**=Physical Occupation (*Loretto*), **TD**=Total Deprivation (*Lucas*), **PT**=Partial Taking (*Penn Central*), **EX**=Exaction (*Dolan*), **JT**=Judicial Taking (STBR)

The four tools listed in Table 2D pose serious takings risks of one variety or another; therefore, government officials opting for these strategies should proceed with caution and with the understanding that they run the risk of violating both the letter and spirit of the Takings Clause. We can be certain that if government officials make the acquisition of fee title or other property interests a condition for permitting development, the *Nollan-Dolan* requirements will be applicable to this textbook exactions takings case, while the status of non-real-property exactions (including impact fees) is in a state of flux in the wake of the Supreme Court's June, 2013, decision in *Koontz v. St. Johns River Water Mgmt. Dist.*[108] Similarly, should public officials opt for the second tool in Table 2D—banning any new, permanent structures in protected coastal zones—we can be pretty sure that affected landowners will cry "*Lucas*!," especially since this was the very tool that the Supreme Court deemed a *per se* taking.[109]

There is not the same kind of crystal clear, all-fours precedent for the third and fourth tools listed in Table 2D: government prohibitions on the use of private funds by landowners to provide hard- and soft-armoring and new judicial decisions that redefine and impose new ambulatory boundaries or that expand public ownership in the coastal zone at the expense of private land-

108. No. 11-1447 (June 25, 2013).

109. *See* Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1007 (1992) ("In 1988, however, the South Carolina Legislature enacted the Beachfront Management Act, which had the direct effect of barring petitioner from erecting any permanent habitable structures on his [Lucas's] two parcels.").

owners. Nevertheless, it is not difficult to anticipate that judges sympathetic to the plights of affected private owners would be tempted to invoke one or more takings theories to redress this perceived public wrong.

V. A ROADMAP FOR DEFENDING THE DEPLOYMENT OF HIGH-RISK ADAPTATION TOOLS

Before throwing in the towel on the effort to defend the four tools with takings implications that reach the serious level, we need to recall that, contrary to the wishes of Richard Epstein and the private property rights movement he inspired,[110] not all public regulations negatively affecting property values and rights amount to takings. With apologies to William Thackeray and others,[111] there is many a slip between the onerous regulation cup and the unconstitutional takings lip. Table 3 provides a roadmap that governments can follow in their efforts to avoid negative takings rulings for those tools most at risk. Once again, it is important to emphasize that the measures recommended here are offered not as legal technicalities that will provide a safe haven for bad regulatory behavior, but rather as guideposts designed to achieve the delicate balance between private rights and public protection that is embodied in the *Armstrong* principle.

110. *See, e.g.*, RICHARD A. EPSTEIN, TAKINGS: PRIVATE PROPERTY AND THE POWER OF EMINENT DOMAIN (1985). *See also* Douglas T. Kendall & Charles P. Lord, *The Takings Project: A Critical Analysis and Assessment of the Progress So Far*, 25 B.C. ENVTL. AFF. L. REV. 509, 526 (1998) ("Epstein's call has also inspired the constitutional litigation strategy of the current property rights movement, which increasingly has turned its attention to the federal judiciary as the means by which it will accomplish its agenda."). For challenges to the historical underpinnings of Professor Epstein's more recent scholarship, see William Michael Treanor, *Supreme Neglect of Text and History*, 107 MICH. L. REV. 1059 (2009) (reviewing RICHARD A. EPSTEIN, SUPREME NEGLECT: HOW TO REVIVE CONSTITUTIONAL PROTECTION FOR PRIVATE PROPERTY (2008)); Michael Allan Wolf, *Looking Backward: Richard Epstein Ponders the "Progressive" Peril*, 105 MICH. L. REV. 1233 (2007) (reviewing RICHARD A. EPSTEIN, HOW PROGESSIVES REWROTE THE CONSTITUTION (2006)).

111. *See, e.g.*, WILLIAM MAKEPEACE THACKERAY, II THE HISTORY OF PENDENNIS 745 (1858) (" 'There's many a slip between the cup and the lip! Who knows what may happen.' ").

TABLE 3
SLR ADAPTATION TOOLS
ADDRESSING SERIOUS TAKINGS RISKS

- Development exactions of conservation easements or of fee title interests, and imposition of coastal impact fees on all permitted development in the SLR (**EX**)
  Articulating essential nexus + rough proportionality
- Prohibition of new, permanent structures in designated SLR zones, declaring them to be public nuisances (**PT**, **TD**)
  Identifying allowable uses or identifying background principles attributes of new regulation
- Ban on hard- and soft-armoring financed by owners of developed parcels (**PT**, **TD**)
  Clarifying that the Fifth Amendment applies to government takings not to takings by the forces of nature; identifying allowable uses or establishing background principles attributes of new regulation
- New judicial decisions that impose rolling easement ambulatory boundaries or that expand public property interests in the coastal zone (**PT**,**PO**, **JT**)
  Marshaling relevant precedent(s)

KEY:
PO=Physical Occupation (*Loretto*), **TD**=Total Deprivation (*Lucas*),
PT=Partial Taking (*Penn Central*), **EX**=Exaction (*Dolan*),
JT=Judicial Taking (STBR)

States and local governments have long possessed the power to place limits on development, in the coastal zone or any other location. When property owners seek to avoid those limits by, for example, securing a zoning amendment or variance, public officials can respond with a "yes," a "no," or a "yes, but" (otherwise known as conditional permitting). Government officials who exact from private landowners seeking development permission the donation of conservation easements either to the public or to a land trust need to be prepared to pass the *Nollan* (essential nexus) and *Dolan* (rough proportionality) tests. To satisfy the first, they will merely have to demonstrate that the purpose of the exaction condition (such as the protection of the fragile and shifting coastal environment) matches what would be the justification for an outright prohibition of the proposed development. To meet the second, slightly more demanding, test, they will have to show that the nature and extent of the real property interest being exacted is roughly proportional to the impact that the proposed development would have on the coastal environment. Conservation easements that place limits on developable area, height, nature and intensity of use, non-permeable surfaces created, proximity to

the mean high water mark or shoreline vegetation, and the like are much less problematic than the public access easements that troubled the Court in *Dolan*. Still, government regulators must be careful to calibrate each individual exaction so that a skeptical judge does not conclude that the public would reap an undeserved windfall at the landowner's expense.

Before the *Koontz* decision, the imposition of coastal impact fees for all permitted development located in the SLR would have been situated comfortably at the moderate risk level. However, if state and lower federal courts ambitiously apply the Supreme Court's ruling such fees could prove problematic for coastal regulators.

States and localities throughout the nation have for decades imposed impact fees on developers of residential and commercial property in order to offset the costs of additional and enhanced public amenities such as roads, schools, water and sewer systems, and recreational facilities attributable to new development.[112] Several courts have refused to wield the Takings Clause in order to invalidate these programs, despite what can be significant impacts on property owners and developers.[113]

Although the Supreme Court had indicated in repeated dicta that the *Nollan-Dolan* tests would apply only to exactions of real property interests such as fees or easements rather than money or other forms of personal property,[114] and while several (though not all) state and lower federal courts ruled in a similar fashion when considering the question directly,[115] the *Koontz* Court shifted

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112. *See, e.g.*, MANDELKER, *supra* note 84, at §§ 9.20-9.22; POWELL, *supra* note 32, at § 79D.04[4].

113. *See, e.g.*, St. Clair Cnty. Home Builders Ass'n v. City of Pell City, 61 So. 3d 992 (Ala. 2010); Home Builders Ass'n of Dayton v. City of Beavercreek, 729 N.E.2d 349 (Ohio 2000); McCarthy v. City of Leawood, 894 P.2d 836, 845 (Kan. 1995).

114. *See* Lingle v. Chevron U.S.A. Inc., 544 U.S. 528, 547 (2005) ("*Nollan* and *Dolan* both involved dedications of property so onerous that, outside the exactions context, they would be deemed *per se* physical takings."); City of Monterey v. Del Monte Dunes at Monterey, Ltd., 526 U.S. 687, 702 (1999) ("[W]e have not extended the rough-proportionality test of Dolan beyond the special context of exactions—land-use decisions conditioning approval of development on the dedication of property to public use.").

115. *See, e.g.*, St. Johns River Water Mgmt. Dist. v. Koontz, 77 So. 3d 1220, 1229-30 (Fla. 2011), *rev'd*, 2013 U.S. LEXIS 4918):

> One line of cases holds that the *Nollan/Dolan* standard applies solely to exactions cases involving land-use dedications. *See, e.g., McClung v. City of Sumner*, 548 F.3d 1219, 1228 (9th Cir. 2008) (distinguishing monetary conditions from conditions on the land); *Clajon Prod. Corp. v. Petera*, 70 F.3d 1566, 1578 (10th Cir. 1995); *Sea Cabins on the Ocean IV Homeowners Ass'n v. City of N. Myrtle Beach*, 345 S.C. 418, 548 S.E.2d 595, 603 n.5 (2001) (holding that *Del Monte Dunes* clarified that *Nollan* and *Dolan* only apply to physical conditions imposed upon land).
>
> The other line of cases holds that the *Nollan/Dolan* test extends beyond the context of the imposition of real property conditions on real property. For example, the California Supreme Court has held that non-real property conditions can constitute a taking where the condition is imposed on a discretionary, individualized

course. Writing for a five-member majority, Justice Anthony Kennedy explained that "so-called 'monetary exactions' must satisfy the nexus and rough proportionality requirements of *Nollan* and *Dolan,*"[116] thereby overruling the Supreme Court of Florida, which had concluded that the "doctrine of exactions" does not apply "to an alleged exaction that does not involve the dedication of an interest in or over real property" and to a situation in which "an exaction does not occur and no permit is issued by the regulatory entity."[117]

The ultimate impact of *Koontz* on impact fees and exactions of money will depend on the willingness of government regulators to risk judicial challenges by continuing to employ these tools and on the outcomes of subsequent judicial decisions. Even though state and local government officials can find some solace in Justice Kennedy's assurance that the Court's ruling "does not affect the ability of governments to impose property taxes, user fees, and similar laws and regulations that may impose financial burdens on property owners,"[118] not all fees will receive the same judicial indulgence:

> Because the government need only provide a permit applicant with one alternative that satisfies the nexus and rough proportionality standards, a permitting authority wishing to exact an easement could simply give the owner a choice of either surrendering an easement or making a payment equal to the easement's value. Such so-called "in lieu of" fees are utterly commonplace, and they are functionally equivalent to other types of land use exactions.[119]

Justice Elena Kagan, writing for the four dissenters, painted an even bleaker picture:

> The majority turns a broad array of local land-use regulations into federal constitutional questions. It deprives state and local governments of the flexibility they need to enhance their communities—to ensure environmentally sound

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basis. *See Ehrlich v. City of Culver City*, 12 Cal. 4th 854, 50 Cal. Rptr. 2d 242, 911 P.2d 429, 444 (1996). However, in *Town of Flower Mound v. Stafford Estates Ltd. Partnership*, 135 S.W.3d 620, 640-41 (Tex. 2004), the Texas Supreme Court expanded application of the test further, holding that *Nollan* and *Dolan* can apply to certain non-real property conditions that arise from generally applicable regulations.

116. *Koontz*, No. 11-1447, slip op. at 15.

117. *Koontz*, 77 So. 3d, at 1222.

118. *Koontz*, No. 11-1447, slip op. at 18.

119. *Id*. at 15 (citing Ronald H. Rosenberg, *The Changing Culture of American Land Use Regulation: Paying for Growth with Impact Fees*, 59 SMU L. REV. 177, 202-203 (2006)).

> and economically productive development. It places courts smack in the middle of the most everyday local government activity.[120]

Until we have more judicial gloss on the *Koontz* ruling, government officials who choose to exact coastal impact fees should play it safe and make sure that they can satisfy the *Nollan* essential nexus and the *Dolan* rough proportionality requirements.[121]

Even a total prohibition of permanent structures could survive judicial scrutiny, despite the result in *Lucas* after remand to the state court.[122] First, drawing inspiration from the justices not part of the *Lucas* majority who expressed doubts concerning the finding that a total deprivation had in fact occurred,[123] government counsel could demonstrate that more than token value remained on the targeted parcels even after the challenged regulation went into place. Much like what happened in the *First English* case on remand, in which the California Court of Appeal found that the floodplain ordinance did not deprive the owner of

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120. *Id*. at 18 (Kagan, J., dissenting).

121. The *Koontz* Court also ruled that "[t]he principles that undergird our decisions in *Nollan* and *Dolan* do not change depending on whether the government *approves* a permit on the condition that the applicant turn over property or *denies* a permit because the applicant refuses to do so." *Id.* at 8. *See also* Mark Fenster, *Failed Exactions*, 36 VT. L. REV. 623, 644 (2012) (footnotes omitted):

> Wary government agencies might simply deny permits and face lower scrutiny under the *Penn Central* test rather than discuss mitigation measures as conditions for approval and face heightened scrutiny under *Nollan* and *Dolan*. By inhibiting a government agency's willingness to bargain without inhibiting its authority to deny a property owner's application to develop, applying *Nollan* and *Dolan* to failed exactions would eliminate a valuable right from property owners—or at least an important opportunity to reach a preferred end—while simultaneously removing a key regulatory tool and process for government agencies. This represents the worst possible result: government agencies cannot negotiate adequate, workable mitigation measures with property owners; property owners are more likely to be denied discretionary approvals from wary government agencies; and the entire regulatory process becomes more rigid and mechanical, resulting in a larger proportion of denials and fewer negotiated solutions to pressing environmental and planning conflicts.

122. *See* Lucas v. S.C. Coastal Council, 424 S.E.2d 484, 486 (S.C. 1992) ("Coastal Council has not persuaded us that any common law basis exists by which it could restrain Lucas's desired use of his land; nor has our research uncovered any such common law principle.").

123. *See Lucas*, 505 U.S. at 1043-44 (Blackmun, J., dissenting) (footnote omitted) ("The Court creates its new takings jurisprudence based on the trial court's finding that the property had lost all economic value. This finding is almost certainly erroneous."); *id*. at 1062 (Stevens, J., dissenting) ("[O]n the present record it is entirely possible that petitioner has suffered no injury in fact even if the state statute was unconstitutional when he filed this lawsuit."); *id*. at 1076 (statement of Souter, J.) (citations omitted) ("The petition for review was granted on the assumption that the State by regulation had deprived the owner of his entire economic interest in the subject property. . . . It is apparent now that in light of our prior cases, the trial court's conclusion is highly questionable.").

all use (as was alleged in its complaint),[124] government counsel faced with a total deprivation claim need to take the time and effort to explain that valuable uses remain after building prohibitions are put in place in an SLR zone. Once facts are marshaled that demonstrate that a partial taking has occurred, the governing precedent will shift to the much more public-sector-friendly *Penn Central*.

Should government counsel be unable to find any meaningful use or value once the prohibition goes into effect, there is still a chance, though quite slight, that the total deprivation claim will fail. The government will have to demonstrate to the satisfaction of the court that, under background principles of state public nuisance law, the construction of permanent structures in a fragile and ever-shifting shoreline (such as a barrier island that has been devastated repeatedly by tropical storms and hurricanes) would pose serious harms to the public at large (and not just to one or two neighboring properties). The fact that the framers of the Constitution and the Fifth Amendment were unaware of environmental hazards such as fecal coliforms or may have lived in a pre-SLR era will not prove fatal to the government's case, for, as Justice Scalia conceded in the *Lucas* opinion itself, "The fact that a particular use has long been engaged in by similarly situated owners ordinarily imports a lack of any common-law prohibition (though *changed circumstances or new knowledge* may make what was previously permissible no longer so[)]."[125] Nevertheless, winning this argument will be difficult, as it should be if the landowner's use and value are truly reduced to zero or to a very negligible amount.

The takings analysis for the next tool—prohibiting landowners from paying for and using hard- and soft-armoring in order to salvage dry, developable land—might at first glance appear to

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124. *See* First English Evangelical Lutheran Church v. County of L.A., 258 Cal. Rptr. 893, 902 (Cal. Ct. App. 1989):

> True, the complaint *alleges* interim ordinance No. 11,855 denies First English "all use" of Lutherglen. But as will be seen shortly, the ordinance *does not* deny First English "all use" of this property. It does not even prevent occupancy and use of any structures which may have survived the flood. It only prohibits the reconstruction of structures which were demolished or damaged by the raging waters and the construction of new structures. In no sense does it prohibit uses of this campground property which can be carried out without the reconstruction of demolished buildings or the erection of new ones. First English's complaint stated solely a facial challenge to the interim ordinance and *as far as this ordinance itself was concerned*, many camping activities could continue on this property. Meals could be cooked, games played, lessons given, tents pitched.

125. *Lucas*, 505 U.S. at 1031 (emphasis added). Background principles are not limited to public or private nuisance, of course. Some courts have placed public trust in that category. *See, e.g.*, Esplanade Props., LLC v. City of Seattle, 307 F.3d 978 (9th Cir. 2002); McQueen v. S.C. Coastal Council, 580 S.E.2d 116 (S.C. 2003).

be identical to that used for partial (*Penn Central*) or total (*Lucas*) deprivations occasioned by the prohibition of permanent structures. There are, however, three key differences. First, a property owner who can demonstrate that without bulkheads, seawalls, revetments, dikes, beach nourishment or other means his or her land will be lost, and that he or she is prepared to pick up what could be a very substantial bill to prevent that (perhaps) total loss, will still have to demonstrate that government is the cause of the Fifth Amendment taking. It is important to recall that the *Armstrong* principle speaks about "[*g*]*overnment*," not rising seas or coastal storms, "forcing some people to bear *public* burdens."[126] Even Justice Scalia and his colleagues in the *Stop the Beach Renourishment* plurality, who highlighted the passive voice used in the Takings Clause,[127] speak of "the branch *of government* effecting the expropriation."[128]

The second difference is that landowners in this situation, unlike with a *Lucas*-like building prohibition, would be resting their cases on the violation of some kind of "fundamental right to maintain structures despite the effects of the forces of nature," which is a stick not found in any of the familiar bundles of property rights.[129] Indeed, the existence of government restrictions on rebuilding after structures are significantly damaged by natural hazards such as coastal flooding and extremely high winds,[130] common-law rules for attaching liability for diffused surface water,[131] and state and local requirements concerning the composition of building and foundational materials indicate strongly that placing even significant burdens on any such proffered right would

126. Armstrong v. United States, 364 U.S. 40, 49 (1960) (emphasis added).

127. STBR v. Fla. Dep't of Envtl. Prot., 130 S. Ct. 2592, 2601 (2010).

128. *Id*. (emphasis added).

129. For a copious compendium of the rights contained in the mythical bundle, see Craig Anthony (Tony) Arnold, *The Reconstruction of Property: Property as a Web of Interests*, 26 HARV. ENVTL. L. REV. 281, 285 n.20 (2002):

> *See* [JESSE DUKEMENIER & JAMES KRIER, PROPERTY (3d ed. 1993)], at 86 (the rights to possess, use, exclude, and transfer); [EDWARD H. RABIN ET AL., FUNDAMENTALS OF MODERN PROPERTY LAW (4th ed. 2000)], at 1 (the rights to exclude, possess or occupy, dispose of or alienate, manage, and receive income); [JOHN G. SPRANKLING, UNDERSTANDING PROPERTY LAW (2000)], at 5-6 (the rights to exclude, transfer, possess, and use); Richard A. Epstein, *Property and Necessity*, 13 HARV. J.L. & PUB. POL'Y 2, 3 (1990) (the rights to possess, use, and dispose of); A. M. Honoré, *Ownership*, *in* OXFORD ESSAYS ON JURISPRUDENCE 107, 113-24 (A. G. Guest ed., 1961) (the rights to possess, use, manage, receive income and capital, and maintain security; the incidents of transmissibility and absence of term; the prohibition of harmful use; and the liability to execution); Roscoe Pound, *The Law of Property and Recent Juristic Thought*, 25 ABA J. 993, 997 (1939) (the rights to possess, exclude, dispose of, use, enjoy the fruits and profits, and destroy or injure).

130. *See, e.g.*, Palazzola v. City of Gulfport, 52 So. 2d 611 (Miss. 1951). *See also* MANDELKER, *supra* note 84, at § 5.80.

131. *See, e.g.*, POWELL, *supra* note 32, at § 65.12[2].

be much less likely to result in a favorable takings ruling than cases involving the much more recognizable and respected (though certainly not absolute) rights to exclude and alienate.

The third way in which a takings challenge to the prohibition of armoring to protect existing structures is weaker than a ban on new, permanent structures is that, even if the court should somehow find that that the government is the cause of a total deprivation, the public and private nuisance exceptions claims will be easier for government counsel to mount. The negative environmental externalities attributable to seawalls, bulkheads, revetments, dikes, and the like are serious and diverse, not just to adjoining properties but to the coastal ecology as a whole. These serious impacts include exacerbated erosion, prevention of landward migration of wetlands, prevention of submerged aquatic vegetation, and trapped marine life.[132] Beach nourishment, too, is far from benign, despite its obvious aesthetic benefits:

> Beach nourishment affects the environment of both the beach being filled and the nearby seafloor "borrow areas" that are dredged to provide the sand. Adding large quantities of sand to a beach is potentially disruptive to turtles and birds that nest on dunes and to the burrowing species that inhabit the beach, though less disruptive in the long term than replacing the beach and dunes with a hard structure. The impact on the borrow areas is a greater concern: the highest quality sand for nourishment is often contained in a variety of shoals which are essential habitat for shellfish and related organisms. . . . As technology improves to recover smaller, thinner deposits of sand offshore, a greater area of ocean floor must be disrupted to provide a given volume of sand. Moreover, as sea level rises, the required volume is likely to increase, further expanding the disruption to the ocean floor.[133]

Armed with these facts, government counsel should be prepared to identify and defend the nuisance-preventing attributes of regulations banning armoring to protect one or a few improved coastal parcels.

The final tool in Table 2D is a state court decision that imposes ambulatory boundaries on parcels in coastal regions that have been ravaged by increasingly violent storms and subject to the

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132. *See, e.g.*, JAMES G. TITUS ET AL., U.S. CLIMATE CHANGE SCI. PROGRAM, COASTAL SENSITIVITY TO SEA-LEVEL RISE: *A FOCUS ON THE MID-ATLANTIC REGION* 99 (2009).

133. *Id.* at 98, 100 (citations omitted).

erosive effects of rising seas. While "rolling easement" is fast becoming an essential term in the SLR-adaptation lexicon, it is important to note that the phrase, according to one authoritative source, encompasses

> a broad collection of legal options, many of which do not involve easements. Usually, a rolling easement is either (a) a regulation that prohibits shore protection or (b) a property right to ensure that wetlands, beaches, barrier islands, or access along the shore moves [sic] inland with the natural retreat of the shore. Although the regulatory approach is the more common way to prevent shore protection, the non-regulatory approach may sometimes work better. Private land trusts, government agencies, and (for some approaches) even private citizens can buy (or secure donations of) rolling easements from property owners.[134]

On the one hand, the voluntary donation of fee title or servitudes such as easements by private owners to public agencies or land trusts involves no takings risks at all. On the other hand, exactions of these types of property interests by government officials in exchange for development permission would involve a serious takings risk, as discussed previously.[135]

The most problematic form of rolling easement, at least from the takings perspective, would be a judicial decision recognizing or establishing ambulatory boundaries at the expense of private coastal landowners, not just by the traditional, gradual process known as erosion,[136] but, more controversially, in circumstances involving sudden, avulsive events such as tropical storms and hurricanes.[137] Should a state high court allow a public beachfront

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134. TITUS, *supra* note 72, at 6. *See also id*. at 5-6:

> [A] rolling easement is a legally enforceable expectation that the shore or human access along the shore can migrate inland instead of being squeezed between an advancing sea and a fixed property line or physical structure. The "rolling easement holder" could be the government agency whose regulations prohibit shore protection, or the person, land trust, or government agency who obtains the property rights embodied in a rolling easement.

135. *See supra* notes 114-121 and accompanying text.

136. *See, e.g.*, POWELL, *supra* note 33, at § 66.01 ("The term 'erosion' denotes the process by which land is gradually covered by water.").

137. *See, e.g.*, STBR v. Fla. Dep't of Envtl. Prot., 130 S. Ct. 2592, 2598-99 (2010) (emphasis added) (citations omitted):

> When . . . there is a "sudden or perceptible loss of or addition to land by the action of the water or a sudden change in the bed of a lake or the course of a stream," the change is called an avulsion.
>
> In Florida, as at common law, the littoral owner automatically takes title to dry land added to his property by accretion; but formerly submerged land that has become dry land by avulsion continues to belong to the owner of the seabed (usually the State). Thus, regardless of whether an avulsive event exposes land previ-

easement to "roll" landward, in some cases even beyond the location of private buildings and other improvements, the private landowner would almost certainly bring a takings challenge based on the public's physical occupation of the land.[138] Even a partial takings claim would seem promising, in light of the fact that the public would gain access to the parcel.[139] However, the controversial concept that judicial branch activity is covered by the Takings Clause is still one vote shy of a Supreme Court majority. Should that fifth vote materialize in a future high court case, there are strategies that government counsel could pursue that might bring success.

Initially, it is important to focus carefully on Justice Scalia's formulation for the *Stop the Beach Renourishment* plurality: "If a legislature *or a court* declares that what was once an established right of private property no longer exists, it has taken that property, no less than if the State had physically appropriated it or destroyed its value by regulation."[140] The plaintiff would have the heavy burden of demonstrating that all three elements were present: (1) an established property right, (2) the elimination of

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ously submerged *or submerges land previously exposed, the boundary between littoral property and sovereign land does not change*; it remains (ordinarily) what was the mean high-water line before the event.

138. *See, e.g.*, Severance v. Patterson, 566 F.3d 490, 492-93 (5th Cir. 2009), *certified questions answered in* 370 S.W.3d 705 (Tex. 2012):

> Severance contends that because the beach boundary of her property migrated landward after Hurricane Rita, taking in land not previously encumbered by a public access easement, the enforcement of the easement on her beachfront properties constitutes a seizure in violation of the Fourth Amendment and a taking without just compensation in violation of the Fifth Amendment. The district court dismissed the action, ruling that Severance failed to state a claim for relief because Texas law recognizes a "rolling" beachfront easement; this type of easement predated Severance's purchase of her beachfront properties; the State may enforce the easement as natural changes occur in its location; and no constitutional violation results from an uncompensated change in the easement's location on Severance's property.

The Supreme Court of Texas provided this clarification of state law in support of private landowners' claims:

> We hold that Texas does not recognize a "rolling" easement. Easements for public use of private dry beach property change size and shape along with the gradual and imperceptible erosion or accretion in the coastal landscape. But, avulsive events such as storms and hurricanes that drastically alter pre-existing littoral boundaries do not have the effect of allowing a public use easement to migrate onto previously unencumbered property. This holding shall not be applied to use the avulsion doctrine to upset the long-standing boundary between public and private ownership at the mean high tide line. The division between public and private ownership remains at the mean high tide line in the wake of naturally occurring changes, and even when boundaries seem to change suddenly.

Severance, 370 U.S. at 724-25 (footnote omitted).

139. *See* Penn Cent. Transp. Co. v. City of New York, 438 U.S. 104, 124 (1978) ("A 'taking' may more readily be found when the interference with property can be characterized as a physical invasion by government. . . .").

140. STBR, 130 S. Ct. at 2602.

that right by a court, and (3) the equivalence of that elimination with physical appropriation or destruction of value.

Regarding the first two elements, the plurality opinion conceded that a judicial "decision that clarifies property entitlements (or the lack thereof) that were previously unclear might be difficult to predict, but it *does not eliminate established property rights*."[141] Therefore, if the state of the law concerning littoral rights, public trust, accretion, reliction, erosion, avulsion, public access easements, and related matters should be in any substantial way unsettled, as it frequently is in coastal states,[142] the court would be clarifying, not taking. Government counsel should therefore marshal relevant precedents to demonstrate that the law, much like the coastal ecology itself, is in flux.

The existence of state precedent is what proved fatal to the plaintiff landowners' claims in *Stop the Beach Renourishment* itself, for as Justice Scalia noted in the opinion for the Court:

> Under petitioner's theory, because no prior Florida decision had said that the State's filling of submerged tidal lands could have the effect of depriving a littoral owner of contact with the water and denying him future accretions, the Florida Supreme Court's judgment in the present case abolished those two easements to which littoral property owners had been entitled. This puts the burden on the wrong party.

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141. *Id.* at 2610 (emphasis added).

142. *See, e.g.*, Feinman v. State, 717 S.W.2d 106, 111 (Tex. App.1986) ("[W]e conclude that the vegetation line is not stationary and that a rolling easement is implicit in the [Texas Open Beaches] Act."), *criticized in Severance*, 370 S.W.3d at 728 n.23 (citation omitted) ("*Feinman* does not consider the legal implications of the difference between avulsive and gradual changes to the coast, concluding the distinction to be immaterial to its decision because it apparently viewed the distinction not relevant to the question of an easement, only title to property. We disagree with the latter conclusion.").

See also Michael C. Blumm, *The Public Trust Doctrine and Private Property: The Accommodation Principle*, 27 PACE ENVTL. L. REV. 649, 665 (2010) ("The frontiers of the public trust doctrine no doubt lie in such upland resources with great public value. This amphibious evolution is only a continuation of the doctrine's historical advance from tidal to inland navigable waters."); Gregory S. Alexander, *The Social-Obligation Norm in American Property Law*, 94 CORNELL L. REV. 745, 802 (2009) (footnotes omitted):

> Historically, public access to beaches was quite limited. Basically, the public was permitted to access only the land between the mean high and low tide lines, i.e., wet-sand areas. The purposes for which the public was permitted to access this land were also limited—only fishing. In recent years some courts have added recreation as one of the purposes for which the public is entitled to use the wet-sand portion of a beach. The more striking expansion of beach access via the public trust doctrine, custom, and other doctrinal headings, however, has been the extension to privately-owned dry-sand portions of the beach. The New Jersey Supreme Court has taken the lead in this expansion of public beach access via the public trust doctrine. In *Matthews v. Bay Head Improvement Ass'n*, [471 A.2d 355 (N.J. 1984),] the court held a private nonprofit entity which owned or leased most of the beachfront lots in Bay Head did not have an unlimited right to exclude members of the public from the dry-sand portion of its beach.

> There is no taking unless petitioner can show that, before the Florida Supreme Court's decision, littoral-property owners had rights to future accretions and contact with the water superior to the State's right to fill in its submerged land. Though some may think the question close, in our view the showing cannot be made.[143]

Moreover, the eight participating justices did not feel bound to rely only on those precedents cited by the Supreme Court of Florida when they dismissed the petitioner's claims. The state high court decision

> did not abolish the Members' right to future accretions, but merely held that the right was not implicated by the beach-restoration project, because the doctrine of avulsion applied. The Florida Supreme Court's opinion describes beach restoration as the reclamation by the State of the public's land, just as *Martin* [*v. Busch*, 93 Fla. 535, 112 So. 274 (1927)] had described the lake drainage in that case. Although the opinion does not cite *Martin* and is not always clear on this point, it suffices that its characterization of the littoral right to accretion is consistent with *Martin* and the other relevant principles of Florida law we have discussed.[144]

The confusing state of the common law provides an important advantage for attorneys fending off a judicial takings claim.

In the unlikely event that the state high court has acted contrary to established precedent in a blatant attempt to make public what was once clearly private, the plaintiff would still need to prove the third element—that the court's decision occasioned the functional equivalence of a physical appropriation or total deprivation taking. Yet, the facts on the ground (or, rather, under the water) belie the assertion that the government, and not the forces of nature, is the primary or major cause of any physical appropriation in a rolling-easement avulsion situation. In addition, unless the Court should employ conceptual severance to segregate the public access easement from the parcel as a whole,[145]

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143. *STBR*, 130 S. Ct., at 2610-11.

144. *Id.* at 2612 (citation omitted).

145. *See, e.g.*, Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Planning Agency, 535 U.S. 302, 331 (2002) (citation omitted):

> Petitioners seek to bring this case under the rule announced in *Lucas* by arguing that we can effectively sever a 32-month segment from the remainder of each landowner's fee simple estate, and then ask whether that segment has been taken in its entirety by the moratoria. Of course, defining the property interest taken in terms of the very regulation being challenged is circular. With property so divided,

which would itself be a departure from precedent,[146] the odds of a total deprivation, as noted previously,[147] would run in the highly unpromising slim-to-none range.

VI. ARMSTRONGING, NOT LEGAL STRONG-ARMING

There are good reasons why the Takings Clause should not determine the validity of rolling easements specifically and SLR adaptation generally. Returning to the text and sentiments of *Armstrong*, we are instructed that the Clause's dozen words were "designed to bar Government from forcing" the few to bear "public burdens."[148] They are not a surefire warranty of landowner protection against all hazards. Neither should they serve as a threat to responsible citizens and their public servants who, relying on the best science available, are finally taking steps to adjust to the new reality of mega-storms, melting glaciers, increased greenhouse gas emissions, and warming oceans.

As many of the victims of Hurricane Sandy have recently learned, along with the aesthetic, recreational, and economic benefits of living close to the sea come heightened risks of destruction to persons and property. For those who are un- or underinsured, or for those for whom government assistance proves inadequate, there are no convenient defendants with deep pockets who are subject to the jurisdiction of the courts. Polar ice caps are not subject to service of process; lawsuits blaming companies that produce and consume coal and other fossil fuels for the damages wrought by powerful storms could not survive summary judgment. How regrettable it would be if, looking back a decade or two from now, the legal landscape were littered with takings lawsuits threatened and brought against state and local governments who chose to act while politicians continued to engage in demagoguery, and the waters continued to rise.

> every delay would become a total ban; the moratorium and the normal permit process alike would constitute categorical takings. Petitioners' "conceptual severance" argument is unavailing because it ignores *Penn Central's* admonition that in regulatory takings cases we must focus on "the parcel as a whole." We have consistently rejected such an approach to the "denominator" question.

The term "conceptual severance" derives from Margaret Jane Radin, *The Liberal Conception of Property: Cross Currents in the Jurisprudence of Takings*, 88 COLUM. L. REV. 1667, 1674-80 (1988).

146. *See* Penn Cent. Transp. Co. v. City of New York, 438 U.S. 104, 130-31 (1978) ("In deciding whether a particular governmental action has effected a taking, this Court focuses rather both on the character of the action and on the nature and extent of the interference with rights in the parcel as a whole—here, the city tax block designated as the 'landmark site.' "). For subsequent Court cases invoking this language, see Keystone Bituminous Coal Ass'n v. DeBenedictis, 480 U.S. 470, 497 (1987); *Tahoe-Sierra*, 535 U.S. at 327.

147. *See supra* notes 123-124 and accompanying notes.

148. Armstrong v. United States, 364 U.S. 40, 49 (1960).

THE FORESTS NOBODY WANTED: THE POLITICS OF LAND MANAGEMENT IN THE COUNTY FORESTS OF THE UPPER MIDWEST

STEVEN M. DAVIS*

I. INTRODUCTION

While the vast majority of public forest lands in the United States are managed by federal or state agencies, embedded within this huge estate of 332 million acres of public forest lands[1] are the little-known *county forests*. Concentrated primarily in the Upper Midwest, these forests amount to a not insignificant 5.4 million acres (or slightly larger than the state of Massachusetts).[2] In fact, they comprise between a quarter to two-fifths of all public lands in at least two states (Minnesota and Wisconsin) where they occur,[3] while producing roughly five times the timber harvest

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1. The figure is given as forty-four percent of forest ownership based on 2007 numbers. W. BRAD SMITH ET AL., FOREST RESOURCES OF THE UNITED STATES, 2007: A TECHNICAL DOCUMENT SUPPORTING THE FOREST SERVICE 2010 RPA ASSESSMENT 12 (2007), *available at* http://www.fs.fed.us/nrs/pubs/gtr/gtr_wo78.pdf.

2. For the numbers used to make this calculation see *Wisconsin County Forest Acres*, WISCONSIN COUNTY FORESTS, http://www.wisconsincountyforests.com/wcfa-acr.htm (last visited March 13, 2013); ROSS N. BROWN & MICHAEL A. KILGORE, UNIV. OF MINN. DEP'T OF FOREST RES., STAFF PAPER SERIES NO. 196, EVALUATING THE ECONOMIC IMPACTS OF RETENTION AND DISPOSAL POLICIES FOR COUNTY TAX-FORFEITED LAND IN NORTHERN MINNESOTA i (July, 2008), *available at* http://www.forestry.umn.edu/prod/groups/cfans/@pub/@cfans/@forestry/documents/asset/cfans_asset_184727.pdf; MELVIN J. BAUGHMAN & PAUL V. ELLEFSON, UNIV. OF MINN. DEP'T OF FOREST RES., STAFF PAPER SERIES NO. 14, COUNTY FORESTRY ACTIVITIES: A SURVEY OF PROGRAMS IN SELECTED STATES, 3 (Apr. 1980), *available at* http://conservancy.umn.edu/bitstream/5856/1/Staffpaper14.pdf.

3. For Wisconsin, see *Wisconsin County Forest Certification*, WISCONSIN COUNTY FORESTS, http://www.wisconsincountyforests.com/certification.htm (last visited Mar. 22, 2013). For Minnesota, see MINN. DEP'T OF NAT. RES., DIV. OF LAND & MINERALS, PUBLIC LAND AND MINERAL OWNERSHIP IN MINNESOTA: A GUIDE FOR TEACHERS 1 (2000) [hereinafter MINN. DNR DIV. OF LAND & MINERALS], *available at* http://files.dnr.state.mn.us/lands_

as the adjacent federal lands.[4] And yet, these "lands . . . that nobody wanted," as some have called them,[5] exist almost completely beneath the radar in terms of both scholarly and popular perception and are almost completely overlooked in the public lands literature, despite their obvious economic and environmental importance in the states where they occur.

It is the purpose of this study then to describe county forests as a category and jurisdiction of public land management and investigate how it fits into the larger puzzle of forest politics in the United States. In his extensive comparison of state and federal forests, Tomas Koontz tests the theory of functional federalism, which finds devolution of authority to the local level to lead to more economic development-oriented policies, and concludes that state agencies produce timber more efficiently, while federal management offers more environmental protection and citizen participation.[6] One intention of this study is to see if this pattern holds up or is even more pronounced with county forests, which represent, after all, an even more intensely local level of control than state forests. County forest management, then, needs to be compared to that of state and federal agencies in terms of how it deals with the most important elements of forest policy; that is, how to balance resource extraction, recreation, and preservation.[7]

II. COUNTY FOREST SYSTEMS— DESCRIPTION AND HISTORY

Of the approximately 5.4 million acres of county forest in the United States, 95% can be found in just two states, Minnesota and Wisconsin.[8] Other states with notable acreages of county forest lands include Michigan (62,200 acres), New York (45,000 acres), Washington (28,000 acres), Oregon (78,100 acres), and

minerals/PLteachersguide.pdf (calculating the figure by dividing the county forests acreage by the total public land in Minnesota).

4. *See* MINN. DEP'T OF NAT. RES., MINNESOTA'S FOREST RESOURCES 2010 18 (May 2011), *available at* http://forest.nrri.umn.edu/documents/ForestResourcesReport-10.pdf; *see also Timber Harvest in Wisconsin*, WIS. DEP'T OF NAT. RES., http://dnr.wi.gov/topic/forestbusinesses/documents/timberharvestwisconsin.pdf (last visited Mar. 22, 2013).

5. *See, e.g.*, MINN. ASS'N OF CNTY. LAND COMM'RS, http://www.mncountyland.org/ (last visited Mar. 22, 2013).

6. *See generally* TOMAS M. KOONTZ, FEDERALISM IN THE FOREST: NATIONAL VERSUS STATE NATURAL RESOURCE POLICY (2002).

7. Steven M. Davis, *Preservation, Resource Extraction, and Recreation on Public Lands: A View from the States*, 48 NAT. RESOURCES J. 303, 305 (2008).

8. *See* sources cited *supra* note 2.

Pennsylvania (10,000 acres).[9] In this study, the term *county forest* refers to a specific land use designation for mostly forested, multiple use land owned and/or managed by county governments and does not include county park or recreation area designations.[10] Given how extensive, well-established, and well-defined they are, Minnesota's 2.8 million acre and Wisconsin's 2.35 million acre county forest systems obviously dominate this category of land management. Consequently, this study will focus primarily on these two states.

County forest systems differ by state as to ownership and management responsibilities as outlined by appropriate state statute. In Minnesota, county forests are technically owned by the state in trust for the counties but are directly managed by the counties themselves.[11] Because Minnesota's county forest system is a component of its larger system of Trust Lands, county forests can be disposed of in order to generate revenue, as is commonly a fea-

9. BAUGHMAN & ELLEFSON, *supra* note 2, at 3. Given the rather extreme dearth of literature on county forests and the fragmentation of over 3,000 counties in the United States, pinning down exact acreages and county systems outside of Wisconsin and Minnesota is rather difficult. The acreages listed in Baughman and Ellefson's 1980 study are obviously outdated and, perhaps, incomplete. Some counties outside of Wisconsin and Minnesota confirmed to have county forest systems include Grays Harbor and King Counties, Washington; Clackamas, Coos, Douglas, and Hood River Counties, Oregon; Marquette and Gogebic Counties, Michigan; and Jefferson, Otsego, Allegany, and St. Lawrence Counties, New York. *See Clackamas County Forests*, CLACKAMAS CNTY., http://www.clackamas.us/forests/ (last visited Mar. 22, 2013); *Coos County Forest History*, COOS CNTY., http://www.co.coos.or.us/Departments/Forestry/History.aspx (last visited Mar. 22, 2013); *Hood River County Forestry Department*, HOOD RIVER CNTY., http://www.co.hood-river.or.us/index.asp?Type=B_BASIC&SEC={E5300B0B-0A0B-4663-B7A3-39901D1AD9FD} (last visited Mar. 22, 2013); *County Forest Management*, DOUGLAS CNTY., http://www.co.douglas.or.us/Land/ForestMgt.asp (last visited Mar. 22, 2013); *Gogebic Cnty Forestry Office*, GOGEBIC.ORG, http://www.gogebic.org/forest.html (last visited Mar. 22, 2013); *Marquette County Forest*, MARQUETTE CNTY. PLANNING DIV., http://www.co.marquette.mi.us/departments/planning/county_forest.htm (last visited Mar. 22, 2013); *Grays Harbor County Department of Forestry and Tax Title Management*, GRAYS CNTY., http://www.co.grays-harbor.wa.us/info/Forestry/index.htm (last visited Mar. 22, 2013); *Natural Areas and Working Resource Lands*, KING CNTY., http://www.kingcounty.gov/recreation/parks/naturalresources.aspx (last visited Mar. 22, 2013); *Highways, Forestry and Parks*, OTSEGO CNTY., http://www.otsegocounty.com/depts/hwy/ (last visited Mar. 22, 2013); *St. Lawrence County Forest Land*, ST. LAWRENCE CNTY. GOV'T, http://www.co.st-lawrence.ny.us/Departments/SoilWater/CountyForestLand (last visited Mar. 22, 2013); *Parks and Forests 2011 Annual Report*, ALLEGANY CNTY. SOIL & WATER CONSERVATION DIST., http://www.alleganyco.com/btn_budget/Reports/2011/ParksForests.pdf (last visited Mar. 22, 2013); *County Forests Map*, JEFFERSON CNTY., http://www.co.jefferson.ny.us/Modules/ShowDocument.aspx?documentid=1428 (last visited Mar. 22, 2013).

10. That said, a few county forests are jointly managed in a single County Parks and Forests Department (such as in Eau Claire County, Wisconsin) but exist, nonetheless, as distinct county forests. Even without any county forest component, county park systems can be quite extensive in their own right, with systems exceeding 60,000 acres in Cook (Illinois), Maricopa (Arizona), Hillsborough (Florida), and Riverside (California). *See* Steven M. Davis, *The Politics of Urban Natural Areas Management at the Local Level: A Case Study,* 2 KY. J. EQUINE AGRIC. & NAT. RESOURCES L. 127, 130-131 (2010).

11. BROWN & KILGORE, *supra* note 2, at i.

ture of state Trust Land arrangements.[12] In order to discourage such disposal, the Minnesota Legislature, in 1979, created a system of Payment in Lieu of Taxes (PILT) to make up for lost tax revenues on public land.[13] In Wisconsin, on the other hand, county forests can be disposed of only with the approval of the state Department of Natural Resources (DNR)[14] and this has, heretofore, never been considered a serious management option on any sort of meaningful scale.

In contrast to Minnesota, Wisconsin's county forest system represents much more of a straightforward arrangement, with both fee simple county ownership and direct county management. The state DNR does play a critical role in providing oversight, technical and budgetary assistance, and a legally binding framework for making management decisions,[15] but nonetheless, county forests in Wisconsin come closest to being a local analogue to adjacent state forests and national forests.

Mostly situated in the northern tier of both states, county forests are found in fifteen counties in Minnesota and twenty nine counties in Wisconsin. The size of specific county forests varies greatly from St. Louis County's (Minnesota) 872,000 acre system to Vernon County's (Wisconsin) tiny 948 acres, with most counties having acreages in the tens of thousands to hundreds of thousands of acres.[16] Although large continuous blocks certainly do occur, county forests lands, especially in Minnesota, tend to be fairly fragmented often in a checkerboard-like pattern with nearby private or state lands.[17] This owes, in part, to the county forests' tax-forfeiture origins. In Wisconsin, slightly less than eighty-five percent of county forest land is actually forested with the remainder mostly in wetlands, open water, brush, and grasslands.[18] Aspen is, by far, the dominant component of forest stands, com-

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12. *See id.* at 2. Trust Lands are a unique category of state lands which are legally bound to be managed to produce revenue for a designated beneficiary, most often, school districts. *See* JON A. SOUDER & SALLY K. FAIRFAX, STATE TRUST LANDS: HISTORY, MANAGEMENT, & SUSTAINABLE USE (1996). But in the case of Minnesota Tax Forfeited Forest Lands (TFFL), the designated beneficiary is the county. MINN. DNR DIV. OF LAND & MINERALS, *supra* note 3, at 20.

13. MINN. ASS'N OF CNTY. LAND COMM'RS, *supra* note 5.

14. BAUGHMAN & ELLEFSON, *supra* note 2, at 10-11.

15. *See* WIS. STAT. § 28.11(5) (2012).

16. For the full list, see *Wisconsin County Forest Acres*, *supra* note 2; MINN. ASS'N OF CNTY. LAND COMM'RS, *supra* note 5.

17. *See* MINN. DNR DIV. OF LAND & MINERALS, *supra* note 3, at 24 (displaying map of mineral rights held by Minnesota).

18. WIS. DEP'T NAT. RES., REPORT 101, PROPERTY COVER TYPE ACREAGE, COUNTY FORESTS 5 (2011), *available at* http://dnr.wi.gov/topic/CountyForests/documents/CoverTypeAcreage.pdf.

prising about thirty-five percent of total acres in Wisconsin and about fifty percent in Minnesota.[19] This is followed by northern hardwoods (fifteen percent in Wisconsin) and pine (eleven percent in Wisconsin).[20]

Although county forests are quite intensively logged, the median stand age in Minnesota is fifty two years, which is actually one year older than the figure for all forests in the same counties.[21] While some mass reforestation took place in the 1920s-1940s, most county forests are the result of natural regeneration, which is also how currently logged sites tend to be remediated.[22] Reforestation in the relatively wet Upper Midwest, therefore, tends to be much less of a challenge than in the more mountainous or semi-arid parts of the West. Bigger threats, according to county land managers, would be invasive plants and insects as well as nearly a century of fire suppression.[23]

In some ways, the county forests of the Upper Midwest are an accident of history. In the early 19th century, the region was blanketed in seemingly endless forests of white pine, maple, and hemlock.[24] In a relatively short period of time after white settlement, the valuable pines and hemlocks were almost completely stripped out by a rapacious logging industry and enterprising homesteaders, all fed by the insatiable demands of a rapidly developing nation.[25] As the conifers declined, logging switched to the hardwoods by the 1890s with the pace of deforestation sped up by improving rail access. The leftover slash and debris inevitably dried out until lightning or a spark from a nearby railroad would start massive fires.[26] By the early 20th century, the impact

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19. *Id.* at 2. BROWN & KILGORE, *supra* note 2, at 7.

20. *Id.* at 2.

21. BROWN & KILGORE, *supra* note 2, at 9. In Wisconsin, mature forests (over 70 years old) typically make up between a third and a fifth of the county forest land base. Aspen forests tend to be the youngest (with 15-35 years the mode range) and hardwoods, the oldest (with 76-80 years the mode range), with pines somewhere in between. WIS. DEP'T NAT. RES., REPORT 103, FOREST TYPE AGE DISTRIBUTION 5. However in one county, Rusk, the figure is closer to 70% given their rather atypical reliance on uneven-age management. *See infra* Appendix (surveying county forest administrators).

22. SCIENTIFIC CERTIFICATION SYS., WIS. CNTY. FOREST PROGRAM, FOREST MGMT AND CHAIN OF CUSTODY CERTIFICATION EVALUATION REPORT 11 (Mar. 2005) [hereinafter SCS REPORT], *available at* http://dnr.wi.gov/topic/TimberSales/documents/FSC_WI_Co_Forest_Report_Final_3_12_05.pdf.

23. *Id. See also infra* Appendix.

24. *See* Forest W. Stearns, *History of the Lake States Forests: Natural and Human Impacts* LAKE STATES REGIONAL FOREST RESOURCES ASSESSMENT: TECHNICAL PAPERS. GEN. TECH. REP. NC-189. (1997), *available at* http://www.ncrs.fs.fed.us/gla/reports/history.htm.

25. *See id.*

26. The most infamous of these fires started on October 8, 1871, the same day as the Great Chicago Fire after a hot and droughty summer and autumn. Kim Estep, *Tales of Heroism and Tragedy Swirl Around Fire*, GREEN BAY PRESS GAZETTE, Nov. 2, 1999. It soon

of this large-scale and unsustainable deforestation coupled with repeated cycles of fire became painfully felt as productivity and biodiversity plummeted.[27]

The homesteaders who followed the loggers quickly discovered that, unlike the deep and rich prairie soils of southern Wisconsin and Minnesota, these brushy and barren "stump pastures" had quite poor, often sandy soil and were largely unsuitable for agriculture. By the late 1920s and early 1930s, the final blow was delivered to these already economically marginalized homesteaders by the Great Depression.[28] The result was a tidal wave of foreclosure, abandonment, and subsequent tax delinquency and forfeiture. By the late 1920s, over 4.5 million acres in northern Wisconsin had been tax delinquent at least once,[29] and tax delinquencies on this scale started to become an existential threat to county and local governments.[30]

Whether tax delinquent land reverted to state or county control depended on who was responsible for tax collection; in Minnesota, it was the state, while in Wisconsin, it was the counties.[31] Regardless, governments in the Upper Midwest soon enough found themselves in possession of millions of acres of former forest land.[32] In Wisconsin, a series of laws were passed starting in the late 1920s in an attempt to deal with this situation. Most importantly, a Forest Crop Law allowed counties to take ownership of tax forfeited land without compensating the state for its share of the delinquent taxes and then gave them zoning powers to control land use within these forested acreages.[33] Over the next thirty years,

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flared into the largest and deadliest fire in North American history consuming an estimated 1.2 million acres and completely destroying the town of Peshtigo and several others. *Id.* The death toll was estimated between 1,200-2,400 people. Deana C. Hipke, *The Great Peshtigo Fire of 1871*, THE GREAT PESHTIGO FIRE, www.peshtigofire.info/ (last visited Mar. 22, 2013).

27. *See* Stearns, *supra* note 24.

28. WIS. DEP'T NAT. RES., WISCONSIN LAND LEGACY REPORT ch.2, p.33 (2006), *available at* http://dnr.wi.gov/files/pdf/pubs/lf/lf0040ch2.pdf.

29. HAROLD C. JORDAHL, JR. & ANNIE L. BOOTH, ENVIRONMENTAL POLITICS AND THE CREATION OF A DREAM: ESTABLISHING THE APOSTLE ISLANDS NATIONAL LAKESHORE 41 (2011)

30. *See* Stearns, *supra* note 24.

31. *See id.*

32. Of the county forest systems of the Upper Midwest, only Michigan's very modest 62,200 acre system offers an exception to the tax-forfeited origins of county forests. There, nearly half of the county forests were obtained through outright purchase. *See* BAUGHMAN & ELLEFSON, *supra* note 2, at 6.

33. *See Forest Crop Law*, WIS. DEP'T OF NAT. RES. http://dnr.wi.gov/topic/ForestLandowners/mfl.asp?s1=FTax&s2=FCLpurchasing (last visited Mar. 22, 2013).

most counties in northern and central Wisconsin used this law to establish county forests within their boundaries.[34]

Incidentally, the six National Forests in Minnesota, Wisconsin, and Michigan[35] (as well as the region's numerous state forests) also have their origins in this same mass land abandonment of the Depression Era, as the federal (or state) government pieced together a patchwork of adjacent forest lands purchased from the states and counties eager to divest of their tax forfeited lands.[36] (See Figure 1).

III. RESOURCE EXTRACTION IN THE COUNTY FORESTS

Public lands are generally managed for one or more of three broad purposes: resource extraction, recreation, and the preservation of biodiversity and natural landscapes.[37] By far, the largest component of state and federal lands attempts to combine these purposes through the principle of multiple use. County forests are no exception to this rule, as can be seen in the common mission statement of Wisconsin county forests:

> Natural resources, such as those provided by the County Forest, are the base for addressing the ecological and socio-economic needs of society. The mission of the County Forest is to manage, conserve and protect these resources on a sustainable basis for present and future generations. . . . While managed for environmental needs including watershed protection, protection of rare plant and animal communities, and maintenance of plant and animal diversity, these same resources must also be managed and provide for sociological needs, including provisions for recreational opportunities and the production of raw materials for wood-using industries. Management must balance local needs with broader

34. *See* WIS. DEP'T NAT. RES., *supra* note 28, at 33. In Minnesota, the status of county Tax Forfeited Lands (TFFL) were much more tenuous than in Wisconsin, with the TFFL being actively privatized and disposed of well into the 1970s, after which the pace slowed substantially with the advent of PILT legislation, which did much to secure the TFFL land base in its present form. BROWN & KILGORE, *supra* note 2, at 1-2.

35. These National Forests are the Superior and Chippewa in Minnesota; the Chequamegon-Nicolet in Wisconsin; and the Ottawa, Hiawatha, and Huron-Manistee in Michigan.

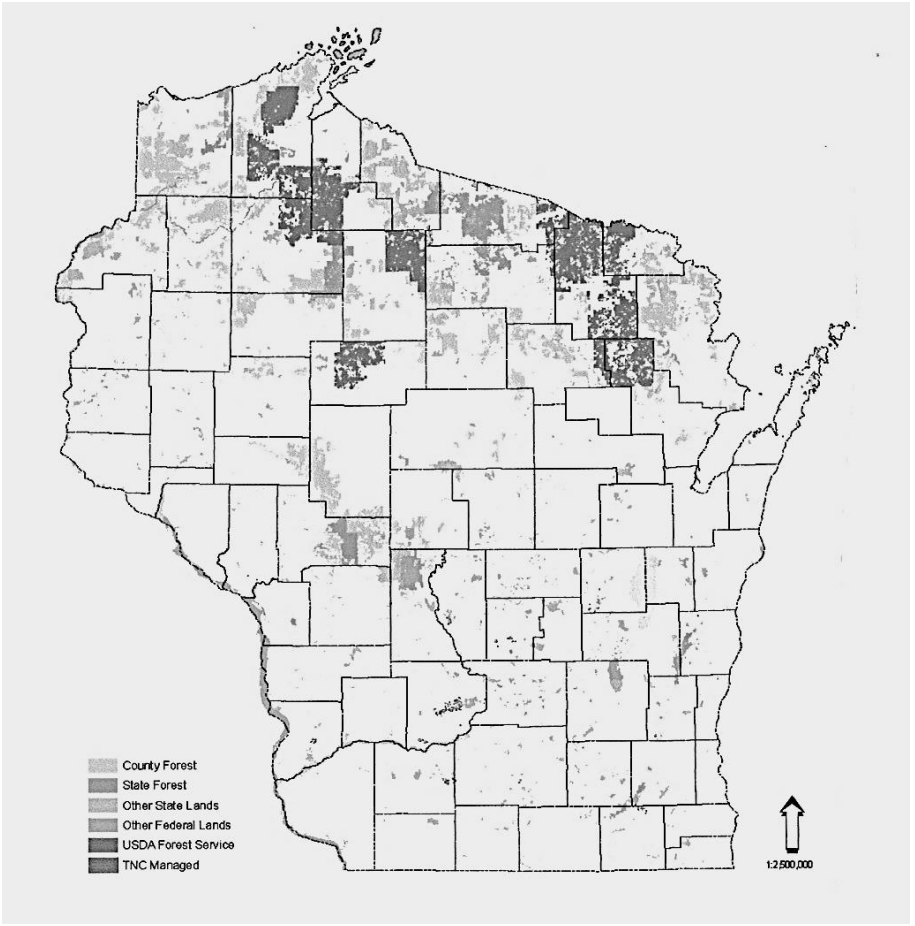
36. *See* Stearns, *supra* note 24. This is in stark contrast to the large unbroken tracts that comprise the national forests in the West. These lands, left over after homesteading allotments were granted, have never left the public domain.

37. Davis, *supra* note 7, at 305.

state, national and global concerns through integration of sound forestry, wildlife, fisheries, endangered resources, water quality, soil, and recreational practices.[38]

FIGURE 1

Federal, State, and County Public Forests in Wisconsin



From:http://dnr.wi.gov/topic/ForestPlanning/documents/C1_indicator03.pdf (map 3b).

So, while county forest managers uphold multiple use principles, just like their state and federal counterparts, it is how they weigh and prioritize the specific components of multiple use that is most important here. As previously stated, Koontz finds that

38. SCS REPORT, *supra* note 22, at 8.

state forest managers emphasize timber production more intensively than federal managers, as he tests the theory of functional federalism, which predicts that more local policymaking jurisdictions should be more focused on and sensitive to issues of local economic development.[39] If one was to continue along these lines, it should be expected that county forest managers would be even more focused on resource extraction, and that certainly seems to be the case in Wisconsin and Minnesota.

While allowable extractive uses on county forests can include gravel mining, mushroom and sphagnum moss collection, Christmas tree harvesting, and the provision of power and pipeline right-of-ways,[40] it is timber production that overwhelmingly dominates this category. The fact that Minnesota and Wisconsin both have a mosaic of large blocks of federal, state, and county multiple use forest lands existing side-by-side allows for a direct comparison of how intensively timber is extracted from each jurisdiction. As can be seen in Table 1, the total county forest land base in Minnesota and Wisconsin produces between three to nine times more cords of timber per acre than the national forest (in Wisconsin and Minnesota) and about 1.7 times more cords per acre than the state forest land base. Brown and Kilgore, meanwhile, looking at net income per acre, find that the county lands in Minnesota generated $4.11 of revenue per acre, while the state's School Trust Lands (which are well-known to be aggressively managed to produce revenue for their legal beneficiary, the state's schools) produced only $1.59 per acre.[41] Wisconsin county forests produced the most timber per (system) acre (0.309 cords), followed by Minnesota county forests (0.252 cords). The two states' state lands produced somewhat less at 0.181 cords in Wisconsin and 0.150 cords in Minnesota.[42] By comparison, the three national forests in those states produce considerably less timber (between 0.035 to 0.101 cords).[43]

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39. KOONTZ, *supra* note 6, at 13.

40. *See infra* Appendix.

41. BROWN & KILGORE, *supra* note 2, at 22.

42. *See infra* Table 1.

43. The far lower figure for timber production per acre in Minnesota National Forests is probably due to the presence of the one million acre Boundary Water Canoe Area Wilderness, which comprises nearly a quarter of all Minnesota national forest acreage, and as wilderness, is legally off-limits to logging. *The Boundary Waters Canoe Area*, Wilderness, U.S. FOREST SERVICE, http://www.fs.usda.gov/detail/superior/specialplaces/?cid=stelprdb5202169 (last visited Mar. 22, 2013). By contrast, Wisconsin national forests have about 44,000 acres of wilderness. *Wilderness Areas on the Chequamegon-Nicolet*, U.S. FOREST SERVICE, http://www.fs.usda.gov/detail/cnnf/recreation/?cid=stelprdb5176612 (last visited Mar. 22, 2013).

On the other hand, the national forests of the Upper Midwest have some of the highest rates of logging in the entire national forest system. *Endangered Forests Hot Spot:*

TABLE 1

Average Cords of Timber Produced per Acre by Public Forest Jurisdiction[44]

Jurisdiction	Harvest in Cords Equivalent[45] (in thousands)	Total Acres in System (in thousands)	Cords Produced/ Acre in System
Minnesota National Forests	160.0	4,599.6	.035
Minnesota State Multiple Use Lands[46]	775.0	5,181.4	.150
Minnesota County Forests	720.0	2,854.3	.252
Wisconsin National Forests	154.0	1,519.8	.101
Wisconsin State Multiple Use Lands[47]	177.7	983.9	.181
Wisconsin County Forests	730.2	2,363.3	.309

Table 2 offers another way to look at this, at least in Minnesota. While private lands, with often far shorter rotations and no sustained yield requirements, clearly produce the most timber per acre, the higher rates of extraction on county lands can be clearly seen.

Chequamegon-Nicolet, NATIVEFOREST.ORG, http://www.nativeforest.org/pdf/CNNF.pdf (last visited Mar. 22, 2013).

44. Data sources for Table 1: *Timber Harvest in Wisconsin*, *supra* note 4; U.S.D.A. FOREST SERVICE, CHEQUAMEGON-NICOLET NATIONAL FOREST LAND AND RESOURCE MANAGEMENT PLAN: MONITORING AND MIDTERM EVALUATION REPORT: 2009-2010 42-43 (2012) [hereinafter CNNF MGMT. PLAN], *available at* http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5349964.pdf (last visited Mar. 22, 2013); DONALD L. DECKARD & JAMES A. SKURLA, MINN. DEP'T OF NAT. RES., ECONOMIC CONTRIBUTION OF MINNESOTA'S FOREST PRODUCTS INDUSTRY–2011 EDITION, (2011), *available at* http://files.dnr.state.mn.us/forestry/um/economiccontributionMNforestproductsindustry2011.pdf; WIS. DEP'T NAT. RES., PUBLIC FOREST TIMBER SALES CY 1995-2011 [hereinafter FOREST TIMBER SALES] (on file with author).

45. These figures are averages for multi-year periods. For the Wisconsin state and county data, the averages are from 1995 to 2011 (*see supra* note 44); for Wisconsin federal data, the average is from 2005 to 2010; and all the Minnesota data is an average from 2008 to 2011 (*see supra* note 44).

46. This would include both regular Department of Natural Resources (DNR) lands and lands managed by the DNR in various state trusts excluding the state lands held in trust for the counties (TFFL).

47. State Multiple Use lands would include State Forests, State Wildlife Areas, and State Flowages. The cords per acres figure for State Forests alone is .229 with 120,900 cords harvested on 527,333 acres.

TABLE 2

Minnesota Timber Sales by Forest Jurisdiction[48]

Forest Jurisdiction	Pct. of Total MN Forest Acreage	Pct. of Timber Sold in MN
Private Forests	.40	.62
County Forests	.16	.16
State Multiple Use Lands	.23	.16
National Forests (in Minnesota)	.21	.05

These discrepancies between timber production on county versus state and especially federal lands are not actually due so much to differences in logging practices or rotations, which are fairly standard across jurisdictions. Nor are they due to any great differences in the species composition or structure of these very similar neighboring forests. Indeed, as can be seen in Table 3, sale value per harvested acre in Wisconsin is quite uniform across jurisdictions.

TABLE 3

Total 2010 Wisconsin Timber Sale Value and Value per Harvested Acre[49]

Jurisdiction	Total Timber Sale Value (in thousands of $)	Timber Sale Value/ Harvested Acre (in $)
County Forests	29,643.1	607
State Multiple Use Lands	10,796.2	657
National Forests (in Wisconsin)	4,696.9	600

The difference, then, is not the logging methods, nor the resource base, nor the volume or intensity of the logging per acre but rather in the sheer amount of land logged in any given year. Simply put, county foresters authorize the harvest of far more acres of forest as a percentage of the total; in Wisconsin, nearly double that

48. Table 2 Data Sources: Minnesota Forest Industries, *Public Timber Sales: Good for Everyone*, MINNESOTA FOREST FACTS http://www.minnesotaforests.com/resources/pdfs/publictimbersales.pdf (last visited Mar. 22, 2013).

49. Table 3 Data Sources: *Timber Harvest in Wisconsin*, *supra* note 4.

of state lands and three times the amount on the federal forests in the state as can be seen in Table 4.

TABLE 4

Average Total Acres Harvested Annually in Wisconsin as a Percentage of Total Acreage in Jurisdiction[50]

Jurisdiction	Total Acres Harvested	Pct. of Total Acres in Jurisdiction Harvested
National Forests (in Wisconsin)	8,990	.0059
State Multiple Use Lands	10,318	.0104
County Forests	45,090	.0190

Not only is there much greater timber production on county lands, but this is accomplished more efficiently, with fewer resources including staff. As Table 5 shows, county forest managers and other employees (at least in Wisconsin and Minnesota) have far more ground to cover than their state or federal counterparts. In terms of timber from public lands, the critical importance of the county forests to the local timber economy should be obvious. In Wisconsin, it is estimated that 30,000 jobs in the wood products and related industries are dependent on county forests.[51] In Minnesota, meanwhile, it is claimed that 40,400 jobs are directly and 89,500 jobs are indirectly tied to county forest timber supporting a payroll of $1.8 billion in 2010.[52]

50. Table 4 Data Sources: CNNF MGMT. PLAN, *supra* note 44, at 123; FOREST TIMBER SALES, *supra* note 44.

51. SCS REPORT, *supra* note 22, at 12.

52. MINN. ASS'N OF CNTY. LAND COMM'RS, A REPORT ON PAYMENT IN LIEU OF TAXES (PILT) Attachment D (2011) [hereinafter PILT REPORT], *available at* http://www.mncountyland.org/images/MACLC%20PILT%20Report%20to%20Senate.pdf.

TABLE 5

Acres per FTE Employee by Jurisdiction[53]

Jurisdiction	Full-Time Equivalent (FTE) Employees	Acres per FTE Employee
Minnesota National Forests	396	11,615
Minnesota State Multiple Use Lands	380	13,157
Minnesota County Forests (Subset)	142[54]	19,297[55]
Wisconsin National Forests	223	6,726
Wisconsin State Multiple Use Lands	374[56]	2,483
Wisconsin County Forests (subset)	41[57]	17,713[58]
Grays Harbor, Washington, County Forest	4	9,500
Washington State Multiple Use Lands	529	3,977

53. Table 5 Data Sources: *Forestry Careers*, MINN. DEP'T NAT. RES., http://www.dnr.state.mn.us/forestry/recruitment/index.html (last visited Mar. 22, 2013); U.S. FOREST SERVICE, CHIPPEWA NATIONAL FOREST ANNUAL REPORT 2009 5, *available at:* http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5152041.pdf (last visited Mar. 22, 2013); BROWN & KILGORE, *supra* note 2, at ii; WIS DEP'T NAT. RES., WISCONSIN'S STATEWIDE FOREST ASSESSMENT 17.2 (2010); *See infra* Appendix; STATE OF WASH. JOINT LEGISLATIVE AUDIT AND REVIEW COMM., REPORT 96-5, FOREST BOARD TRANSFER LANDS 20-21 (1996), *available at* http://www.leg.wa.gov/JLARC/AuditAndStudyReports/1996/Documents/96-5.pdf.

54. This figure represents a subset of twelve of the fifteen county forests in Minnesota; see BROWN & KILGORE, *supra* note 2, for the study and numbers from these twelve counties.

55. The acreage of this subset of twelve county systems was 2.7 million.

56. This figure is for the eighty percent of forestry personnel involved in forest management rather than fire protection.

57. This figure represents a subset of ten of the twenty nine county forests in Wisconsin and is based on surveys from ten county administrators.

58. The acreage of this subset of ten county systems was 726,253.

IV. RECREATION AND PRESERVATION ON THE COUNTY FORESTS

Given the dominance of timber production on county forest land, it is not surprising that other uses of the forest remain as secondary concerns. However, because they are amongst the most common type of public land in the North Woods, county forests still manage to provide many crucial recreational opportunities. Chief among them is hunting access. Game species, especially white-tailed deer and grouse, are drawn to the young aspen forests common in the county forests, while the former also thrive in the brushy new growth of heavily logged areas.[59] A 2008 study by Brown and Kilgore estimates that the cost to replace the hunting access provided by Minnesota county forests would be $3.6 billion.[60]

Along with hunting, another strength of county forest recreation, at least in Wisconsin, would be developed campsites. As Table 6 shows, campsite density in Wisconsin county forests is equivalent to the national forests and about half that of the state forests (although there are twice as many campsites in absolute numbers).

TABLE 6

Acres of Forest per Campsite by Jurisdiction in Wisconsin[61]

Jurisdiction	Total Campsites	Acres per Campsite
National Forests (in Wisconsin)	1,193	1,273
State Forests	1,000	529
County Forests	2,000	1,181

While county lands tend to lack the well-developed single-purpose hiking trails of many state and federal tracts, they are certainly not wanting for access as thousands of miles of logging roads and fire breaks serve double-duty as hiking, cross-country skiing, snowmobile, equestrian, and all-terrain vehicle (ATV) paths. Outside of developed campsites, though, a certain laissez

59. UNITED STATES DEP'T OF AGRICULTURE, MANAGING YOUR WOODLAND FOR WHITE-TAILED DEER 3 (2003).

60. BROWN & KILGORE, *supra* note 2, at v.

61. Table 6 Data Sources: WIS. DEP'T NAT. RES., DIV. OF FORESTRY ANNUAL REPORT 5 (2010), *available at:* http://www.wistatedocuments.org/cdm/singleitem/collection/p267601coll4/id/3569/rec/6; *Campground Camping*, U.S. FOREST SERVICE, http://www.fs.usda.gov/activity/cnnf/recreation/camping-cabins/?recid=27717&actid=29 (last visited Mar. 22, 2013) (tabulated from list of campgrounds); *Wisconsin County Forest Acres*, *supra* note 2.

faire orientation toward recreation prevails; the land is open to the public to recreate as they please, but without the sorts of amenities, oversight, or infrastructure that one would find in, for example, a state park. However, with population growth and especially the growing popularity of motorized recreational vehicles, recreational uses are beginning to expand to the point where they will exceed the county land managers' capacity and expertise to manage properly.[62]

One case in point might be ATV use. In fact, despite the relatively high level of logging in the county forests, it is ATV access that has tended to be the most intensely controversial and emotional public issue facing county managers.[63] Numerous county officials mentioned this as a perennial and particularly intractable issue.[64] While most county forests allow fairly broad use of ATVs on logging roads and developed trails, heavy and unauthorized off-road use is a constant problem, which generates a great deal of resource damage.[65] Understaffed county forest agencies, meanwhile, end up providing little to no enforcement. Aggravating matters in Wisconsin at least is the fact that surrounding state and federal lands generally have more restrictive ATV policies in place, thereby putting extra pressure on the nearby county lands.[66] In fact, as shown below in Table 7, there are 1,180 miles of ATV trails on county forests in Wisconsin as opposed to only 486 on all the state and national forest lands combined.

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62. SCS REPORT, *supra* note 22, at 32, 34.

63. *See id.* at 98.

64. *See infra* Appendix.

65. *See* SCS REPORT, *supra* note 22, at 27-34. Illegal off-road ATV riding (and even sometimes perfectly legal trail and road usage) can cause grievous damage to forest ecosystems, especially those that are low-lying and tend to be wet. This can be through soil compaction, soil erosion and the related stream pollution it can cause, and the introduction of invasive species from infested areas into pristine ones as seeds embed in the mud on ATV tires. U.S. FOREST SERVICE, UNMANAGED MOTORIZED RECREATION 1-3, *available at* http://www.fs.fed.us/publications/policy-analysis/unmanaged-recreation-position-paper.pdf (last visited Mar. 23, 2013).

66. This is far more the case in Wisconsin than in Minnesota. In fact, Wisconsin State Forests have only 180 miles of ATV trails as compared to 3,300 miles on Minnesota state lands. Tom Meersman & David Shaffer, *Control at Last or Inviting Trouble?*, STARTRIBUNE (Sept. 16, 2008), http://www.startribune.com/local/28430149.html?page=all&prepage=3&c=y#continue. They are banned altogether on the largest forest in the system, the Northern Highland-American Legion State Forest. Nathan Bortz, *DNR Recommends No ATV Trails in NHAL State Forest*, THE LAKELAND TIMES (Apr. 18, 2008), *available at* http://www.lakelandtimes.com/main.asp?SectionID=9&SubSectionID=9&ArticleID=7697. The difference between the two states according to a Wisconsin forest superintendent is summed up as follows: "Here in Wisconsin, our lands were designated as closed to ATVs until we decided to open some of them. . . .That's different than Minnesota where initially everything was open to ATVs and now you're trying to close some trails." Meersman & Shaffer, *supra* note 66.

TABLE 7

Miles of ATV trails By Jurisdiction Acre[67]

Jurisdiction	Total Miles of ATV trails	Miles of ATV trail per 1000 Acres
National Forests (in Wisconsin)	310[68]	.20
Wisconsin State Forests	180	.34
Wisconsin County Forests	1,180	.50

While ATV usage tends to be more intense on the county lands, there is no consensus among stakeholders that this is a good thing. In fact, one northern Wisconsin county in particular, Vilas, went so far in the opposite direction as to completely ban ATVs from all its 41,048 acres of county forest lands and road rights-of-way.[69] This policy was not initiated by county land managers but instead settled by a county-wide referendum in 2004.[70] In a bitterly divisive campaign waged over issues of environmental damage, constant noise, recreational access, and competing arguments over what constituted good economic development, sixty-three percent of voters ended up supporting the ban.[71]

As with recreation, preservation-oriented management on the county forests tends not to be considered a top priority, at least compared to the attention it receives at the state and especially

67. Data Sources for Table 7: SCS REPORT, *supra* note 22, at 13; CNNF MGMT. PLAN, *supra* 44, at 35; Meersman & Shaffer, *supra* note 66.

68. This is the current figure, although there are long-term plans for 185 more miles to be built. CNNF MGMT. PLAN, *supra* 44, at 123.

69. Ron Seely, *Vilas County Voters Want ATVs Out More Vote in Non-Binding Referendum than for the Presidential Primary*, HIGHBEAM RESEARCH (Feb. 19, 2004), http://www.highbeam.com/doc/1G1-113436495.html.

70. *Id.*

71. *Id.*; Douglas Etten, *Town Voters Sound Off For, Against Proposed ATV Ordinance*, THE LAKELAND TIMES (Sept. 2, 2011. 9:40:00 AM), http://www.lakelandtimes.com/main.asp?SectionID=13&SubSectionID=13&ArticleID=13783&PollID=27&btnView=1; Tom Held, *Line Drawn in Woods Over ATVs: Vilas County Set to Vote Whether to Let Off-Road Vehicles in County Forests,* MILWAUKEE JOURNAL SENTINEL, Jan. 24, 2004, at 11A, *available at* http://news.google.com/newspapers?nid=1683&dat=20040124&id=XTIqAAAAIBAJ&sjid=RkUEAAAAIBAJ&pg=5829,2290025. Given the fact that ATV riders in this area tend to be highly organized and mobilized, it is not surprising that the issue, which has simmered for years, flared up again in 2011 as the pro-ATV forces pushed for county legislation to allow for limited ATV routes using existing county and township roads. *See* Held, *supra* note 71. ATV access has proven to be such a vexing and conflictual issue in the management of public lands, that UW-Stevens Point professor and former Clinton-era Forest Service Chief Mike Dombeck argues that "ATVs present one of the most complex and difficult conservation challenges of the century." *See id.*

federal levels. Preservation as a management goal would be defined here as entailing policies that prioritize the maximization of floral and faunal biodiversity as well as the maintenance of large undisturbed blocks of land with at least certain wilderness characteristics.[72] Although county forests are sustainably managed in ways that ensure productivity and future yield,[73] it would be hard to argue that the preservation management goals stated above are the main focus of county land managers. Indeed, as was previously shown, a comparatively large acreage is logged annually, often employing even-age management techniques (clear-cutting), while a significant portion of the county forest land base is also kept in a monoculture of aspen, a short-lived, but commercially valuable pioneer species.

The main avenue for Wisconsin county foresters to manage for biodiversity would be through the use of the High Conservation Value Forest (HCVF) designation for a particular acreage. While HCVF status does not necessarily preclude active management (even logging), it does generally represent a commitment to maintain a certain ecological regime (which would, consequently, rule out more aggressive forms of management which dramatically alter plant cover, such as clear-cutting).[74] HCVFs represent a relatively small portion of the county forest land base, typically two percent or less on most Wisconsin county forests.[75] Furthermore, it is important to recognize that these are largely managed as individual stands, relics with certain biodiverse or otherwise uncommon traits surrounded by "ordinary" working forest.[76] By contrast, the United States Forest Service, and to a lesser extent

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72. Davis, *supra* note 7, at 316-317.

73. In fact, twenty seven out of twenty nine Wisconsin county forests and ninety percent of Minnesota county forest land are third party certified as sustainably managed by FSC or SFI. *See Wisconsin County Forest Certification,* WIS. CNTY. FORESTS, http://www.wisconsincountyforests.com/certification.htm (last visited Mar. 23, 2013); *Forest Certification*, MINN. DEP'T NAT. RES., http://www.dnr.state.mn.us/forestry/certification/index.html (last visited Mar. 23, 2013).

74. SCS REPORT, *supra* note 22, at 12.

75. *See infra* Appendix. One notable exception is Eau Claire County, Wisconsin, which maintains an impressive 16.5% of its forest as HCVF and also, alone amongst Wisconsin counties, has some acreage designated as *wilderness* (currently 490 acres). EAU CLAIRE COUNTY, COUNTY FOREST COMPREHENSIVE LAND USE PLAN, 500-19 (2012), *available at* http://www.co.eau-claire.wi.us/parks_and_forest/land_use_plan.htm. This makes Eau Claire quite unique in its relatively strong preservationist impulse among counties. It is also unique in that it is a somewhat urbanized county, whereas most of its counterparts in the county forest system are far more rural, a fact that might help explain its more preservationist orientation.

76. It is important to point out that the county forest land base, which originally was comprised of burned, exhausted, and tax delinquent properties, never contained much high quality or exceptionally biodiverse tracts to begin with.

the Wisconsin DNR, has begun moving toward planning on a larger landscape scale, trying to manage certain large tracts in ways that will eventually restore old growth characteristics, reduce road densities, provide wildlife corridors, etc.[77]

At the county level, on the other hand, preservation-oriented management tends to be far more fragmented and, in many counties, something of an afterthought. An evaluation report of the Wisconsin county forest system done on behalf of the Forestry Stewardship Council found that the county forests, unlike their state and federal neighbors, had generally done inadequate biotic inventories to systematically survey and monitor populations of rare and sensitive species.[78] Moreover, the report also found wide variability in HCVF identification efforts and the overall frequency and intensity of such monitoring was found to be "insufficient" for meeting sustainability standards.[79]

Table 8 below shows the extent to which the land base of county, state, and federal forests in Wisconsin are dedicated to preservation-oriented management. If one looks at forested acreage not scheduled for timber harvest activities, it is clear that federal forest lands in Wisconsin enjoy the highest levels of protection from disturbance with 16.1% to 20.6% under some sort of preservation-oriented management, depending on how this is defined.[80] This is compared to 13.7% of the state forests and followed far behind by county forests, which have a meager 2.5% under special management.

77. Examples of this can be seen in planning documents for the Chequamegon-Nicolet National Forest and the Northern Highland-American Legion National Forest. *See* CNNF MGMT. PLAN, *supra* note 44; WIS. DEP'T NAT. RES., NORTHERN HIGHLAND-AMERICAN LEGION STATE FOREST: MASTER PLAN 9-17 (2005), *available at* http://dnr.wi.gov/topic/lands/masterplanning/documents/MP-NHAL-Chap2-A-2005.pdf.

78. SCS REPORT, *supra* note 22, at 74.

79. *Id.* at 44.

80. This depends on whether Semi-Primitive Non-Motorized Areas (SPNM) are included or not in the calculations. On one hand, SPNM protect solitude, aesthetics, and the basic forest structure, which are preservationist management goals, but on the other hand, it produces timber, which is not a preservationist goal.

TABLE 8

Wisconsin Federal, State, and County Forests By Pct. Not Managed for Timber Production[81]

Jurisdiction	Total Forested Acreage (in 1000s)[82]	Acres Under Non-Timber Mgmt. (in 1000s)	Pct. Under Non-Timber Mgmt.
County Forest	1, 978.5	48.5[83]	.025
Wisconsin State Forest	433.5	59.5	.137
National Forest (in Wisconsin)	1,519.8	244.1 (or 312.7)[84]	.161 (or .206)[85]

V. THE POLITICAL DYNAMICS OF COUNTY FOREST MANAGEMENT

In comparing state and federal forest management, Koontz finds some significant differences in both policy process and outcomes.[86] He finds state management to be marked by increased timber production at lower costs leading to greater revenue and, subsequently, revenue-sharing with local governments.[87] Federal forest management, meanwhile, is found to achieve higher levels of environmental protection and to incorporate more citizen

81. Data Sources for Table 8: U.S. FOREST SERVICE, FINAL ENVIRONMENTAL IMPACT STATEMENT FOR THE 2004 FOREST PLAN 7-9, 12-13 (2004) [hereinafter CNNF ROD], *available at* http://www.fs.fed.us/outernet/r9/cnnf/natres/final_forest_plan/rod/rod_dec_summary_rational.pdf; PROPERTY COVER TYPE ACREAGE, *supra* note 17.

82. "Forested acreage" would exclude lakes, wetlands, meadows, barrens, rocky areas, etc., which by definition cannot be logged.

83. This includes HCVFs and State Natural Areas (SNAs). This latter designation is granted by the state to any area, federal, state, or county (or even private), which contains certain rare and/or valuable natural features and offers certain legal protections. On county forests, many but not all HCVFs are also dedicated SNAs. SNAs comprise slightly less than one percent of the county forest land base as compared to 8.4% of the state forests and 6.3% of Wisconsin's national forest land. Email from Dawn Hinebaugh, Wis. Dep't Nat. Res. (Oct. 15, 2010) (on file with author).

84. This includes Wilderness Areas, Wilderness Study Areas, Old Growth Areas, Research Natural Areas, and Special Management Areas. Another federal management category, Semi-Primitive Non-Motorized (SPNM) Areas, allows only limited selective logging and no roads or motorized vehicles. *See* CNNF ROD, *supra* 81, at 12. As such it might be considered at least somewhat of a preservation-oriented management category. If SPNM Areas are included, the acreage of protected areas on WI national forests would increase to 312,695 with the percentage of the land base under preservation-oriented management rising to .206.

85. *See supra* note 84.

86. *See* KOONTZ, *supra* note 6, at 188-192.

87. *See id.*

participation.[88] As shown in Parts III and IV, this study can clearly extend Koontz's findings to the county forest level. In fact, at least for Wisconsin, these differences manifest themselves even more strongly at the county level. That is, county forests produced even more timber, more efficiently, while emphasizing protection of biodiversity to an even lesser extent, with less citizen participation than adjacent state or federal forest land.

What is interesting about Koontz's 2002 findings is that, despite these rather clear contrasts in policy outcomes, he reports no significant differences in the attitudes of state and federal foresters in terms of what constitutes appropriate forest management techniques. Instead, the determining factors tend to be external and linked to mandates, budgeting rules, and external players.[89] In a later 2007 follow-up, however, Koontz offers a reappraisal of this state versus federal values comparison and this time finds a fast-evolving and increasingly diverse U.S. Forest Service (USFS), whose institutional values have indeed begun to diverge from state forest administrators.[90] While this county forest study did not collect any data on state or federal managers' values to form any sort of baseline for comparison, nothing gleaned from the surveys of Wisconsin county foresters would seem to suggest that their attitudes about logging, recreation, or biodiversity drastically diverge from those of their state or federal peers. If there is divergence, it is more of a matter of degree. Still, without more data, it is hard to draw any firm conclusion in this respect. Beyond values though, we still need to look to external factors and the political dynamics that evolve from them to explain obvious discrepancies in policy outputs that this study found.

The most important contextual factor that shapes policy outcomes would have to be the legal mandates that various forest management agencies operate under. Not only do these mandates specify different rules and restrictions for forest management practices, but they also define citizen participation requirements (if any) as well as planning requirements and issues related to budgets and revenue. The Wisconsin state law that governs county forest management lays out a fairly mainstream multiple use

88. *See id.*

89. *Id.* at 15-16.

90. For example, Koontz reports that in today's Forest Service, twenty-three percent of rangers are women, twelve percent are non-white, and only thirty-three percent are foresters by training as compared to state rangers who are ninety-nine percent white, ninety-five percent male, and eighty-four percent foresters. Tomas M. Koontz, *Federal and State Public Forest Administration in the New Millennium: Revisiting Herbert Kaufman's The Forest Ranger*, PUB. ADMIN. REV. 152 (Jan.-Feb. 2007) [hereinafter Koontz, *Revisiting*].

mandate, but also specifically mentions a revenue-generating purpose to the county forest.[91] Most importantly, specific management directives are brief enough and ambiguous enough to provide fairly wide discretion for the county manager:

> The purpose of this section is to provide the basis for a permanent program of county forests and to enable and encourage the planned development and management of the county forests for optimum production of forest products together with recreational opportunities, wildlife, watershed protection and stabilization of stream flow, giving full recognition to the concept of multiple-use to assure maximum public benefits; to protect the public rights, interests and investments in such lands; and to compensate the counties for the public uses, benefits and privileges these lands provide; all in a manner which will provide a reasonable revenue to the towns in which such lands lie.[92]

Similarly, the Minnesota statute for county forests lays out a fairly flexible multiple use vision of the TFFL devoted to "forestry, water conservation, flood control, parks, game refuges, controlled game management areas, public shooting grounds, or other public recreational or conservation uses."[93] But clearly timber production is first amongst equals as Brown and Kilgore note:

> TFFL is managed to produce timber. Counties are committed to meeting the local industry's demand for wood products, as well as generating adequate revenue for local taxing districts through the sale of standing timber. The vast majority of all standing timber on TFFL is sold at public auction. . . .
> . . . .
> In summary, revenue generated from the management and disposal of TFFL is used to cover the costs of county land department operations. . . . The remaining net revenue is subsequently divided among county and townships, cities, and school districts located within the county.[94]

91. WIS. STAT. § 28.11(1) (2012).
92. *Id.*
93. MINN. STAT. § 282.01(2)(b) (2012).
94. BROWN & KILGORE, *supra* note 2, at 14-15.

Perhaps, just as important as the actual agency mandate is the extent to which mandatory citizen participation is built into the policymaking process. Simply put, the federal laws that govern forest management on USFS lands—most significantly, the National Environmental Policy Act (NEPA) and the National Forest Management Act (NFMA)—legally guarantee abundant opportunities for citizen and interest group participation, and this fact has deeply influenced the political dynamics surrounding federal forest management.[95] These particular dynamics have allowed a much more balanced and diverse array of interests to be heard and make their policy demands known, and this, in turn, has allowed environmentalists to force their way into becoming an important constituency of the USFS.

In contrast, county forest managers report far fewer interest group contacts,[96] especially in the context of a formal process, such as that required by NEPA and NFMA for nearly every proposed action of any significance on the federal forests. The main vehicle that the Wisconsin county managers reported for soliciting public input was during the process for drawing up fifteen-year comprehensive forest plans as required by state law.[97] However, this process was nowhere near as routinized or extensive as it is for its federal counterparts. Apart from this planning process that occurs every decade and a half, Wisconsin county managers described even more sporadic and informal contact with outside participants. While county managers reported contact with a fairly wide variety of groups ranging from loggers and hunters and adjacent landowners to Indian tribes and environmentally concerned community members, the most consistent contact seemed to be with various recreational users, including ATV clubs, snowmobilers, cross-county skiers, mountain biking clubs, and horseback riders.[98] Conspicuously absent from most managers' list of regular participants were the state and national environmental groups (such as the Sierra Club) that are so intensely active in monitoring, negotiating over, and sometimes challenging federal forest management on neighboring national forest acreage.[99] In

95. *See generally* National Environmental Policy Act, 42 U.S.C. §§ 4321–4347 (1970); National Forest Management Act, 16 U.S.C. §§ 472a, 476, 500, 513–516, 521b, 528, 576b, 594–602, 1600–1602, 1604, 1606, 1608–1614 (1976).

96. *See infra* Appendix.

97. *See infra* Appendix.

98. *See infra* Appendix.

99. For example, the Chicago-based Environmental Law and Policy Center has, for more than a decade, represented the Habitat Education Center of Madison with ongoing litigation and negotiation over a series of timber sales in older forests in the Chequamegon-Nicolet National Forest. *See* Ryan Woody, *Environmental Groups Challenge Timber Sale in*

fact, county foresters' contacts with mainstream environmental groups are so comparatively infrequent that it might be argued that the most consistent and effective voices heard at the county level on behalf of more ecological and preservation-oriented management goals comes not from traditional environmental groups, but rather state DNR liaisons that provide some oversight and technical aid and organizations that provide sustainability certification for logging.

There has always been debate in the public lands literature as to how effective the large volume of citizen participation in the national forests has been. While some scholars, like Twight, have argued that the USFS's response has been largely pro forma and grudging, others such as Culhane or Mohai find the agency open to, and influenced by public input.[100] Meanwhile, Tipple and Wellman as well as Koontz go on to argue that this high level of routinized public participation has actually changed the agency and its institutional practices and values.[101] Whatever the ultimate impact of public participation, however, there is little question that the legislatively-mandated policy-making process on federal forests, which requires and institutionalizes public input, features far more open access to outside actors than those of the state or county levels.

Also indisputable is how much more prominent the role of litigation is in shaping policy outcomes at the federal level. Expanded federal standing to sue in environmental cases has given environmentalists a powerful tool with which to influence forest policy at the federal level.[102] Not only have court victories blocked timber sales or otherwise altered forest plans or specific policies

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Chequamegon-Nicolet National Forest in Northern Wisconsin, NATIONAL FOREST LAW (May 2008); *see also Forest Service Timber Sale EIS Challenged*, THE JUDICIAL VIEW, http://judicialview.com/Court-Cases/Administrative_Law/Forest-Service-Timber-Sale-EIS-Challenged/2/12221 (last visited Mar. 24, 2013).

100. *See generally* BEN W. TWIGHT, ORGANIZATIONAL VALUES AND POLITICAL POWER: THE FOREST SERVICE VERSUS THE OLYMPIC NATIONAL PARK (1983); PAUL J. CULHANE, PUBLIC LANDS POLITICS: INTEREST GROUP INFLUENCE ON THE FOREST SERVICE AND THE BUREAU OF LAND MANAGEMENT (1981); Paul Mohai, *Public Participation and Natural Resource Decision-Making: The Case of the RARE II Decisions*, 27 NAT. RESOURCES J. 123 (1987).

101. *See* Terence J. Tipple & J. Douglas Wellman, *Herbert Kaufman's Forest Ranger Thirty Years Later: From Simplicity and Homogeneity to Complexity and Diversity*, 51 PUB. ADMIN. REV. 421, 423-24 (Sept.-Oct. 1991); Koontz, *Revisiting*, *supra* note 90, at 157.

102. For example, NEPA's provisions for Environmental Impact Statements (EIS) often provide fertile procedural grounds for court challenge, while the process that NFMA lays out for creating Comprehensive Forest Plans creates similar opportunities for appeal and legal challenge.

in many individual cases,[103] but the mere threat of litigation has often led the USFS to act and plan and manage in ways intended to head off or forestall costly and time-consuming litigation.[104]

At the county level, by contrast, with a multiple use mandate which affords wide discretion and no equivalent state EIS process, there exists no such legal foothold. Not one Wisconsin county manager surveyed reported a single legal challenge to any county management decisions, which, as shown earlier, feature much more intensive and wide-ranging logging operations than on state or federal lands.[105] This near-total immunity from legal challenge creates a vastly different political environment in which county foresters operate and one which gives them a much freer hand to do as they please within the bounds of the mandate they operate under. The great irony, then, is that Gifford Pinchot's Progressive Era creation, the USFS, with its considerable lore and proud agency culture of bureaucratic professionalism and scientific expertise,[106] is actually the forest agency that must act most often as referee, conciliator, honest broker, and juggler of diverse public needs, goals, and preferences, while tiny little county forest departments operate as they see fit according to the tenets of professional forestry. In other words, it can be argued that county forest managers are much more the practitioners of the form of "expert" scientific forestry that Pinchot so clearly envisioned for his federal agency. So profound has this shift been, that Koontz as well as Tipple and Wellman argue that the USFS has evolved into a new agency with characteristics that befit its changed role, an agency that is more diverse in terms of race, ethnicity, gender, and the professional backgrounds of its officers, who are now coming from diverse fields like hydrology, soil science, and wildlife biology rather than just traditional forestry.[107]

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103. For example, on the Chequamegon-Nicolet National Forest, environmentalists successfully challenged the Cayuga, McCaslin, and Northwest Howell timber sales in Federal District Court in 2005. *See* Habitat Educ. Ctr. v. Bosworth, 363 F. Supp. 2d 1090 (E.D. Wis. 2005).

104. Elise S. Jones & Cameron P. Taylor, *Litigating Agency Change: The Impact of the Courts and Administrative Appeals Process on the Forest Service*, 23 POL'Y STUD. J. 310, 315 (1995).

105. *See infra* Appendix.

106. *See, e.g.*, SAMUEL P. HAYS, CONSERVATION AND THE GOSPEL OF EFFICIENCY: THE PROGRESSIVE CONSERVATION MOVEMENT, 1890–1920 (1959); HERBERT KAUFMAN, THE FOREST RANGER: A STUDY IN ADMINISTRATIVE BEHAVIOR (1960).

107. *See* Tipple & Wellman, *supra* note 101, at 424-25; Koontz, *Revisiting*, *supra* note 90, at 154.

VI. CONCLUSIONS

It has been the goal of this study to shed light on a little-known element of our public lands. Part of this inquiry must be to ask whether these 5.4 million acres of county forests, which, in some ways, are a non-reproducible relic of a particular time and place, have anything to teach us about public forest management. If an observer were to evaluate county forest management strictly from an ecological or preservationist perspective, that observer might come away somewhat disappointed with just how hard county forests are worked, crisscrossed as they are with many miles of logging roads, overrun with ATVs, and producing so much more timber from a larger annual portion of the forest base than adjacent state and, especially, federal lands. As the data has clearly shown throughout this study, county forests emphasize resource extraction and revenue generation over the protection of biodiversity or the protection of wilderness values or even public recreation.

Looked at another way, however, a different story might emerge. It would be the story of how state and local governments in the Upper Midwest, faced with a simultaneous economic and ecological disaster, fell back upon their *commonwealth* orientation toward the role of government in securing the public interest. This Progressive tradition, which was quite prevalent in the region during that time, arranged for millions of ruined acres to be put into the public domain thereby allowing them to heal, become productive, and serve the interests of each county's population far more directly and profoundly than if the ecologically ravaged land were auctioned off and left in private hands. Of course, such counter-factual musings are always speculative, but it does seem fairly likely that, without the establishment of county forest systems, the North Woods of Minnesota and Wisconsin would have considerably less forest, increased habitat fragmentation, and many more roads, vacation homes, resorts, and "no trespassing" signs.

Because county governments in Minnesota retain the right to sell off and thereby privatize their county forests (and indeed aggressively did so from the 1930s until the 1970s), this potential periodically resurfaces, especially in response to cost-cutting initiatives from the state government. Brown and Kilgore in their study of disposal versus retention of the county TFFL in Minnesota give

us a glimpse of what this privatized path may have looked like.[108] Examining the land that had previously been sold off, they find, not surprisingly, a dramatic decrease in access (fifty percent of acres got posted for no trespassing), decreased management activity (seventy-eight percent have no management plans), and an increase in buildings and fragmentation.[109] Roughly a third of owners plan to build a home or cabin, fourteen percent plan to build permanent roads, eleven percent plan to subdivide their plot, and sixteen percent plan to provide utilities.[110]

Brown and Kilgore find that the privatization of all county tax forfeited lands in Minnesota would bring in $1.858 billion to county coffers, but it would cost $362 million in lost market goods and $3.643 billion in lost hunting access for an overall net loss of $2.146 billion.[111] Furthermore, it is important to note that this figure does not include any of the substantial, yet difficult to quantify, benefits that come out of the county forests for things such as non-hunting recreation, aesthetics, or ecosystem services, such as nutrient cycling, water filtration, flood control, watershed protection, and soil erosion control.[112] Most of these, it should be noted, would accrue continually on an intact forest, a point made by Brown and Kilgore:

> A TFFL disposal policy would generate a considerable one-time windfall in net income from the sale of forest land, which would primarily benefit the local taxing districts within the counties where the forest land was sold. In contrast, such a policy would result in a substantial and recurring loss in benefits from the non-market goods and services provided by TFFL. . . .[113]

Another justification for privatizing TFFLs in Minnesota is to restore tax-exempt public land to the tax rolls, a problem that Minnesota attempted to alleviate with the passage of the PILT law of 1979.[114] A 2011 state report on PILT found that the loss of tax revenue from public county lands was more than offset by a

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108. BROWN & KILGORE, *supra* note 2.
109. *Id.* at iv, 37.
110. *Id.* at iv.
111. *Id.* at v.
112. *Id.* One thesis on *natural capitalism* cites the rough estimate of $36 trillion dollars as to the annual value of the biological services that flow, mostly unrecognized, from the planet's stock of natural capital, or natural systems. PAUL HAWKEN ET AL., NATURAL CAPITALISM: CREATING THE NEXT INDUSTRIAL REVOLUTION (2000).
113. BROWN & KILGORE, *supra* note 2, at v.
114. *Id.* at 16.

combination of PILT payments and similar state aid, timber revenue, increased tourism, and higher property values on private lands adjacent to TFFL.[115]

In this light, the county forests experiment could be seen as a resounding affirmation of the very idea of public land. At a time when all aspects of the public sector are under furious ideological and political assault, the county forests enjoy broad public support.[116] While this might be due, in part, to a regional political culture in the Upper Midwest that is far less suspicious and resentful of the presence of public land,[117] it might also be because the county forests are seen as working well in providing county revenue, supporting local economies, providing cheap and abundant recreation, and keeping the land covered in forest which offers a myriad of benefits ignored by the market, but never by those interested in the quality of life.

APPENDIX

County Forest Administrators Survey Questions

The following questionnaire was sent to all twenty nine Wisconsin County Forest Administrators by email. Ten responses were completed from Barron, Oneida, Marathon, Monroe, Florence, Price, Douglas, and Rusk Counties, which represented about a third or 726,253 acres of the state's entire county forest system. Follow-up phone interviews were conducted between August and October 2010 with selected county administrators as well as Dean Barkley, the Wisconsin DNR liaison for the county forest program.

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115. PILT REPORT, *supra* note 52, at Attachment C, 3-4.

116. *See, e.g.*, *Stewardship Has Broad Non-partisan Support*, GATHERING WATERS CONSERVANCY, http://www.gatheringwaters.org/conservation-policy/knowles-nelson-stewardship-fund/stewardships-supporters/ (last visited Mar. 24, 2013); *Wisconsin Stewardship Fund: Facts and Recommendations*, WSN.ORG, http://www.wsn.org/WIStewFund/WSFundrecom.html (last visited Mar. 24, 2013); JAMES JANKE ET AL., Survey Research Center Report 2012/7, MARATHON COUNTY RESIDENT SURVEY REPORT 19, 26 (Apr. 2012), *available at* http://www.co.marathon.wi.us/LinkClick.aspx?fileticket=X2mXDeWMNTo%3d&tabid=66.

117. By contrast, public attitudes in other parts of the country such as the rural Mountain West can be much less supportive. *See, e.g.*, Florence Williams, *The Shovel Rebellion,* Mother Jones (Jan.-Feb. 2001), http://www.motherjones.com/politics/2001/01/shovel-rebellion.

County Forests Survey Questions

1. Please state your county.

2. Approximately how many board feet of timber are produced on your county forests in a typical year?

3. On general use actively managed forest lands, approximately what percentage (estimate to nearest ten percent) of acres in timber sale areas employ even-age management vs. uneven-age (selective) management?

4. Estimating as best you can to the nearest ten percent, approximately what percentage of your county forests are currently mature (over eighty years old)?

5. Estimating as best you can to the nearest ten percent, how much of your land is managed for aspen forests?

6. Approximately how many acres in your county forest system are classified and managed as special use (for example as special aesthetic or recreational areas, High-Conservation Value Forest, exceptional resource area, wildlife area, etc.) as opposed to general use?

7. More specifically, how many acres of County Forest, if any, have High-Conservation Value Forest (or equivalent) designation?

8. Are there any designated state natural areas within your county forest system? If so, how many units?

9. What are other major extractive uses (if any) on your county forests? (such as, for example, mining or energy production)

10. What are the major recreational use conflicts that arise on your county forests?

11. Have you ever faced appeals or legal challenges from citizens or outside groups to your management decisions? If so, please specify what issue it regarded.

12. In your County's forest management decision-making processes what, if any, are the opportunities for public and/or interest group input?

13. In the course of making management decisions, what organized groups (such as interest/advocacy groups, trade associations, etc.) do you interact with most often?

14. What was your department's operating budget in FY 2009?

15. What were your timber/resource revenues in FY 2009?

16. If your budget exceeded your timber receipts, approximately what percent of the difference comes from the state payments and what percentage from your county's general fund? State_____% County general fund_____%

17. How many full-time and part-time staff do you employ?

18. Is any of your county forest acreage trust land with a fiduciary responsible to produce revenue for trust beneficiaries? If so, approximately what percentage? Who are the trust beneficiaries?

Open-Ended Questions

Regarding the decision-making process and the social/political dynamics that surround it, what are the main differences in County Forest management versus State or National Forest management?

When making management decisions, how do you prioritize between preserving biodiversity, extracting marketable resources, and providing recreation?

CLIMATE HAWKS AND CALIFORNIA'S CARBON OFFSETS

ROSS ASTORIA*

I. INTRODUCTION

The Global Warming Solutions Act of 2006 (AB 32) empowered the California Air Resources Board (ARB) to promulgate a wide swath of regulations to mitigate California's greenhouse gas emissions and to begin climate adaptation.[1] The act invited the ARB to design and implement a cap-and-trade (CAT) regime for greenhouse gas emissions, and ARB accepted the invitation.[2] The CAT scheme became enforceable at the beginning of 2012, and the first allocation of emission credits was auctioned in November 2012.[3] Recently, climate hawks have become skeptical

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1. California Global Warming Solutions Act of 2006, CAL. HEALTH & SAFETY CODE §§ 38500-38599 (West 2006).

2. *See id.* §§ 38570-38571, 38574 ("Market-Based Compliance Mechanisms").

3. *Auction Information*, CAL. ENVTL. PROT. AGENCY AIR RES. BD. (March 18, 2013), http://www.arb.ca.gov/cc/capandtrade/auction/auction.htm.

of the efficacy of cap-and-trade policy. They worry about the verifiability of emission reductions (it is hard to disaggregate real emission reduction from reduction caused by, e.g., economic downturns).[4] They worry that CATs create a new type of commodity (the emission credit expressed in tons of CO_2-e) that will come under the dominion of financiers, who have shown themselves to be untrustworthy stewards.[5] And, as this paper will explore in depth, they worry that the required "additionality" of offset protocols is mere illusory legerdemain.[6] The recent challenge by Citizens Climate Lobby and Our Children's Future Foundation exemplifies this skepticism about additionality.[7]

This article considers the offset provisions of the California CAT and makes recommendations on the best attitudes and political practices climate hawks ought to adopt with respect to these provisions.[8] Considered only from a theoretical point of view, CATs and their attendant offset protocols tend to appear as either, depending on one's point of view, an efficient harnessing of "market forces" for the sake of preserving some public good or the self-interested maneuverings of the captains of industry.[9] CAT markets, however, are never theoretical. They are built into and on top of already existing regulatory regimes. That regulatory structure, along with subsequent modifications to that structure, impacts the working of CAT markets, particularly the offset protocols. An evaluation of California's CAT offset protocols must account for existing regulations and anticipate—indeed work for—further regulations.

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4. The paradigmatic example is the collapse of the Russian economy in the early 1990s, which allowed it to easily meet its Kyoto Protocol obligations. *See* Andrew Kramer, *In Russia, Pollution is Good for Business*, N.Y. TIMES, Dec. 28, 2005, http://www.nytimes.com/2005/12/28/business/worldbusiness/28kyoto.html; Geoff Dabelko, *Russian Hot Air*, GRIST.ORG (Dec. 29, 2005, 4:15 AM), http://grist.org/article/russian-hot-air/.

5. *See, e.g.*, Victor B. Flatt, *"Offsetting" Crisis?—Climate Change Cap-and-Trade Need Not Contribute to Another Financial Meltdown*, 39 PEPP. L. REV. 619 (2012) (arguing that the new carbon commodities and their associated derivatives can be regulated so as not to become toxic and, like the mortgage bubble, implode the economy).

6. *See* Elisabeth Rosenthal & Andrew W. Lehren, *Profits on Carbon Credits Drive Output of a Harmful Gas*, N.Y. TIMES, Aug. 8, 2012, http://www.nytimes.com/2012/08/09/world/asia/incentive-to-slow-climate-change-drives-output-of-harmful-gases.html.

7. *See* Petition for Writ of Mandate and Complaint for Declaratory and Injunctive Relief, Citizens Climate Lobby v. Cal. Air Res. Bd., No. CGC-12-519544 (Cal. Super. Ct. Jan. 25, 2013). Plaintiffs argue that AB 32 prohibited "CARB from counting **any** greenhouse gas emission decreases that 'otherwise would occur' as qualified reduction. Nevertheless, through rules for a category of emission reduction known as 'offsets,' CARB has done exactly that." *Id.* at p. ii (underlining and highlighting are indigenous). They would, therefore, have the court invalidate all four offset protocols. *Id.* at 29-30.

8. The paradigmatic climate hawk case and target recommendations are set out in James Hansen et al., *Scientific Case for Avoiding Dangerous Climate Change to Protect Young People and Nature*, ARXIV.ORG (Mar. 23, 2012), http://arxiv.org/ftp/arxiv/papers/1110/1110.1365.pdf. Pertinent portions are summarized in Part II *infra*.

9. *See* ERIC POOLEY, THE CLIMATE WAR 18-23 (Hyperion 2010).

It is also important in evaluating offset protocols to consider that climate change mitigation policies have more than one function.[10] Especially in the context of sub-national governments, which cannot by themselves bring about sufficient emission reductions to prevent catastrophic climate change, climate hawks must be attuned to these other functions and modulate their activism accordingly. In particular, climate change policy must generate buy-in amongst an absolutely thorough swath of local, state, and federal governments, along with institutions of education, private industry, and civil society. New forms of knowledge and knowing must form and bring forth new technologies. Indeed, if we are to avoid catastrophic climate change, global warming policy must become the dominant form of governmentality. A lot of people in a lot of places will need to be counting carbon for the coming decades, even centuries. The emergence of this new form of governmentality carries with it extreme risks to material prosperity and political liberty,[11] but it has become necessary, and the goal of climate hawks should be to seek to carefully and deliberately shepherd it in.[12] The offset protocols of AB 32, I argue, provide just such an opportunity, and that opportunity is presently greater than the risk posed by false additionality.

In what follows, I briefly present the case for being a climate hawk before discussing the regulatory framework established by AB 32. I then sketch the outlines of the California CAT system

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10. Gabriel Wiel, *Subnational Climate Mitigation Policy: A Framework For Analysis*, 23 COLO. J. INT'L. ENVTL. L. & POL'Y. 285 (2012).

11. *See* PETER NEWELL & MATTHEW PATERSON, CLIMATE CAPITALISM (Cambridge Univ. Press 2010). Newell and Paterson set forth a chilling future in which climate capitalism (of which AB 32 is a part) fails, further hardening global inequalities and generating an extensive and repressive system of carbon surveillance.

> [G]overnments shift the burden of implementing carbon cuts squarely onto individuals. Personal Carbon Allowance schemes proliferate, but end up operating more as surveillance schemes, enabling the state to monitor personal behavior ever more intensively, rather than produce egalitarian outcomes. . . . The poor get locked even further into fuel poverty, decarbonising through not consuming, selling surplus allowances for a pittance while experiencing lives that are more and more intrusively monitored.

Id. at 171.

12. The contours of this new governmentality seem to me to be presently undertheorized. Suffice it to say, while necessary for success, the dangers to freedom, equality, and material prosperity from "environmentality" and the material conditions (climate change) that call it forth are unprecedented. *See, e.g.*, Timothy W. Luke, *Environmentality*, *in* THE OXFORD HANDBOOK OF CLIMATE CHANGE AND SOCIETY 96, 107 (Dryzek et al. eds., Oxford Univ. Press 2011) ("Too often environmentality discourse scales up totalizing solutions off raw data, which read like the draft diktats of expert 'environmental governors.' "). *See also* Ian Gough & James Meadowcroft, *Decarbonizing the Welfare State*, *in* THE OXFORD HANDBOOK OF CLIMATE CHANGE AND SOCIETY, *supra* note 12, at 490, 490 ("Unlike most other chapters in this Handbook, there is no systematic academic research, literature, or scholarly network on this particular topic, so we must gather material and build our arguments from what is available.").

before examining the details of each of the four offset protocols. The details of each protocol reveal the degree, and by what means, climate hawks can use that protocol to establish buy-in and develop expertise among a wide range of influential individuals and institutions.

II. THE CASE FOR BEING A CLIMATE HAWK

At the margin, anthropogenic climate change poses an existential threat to human civilization. Flood and drought (along with attendant migration), food security, additional stress on infrastructure, new and more prominent disease vectors, and increased air pollution (to name just a few of the difficulties) pose deep threats to material prosperity, national and personal security, and free and open societies.[13] The margin, however, is rapidly approaching: atmospheric CO_2 concentrations in excess of 400 ppm, and CO_2 concentrations are increasing at roughly two ppm per year.[14] The rate of increase is itself increasing.[15] Some climate scientists estimate that a Holocene type climate, the stability of which allowed for the development of the sort of complex societies and civilization we now take for granted, can be maintained only if CO_2 levels remain below 350 ppm.[16] Not only must greenhouse gas emission be reduced, but there must be a drawdown of forty-five ppm over the next century. No credible science indicates that we can avoid catastrophic climate change if CO_2 concentration exceeds 450 ppm.[17] The longer human societies and their governments delay this drawdown, the more aggressive and more expensive the mitigation policies will need to be.[18]

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13. *See generally* WILLIAM DEBUYS, A GREAT ARIDNESS: CLIMATE CHANGE AND THE FUTURE OF THE AMERICAN SOUTHWEST (Oxford Univ. Press 2011). *See also* Elizabeth G. Hanna, *Health Hazard*, *in* THE OXFORD HANDBOOK OF CLIMATE CHANGE AND SOCIETY, *supra* note 12, at 217; *see also*, Andrew T. Guzman, OVERHEATED: THE HUMAN COST OF CLIMATE CHANGE (2013).

14. *Trends in Atmospheric Carbon Dioxide*, NAT'L OCEANIC & ATMOSPHERIC ADMIN., http://www.esrl.noaa.gov/gmd/ccgg/trends/ (last visited May 28, 2013) (this reading was taken at Mauna Loa, Hawaii).

15. Hansen et al., *supra* note 8, at 1.

16. *See id.* at 4.

17. WORKING GROUP II, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, 4TH ASSESSMENT REPORT: CLIMATE CHANGE 2007 § 19.4.2.2 (2007), *available at* http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4_wg2_full_report.pdf.

18. *See* Stephen Pacala & Robert Socolow, *Stabilizing Wedges: Solving the Climate Problem for the Next 50 Years with Current Technologies*, 305 SCIENCE 968 (2004). A brief follow up study conducted in 2011 concluded that due to a lack of mitigation progress in the intervening seven years, humanity would have to deploy two additional wedges to stabilize CO_2 emissions. Robert Socolow, *Wedges Reaffirmed*, BULLETIN OF THE ATOMIC SCIENTISTS (Sept. 27, 2011), http://www.thebulletin.org/web-edition/features/wedges-reaffirmed.

At some point, probably soon, increased average atmospheric temperature will unlock irreversible "positive feedback" mechanisms.[19]

The axiom of this paper, adopted from Hansen et al., is that to achieve carbon dioxide concentrations of 350 ppm by the beginning of the 21st century, human societies must reduce overall emissions by six percent per year starting in the year 2013 and develop a 100 gigaton reforestation project.[20] Human societies are nowhere near achieving these reductions and drawdowns.[21] Climate hawks, then, are right to worry about the additionality of offsets; there is no time to allow financiers to comfortably push hot air around the commodities markets, and both sub-national and national governments have good reason to advance mitigation policies irrespective of the coordination problem posed by holdouts and free riders.

III. PRINCIPLES OF EVALUATION

The urgency of stringent greenhouse gas mitigation policy ought to be modulated so as to accommodate for the insufficiency of sub-national action. The analysis and recommendations that follow, then, are based upon the following principles.

First, reducing *emissions* is alone insufficient to drawdown atmospheric *concentrations* of carbon dioxide to a safe level. To reach this level, say 350 ppm, requires reduced emissions plus a 100 gigaton reforestation program (or some other means of removing carbon dioxide from the atmosphere, such as biochar).[22] Since offsets, assuming the veracity of additionality, are a part of reducing emissions but not necessarily atmospheric concentration

19. At the time of writing this, the Arctic sea ice established another new record minimum a full month before the end of the melting season. *See Arctic Sea-Ice Extent*, INTERNATIONAL ARCTIC RESEARCH CENTER-JAPAN AEROSPACE EXPLORATION AGENCY INFORMATION SYSTEM, http://www.ijis.iarc.uaf.edu/en/home/seaice_extent.htm (last visited May 29, 2013). The dissolution of summer Arctic sea ice is likely a point of no return.

20. This is the scenario set forth in Hansen et al., *supra* note 8, at 10. This briefing also notes that, had the mitigation policy commenced in 2005, a 3.5 percent emission reduction per year would have been sufficient. Delaying emission reductions until 2020 requires a fifteen percent per year rate of reduction to achieve 350 ppm CO_2 concentrations. *Id.*

21. For an example, see the Anderson and Bows analysis of the emission trajectory of the shipping industry. Kevin Anderson & Alice Bows, *Executing a Scharnow turn: Reconciling Shipping Emissions with International Commitments on Climate Change* in 3 CARBON MANAGEMENT 615 (2012), *available at* http://www.future-science.com/doi/pdfplus/10.4155/cmt.12.63. "Set against [shipping industry policies] and global communities' commitment to 'hold the increase in global temperature below 2°C', the shipping industry's EEDI and SEEMP leave the sector on a trajectory for emissions to be approximately 2200% higher by 2050 than is their fair and proportionate contribution." *Id.* at 622.

22. For a primer on biochar, see INTERNATIONAL BIOCHAR INITIATIVE, http://www.biochar-international.org (last visited May 29, 2013).

of carbon dioxide, they are a part of a system of mitigation that is necessary but not sufficient.

Second, California cannot by itself mitigate emissions or reduce concentrations of atmospheric CO_2 to avoid catastrophic climate impacts. *That* requires, sooner rather than later, policy action at both an international and a national level. The California program can, however, provide very important "incidental" effects. For one thing, mitigating emissions and adapting to climate change will require expertise and "buy-in" at absolutely every level of governance and society. The California program, including the offset protocols, provides excellent opportunities for developing the requisite expertise and buy-in, the value of which should not be underestimated by climate hawks.

Third, because of its excellent university system, technology firms, and venture capital, California is positioned to develop a great preponderance of the low-carbon technology necessary to displace the carbon-based technologies presently disrupting Earth's energy balance. Climate hawks should not underestimate the value of these technological developments; they undermine the viability of the status quo and will facilitate the uptake of GHG emissions mitigation policies in other jurisdictions.

Fourth, California legislation and regulations allow for the "linking" of jurisdictions.[23] In conjunction with other state programs (the Regional Greenhouse Gas Initiative[24] and the dormant Midwest Greenhouse Gas Reduction Accord[25]), there seems to be a high likelihood that a national greenhouse gas policy will be stitched together from the ground up (or, this presently seems to be at least as likely as Congressional action.) In any case, the effective existence of these various local and regional initiatives can be used to increase the pressure on Congress to pass effective federal legislation, which climate hawks should welcome.[26] Because of these "incidental" effects of state mitigation

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23. CAL. CODE REGS. tit. 17, §§ 94940-94943 (2011). S.B. 1018, 2011-2012 Leg., Reg. Sess. (Cal. 2012). Governor Brown recently approved a linkage with Quebec. *See* Lynn Doan, *California Carbon Advances After Governor Approves Quebec Link*, BLOOMBERG (Apr. 9, 2013, 6:56 PM), http://www.bloomberg.com/news/2013-04-09/california-carbon-advances-after-governor-approves-quebec-link.html.

24. *See* REGIONAL GREENHOUSE GAS INITIATIVE, http://www.rggi.org (last visited May 29, 2013).

25. *See Midwest Greenhouse Gas Reduction Accord*, CTR. FOR CLIMATE AND ENERGY SOLUTIONS, http://www.c2es.org/us-states-regions/regional-climate-initiatives/mggra (last visited May 29, 2013). The Energy Foundation has posted a draft of the Final Recommendations of the Advisory Board; s*ee also* THE ENERGY FOUND., MIDWESTERN GREENHOUSE GAS REDUCTION ACCORD: DRAFT FINAL RECOMMENDATIONS OF THE ADVISORY BOARD, *available at* http://www.ef.org/documents/Accord_Draft_Final.pdf (last visited May 29, 2013).

26. One can imagine, for instance, a mitigation regime of an extensive linking of state CAT programs accompanied by a federal "border adjustment" designed to protect local in-

policies, climate hawks should take care to insure, then, that they do not undermine these local and regional initiatives.

Offsets, then, cannot be opposed carte blanche. What attitude one takes toward a particular offset protocol depends upon the material and policy circumstances of the offset project, the degree to which it does indeed mitigate GHG emissions, and the degree to which it generates and disseminates expertise and buy-in. Some should be opposed, others should be tolerated for the time being, and others should be developed enthusiastically. Climate hawks should be conscious of making offsets scarce and reliable. They should also keep the long game in mind, which is a stable climate and the closing of the carbon market altogether. The strategy for accomplishing this depends upon the policy framework in which offset projects are being developed and the details of each offset protocol, subjects to which we now turn.

IV. AB 32: THE GLOBAL WARMING SOLUTIONS ACT

AB 32, signed by Governor Schwarzenegger in 2006, empowered the California Air Resource Board (ARB) to develop an extensive sequence of rules and regulations to reduce the state's greenhouse gas emissions to 1990 levels by 2020.[27] AB 32 also instructs ARB to update these regulations at least every five years so as "to maintain and continue reduction in emissions of greenhouse gases beyond 2020."[28] Executive Order S-3-05 further sets a greenhouse gas emission target of eighty percent below 1990 levels by 2050,[29] and the ARB "Climate Change Scoping Plan" of 2008 incorporates this standard, noting that this is "the level of greenhouse gas emissions that advanced economies must reach if the climate is to be stabilized in the latter half of the 21st century."[30] To meet the 2020 standard, the Scoping Plan calculates that California will have to reduce its greenhouse gas emissions by fifteen percent from 2008 levels and by thirty percent from the

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dustry and put pressure on foreign governments to institute their own pricing on GHG emissions.

27. California Global Warming Solutions Act of 2006 § 38550, CAL. HEALTH & SAFETY CODE § 38550 (West 2012).

28. *Id.* § 38551(b).

29. Exec. Order No. S-3-05, (Office of the Governor, June 1, 2005), *available at* http://gov.ca.gov/news.php?id=1861.

30. CAL. AIR RES. BD., CLIMATE CHANGE SCOPING PLAN 117 (2008) [hereinafter SCOPING PLAN], *available at* http://www.arb.ca.gov/cc/scopingplan/document/scopingplan document.htm. By this standard, California's emissions will have to be reduced from 427 million metric tons of CO_2 equivalent ($MMTCO_2E$) in 1990 to 85 $MMTCO_2E$ in 2050. Because of projected population increases, this would require a ninety percent reduction in per capita emissions, from 14.3 MT per person per year to 1.4 MT per person per year. *Id.* at 118.

business-as-usual trajectory.[31] Various regulatory elements, discussed below, are well into their implementation phase. The cap-and-trade element, which is the subject of this article, held its first auction in November 2012.[32]

CAT systems are but one part of a complicated and extensive system of regulation and governance. In theory, they are an elegant and simple way to commodify a negative externality. As will be seen in this paper, they require extensive and complicated planning amongst a great variety of stakeholders, all in the context of the material conditions and policy framework already in place in the jurisdiction. Further, since CATs typically "cover" only a portion of GHG-emitting operations, the mitigation of emissions from these "non-covered sources" (typically smaller and dispersed sources) depends upon other regulations and governance structures. To magnify the complexity of the mitigation regime, which is slowly emerging, the Environmental Protection Agency (EPA) has begun to promulgate the first federal greenhouse gas regulations, and they have survived their first legal challenge.[33] As this regulatory framework develops, it will change the policy framework in which California offset projects are funded and built. In the next section, I sketch some of this regulatory framework—that is set forth in the Climate Change Scoping Plan—so as to contextualize the prospective operation of the offset protocols. I then discuss the CAT and the four offset protocols.

V. THE SCOPING PLAN

AB 32 charged ARB, in collaboration with other California regulatory agencies, with developing a "Scoping Plan" that would identify those regulations required for California to meet the AB 32 target GHG emissions.[34] This "Framework for Change" describes the sources of California's greenhouse gas emissions and a variety of policies (some already in effect before the writing of the Scoping Plan) that will mitigate those emissions and encourage the development of low-carbon technologies.

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31. *Id.* at 24.

32. *Auction Information*, *supra* note 3.

33. *See* Coal. for Responsible Regulation, Inc. v. Entl. Prot. Agency, 684 F.3d 102 (D.C. Cir. 2012) (upholding the Endangerment Finding and the Tailpipe Rule, and dismissing challenges to the Timing Rule and Tailoring Rule based on lack of standing).

34. California Global Warming Solutions Act of 2006 § 38561, CAL. HEALTH & SAFETY CODE § 38561 (West 2012).

A. Transportation

Thirty-eight percent of California GHG emissions originate in the transportation sector, and the Scoping Plan's mitigation strategy relies heavily upon already existing state fuel and transportation standards.[35] These include the Pavley Act, which authorized the ARB to adopt standards for GHG emissions from mobile sources.[36] The EPA finally authorized a waiver from the Clean Air Act (CAA) preemption rule on July 8, 2009.[37] In an example of both the influence of California and path dependency, the EPA and the Department of Transportation are relying upon the experience and expertise of California in developing their greenhouse gas emissions standards for mobile sources.[38] Those standards were finalized on August 28, 2012.[39] ARB is also considering the implementation of a "feebate" program, which would place a fee on high-emitting vehicles and use the revenues to reduce the cost of low-emitting vehicles.[40] A recent report concludes that, even with the implementation of the Pavley standards, a feebate would result in additional reductions of greenhouse gases from the transportation sector.[41] Since 1990, the ARB has had a Zero-Emission Vehicle (ZEV) standard in place.[42] In the face of various pres-

35. SCOPING PLAN, *supra* note 30, at 11.

36. Pavley Act § 3, CAL. HEALTH & SAFETY CODE § 43018.5 (West 2012).

37. The Clean Air Act preempts states from adopting more stringent emissions standards than those promulgated by the EPA. However, because California already had regulations in place before the passage of the CAA, it can petition the EPA for a waiver of preemption. Once the EPA has granted California a waiver, other states are permitted to adopt the California standards. The Bush EPA originally denied the waiver request, but the Obama EPA granted it on July 8, 2009. Notice of Decision Granting a Waiver of CAA for California's Greenhouse Gas Emission Standards for New Motor Vehicles, 74 Fed. Reg. 32744 (Jul. 8, 2009).

38. *See, e.g.*, OFFICE OF TRANSP. AND AIR QUALITY, EPA, EPA AND NHTSA, IN COORDINATION WITH CALIFORNIA, ANNOUNCE PLANS TO PROPOSE GREENHOUSE GAS AND FUEL ECONOMY STANDARDS FOR PASSENGER CARS AND LIGHT TRUCKS (2011), *available at* http://epa.gov/otaq/climate/420f11027.pdf.

39. *See Obama Administration Finalizes Historic 54.5 mpg Fuel Efficiency Standards/Consumer Savings Comparable to Lowering Price of Gasoline by $1 Per Gallon by 2025*, ENVTL. PROTECTION AGENCY (Aug. 28, 2012), http://yosemite.epa.gov/opa/admpress.nsf/d0cf6618525a9efb85257359003fb69d/13f44fb4e2c2d39d85257a68005d0154!OpenDocument.

40. *See* DAVID S. BUNCH & DAVID L. GREENE, UNIV. OF CAL., DAVIS INST. OF TRANSP. STUDIES, POTENTIAL DESIGN, IMPLEMENTATION, AND BENEFITS OF A FEEBATE PROGRAM FOR NEW PASSENGER VEHICLES IN CALIFORNIA: INTERIM STATEMENT OF RESEARCH FINDINGS (2010).

41. DAVID S. BUNCH ET AL., POTENTIAL DESIGN, IMPLEMENTATION, AND BENEFITS OF A FEEBATE PROGRAM FOR NEW PASSENGER VEHICLES IN CALIFORNIA 12 (2011), *available at* http://www.arb.ca.gov/research/single-project.php?row_id=64833.

42. *Zero Emission Vehicle (ZEV) Program*, CAL. ENVTL. PROT. AGENCY AIR RES. BD. (Sep. 14, 2012), http://www.arb.ca.gov/msprog/zevprog/zevprog.htm.

sures,[43] it has undergone a variety of modifications, the most recent of which is to enlarge its ambit of concern beyond criteria pollutants to include GHGs.[44]

ARB calculates that in order to meet its 2050 goal of reducing GHG emissions by eighty percent from 1990 levels, nearly every single car on the road in California will need to be powered by a hydrogen fuel cell or electric battery, while fewer than fifteen percent will remain conventional, hybrid, or plug-in hybrid.[45] It has, therefore, promulgated a system of regulations and commenced a public-private collaborative to ensure that the development of hydrogen fueling stations and electrical charging stations matches increased use of ZEV.[46] AB 118 (2007) further establishes a grant fund to be deployed by ARB and the California Energy Commission (CEC) for research on technologies that will transform California's fuel and vehicle types.[47]

More efficient vehicles will result in overall reductions in CO_2 emissions only if the total number of miles driven remains steady or decreases, and the Scoping Plan is cognizant of already existing policies designed to reduce miles driven.[48] In California, Metropolitan Planning Organizations (MPOs) have authority over the development of regional transportation plans.[49] SB 375 (2008) directs ARB to establish regional greenhouse gas emissions reduction targets. MPOs are then to develop "Sustainable Communities Strategies" (SCP) which, upon approval by ARB, are incorporated into the region's "regional transportation plan" (RTP).[50] ARB has established GHG reduction goals for each MPO,[51] developed a methodology for evaluating the effectiveness of Sustainable

43. See WHO KILLED THE ELECTRIC CAR? (Papercut Films 2006) for a dramatized telling of these alterations.

44. *See* Exec. Order No. B-16-2012 (Office of the Governor, Mar. 23, 2012), *available at* http://www.gov.ca.gov/news.php?id=17472.

45. *See Advanced Clean Cars*, CAL. ENVTL. PROT. AGENCY AIR RES. BD., http://www.arb.ca.gov/msprog/consumer_info/advanced_clean_cars/consumer_acc_environment.htm (last visited May 30, 2013).

46. *See* CALIFORNIA PLUG-IN ELECTRIC VEHICLE COLLABORATIVE, http://www.evcollaborative.org (last visited May 30, 2013).

47. *See* California Alternative and Renewable Fuel, Vehicle Technology, Clean Air, and Carbon Reduction Act of 2007, CAL. HEALTH AND SAFETY CODE §§ 44270-44274 (West 2012).

48. For instance, the Scoping Plan takes the Low Carbon Fuel Standard as an important mitigation tool. SCOPING PLAN, *supra* note 30, at ES-7.

49. *Id.* at 47-48.

50. Sustainable Communities and Climate Protection Act of 2008, 2008 Cal. Stat. ch. 728.

51. AIR RES. BD., CAL. ENVTL. PROT. AGENCY, APPROVED REGIONAL GREENHOUSE GAS EMISSION REDUCTION TARGETS (2010), *available at* http://www.arb.ca.gov/cc/sb375/final.resolution.10.31.pdf.

Communities Strategies in meeting their reduction targets, and begun accepting SCS plans.[52]

Under the authority of AB 32, Governor Schwarzenegger ordered the ARB to develop regulations that would reduce the "carbon intensity" of transportation fuels by ten percent by 2020.[53] The ARB accordingly promulgated a Low Carbon Fuels Standard (LCFS), which a few other states have adopted.[54] Carbon intensity (CI) is expressed in mass of carbon emitted per unit of energy. The energy needed to extract, process, refine, and transport the fuel to its end-use are all included in the CI.[55] Fuels with high CI, such as the Canadian tar sands and corn-derived ethanol, will have a difficult time competing in the California market. Interested industries have challenged the constitutionality of the LCFS, and a district court granted an injunction under the authority of the "dormant" commerce clause.[56] The Ninth Circuit has stayed the injunction pending ARB's appeal and ARB has recommenced reporting requirements.[57]

B. Energy Efficiency

California has been a leader in deploying policy instruments that require and encourage the use of energy efficiency technologies and practices.[58] Building off this tradition has allowed the California Energy Commission (CEC) to promulgate the nation's most stringent energy efficiency codes. By 2020 all new residential construction must be "net zero energy," as must be

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52. AIR RES. BD., CAL. ENVTL. PROT. AGENCY, DESCRIPTION OF METHODOLOGY FOR ARB STAFF REVIEW OF GREENHOUSE GAS REDUCTIONS FROM SUSTAINABLE COMMUNITIES STRATEGIES (SCS) PURSUANT TO SB 375 (2011), *available at* http://www.arb.ca.gov/cc/sb375/scs_review_methodology.pdf.

53. Exec. Order No. S-01-07, (Office of the Governor, Jan. 18, 2007), *available at* http://www.arb.ca.gov/fuels/lcfs/eos0107.pdf.

54. *See 11 States to Adopt California's Low Carbon Fuel Standard*, ENVIRONMENTAL LEADER (Jan. 4, 2010), http://www.environmentalleader.com/2010/01/04/11-states-to-adopt-californias-low-carbon-fuel-standard/.

55. *See* Exec. Order No. S-01-07, *supra* note 53 (requiring that LCFS be "measured on a full fuels cycle basis").

56. Rocky Mountain Farmers Union v. Goldstene, 843 F. Supp. 2d 1042, 1070 (E.D. Cal. 2011).

57. CAL. AIR. RES. BD., LCFS ENFORCEMENT INJUNCTION IS LIFTED, ALL OUTSTANDING REPORTS NOW DUE (Apr. 30, 2012), *available at* http://www.arb.ca.gov/fuels/lcfs/LCFS_Stay_Granted.pdf.

58. See for example, S.B. 1037, 2005-2006 Leg., Reg. Sess. (Cal. 2005) and Assemb. B. 2021, 2005-2006 Leg., Reg. Sess. (Cal. 2006), which directed electricity utilities to prioritize meeting their resources needs through energy efficiency and demand response rather than increased generation. California pioneered the policy of "decoupling" utility profits from generation. This removes the incentive for utilities to discourage customers from employing energy efficiency technologies.

all new commercial construction by 2030.[59] The soon-to-be promulgated 2013 Building Energy Efficiency standards will also reduce water usage (one-fifth of electricity generation and one-third of natural gas are used to transport, heat, and treat water), encourage the use of whole house fans (which cool the house during the night thereby reducing AC load during the day), and require that all new houses have solar readying roofs.[60] It will also require improved insulation on hot water pipes, the installation of more efficient windows, and the verification of efficient AC installation and operation.[61] In line with other analysis, the CEC projects that the standards will increase upfront construction costs by $2,290 and return more than $6,200 over the course of a thirty year mortgage.[62] This will eliminate the projected need of building six new power plants.[63]

The upfront cost involved in financing energy efficiency, along with well-known market failures (split-incentives between property owner and lessee, beneficial externalities, lack of consumer information) make energy efficiency an underutilized market, and part of the Scoping Plan outlined the development of innovative financing mechanisms. For instance, the CEC has developed a low interest loan program (one percent) for the financing of energy efficiency projects undertaken by public institutions.[64] The loan is to be paid back from the energy savings accrued over the subsequent fifteen years. A Public Utilities Commission report authored by Harcourt Brown & Carey also suggests innovative business models and public policies that might circumvent these market failures.[65] Public policy that steers the financial markets towards the development of healthful projects is an indispensible element of a successful climate mitigation and adaptation policy.[66]

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59. Proposed language for revisions of Title 24, Part 6 can be found at CAL. ENERGY COMM'N, PROPOSED 2013 BUILDING ENERGY EFFICIENCY STANDARDS (May 2012), *available at* http://www.energy.ca.gov/2012publications/CEC-400-2012-004/CEC-400-2012-004-15 DAY.pdf. *See also Energy Commission Approves More Efficient Buildings for California's Future*, CAL. ENERGY COMM'N (May 31, 2012), http://www.energy.ca.gov/releases/2012_ releases/2012-05-31_energy_commission_approves_more_efficient_buildings_nr.html, for a helpful and non-technical press release.

60. *Energy Commission Approves More Efficient Buildings for California's Future*, *supra* note 59.

61. *Id.*

62. *Id.*

63. *Id.*

64. *See Energy Efficiency Financing*, CAL. ENERGY COMM'N, http://www.energy.ca.gov/ efficiency/financing (last visited May 31, 2013).

65. HARCOURT BROWN AND CAREY, INC., ENERGY EFFICIENCY FINANCING IN CALIFORNIA: NEEDS AND GAPS (2011), *available at* http://uc-ciee.org/downloads/EEFinanceReport Carey.pdf.

66. For an example of how the financial markets shape the environmental impacts of projects undertaken in real markets, see Heather Hughes, *Securitization and Suburbia,* 90 OR. L. REV. 359 (2011) (discussing mezzanine level loans and urban sprawl).

Energy efficiency alone will not be sufficient to meet the 2050 greenhouse gas mitigation goals. Between now and then, the generation of electrical power must cease to depend upon the combustion of hydrocarbons. Renewable Portfolio Standards, which require energy generating utilities to generate a percentage of their energy from renewable sources, are presently popular at the state level, and California has one of the most aggressive standards in the nation.[67] By 2020, thirty percent of all energy generated is to come from renewables.[68] The incorporation of renewables into the grid will require various modifications to transmission, storage, and coordination of the electrical grid. The intermittency of renewables is not unmanageable, but requires preparation and planning. The CEC's Renewable Energy Transmission Initiative (RETI) is developing the expertise required to make these modifications.[69]

The Scoping Plan also relies upon the Solar Hot Water and Efficiency Act of 2007 (SHWEA), which provides $250 million in incentives to install solar water heaters (with a goal of 200,000 installations by 2017) and the deployment of Combined Heat and Power (CHP).[70] The Million Solar Roofs Program is an important element of the Scoping Plan's strategy, as is High Speed Rail between southern and northern California, the more efficient management of waste, and the encouragement of sustainable management practices for the state's forest and agriculture sectors.[71] The Scoping Plan also identifies several policies to reduce the emissions of high global warming potential (GWP) gases, and ARB has adopted many of these policies as "discrete early" actions.[72]

Realizing that it cannot mitigate GHG emissions on its own, California is also taking the lead in an aggressive program of coordination among sub-national governments. According to the 2010 Climate Action Team Report to the Governor, California

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67. *See* Matt Zonis, *Interactive Map Compares States' Renewable Energy Goals*, CLIMATECENTRAL.ORG (July 22, 2011), http://www.climatecentral.org/blogs/interactive-map-to-compare-states-renewable-energy-goals.

68. In an example of the complexities of constructing CATS, the California regulations take account of the renewable energy credits requirements. CAL. CODE REGS. tit. 17, § 95852(b) (2013).

69. *See generally* BLACK & VEATCH, RENEWABLE ENERGY TRANSMISSION INITIATIVE: PHASE 2B (2010), *available at* http://www.energy.ca.gov/2010publications/RETI-1000-2010-002/RETI-1000-2010-002-F.PDF (discussing changes and results of the RETI).

70. SCOPING PLAN, *supra* note 30, at 43-44.

71. *Id.* at 53, 56, 62, 64-65, 67.

72. See *Greenhouse Gases in Consumer Products,* CAL. AIR RES. BD., http://www.arb.ca.gov/consprod/regact/ghgcp/ghgcp.htm (last modified Jun. 17, 2010), for a list of ARB's early action items pertaining to high GWP gases. The regulation of high GWP gases plays a crucial role in evaluating the Ozone Depleting Substances protocol.

is working with sub-national governments to develop policy, exchange information, build capacity and institutions, and undertake joint actions.[73] California, for instance, has also made agreements with Mexico and India.[74] It has organized and taken the lead with "R20" (Regions of Climate Action), a public-private collaboration designed to develop and implement low-carbon projects through the collaboration of developed and developing sub-national governments.[75] The Western Climate Initiative, the aspiration of which is to include all of the Western states and provinces in the California CAT by means of linkage, is the paradigmatic example of these inter-state collaborations.[76] Provisions on linkage, not discussed in this article, are critical for the building of a mitigation strategy from the ground up.

VI. CAP-AND-TRADE AND OFFSETS

Builders of cap-and-trade markets face a number of design decisions, the first of which is the identification of an initial "cap" on emissions. ARB has determined 1990 emissions to have been 427 million metric tonnes CO_2-equivalent ($MMTCO_2E$).[77] The California CAT covers a mix of "upstream" entities (e.g., providers of natural gas for domestic use) and "downstream" entities (e.g., energy generating units). Only facilities emitting more than 25,000 metric tons of CO_2-e are covered under the initial regulations.[78]

In order to "phase in" the program, ARB has chosen to regulate only electricity generating units and large industrial facilities (e.g., oil refineries and cement) during the first compliance period (2013 and 2014).[79] Total carbon credits worth 162.8 and 159.7 $MMTCO_2E$, respectively, are to be distributed during the first two

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73. CLIMATE ACTION TEAM, CAL. ENVTL. PROT. AGENCY, CLIMATE ACTION TEAM REPORT TO GOVERNOR SCHWARZENEGGER AND THE CALIFORNIA LEGISLATURE (2010), *available at* http://www.energy.ca.gov/2010publications/CAT-1000-2010-005/CAT-1000-2010-005.PDF.

74. *Id.* at 32-33, 34.

75. *About R20,* REGIONS OF CLIMATE ACTION, http://regions20.org/about-r20 (last visited June 1, 2013).

76. *See About the WCI*, WESTERN CLIMATE INITIATIVE, http://www.westernclimateinitiative.org/index.php?option=com_content&view=article&id=2&Itemid=3 (last visited June 1, 2013).

77. *See* CAL. AIR RES. BD., CALIFORNIA 1990 GREENHOUSE GAS EMISSIONS LEVEL AND 2020 EMISSIONS LIMIT 1 (2007), *available at* http://www.arb.ca.gov/cc/inventory/pubs/reports/staff_report_1990_level.pdf.

78. CAL. CODE REGS. tit. 17, § 95812(c) (2013).

79. *See id.* § 95851 ("Phase-in of Compliance Obligation for Covered Entities"), § 95812 ("Inclusion Thresholds for Covered Entities"), § 95852 ("Emission Categories Used to Calculate Compliance Obligations"). For convenience, the list of covered entities can be found at AIR RES. BD., CAL. ENVTL. PROT. AGENCY, PRELIMINARY DRAFT LIST OF ENTITIES COVERED BY THE CAP-AND-TRADE PROGRAM (Oct. 27, 2011), *available at* http://www.arb.ca.gov/cc/capandtrade/covered_entities_list.pdf.

years.[80] In the second and third compliance periods (years 2015-2020), other entities will be incorporated into the CAT scheme, at which point the cap resets at 394.5 $MMTCO_2E$ and declines to 334.2 by 2020.[81] Based upon historical emissions data, each individual firm is then assigned an emissions allowance.[82]

Although the default procedure for allocating allowances in the California CAT is an auction, the regulations designate a certain portion to facilitate goals besides reduction in GHG emissions.[83] The allocation procedure accommodates the relative ability of some firms to pass the costs through to consumers, recognizes the overlap between upstream/downstream covered entities, and works around other regulations already in place.[84]

Some of the allowances are to be allocated to an Allowance Price Containment Reserve, which, in conjunction with the minimum bidding price, places a price "collar" on allowances.[85] Some of the allowances are to be allocated to some covered entities that are considered to be particularly exposed to "leakage" (the fleeing of GHG emitting activities from the jurisdiction or below the 25,000 metric tons of CO_2-e threshold).[86] These free allocations are to be based upon technical benchmark formulas designed to determine a particular facility's relative efficiency vis-à-vis other similarly situated entities.[87] Some of the allowances are to be allocated free to electrical distribution entities, which are then required to auction these allowances and utilize the proceeds to protect consumers.[88] The hope is that generators and retailers of electrical power will feel the "price signal" and modify their behavior accordingly while the consuming public proceeds with life as usual.

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80. CAL. CODE REGS. tit. 17 § 95841.

81. *Id.*

82. Correctly establishing this overall cap and each firm's emission limits is critical to the functioning of CATs. It seems to be the main reason the European Trading Scheme collapsed during the first compliance program. *See* NEWELL & PATERSON, *supra* note 11, at 101-02.

83. Auctioning the allowances is necessary to develop a "price signal" for the negative externality of GHG emissions. It also develops an income stream which the government can use to fund various activities.

84. AIR RES. BD., CAL. ENVTL. PROT. AGENCY, PROPOSED REGULATION TO IMPLEMENT THE CALIFORNIA CAP-AND-TRADE PROGRAM APP. J ALLOWANCE ALLOCATION J-11 (2010), *available at* http://www.arb.ca.gov/regact/2010/capandtrade10/capv4appj.pdf.

85. *Id.*

86. *Id.* at J-22-23. Each facility type is assigned an Assistance Factors (AF) number, which designates the facility's relative exposure to both leakage and need for "transition assistance." *Id.* The AF is then used to compute each facility's allocation of free allowances. *Id.*

87. *Id.*

88. *Id.* at J-17-18.

The CAT regulations allow covered entities to trade allowances and to satisfy some of their compliance requirements through the purchase of "offsets." By means of developing projects that either remove GHG from the atmosphere or prevent the emission of GHG's, which would have been emitted but for the project, firms can earn "offset credits." Firms may surrender these offset credits to the compliance authority in satisfaction of their allocation requirements.[89]

California CAT regulations prohibit firms from satisfying their compliance requirements with an allowance portfolio comprised of more than eight percent offset instruments.[90] Accordingly, during phases I, II, and III of the CAT, 25.8, 91.8, and 83.1 million tons, respectively, of potential offset credits may be used by covered entities to satisfy compliance obligations. The price collar constrains the price of carbon between ten and about fifty dollars per ton,[91] so that the California offset market is potentially worth between $831 million and $4.155 trillion.[92] Some of the California offset protocols explicitly build insurance into the issuance of credits,[93] but the insurance industry has already been developing insurance instruments for the Kyoto offset market.[94] Indeed, the stability and the certainty of this market require an adequate secondary insurance market.

ARB regulations allow for the development of offset projects in the United States or its Territories, Canada, and Mexico.[95] ARB has hitherto approved four offset "protocols": for ozone depleting substances (i.e., destruction of CFCs); for livestock waste management (combustion of methane); for urban forest projects (i.e., municipal tree management); and for U.S. forest projects (i.e.,

89. CAL. CODE REGS. tit. 17, §§ 95821(b), 95970.

90. CAL. CODE REGS. tit. 17, § 95854. Environmentalists counter that while eight percent seems like a small portion of the compliance instrument portfolio, it could account for up to eighty-five percent of year-over-year emission reductions. Anne C. Mulkern, *Offsets Could Make Up 85% of Calif.'s Cap-and-Trade Program*, N.Y. TIMES, Aug. 8, 2011, http://www.nytimes.com/gwire/2011/08/08/08greenwire-offsets-could-make-up-85-of-califs-cap-and-tra-29081.html?pagewanted=all. Thus, rather than reducing emissions, firms could satisfy the greater portion of their "reductions" through offsets. Thus, insufficient pressure is placed on emitters to reform their production methods so as to reduce GHG emissions.

91. AIR RES. BD., CAL. ENVTL. PROT. AGENCY, PROPOSED REGULATION TO IMPLEMENT THE CALIFORNIA CAP-AND-TRADE PROGRAM: INITIAL STATEMENT OF REASONS app. E, E-16, *available at* http://www.arb.ca.gov/regact/2010/capandtrade10/capv3appe.pdf.

92. These figures were developed on the back of the envelope calculation: the minimal is multiplying the minimal price times 25.8 million tons of CO_2e and the maximal is multiplying the maximum price of CO_2e times 83.1 million tons of CO_2e.

93. *See* CAL. CODE REGS. tit. 17, § 95983; *see also* CAL. AIR RES. BD., COMPLIANCE OFFSET PROTOCOL: U.S. FOREST PROJECTS (2011), discussed *infra* Part X.

94. *See* Anna Gaynor, *Insurance Covers Invalidation of Calif. Carbon Offset Credits*, BUS. INS. (May 23, 2013, 3:54 PM), http://www.businessinsurance.com/article/20130522/NEWS07/130529931.

95. CAL. CODE REGS. tit. 17, § 95972(c).

reforestation, improved management, and avoided deforestation).[96] For comparison, the Clean Development Mechanism (CDM) recognizes over 201 offset methodologies.[97] The Regional Greenhouse Gas Initiative recognizes five offset protocols[98] and the Climate Action Reserve, from which the ARB has been developing its protocols, has thirteen protocols and one in progress.[99]

In general, offset protocols require an Offset Project Operator (OPO) or Authorized Project Designee (APD) to establish a hypothetical (but empirically grounded) baseline of GHG emissions that would have occurred but for the completion of the project.[100] APDs are then required to develop the project and measure either avoided GHG emissions or removed GHGs. The difference between the baseline emissions and the measured reduction are then credited.[101] Those credits can be sold to covered entities that can then use them to satisfy their compliance requirements.[102] Further, all protocols require APDs to quantify and subtract the GHG emissions which result from the offset project itself (i.e., electrical power used to destroy ozone depleting substances) and to account for leakages associated with the project.[103] Because the baseline includes both law and regulations, it is possible to shift the baseline up or down.[104]

I now consider the offset protocols themselves, so as to identify ways climate hawks might use them to facilitate buy-in, disseminate expertise, insure their reliability, and anticipate the eventual closure of the market.

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96. *See infra* Parts VII-X.

97. *See Approved CDM Methodologies*, UNEP RISOE CDM/JI PIPELINE ANALYSIS AND DATABASE (last visited June 1, 2013), http://cdmpipeline.org/cdm-methodologies.htm.

98. The five protocols are for capture and destruction of methane at landfills, reduced emissions of SF6 from electricity transmission and distribution, afforestation, reduced CO_2 emissions from energy efficiency in buildings, and avoided methane emissions through agriculture manure management. REGIONAL GREENHOUSE GAS INITIATIVE, FACT SHEET: RGGI OFFSETS (2010), *available at* http://www.rggi.org/docs/RGGI_Offsets_in_Brief.pdf. The RGGI restricts offsets projects to participatory jurisdictions, or jurisdictions that have signed an MOU. *Id.*

99. *Protocols*, CLIMATE ACTION RESERVE (last visited June 1, 2013), http://www.climateactionreserve.org/how/protocols/.

100. *Offset Project Operators*, CAL. ENVTL. PROT. AGENCY AIR RES. BD., http://www.arb.ca.gov/cc/capandtrade/offsets/operators/operators.htm (last updated Feb. 27, 2013).

101. AIR RES. BD., CAL. ENVTL. PROT. AGENCY, CAP-AND-TRADE REGULATION INSTRUCTION GUIDANCE ch. 6 at 1 (2012), *available at* http://www.arb.ca.gov/cc/capandtrade/guidance/chapter6.pdf.

102. *Id.*

103. *Id.* at 4.

104. CAL. CODE REGS. tit. 17, § 95973(a)(2)(A).

VII. OZONE DEPLETING SUBSTANCES

Ozone depleting substances (ODS) are artificial chemical compounds used as refrigerants, foam blowing agents, solvents, and fire suppressants. They have very high global warming potentials—anywhere between several hundred and several thousand times that of CO_2.[105] Under the right circumstances, the California protocol allows for the generation of offset credits for the destruction of ODS.

The protocol requires that the destruction of ODS occur at facilities certified under a variety of federal provisions (e.g., RCRA, the CAA, and HESHAP) and distinguishes between those ODS found in refrigerants[106] and those found in foams.[107] In accordance with the Montreal Protocol, U.S. domestic law has phased out the production of ODS material, and the protocol is applicable only to ODS produced before the phase-out. Although the regulations allow for the development of projects in both Canada and Mexico, the ODS offset protocol requires that all destroyed ODS be sourced from the United States and destroyed in a U.S. facility.[108] The protocol considers the destruction of ODS by the U.S. government to be "business-as-usual" and therefore not eligible for crediting.[109] It also "estimates baseline emissions according to the assumption that refrigerant ODS would be entirely recovered and resold."[110] All collection and destruction of ODS must be in accordance with any federal, state, or municipal requirements.[111]

With respect to the destruction of refrigerants, the protocol establishes a baseline of ten-year emissions from leaking equipment and the servicing of the equipment, not the complete venting of the refrigerant.[112] The ten-year baseline emission rate is calculated from the date of destruction.[113] The protocol identifies the ten-year emissions rates for six ODS species, which ranges

105. *See Global Warming Potentials of ODS Substitutes*, ENVTL. PROT. AGENCY, http://www.epa.gov/ozone/geninfo/gwps.html (last updated Mar. 28, 2011).

106. The protocol allows for credits from the destruction of the following "ODS species" used as refrigerants: CFC-11, CFC-12, CFC-13, CFC-113, CFC-114, and CFC-115. CAL. AIR RES. BD., COMPLIANCE OFFSET PROTOCOL: OZONE DEPLETING SUBSTANCES PROJECTS § 5.1, at 16 tbl.5.1 (2011).

107. The protocol allows for credits from the destruction of the following ODS found in foam: CFC-11, CFC-12, HCFC-22, and HCFC-141b. *Id.* § 5.1.2., at 19 tbl. 5.3.

108. *Id.* § 3.1.

109. *Id.* § 3.4.

110. *Id.* § 5.1.1.

111. *Id.* § 3.5.

112. *Id.* § 5.1.1.

113. *Id.*

between sixty-one percent (CFC-115 and -13) and ninety-five percent (CFC-12).[114]

The baseline for foam destruction, either from insulation recovered from appliances or from building demolition, is that the foam will be landfilled.[115] As with refrigerants, the baseline does not assume that the entire ODS content of the landfilled foam will be emitted, but calculates a ten-year emission rate.[116] For appliance foam, this is between forty-four percent (CFC-11) and seventy-five percent (HCFC-22).[117] For building foam the ten-year emissions rate is between twenty percent (CFC-11) and sixty-five percent (HCFC-22).[118]

Project emissions under this protocol include GHG emissions from non-ODS substitutes, GHG emissions from removing ODS containing blowing agent, GHG emissions from the transportation of ODS, and GHG emissions from the destruction of ODS.[119] APDs are required to calculate the GHG potential of non-ODS species refrigerants that would be used to replace the destroyed ODS.[120] Some ODS from blowing agents will be emitted during its extraction at the time of building demolition, and the protocol requires APDs to calculate this amount based upon the total amount of ODS recovered multiplied by a "recovery efficiency" scalar.[121] The transportation and destruction of the ODS will also emit GHG, and the protocol conservatively allows for default emissions of 7.5 metric tons CO_2-e per metric ton of ODS when that ODS had been used as either a refrigerant or entrained in blowing agents.[122] The default emissions are seventy-five metric tons CO_2-e per metric ton of intact building foam projects.[123] APDs may also calculate transportation and destruction emissions on a project-by-project basis.[124] Finally, the protocol includes monitoring, reporting, and verifying requirements used to determine and record the amount of ODS actually destroyed by a particular project.[125]

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114. *Id.* § 5.1.1., at p. 17 tbl.5.2.
115. *Id.* § 5.1.2.
116. *Id.*
117. *Id.* § 5.1.2., at 19 tbl.5.3.
118. *Id.*
119. *Id.* § 5.2.
120. *Id.* § 5.2.1 at 21 tbl. 5.4. The protocol displays the global warming potential of the replacement but gives no intimation of what those replacements actually are.
121. *Id.* § 5.2.2. The recovery efficiency is calculated on a per project basis in accordance with a sampling methodology set forth in Appendix A. In the absence of the application of the methodology APDs may assume a recovery efficiency of 14.9 percent. *Id.* app. A.
122. *Id.* § 5.2.3.
123. *Id.*
124. *Id.* §§ 5.2.4-.5.
125. *See id.* §§ 6-8.

A. Recommendations on ODS Protocol

Some things about the California ODS offset protocol should not raise concerns amongst climate hawks. First, one of the most controversial offset methodologies from the CDM is for the destruction of HFC-23, which is a by-product of the manufacturing of HCFC-22.[126] In some instances, the value of the offset credits exceeds the value of the product, which creates the contrary incentive to develop HCFC-22 just for the offset credits.[127] The ARB intentionally excluded HFC-23 from the list of ODS species eligible for offset credits.[128] Climate hawks, then, cannot oppose the ODS offset protocol for this reason but should monitor it to ensure that HFC-23 is not added to the ODS-species list.

Second, the EPA already regulates the disposal of many appliances. For refrigerators, the EPA already requires that the refrigerant be collected, but the blowing agent is not.[129] With the recent affirmation of the EPA's power to regulate greenhouse gases,[130] it apparently now has the authority to regulate blowing agents as well, and climate hawks should encourage such regulations. Many states also regulate the collection and disposal of refrigerators. Wisconsin, for instance, prohibits the release of ozone depleting substances to the environment, including HFCs.[131] California has a similar requirement.[132] In these cases, climate hawks, rather than challenging the offset protocol, should monitor and challenge ODS offset projects to make sure that the state in which they are taking place does not already require the destruction of the refrigerant. Similarly, for purposes of reducing load, utilities have an incentive to purchase old and inefficient refrigerators.[133] Purchasing refrigerators specifically for the purpose of generating offset credits is a permissible practice under the CAT, but climate hawks should consider and monitor whether

126. Kramer, *supra* note 4.

127. *Cf.* Rosenthal & Lehren, *supra* note 6.

128. *See* AIR RES. BD., CAL. ENVTL. PROT. AGENCY, PROPOSED REGULATION TO IMPLEMENT THE CALIFORNIA CAP-AND-TRADE PROGRAM: STAFF REPORT AND COMPLIANCE OFFSET PROTOCOL: U.S. OZONE DEPLETING SUBSTANCES PROJECTS 7 (2010), *available at* http://www.arb.ca.gov/regact/2010/capandtrade10/cappt3.pdf.

129. *See Disposing of Appliances Properly*, ENVTL. PROT. AGENCY, http://www.epa.gov/ozone/partnerships/rad/raddisposal_factsheet.html (last visited June 2, 2013).

130. *See* Coalition for Responsible Regulation, Inc. v. Envtl. Prot. Agency, 684 F.3d 102 (D.C. Cir. 2012).

131. WIS. ADMIN. CODE NR § 488.03 (2013).

132. CAL. PUB. RES. §§ 42167, 42175 (West 2013).

133. Southern Californian Edison has such a program. *See Refrigerator Recycling*, S. CAL. EDISON, http://www.sce.com/residential/rebates-savings/appliance/fridge-freezer-recycling.htm?from=pickup (last visited June 2, 2013).

such purchases might be a double incentive in some jurisdictions and challenge and remove such possible double incentives.

There are, however, a couple of things for climate hawks to be concerned about. First, the production of ODS is being phased out under the Kyoto Protocol. However, non-ODS replacement compounds (still necessary for refrigeration) are also greenhouse gases with high global warming potential. CFC's have been replaced with HCFCs and HFCs. HCFCs have lower ozone depleting potential than CFCs and HFCs do not destroy ozone at all. Both, however, are greenhouse gases.[134] The ODS protocol does not presently incentivize the destruction of those GHGs, and yet these must be prevented from entering the atmosphere. Since the Montreal Protocol does not allow for the regulation of these compounds, they must be suppressed by other means, some of which California has undertaken and which climate hawks should pursue in other jurisdictions.[135]

Otherwise, the market for ODS offset credits is potentially short-lived and will produce buy-in amongst both offset producers and covered entities who are interested in the purchase of offsets. Climate hawks should consider advancing regulatory actions that will further shorten the life span of the ODS offset credit market. To ensure the scarcity and reliability of this type of offset credit, climate hawks might even consider building and supporting non-profits engaged in ODS offset projects. Because they have no shareholders, they could potentially develop offset projects more aggressively and more cheaply than for-profit entities. This would help ensure the integrity of these offset credits and also hasten the closing of this market.

VII. LIVESTOCK PROJECTS

The "Livestock Projects" protocol (really a manure protocol) allows for the production of offsets for the mitigation of GHG biogas emissions (mostly methane, CH4) associated with the installation of "manure biogas capture and destruction technologies."[136] It presently applies only to dairy cattle and swine farms.[137] The crediting period is ten years.[138]

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134. *See* Guus J.M. Velders et al., *The Importance of the Montreal Protocol in Protecting Climate*, 104 PROC. NAT'L ACAD. SCI. 4814 (2007).

135. California has attempted to reduce emission from mobile air conditioning. *See HFC Emission Reduction Measures for Mobile Air Conditioning*, CAL. ENVTL. PROT. AGENCY AIR RES. BD. (last updated Mar. 2, 2011), http://www.arb.ca.gov/cc/hfc-mac/hfc-mac.htm.

136. AIR RES. BD., CAL. ENVTL. PROT. AGENCY, COMPLIANCE OFFSET PROTOCOL: LIVESTOCK PROJECTS § 1 (2011).

137. *Id.*

138. *Id.* § 3.3.

The protocol distinguishes between two types of baselines. The first is for already existing livestock operations, for which the APD must "demonstrate that the depth of the anaerobic lagoons or ponds prior to the offset project's implementation were sufficient to prevent algal oxygen production and create an oxygen-free bottom layer; which means at least one meter in depth."[139] For new livestock operations, the project developer must show that "uncontrolled anaerobic storage and/or treatment of manure is common practice in the industry and geographic region where the offset project is located."[140]

In both cases, "project baseline emissions must be calculated according to the manure management system in place prior to installing the [Biogas Control System] BCS."[141] Further, "project baseline emissions must be calculated each year of the offset project."[142] The baseline emissions are calculated by summing the emissions from all anaerobic storage and treatment and all non-anaerobic storage and treatment.[143] The formulas for doing this take into account, inter alia, the species, mass, and number of livestock in the project boundaries; the rate at which those livestock produce manure (adjusting for such things as difference in rate of manure production between, e.g., lactating and non-lactating cows); and the "proportion of volatile solids that are biologically available for conversion to methane based on the monthly temperature of the system."[144]

Actual GHG emissions are calculated by summing the annual emissions of methane from the BCS, the methane emissions from the BCS effluent pond, and the annual methane emissions from other possible sources in the system.[145] The equations for calculating these values account for the volume of methane collected, the efficiency of the destruction devices, accidental and intentional venting events, and the amount of additional anthropogenic CO_2 emitted to the atmosphere because of the manure project.[146] Sources of anthropogenic CO_2 include the emissions associated with the generation of electricity used by pumps and equipment, fossil fuel generators used to destroy biogas or power

139. *Id.* § 3.4.1.
140. *Id.*
141. *Id.* § 5.1.
142. *Id.* The comparison, made explicit in NEWELL & PATERSON, *supra* note 11, is with a "static baseline" in which baseline emissions are assessed once before the development of the project and never reassessed. The protocol seems to anticipate that there will be yearly changes in the number and species of livestock.
143. *Id.* § 5.1.
144. *See id.* § 5.1, at 13-16.
145. *See id.* § 5.2, at 19.
146. *Id.* § 5.4.

pumping systems or milking parlor equipment, flares, tractors, and on-site and off-site vehicles used to haul manure.[147] Emissions from the combustion of methane (i.e., CO_2) are considered biogenic rather than anthropogenic and therefore not included in the project boundary.[148]

A. Recommendations for Livestock Protocol

With respect to additionality, climate hawks worry that the biogas offset protocol allows firms to profit off GHG emissions which would have occurred anyhow. This is especially so for the construction of new facilities, the baseline for which is computed by reference to the customary standard in the area. The capture and destruction of GHG emissions from manure lagoons, they argue, ought to be required in the first place. Allowing emitters to profit from doing what they should be doing already is both insufficiently aggressive and disingenuous.

If one is worried only about additionality, then this argument is pretty convincing. If one is concerned also about buy-in and the development of expertise, this attitude must be modulated. First, the customary standard for new facilities incentivizes the construction of BCS projects in areas where there is no custom of developing such projects. Initially, this will incentivize a race to the top. Other facilities in the area will be at a competitive disadvantage vis-à-vis the newer BCS facility and will have incentives to also install BCS equipment. At some point, presumably determined by a common law court, the inclusion of BCS equipment will become customary, at which point new facilities will no longer have an incentive to include BCS projects. One worry, then, is that eventually the customary standard when applied to new projects will increase the entrance cost for new "sustainable" agriculture projects. This is an undesirable result. Climate hawks need to tend carefully to the federal, state, and local laws impacting the competitiveness of local, sustainable, and organic agriculture. It is helpful that this offset protocol is limited to dairy cattle and swine farms.

With respect to already existing facilities, the question is whether transferring money from emitters in California to pay for emission reductions at another facility is superior to state mandated BCS installation, probably supported with government subsidies. The goal ought to be to use markets to eliminate emissions, produce buy-in and expertise, and then close off the market.

147. *Id.*
148. *Id.*

The livestock offset protocol allows for a ten-year crediting period for projects, after which a project must seek re-accreditation.[149] One tactic climate hawks might take, then, is to challenge re-accreditation, arguing that since the BCS is already in place, the baseline for the project has changed to include that infrastructure. Rather than oppose the offset protocol, then, climate hawks should also work to do what they should be doing anyhow—advancing state and federal regulations that require the capture and destruction of biogases.

Another worry with the biogas offset protocol is that it does not sufficiently account for the financial and economic incentives for the development of these projects that are already in place in some jurisdictions. Because BCS provide a multitude of environmental benefits, including to water quality, some states already subsidize the construction of these projects.[150] In many cases, it is financially feasible to combust the collected methane and generate steam or electric power, which can then be used or sold, and in some jurisdictions the generation of this power can count towards a utility's satisfaction of the local renewable energy portfolio.[151] The offset protocol ought to account for these and other policy incentives to make sure that GHG mitigation projects do not double count.

The CA Biogas Protocol, then, provides considerable opportunities to generate buy-in and expertise. It also contains mechanisms, which if correctly used, would allow for the closing of the market. Rather than oppose this protocol, climate hawks ought to promote the development of technical expertise and work for the closure of the market through the promulgation of regulation.

IX. URBAN FORESTS

The California CAT includes two offset protocols designed to encourage the sequestration of carbon through the growing—or avoided destruction—of trees. One is for "urban" forest projects undertaken by municipalities, educational campuses, and utilities.[152] This protocol applies to tree sites that contain "one tree at a time" and anticipates the sort of tree-by-tree planning and

149. *Id.* § 3.3.

150. Wisconsin, for instance, has begun to subsidize biogas electrical power generating projects. Dan Haugen, *Why is Wisconsin Program Shifting Away from Solar?*, MIDWEST ENERGY NEWS (May 29, 2012), http://www.midwestenergynews.com/2012/05/29/wisconsin-focus-on-energy-shifting-away-from-solar/.

151. *Id.*

152. AIR RES. BD., CAL. ENVTL. PROT. AGENCY, COMPLIANCE OFFSET PROTOCOL: URBAN FOREST PROJECTS § 2.1 (2011).

maintenance done along sidewalks and in parks.[153] The crediting period is twenty-five years, and projects must be verified at least every six years.[154]

For municipalities and campuses, the "business-as-usual threshold" is annual net tree gain (NTG).[155] The APD measures the "business-as-usual threshold" NTG by determining the average annual difference between plantings and removals over the five years previous to the commencement of the offset project. Any offset project must then exceed a "threshold" of zero (also over a five year average), which signifies a "stable urban forest population."[156] The protocol allows for computing averages over short periods of time when a project is younger than five years old.[157] When NTG is positive, the project has sequestered carbon and is eligible to receive offset credits.[158]

For utilities, the protocol simply defines additionality as follows: "Trees planted that replace those removed during line clearance operations or are planted for energy conservation are eligible for offset credits."[159] Rather than requiring utilities to prove a baseline (or "threshold"), as is required of municipalities and campuses, the protocol asserts that "these types of projects are not common practice and not required by regulation."[160] Section Four designates which trees count: "[trees planted] [i]n parks, streets, parking lots, private property, and open spaces."[161]

To be eligible for offset credits, any of the three entities must quantify their CO_2 reductions by identifying and calculating the amount of carbon sequestered by any additional trees and then subtracting any carbon emissions caused by the management of these additional trees.[162] Carbon sequestration is to be calculated by directly measuring either the entire tree population (census) or by sampling.[163] The measurements are then inputted into allometric equations, which return values for tree volume, biomass,

153. "An offset project is defined by a specific number of project tree sites, determined a priori, that will be planted and maintained within one of the above types of entities over the offset project life." *Id.* For municipalities, trees must be planted "[a]long streets, in parks, city golf courses, cemeteries, near city buildings, greenbelts, city parking lots, and other public open space, or on private property." *Id.* § 4. For campuses, trees must be planted "[a]long streets, near classrooms, dorms, office buildings, near recreational fields and other facilities, in parking lots, arboretums, and other opens space." *Id.*

154. *Id.* § 1.

155. *Id.* § 3.4.1.

156. *Id.*

157. *Id.*

158. *Id.*

159. *Id.*

160. *Id.*

161. *Id.* § 4.

162. *Id.*

163. *Id.* § 5.1.1.

and carbon stock.[164] Emissions are to be measured by determining the volume of fuel consumed and multiplying by each fuel's emission factor.[165] For some equipment (e.g., backhoes and chainsaws), CO_2 emissions can be determined by recording the hours used, the typical load factor for that type of equipment, the horse power, and the emissions factor.[166]

Projects must submit a tree maintenance plan (TMP) that provides details about the number, location, size, and species of trees planted each year; the different care provided to different ages, species, and cohorts of trees; and a budget.[167] TMPs are also required to account for the possible leakage that might be caused by shifting funding to the maintenance of project trees from non-project trees, which might then regress in their carbon sequestration potential.[168]

A. Recommendations on Urban Forest Protocol

The management of individual trees and relatively small collections of trees is not an effective means of mitigating GHG emissions. However, the Urban Forest offset protocol promises to generate a great deal of buy-in and expertise, so climate hawks ought to embrace this offset protocol and work to make it as user-friendly as possible. The development of urban offset protocols occurs amongst a broad and influential segment of institutions—local governments and institutions of higher education. Climate hawks, then, ought to encourage their local communities to build the counting of carbon into their already existing public works plans. The municipality or campus will earn a little money for selling their offsets while the local leaders on the councils will incorporate climate thinking into their governance routines. University administrators, professors, and students will all have an opportunity to gain expertise in this area of GHG mitigation.[169]

The first obstacle to achieving this is the language of the protocol itself, which departs from the standard technical nomen-

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164. *Id.*
165. *Id.* § 5.2, at 11-12 tbl.5.2.
166. *Id.* § 5.3, at 12, 13 tbls.5.3, 5.4.
167. *Id.* § 7.1.
168. *Id.*
169. For instance, Duke University's Duke Carbon Offsets Initiative develops offset projects. *See The Duke Carbon Offsets Initiative*, DUKE SUSTAINABILITY, http://sustainability.duke.edu/carbon_offsets/index.php (last visited June 2, 2013). Another example is the American College and University Presidents' Climate Commitment; campuses that sign this commitment pledge to become carbon neutral by some date of their choosing. There are presently 669 signatories. AMERICAN COLLEGE AND UNIVERSITY PRESIDENTS' CLIMATE COMMITMENT, http://www.presidentsclimatecommitment.org/ (last visited June 2, 2013).

clature of the other protocols. Instead of using the terminology of "baseline" for instance, it relies upon the concept of "threshold."[170] It is not clear if these are in fact the same concept, but from the point of view of governance and expertise, a consistent vocabulary is essential. Along the same lines, the protocol uses the phrase "a priori" in a non-standard way. This phrase is typically taken to mean "before empirical observation" but here means something like "before the project begins." As with "threshold" this phrase is unique to the Urban Offset protocol and ought to be standardized.

Second, climate hawks ought to work to decrease the transaction costs associated with the development of Urban Forest projects. The offset protocol requires the use of various sorts of expertise which might very well be lacking at the level of municipal governments, especially given the novelty of the protocol. For instance, the protocol requires the use of sampling techniques, statistical confidence intervals, and detailed knowledge of tree species. Non-governmental organizations [NGOs] should think of providing this expertise and helping local governments build this sort of knowledge into their governance practices.

The protocol's inclusion of tree plantings undertaken by utilities seems to be an entirely *ad hoc* throw-away to the utilities. Again, the amount of carbon offset from these projects seems to be minimal. But since this aspect of the protocol might facilitate buy-in and the development of expertise within utilities themselves, climate hawks should tolerate this element of the protocol while remaining vigilantly against its expansion. Rather than fighting the protocol, they might also work to alter the regulations so as to require the sort of plantings incentivized by the protocol.

X. U.S. FORESTS

As compared to the urban forest protocol, which targets the management of individual trees, the U.S. Forest Protocol aims at "quantifying the net climate benefits of activities that sequester carbon on forestland."[171] The protocol allows for project activities which either remove CO_2 from the atmosphere or avoid such emissions. Reforestation, improved forest management, and avoided conversions might all qualify for offset credits.[172]

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170. *See* COMPLIANCE OFFSET PROTOCOL: URBAN FOREST PROJECTS, *supra* note 152, at 5.

171. CAL. AIR RES. BD., COMPLIANCE OFFSET PROTOCOL: U.S. FOREST PROJECTS § 1 (2011).

172. *Id.* §§ 2.1.1-.3.

A. Reforestation

The goal of the reforestation component of the Forest protocol is to return previously forested land to "optimal stocking levels."[173] The protocol attempts to distinguish between reforestation projects whose origination might be attributable to the offset project itself and reforestation that would have occurred irrespective of the incentive to procure offsets.[174] A reforestation project is only eligible, then, if the project takes place on land which has had less than ten percent tree canopy cover for a minimum of ten years or has been subject to a Significant Disturbance[175] that has removed "at least twenty percent of the land's above-ground live biomass" in trees.[176] APDs of reforestation projects cannot engage in commercial harvesting for thirty years after the commencement of the project (with some exceptions) and there cannot have been any commercial harvesting on the land during the ten years previous to the commencement of the project.[177]

B. Improved Forest Management

Already existing forests are also eligible for offset credits when improved management techniques increase the amount of carbon sequestered in the forest land. Such projects must take place on land that has more than ten percent canopy cover and deploys natural forest management practices (defined elsewhere in the protocol).[178] Improved management techniques include: increasing the overall age of the forest by increasing rotation ages; increasing the forest productivity by thinning diseased and suppressed trees, managing competing brush and short-lived forest species, increasing the stock of trees on under stocked areas, and maintaining stocks at a high level.[179]

C. Avoided Conversions

By means of an "avoided conversion" a project operator prevents the destruction of forested land by either placing a Qualified Conservation Easement on the land or transferring it to

173. *Id.* § 2.1.1.
174. *See id.*
175. *Id.* § 11.
176. *Id.*
177. *Id.*
178. *Id.* § 2.1.2.
179. *Id.*

public ownership.[180] Project operators must demonstrate "that there is a significant threat of conversion of project land to a non-forest land use."[181] Section 6.3 of the protocol for U.S. forests (discussed below) details the requirements for determining whether there is a significant threat. Only land privately owned before the commencement of the project is eligible for avoided conversion offset credits.[182] Avoided conversions must also show that the "avoided" project is compatible with local zoning plans, that the Forest Owners have obtained all necessary approvals for the "avoided" non-forest use (including, e.g., subdivision approvals), and evidence that similarly situated land within the project's Assessment Area have recently been able to obtain all required local permits and approvals.[183] Avoided conversion projects require discounting dependent upon the "uncertainty of conversion probability."[184]

All three components of the protocol include restrictions on the use of broadcast fertilization and require that the land had not previously been managed as an offset project.[185] In all cases, projects eligible for accreditation must not be legally required, where legality includes federal, state, and local ordinances, court orders, management plans (Timber Harvest Plans), and conservation easements.[186] The protocol also requires that a Forest Owner have a real, as opposed to personal, property interest in the land.[187]

All three projects must also satisfy a "performance test."[188] Eligible improved management projects and reforestation projects, except those commenced after a Significant Disturbance, automatically satisfy the performance test.[189] If the reforestation follows a Significant Disturbance, the project operator must show that the reforestation would not have otherwise occurred but for incentives provided by the offsets.[190]

Avoided conversion projects satisfy the performance test by submitting an appraisal of the property which indicates that the project area is suitable for conversion and that the conversion use has a higher market value than leaving the project area as forestland.[191] The protocol designates several events which mark

180. *Id.* § 2.1.3.
181. *Id.*
182. *Id.*
183. *Id.* § 3.1.1.3.
184. *Id.* § 6.3.1.
185. *Id.* § 2.1.1-.3.
186. *Id.* § 3.1.1.3.
187. *Id.* § 2.2.
188. *Id.* § 3.1.2.
189. *Id.*
190. *See id.* app. E.
191. *Id.* § 3.1.2.3.

the commencement of each type of project,[192] and establishes a twenty-five year crediting period.[193] A forest project's "life" is 100 years, and project operators must monitor, verify, and report project data for that length of time, unless the project is "terminated" (in which case project operators must surrender offset credits in accordance with a compensation rate table).[194]

Conservation easements are an important aspect of all types of potential forest projects. They are required for avoided conversion projects, reduce the insurance requirements for reforestation and improved management projects, and, if filed appropriately, can mark the commencement of a forest project.[195] They must, therefore, expressly acknowledge ARB as a third party beneficiary of the conservation easement with rights to litigate.[196]

Project owners must harvest "sustainably" and use natural forest management practices.[197] The protocol requires project operators to have their harvesting practices certified by a licensed third party.[198] Project operators must also "maintain a diversity of native species and utilize management practices that promote and maintain native forests comprised of multiple ages and mixed native species . . . and at multiple landscape scales."[199] Native forests are defined in terms of pre-European contact,[200] and ARB provides a Forest Offset Protocol Resource on its webpage which identifies different native forest zones.[201] Plantings of non-native species are allowed only if it is a strategy for adapting to climate change.[202] When allowed, such planting must be done in accordance with an official federal, state, or local approved adaptation plan.[203] Since forests promote a variety of other environmental benefits besides carbon sequestration, the management of the project may not, on average, reduce the standing live carbon stock within the Project Area, and the protocol supplies various exceptions and modes of calculating year over year standing live carbon

192. *Id.* § 3.2.
193. *Id.* § 3.3.
194. *Id.* § 3.4.
195. *Id.* §§ 2.1.3, 3.2, 7.2.2.
196. *Id.* § 3.5.
197. *Id.* § 2.1.3.
198. *Id.* § 3.8.1.
199. *Id.* § 3.8.2.
200. *Id.*
201. *U.S. Forest Project Resources,* CAL. AIR RES. BD. (Nov. 30, 2012), http://www.arb.ca.gov/cc/capandtrade/protocols/usforestprojects.htm.
202. COMPLIANCE OFFSET PROTOCOL: U.S. FOREST PROJECTS, *supra* note 171, § 3.8.2.
203. *Id.*

stock.[204] Similarly, project operators must balance age and habitat classes.[205]

In computing carbon sequestration, project operators must take into account both "primary" and "secondary" GHG sources, sinks, and reservoirs.[206] For instance, primary sinks and reservoirs include, inter alia, standing live carbon sinks, herbaceous understory carbon, and litter and duff carbon.[207] Secondary effects include emissions from site preparation and maintenance, as well as any leakages (i.e., increased harvest on another forest displaced by the project).[208] Section Six of the protocol for U.S. forests provides equations and methodologies for estimating or measuring these sources, sinks, and reservoirs. These include: baseline onsite carbon stocks, baseline carbon in harvest wood products, actual onsite carbon stocks, actual carbon in harvested wood products, and secondary emissions from the three different project types. [209]

Section Six also includes formulas for determining carbon stocks in "the same logical management unit . . . as the Project Area," which are required for determining the baseline for improved management practices projects.[210] To ensure the permanence of GHG reductions and GHG removal enhancements, Section Seven requires project operators to monitor and report reversals, submit a certain portion of their offset credits to a "Forest Buffer Account" (i.e. insurance), and compensate for intentional and unintentional reversals.[211] Sections Eight, Nine, and Ten require project monitoring, reporting, and verification, respectively.[212]

In accordance with AB 32[213], Sections 6.2.1.2 and 6.2.1.3 require project operators to factor legal and financial constraints into their baseline calculations, and this is an important hook that climate hawks should use to ensure the reliability and scarcity of forest offset credits.[214]

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204. *Id.* § 3.8.3. For instance, it is permissible that harvesting reduce the standing live carbon stock between years one and two so long as over the life of the project the standing live carbon stock increases. *Id.*

205. *Id.* § 3.8.4.

206. *Id.* § 5.

207. *Id.* § 5.1, at 26 tbl. 5.1.

208. *Id.* §§ 5.1, at 27-28 tbl. 5.1, § 6.1.5.

209. *Id.* § 6.1.

210. *Id.* § 6.2.1.

211. *Id.* § 7.

212. *Id.* §§ 8-10.

213. California Global Warming Solutions Act of 2006 § 38562, CAL. HEALTH & SAFETY CODE § 38562(d)(2) (West 2012).

214. COMPLIANCE OFFSET PROTOCOL: U.S. FOREST PROJECTS, *supra* note 171, § 6.2.1.2-.3.

D. Recommendations on U.S. Forest Protocol

Of all of the protocols, this is the most difficult to evaluate: the reconstitution of the forests is a necessary element of successful GHG mitigation, but it also insufficient. Also, unlike the other protocols, it is difficult to imagine the closing of the market for these sorts of offsets.

Even assuming that these removals and avoided additions are in fact additional and significant, they do not contribute to the necessary decrease of concentrations of atmospheric CO_2. They contribute only to decreasing the rate of emission. Returning concentrations of CO_2 to 350 ppm or less will still require a 100 gigaton reforestation project and this reforestation project (or some other means of removing carbon from the atmosphere, such as biochar[215]) must be pursued by a separate program. Cap-and-trade and the commodification of carbon cannot achieve this drawdown.

In addition, of the three types of forest programs, climate hawks should be the most leery of "avoided conversion." First, in this instance is seems appropriate to confront the protocol directly, as Citizens Climate Lobby and Our Children's Future Foundation have done.[216] Second, California will be linking its program to other state programs: climate hawks should attempt to remove this type of project from the linking instruments. (This is a potential universally employable strategy). For instance, the RGGI afforestation offset protocol does not allow for the distribution of offset credits for avoided conversions.[217] In any linkage between these two CATs, the RGGI protocols ought to win out. Third, climate hawks should advocate for stringent appraisal requirements, either at the state-level or within the professional associations. This will increase both the transaction costs and the discount rate for avoided conversion projects. Fourth, the baseline for avoided conversion projects includes local zoning ordinances and land planning documents. At the county and municipal level, climate hawks should continue to advocate for the preservation of forested space, green belts, and conservation easements. Avoided conversion projects must demonstrate that they have acquired all the necessary local zoning permits for the conversion project (e.g., for the golf course) and that permits for similarly situated projects have recently been granted in the area.[218] Institutions of municipal governance, then, are in a position to exert pressure

215. *See, e.g.*, INTERNATIONAL BIOCHAR INITIATIVE, *supra* note 22.

216. *See Citizens Climate Lobby*, *supra* note 7.

217. *Afforestation*, REGIONAL GREENHOUSE GAS INITIATIVE, http://www.rggi.org/market/offsets/categories/afforestation (last visited June 2, 2013).

218. COMPLIANCE OFFSET PROTOCOL: U.S. FOREST PROJECTS, *supra* note 171, § 3.1.1.3.

on avoided conversion projects. Climate hawks should get their hands on these levers.

Climate hawks should be less hostile to reforestation and improved management projects, but should still work to alter the legal baseline so as to make offset credits increasingly scarce. Carbon counting will need to percolate into every aspect of management and governance, and climate hawks should see the U.S. Forest offset protocol as a mechanism for disseminating the techniques and methodologies to accomplish this, just as with the Urban Forest offset protocol. At the same time, they should be sure to distinguish between offsets (which reduce emissions) and the sort of reforestation that will drawdown carbon dioxide concentrations to a safe level. This line cannot be lost or blurred or there will be no drawdown. This is especially true because market mechanisms, even the hyper-artificial ones created by cap-and-trade, seem highly unlikely to produce such a program (the cap would have to eventually become negative). Indeed, the institution of a 100 gigaton reforestation project will, more than likely, require the closure of the market for reforestation projects.

There seems to be at least one more strategy for using and closing off the offset market. Under the California regulations, only eight percent of a covered entity's compliance instruments can be offset credits.[219] Climate hawks should be vigilant against any increase in that number *and* should work to turn that percentage into a mandatory declining rate. Just as the cap on emissions reduces every year, covered entities should be able to satisfy a smaller and smaller percentage of their compliance requirements with offset reductions.

XI. CONCLUSION

Successfully tackling climate change requires the development of an entirely new form of governmentality, one dedicated to the counting of carbon at every level of governance. Offset projects provide an opportunity for the development of environmental citizenship at every level of government. The California offset provisions provide climate hawks an excellent opportunity for intentionally and carefully easing in this new governmentality. Climate hawks should use the offsets to develop buy-in from influential individuals, institutions, and economic sectors. They should use them to develop the sort of expertise needed for the counting and managing of carbon. They should keep the end game in sight: the movement away from this form of governmentality—and its

219. CAL. CODE REGS. tit. 17, § 95854 (2013).

attendant markets—by drawing down concentrations of greenhouse gases to safe levels in a world of low or zero-carbon energy sources. Achieving these goals requires the mobilization of a wide swath of civil society, which must be deliberate, patient, and persistent—citizenship qualities already needed to achieve the required mitigation goals. Finally, it should also be remembered that CATs and their associated offsets are only one piece of the GHG mitigation puzzle. Climate hawks need to continue to work on all the other pieces, and in working on them, alter the policy framework in which offset projects take place.

AVOIDING A HOBSON'S CHOICE: WHY EPA'S TAILORING RULE IS A VALID ACT OF AGENCY DISCRETION

MICHAEL JOSHUA COLE*

I. INTRODUCTION

This article examines whether and to what degree federal administrative agencies have the discretion to deviate from the clear command of their enabling statutes when the agencies' statutory mandate is clear on a specific issue but following the literal language of the statute would yield absurd results, contravene congressional intent, and drain administrative resources to the point of preventing the agency from carrying out the very statutory requirements in question. In examining this issue, the article explores various theories of statutory construction, including textualism, intentionalism and purposivism, as well as the constitutional underpinnings of each interpretive theory. The thesis defines the parameters of the absurd results doctrine, in conjunction with the theories of statutory construction, through the lens of the Environmental Protection Agency's (EPA) final Tailoring Rule for greenhouse gas emissions under the Clean Air Act (CAA). It asserts that EPA should have the discretion necessary to deviate from the strict language of the CAA in a manner that avoids absurd results when regulating climate change.

On May 13, 2010, EPA issued a final rule, raising the threshold for which "stationary sources and modification projects become

subject to permitting requirements for greenhouse gas (GHG) emissions under the Prevention of Significant Deterioration (PSD) and Title V programs of the Clean Air Act (CAA or Act)."[1] Specifically, EPA has narrowed the scope of the permitting provisions of the CAA as they apply to facilities (such as power plants and factories) that emit GHGs by raising the required amount of GHG emissions that would trigger the CAA's permitting requirements for the facilities.[2]

EPA argues that without this "Tailoring Rule," the permitting requirements of the CAA would apply to any facility (including small businesses and apartment complexes) that emits even very small amounts of GHGs as these emissions would exceed the CAA's strict numerical standards.[3] Furthermore, such exceedances of the CAA standards would occur very easily because GHGs such as CO_2 are emitted at a much higher rate than the conventional pollutants, such as sulfur dioxide and particulate matter, which the CAA has typically addressed.[4] EPA has demonstrated that applying the strict statutory criteria would greatly increase the number of sources covered under the CAA, imposing undue costs on small facilities and overwhelming the resources of federal, state and local permitting authorities by flooding them with new permit applications—severely impairing EPA's ability to implement the CAA's programs and crippling EPA's regulatory efforts.[5]

In order to understand how this dilemma came about, a brief recitation of the relevant legal background is necessary. In 2007, the U.S. Supreme Court in *Massachusetts v. Environmental Protection Agency* held that the EPA must regulate motor vehicle emissions of GHGs under the CAA if the agency determines that

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1. Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, 75 Fed. Reg. 31,514 (June 3, 2010) [hereinafter Tailoring Rule] (codified in 40 C.F.R. § 51.166-71).
2. *Id.* at 31,516-17.
3. *Id.*
4. *Id.* at 31,519, 31,549
5. *Id.*

GHGs pose a danger to "public health or welfare."[6] Pursuant to the Court's ruling, the EPA issued an endangerment finding of GHG emissions from automobiles[7] and has since issued the Light Duty Vehicle Rule (LDVR) to regulate these emissions.[8] As a result of the LDVR, GHG emissions became "subject to regulation" under the CAA for the first time since the rule took effect on January 2, 2011.[9] This is relevant because the CAA triggers the technology-based controls dictated by the PSD requirements only when a particular air pollutant is "subject to regulation" under the statute.[10] EPA issued an Interpretive Memo reading the phrase "subject to regulation" to require that once a source is controlled by a specific regulation limiting the quantity of pollutants that the source may emit, the pollutant is "subject to regulation" for PSD and Title V purposes.[11] Accordingly, since the LDVR has taken effect, PSD and Title V are applicable to stationary sources that emit GHGs.[12] Under the language of the statute, all stationary sources emitting 100/250 tpy or more of GHGs have to comply with the permitting requirements of PSD and Title V.[13]

"EPA [was] concerned however that the prevalence of GHG emissions combined with [the] low [100/250 tpy numerical applicability] thresholds would render the permit process impossible, thereby frustrating the purpose of the CAA."[14] In the preamble to the Tailoring Rule, EPA asserted that the literal terms of the statute would yield disastrous results for the agency's regulatory initiatives because EPA, states, and local permitting authorities would be overwhelmed with permit applications.[15] Presumably, EPA also wanted to avoid the strong political backlash that would have resulted from the agency having to regulate residential homes and small businesses under the Act—as the political backlash may have possibly resulted in congressional amendments

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6. Massachusetts v. Entvl. Prot. Agency, 549 U.S. 497, 533 (2007).

7. Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496 (Dec. 15, 2009).

8. Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards; Final Rule, 75 Fed. Reg. 25,324 (May 7, 2010).

9. Tailoring Rule, *supra* note 1, at 31,521.

10. 42 U.S.C. § 7479(3) (2006).

11. Memorandum from Stephen L. Johnson, Administrator, Envtl. Prot. Agency to Regional Administrators, Envtl. Prot. Agency 8 (Dec. 18, 2008), *available at* http://www.epa.gov/NSR/documents/psd_interpretive_memo_12.18.08.pdf.

12. Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by Clean Air Act Permitting Programs; Final Rule, 75 Fed. Reg. 17,004, 17,007 (Apr. 2, 2010).

13. *See generally*, Tailoring Rule, *supra* note 1, at 31,516-17.

14. Travis L. Garrison, Comment, *The EPA's Greenhouse Gas Regulation Tailoring Rule: Administrative Necessity Avoiding or Pursuing Absurd Results?*, 56 LOY. L. REV. 685, 694 (2010).

15. Tailoring Rule, *supra* note 1, at 31,514.

gutting the CAA. EPA thus faced a Hobson's Choice, as it was required to regulate GHGs under PSD and Title V, but could not do so in a manner that followed the literal language of the statute. In order to reconcile this dilemma, EPA:

> [D]ecided to formulate and implement the Tailoring Rule, which would raise the initial thresholds for emissions to 75,000/100,000 tpy [of GHGs] and phases-in the regulation in several steps so that the permitting agencies [would] not be inundated with additional permit requests from the high volume of sources that emit a pollutant (GHG) at a rate of over 100/250 tpy.[16]

States and industry groups alike challenged EPA's Tailoring Rule in the D.C. Circuit.[17] These Petitioners claimed that, under *Chevron v. NRDC*,[18] EPA acted outside the scope of its statutory authority by ignoring the PSD and Title V applicability thresholds of the CAA.[19] Specifically, the Petitioners claimed that EPA set the increased applicability thresholds in the rule nearly 1000 times higher than what the statute provides for.[20] The court, however, unanimously ruled in favor of EPA, upholding the agency's GHG regulations, including the Tailoring Rule, by dismissing the Petitioners' claim for lack of standing.[21] This thesis addresses the standing analysis in the court's opinion and explains how other Petitioners could easily meet the standing requirements in the future. As a result, the D.C. Circuit will likely still have to reach the merits of the validity of the Tailoring Rule, thus making any analysis of the rule and the absurd results doctrine in this case relevant. Furthermore, even if the courts do not ever reach the merits of the validity of the rule, this paper provides an interesting and revealing application of the absurd results doctrine that is instructive as to future applications of that doctrine, regardless of whether the merits of this case ever get litigated. Accordingly, this thesis defends the validity of the Tailoring Rule and advocates that the courts should uphold it because the "absurd results" doctrine applies to the rule to allow EPA to depart from the literal

16. Garrison, *supra* note 14, at 694.

17. Nathan D. Riccardi, Note, *Necessarily Hypocritical: The Legal Viability of EPA's Regulation of Stationary Source Greenhouse Gas Emissions Under the Clean Air Act*, 39 B.C. ENVTL. AFF. L. REV. 213, 220 (2012).

18. Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc., 467 U.S. 837 (1984).

19. Coal. for Responsible Regulation, Inc. v. Envtl. Prot. Agency, 684 F.3d 102, 129 (D.C. Cir. 2012).

20. *Id.* at 145.

21. *Id.* at 146-48.

requirements of the CAA and raise the applicability thresholds of PSD and Title V.

This article is divided into three major sections. Section II asserts that the absurd results doctrine is valid in the abstract. Section III contends that the absurd results doctrine is valid as applied to EPA's Tailoring Rule.[22] Section IV considers two arguments stating that the absurd results doctrine should be rejected based on alternative interpretations available to EPA that avoid the need for the agency to use the absurd results doctrine. The article concludes by pulling together the concepts discussed in the earlier sections of the paper.

II. THE ABSURD RESULTS DOCTRINE IS VALID IN THE ABSTRACT

A. Overview of Legal Framework

1. Overview of Absurd Results Doctrine

a. Purpose of the Doctrine

In order to understand the legal arguments supporting the validity of the absurd results doctrine, it is important to be familiar with the doctrine's background, history, and rationale. The absurd results doctrine is a canon of statutory construction that allows courts to refuse to implement a statute according to its plain meaning when doing so would produce absurd results that would contravene congressional intent.[23] Essentially, the doctrine functions as an "exception to the plain meaning canon" of statutory construction, which directs courts to interpret statutes "according to the ordinary meaning of their words."[24]

The absurd results doctrine exists to remedy unintended errors and inconsistencies inherent in the legislative drafting process.[25] These errors and inconsistencies can arise for a variety of reasons. For example, Congress often "draft[s] generally applicable statutes that tend to be over or under-inclusive . . . [which] can produce odd outcomes" that conflict with the congressional intent of the

22. EPA also brings forth the doctrines of administrative necessity and one-step-at-a-time to assert the validity of the Tailoring Rule. Although these doctrines are related to the absurd results doctrine, each doctrine has an independent basis for upholding the rule. Furthermore, the analysis for each doctrine overlaps greatly as applied to the Tailoring Rule. Accordingly, this article focuses primarily on the absurd results doctrine.

23. Linda D. Jellum, *Why Specific Absurdity Undermines Textualism*, 76 BROOK. L. REV. 917, 921 (2011) [hereinafter *Specific Absurdity*].

24. *Id.*

25. *Id.* at 922.

statute.[26] Moreover, the legislative process is full of political maneuvering and compromises, which can also lead to unanticipated results.[27] Lastly, language is, by its very nature, vague and inexact, which can result in Congress making mistakes that it did not intend.[28] As a result, a statute does not always mean what it says. The absurd results doctrine recognizes this fact by allowing administrative agencies and courts to deviate from the literal language of a statute when the language conflicts with congressional intent.[29]

Proponents of the absurd results doctrine believe that Congress would never intend to enact legislation that does not make sense so use of the doctrine is justified.[30] The validity of the argument that Congress would never intend to produce unreasonable legislation has been implicitly acknowledged by the Supreme Court in other doctrines. For example, the fact that courts apply rational basis review to statutes in order to assess their reasonableness[31]—and thus their constitutional validity—when combined with the fact that courts take great pains to avoid interpreting statutes in a manner that even arguably violates the Constitution,[32] reflects the Court's implicit presumption that Congress does not intend to enact unreasonable legislation. By preventing absurd outcomes from taking place, the courts are faithfully adhering to Congress's desire to create reasonable legislation.

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26. *Id.*
27. *Id.*
28. *Id.*
29. *See id.*
30. As described by Professor John Manning:

> The absurdity doctrine . . . rests on a judicial judgment that a particular statutory outcome, although prescribed by the text, would sharply contradict society's "common sense" of morality, fairness, or some other deeply held value. As Chief Justice Marshall once put it, the doctrine authorizes judges to avoid results that "all mankind would, without hesitation, unite in rejecting." Thus, despite being reserved only for exceptional cases, the absurdity doctrine serves an important legitimating function, making textualism more palatable by offering reassurance that the problem of statutory generality will not compel the acceptance of deeply troubling outcomes. The doctrine achieves that end, moreover, through seemingly benign presumptions about the legislative process: Why would legislators ever intentionally enact laws that apparently contradict commonly held values? Or, more accurately, why would judges ever presume that legislators intended such results, given the fact that legislators sometimes, perhaps often, express themselves imprecisely? Based on these assumptions, the Court has insisted that correcting apparent infelicities in statutory wording to avoid absurdity does not "substitut[e] . . . the will of the judge for that of the legislator."

John F. Manning, *The Absurdity Doctrine*, 116 HARV. L. REV. 2387, 2405-08 (2003) [hereinafter Manning, *Absurdity Doctrine*] (citations omitted).

31. *See, e.g.,* Romer v. Evans, 517 U.S. 620 (1996); City of Cleburne v. Cleburne Living Ctr., Inc., 473 U.S. 432 (1985).

32. *See, e.g.,* Murray v. Schooner Charming Betsy, 6 U.S. (2 Cranch) 64 (1804); Ashwander v. Tenn. Valley Auth., 297 U.S. 288 (1936).

In preventing an absurd result from taking place, the courts must determine precisely what the congressional intent of the statute is by examining the text and structure of the statute as well as reviewing extrinsic evidence of congressional intent.[33] Once the court identifies the intent and goals of the statute, the absurd results doctrine allows the courts to depart from the literal language of the statute in order to carry out the statute's intent and goals.[34]

b. History and Scope of the Absurd Results Doctrine

"The principle that judges should [interpret] statutes to avoid absurd results is firmly established in the [U.S.] legal system, with origins traceable to early English common law."[35] It was first adopted in 1868 in *United States v. Kirby*,[36] in which the Supreme Court dismissed an indictment charging members of the local sheriff's office with violating a statute that prohibited anyone from "knowingly and willfully obstruct[ing] or retard[ing] the passage of the mail, or of any driver or carrier."[37] The defendants had arrested a mail carrier for murder while the mail carrier was delivering the mail, thereby violating the literal terms of the statute.[38] Regardless, the Court dismissed the indictment, reasoning that "[a]ll laws should receive a sensible construction . . . [and] should be so limited in their application as not to lead to injustice, oppression, or an absurd consequence. . . ."[39] The Court applied the presumption that the legislature does not intend to make laws that do not make sense.[40] It held that courts may carve out exceptions to the language of a statute that would avoid absurd results by following the spirit of the law instead of the letter.[41]

The Supreme Court expanded the scope of the absurd results doctrine in 1892, in *Holy Trinity Church v. United States*, by making clear the rationale for the doctrine: to avoid a result that conflicts with congressional intent.[42] In *Holy Trinity*, the Alien Contract Labor Act prohibited businesses from bringing anyone into the United States "to perform labor or service of any kind."[43]

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33. *Specific Absurdity, supra* note 23, at 922-23.
34. *Id.*
35. Katherine Kirklin O'Brien, *Beyond Absurdity: Climate Regulation and the Case for Restricting the Absurd Results Doctrine*, 86 WASH. L. REV. 635, 641 (2011).
36. United States v. Kirby, 74 U.S. (1 Wall.) 482 (1868).
37. *Id.* at 482, 487.
38. *Id.* at 482.
39. *Id.* at 483.
40. *See id.* at 486-87.
41. *See id.* at 485-87.
42. *See generally* Holy Trinity Church v. United States, 143 U.S. 457 (1892).
43. *Id.* at 458.

The defendant brought an individual into the country to serve as a pastor in the defendant's church, thus violating the plain meaning of the statute.[44] In response, the federal government sued the defendant under the statute to recover a penalty.[45] The Supreme Court dismissed the government's claim, reasoning that "labor of any kind" does not cover services from a pastor.[46] The Court stated that "[i]t is a familiar rule that a thing may be within the letter of the statute and yet not within the statute, because not within its spirit nor within the intention of its makers."[47] The Court found the statute to be absurd and looked to the legislative history of the Act.[48] The Court found the legislative history to indicate that the legislature intended the word "labor" to mean manual labor.[49] Thus, the Court in *Holy Trinity Church* broadened the scope of the absurd results doctrine to apply beyond situations in which adhering to the plain language would merely offend moral values and common sense.[50] Under *Holy Trinity Church*, courts may disregard the explicit terms of a statute when the meaning of those terms is contrary to congressional intent.[51]

The doctrine was frequently used up through the 1940s to balance out the harsh effects of textualism.[52] As will be described below, textualists focus on intrinsic evidence of congressional intent, such as the text of a statute, to discern the plain meaning of the statute's words.[53] However, adhering to the plain meaning of the law can sometimes create extreme, harsh, and unjust results.[54] Therefore, the absurd results doctrine acts a " 'safety-valve' " to avoid some of the harsh outcomes that would otherwise be common under the theory of textualism.[55] The absurd results doctrine subsequently became less relevant as the theory of intentionalism began to gain momentum.[56] Intentionalists focus less on the plain meaning of the words of a statute and more on the

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44. *Id.*
45. *Id.*
46. *Id.* at 459.
47. *Id.*
48. *Id.* at 461.
49. *Id.* at 463.
50. *Specific Absurdity*, *supra* note 23, at 925-26.
51. *See id.* at 926.
52. *Id.*
53. *See* LINDA D. JELLUM, MASTERING STATUTORY INTERPRETATION 16-21 (2008).
54. *Specific Absurdity*, *supra* note 23, at 924 (describing how an English Court deemed the literal language of a statute prohibiting inmates from escaping from prison absurd and unjust when the language was applied to a prisoner that had escaped from a prison fire).
55. *See id.* at 926 (quoting Andrew S. Gold, *Absurd Results, Scrivener's Errors, and Statutory Interpretation*, 75 U. CIN. L. REV. 25, 62 (2006)).
56. *Id.*

underlying intent of Congress in enacting the law.[57] Therefore, the absurd results doctrine temporarily became obsolete because the courts were already examining the intent of Congress, despite the text of the statute, without needing to use the doctrine. With the rise of "new textualism" in 1986, however, the absurd results doctrine became relevant once again.[58]

Despite the return of textualism, the Court has restrained itself in resurrecting the absurd results doctrine. The Supreme Court has rarely applied the doctrine,[59] indicating that it "is one of last resort, 'rarely invoke[d] to override unambiguous legislation.' "[60] As Justice Kennedy noted, "the potential of this doctrine to allow judges to substitute their personal predelictions [sic] for the will of the Congress is so self-evident from the case which spawned it [*Holy Trinity Church*] as to require no further discussion of its susceptibility to abuse."[61] Likewise, the D.C. Circuit has placed limits on the applicability of the absurd results doctrine and will deviate from the text of the statute only if it is clear from the " 'logic and statutory structure' ", or " 'as a matter of historical fact,' " that Congress could not have meant what it said.[62] The D.C. Circuit in 2006 described this test as "an exceptionally high burden."[63] Furthermore, even if this test is met, the courts will depart from the clear statutory language only to the degree *necessary* to avoid absurd results and protect congressional intent.[64]

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57. MASTERING STATUTORY INTERPRETATION, *supra* note 53, at 21-24.

58. *Specific Absurdity*, *supra* note 23, at 926.

59. *See, e.g.*, Clinton v. City of N.Y., 524 U.S. 417, 428-29 (1998) (invoking absurd results doctrine to broaden the meaning of "individuals" to include corporations as those who could seek expedited review under Line Item Veto Act); United States v. X-Citement Video, Inc., 513 U.S. 64, 69 (1994) (holding that it would contravene congressional intent to apply the statutory term "knowingly" only to relevant verbs in criminal statute and not to elements of the crime concerning minor age of participant and sexually explicit nature of visual depictions, and that this would produce absurd results); Burns v. United States, 501 U.S. 129, 135-37 (1991), invalidated by Burns v. U.S., 111 S. Ct. 2182 (1991) (relying on absurd results doctrine to hold that district courts may not depart upward from sentencing range established by Sentencing Guidelines without first providing notice to parties of court's intent to depart); Pub. Citizen v. U.S. Dep't of Justice, 491 U.S. 440, 451, 454-55 (1989) (relying on absurd results doctrine, in part, to narrowly interpret "advisory committee" in the Federal Advisory Committee Act); Green v. Bock Laundry Mach. Co., 490 U.S. 504, 509-11 (1989) (reasoning that it would be absurd to apply Federal Rule of Evidence 609(a)(1) to civil, in addition to criminal, defendants).

60. *Specific Absurdity*, *supra* note 23, at 927 (citing Barnhart v. Sigmon Coal, Co., 534 U.S. 438, 441 (2002).

61. *Pub. Citizen*, 491 U.S. at 474 (Kennedy, J., concurring).

62. Friends of the Earth, Inc. v. Envtl. Prot. Agency, 446 F.3d 140, 146 (D.C. Cir. 2006) (quoting Engine Mfrs. Ass'n v. Envtl. Prot. Agency 88 F.3d 1075, 1089 (D.C. Cir. 1996)).

63. *Id.*

64. *See* Mova Pharm. Corp. v. Shalala, 140 F.3d 1060, 1068 (D.C. Cir. 1998).

Federal administrative agencies have argued for the application of the absurd results doctrine in various contexts.[65] In doing so, the agencies have experienced mixed results. The case law, as synthesized by Garrison, "provides insight into the valid practical application of this doctrine" by providing a continuum to judge when an agency's deviation from the plain text of the statute goes beyond what is necessary to promote congressional intent.[66] In *Environmental Defense Fund, Inc. v. Environmental Protection Agency*, the D.C. Circuit applied the absurd results doctrine, stating that "a more flexible, purpose-oriented interpretation" was needed "to avoid 'absurd, or futile results' " of EPA's implementation of the CAA.[67] The court noted that § 176 required individual states "to adopt, after . . . approval by the [EPA], State Implementation Plans (SIPs) that 'provide [ ] for implementation [of NAAQS]."[68] In addition, the court noted that the CAA was amended to require federal agency action to conform with existing SIPs, not SIPs that the EPA had not yet approved.[69] In the case before the court, however, EPA had interpreted the "conformity rule" as allowing state agencies to approve federal activities even when the activities fail to conform with the currently approved SIP.[70] The state approval of the actions was based on whether the state had shown that it was "compl[ying] with certain safeguards" to ensure that the SIP actually was changed "to accommodate the federal action."[71] Thus, EPA's conformity rule was directly contrary to the literal language of § 176(c)(1).[72] EPA argued that the rule was consistent with the purpose of the CAA.[73]

The D.C. Circuit viewed § 176(c) as part of a larger statutory scheme of cooperative federalism between the federal government and the states to reduce air pollution.[74] The court concluded that the section was enacted to prevent federal interference with a state's SIP goals and not to suppress the ability of the federal and state governments to cooperate.[75] Therefore, the court reasoned that "this rigid application of the conformity rule would block a federal action that the state desires and promises to accommodate."[76] Instead, the court allowed the state to accommodate the

65. *See generally*, Tailoring Rule, *supra* note 1, at 31,542-43.
66. *See* Garrison, *supra* note 14, at 697.
67. Envtl. Def. Fund, Inc. v. Entvl. Prot. Agency, 82 F.3d 451, 468-69 (D.C. Cir. 1996).
68. *Id.*
69. *Id.* at 468.
70. *Id.* at 468-69.
71. *Id.*
72. *Id.* at 468.
73. *Id.*
74. *Id.*
75. *Id.*
76. *Id.*

non-conforming federal action, as long as safeguards existed that would ensure that the federal action would eventually conform with the SIP.[77] The court reasoned that this approach would satisfy the congressional goals of cooperation and "protect the integrity of the SIP."[78] As a result, the court refused to follow the plain language of the statute because doing so "would prevent federal action from proceeding until such time as a full-fledged SIP revision could be developed, submitted, and approved" which would "frustrate the process of state and federal cooperation and the integrated planning that section 176(c)(1) was created to foster; this rigid application . . . would block a federal action that the state desires and promises to accommodate through the appropriate adjustments to levels of emissions from other sources."[79] Accordingly, the court decided that EPA's deviation from the plain language of the CAA was "reasonable, narrowly drawn, consistent with the purpose of the Act and therefore within the EPA's discretion."[80]

On the opposite end of the spectrum is *Mova Pharmaceutical Corp. v. Shalala*, where the D.C. Circuit placed limits on the agency's ability to depart from the plain language of a statute under the absurd results doctrine.[81] In *Shalala*, the court struck down the attempts by the Food and Drug Administration (FDA) to ignore the literal text of a statute that established the point at which the 180-day market exclusivity period was triggered for "first applicants" seeking certification of generic drugs under § 505 of the Federal Food, Drug, and Cosmetic Act.[82]

In *Shalala*, the term "first applicant" refers to the first pharmaceutical company to have completed a satisfactory application for the licensing of a generic drug to the FDA after the pioneer drug company (e.g. Tylenol, Advil).[83] The statute stated that the market exclusivity period (i.e. the time period during which no one else but the first applicant can sell a drug) was triggered either by the "first commercial marketing" of the drug by the first applicant or a "court decision" for the first applicant "finding the patent for the drug to be invalid or not infringed."[84] "However, the plaintiff and the FDA disagreed as to when the exclusivity period [was triggered]."[85] The FDA interpreted the statute to mean

77. *Id.* at 468-69.
78. *Id.*
79. *Id.*
80. *Id.*
81. Mova Pharm. Corp. v. Shalala, 140 F.3d 1060, 1067-68 (D.C. Cir. 1998).
82. *See generally id.* (citing 21 U.S.C.A. § 355(j)(5)(B)(iv)).
83. *Id.* at 1064-65.
84. *Id.* at 1065.
85. Garrison, *supra* note 14, at 699.

the exclusivity period should not start until the first applicant had "successfully defended" against a patent infringement suit.[86] The plaintiff argued that the FDA's interpretation was inconsistent with the plain meaning of the statute.[87] Although the FDA conceded that the plain text of the statute did not provide for a "successful defense" requirement, it "alleged that . . . a literal reading of the statute would yield absurd results"[88] and contravene Congressional intent because a first applicant could choose not to market the product and the 180-day period would never commence, preventing competitors from being able to market their drugs until the pioneer company's patent expires.[89] This unfortunate scenario could happen, for example, "if the first applicant colludes with the pioneer drug company to eliminate generic competition, or if the first applicant is simply unable to obtain FDA approval of its production facilities and so cannot put its product on the market."[90] This outcome would undermine the congressional intent for the expedient introduction of generic drugs into the marketplace.[91] Furthermore, first applicants who lose an infringement suit would never be able to market their product either through the "court decision trigger" or the "commercial-marketing trigger" and the 180-day period would never commence.[92] This scenario also undermines Congress's desire to make generic drugs easily available to the public.[93]

The FDA issued a rule to remedy this dilemma by requiring first applicants to successfully defend against a claim for patent infringement in order to trigger the 180-day exclusivity period. The FDA's rule would make it so any first applicant "who was not sued or who lost the suit would not qualify for the exclusivity period."[94] In addition, the FDA would not need to wait for the results of a first applicant's suit and could immediately begin approval of additional applicants.[95]

The court invalidated the rule, holding that the FDA's attempt to protect the congressional intent of the Hatch-Waxman Amendments strayed too far from the letter of the statute.[96] Under the FDA's "win-first" approach, the first applicant had to prevail

86. *Mova Pharm. Corp.,* 140 F.3d at 1065.
87. *Id.* at 1063.
88. Garrison, *supra* note 14, at 699.
89. *Mova Pharm. Corp.*, 140 F.3d at 1068.
90. *Id.* at 1067.
91. *Id.*
92. *Id.* at 1067.
93. *Id.*
94. Garrison, *supra* note 14, at 700; *see also Mova Pharm. Corp.*, 140 F.3d at 1067.
95. *Mova Pharm. Corp.,* 140 F.3d at 1067.
96. *Id.* at 1069.

against whoever was suing it for patent infringement in order to trigger the 180-day market exclusivity period.[97] Meanwhile, the FDA could approve subsequent applicants who could corner the drug market for themselves.[98] The court held that this approach "deviated excessively from the letter of the statute" because it denied first applicants their rights to gain a market advantage for being the first company to apply for the generic drug license.[99] Accordingly, "the FDA has embarked upon an adventurous transplant operation in response to blemishes in the statute that could have been alleviated with more modest corrective surgery."[100]

The court emphasized that the FDA could have deviated from the plain language of the statute in a narrower, less excessive way.[101] Specifically, the agency could have used a "wait-and-see" approach, in which the subsequent applicants would have had to wait and see whether the first applicant could successfully defend its patent infringement suit or whether it would lose.[102] This narrower remedy would have avoided the problem of never triggering the 180-day period because if the first applicant would lose the suit, the market for the drug would remain wide open—thus allowing generic drugs to be widely available to the public.[103] In this case, however, the FDA went too far by deviating from the statute beyond what was necessary for maintaining Congress's intent to make the drugs available.[104]

Garrison's synthesis of *Environmental Defense Fund, Inc.* and *Shalala* presents a helpful picture of the absurd results doctrine for administrative agencies.[105] His synthesis of the cases concludes "that courts generally will apply the absurd results doctrine when: . . . the literal reading of the statute will produce absurd results . . . or [an] application . . . would thwart the intentions of the statute's makers, provided that the agency deviates from the literal reading no further than is necessary to maintain that intent."[106] It is worth noting, however, that agencies must also meet the high burden of proving, as mentioned above, that Congress could not have meant what it said in the statute.[107] The agencies

97. *Id.*
98. *Id.*
99. Garrison, *supra* note 14, at 700 (citing *Mova Pharm. Corp.* 140 F.3d at 1069).
100. *Mova Pharm. Corp.* 140 F.3d at 1069.
101. *Id.*
102. *Id.*
103. *Id.*
104. *Id.*
105. Garrison, *supra* note 14, at 700.
106. *Id.* at 701.
107. Friends of the Earth, Inc. v. Envtl. Prot. Agency, 446 F.3d 140, 146 (D.C. Cir. 2006) (quoting Engine Mfrs. Ass'n v. Envtl. Prot. Agency, 88 F.3d 1075, 1089 (D.C. Cir. 1996)).

can do this either by pointing to historical facts[108] or to logic and the structure of the statute in question.[109]

The case that articulates this "exceptionally high burden" is *Friends of the Earth, Inc. v. Environmental Protection Agency* from 2006. Regarding that case, EPA argued that the "appropriate time increment used to express 'total maximum daily loads' (TMDLs)" under the Clean Water Act was something other than "daily"—such as "seasonally" or "annually."[110] Among other things, EPA argued that the terms "seasonally" and "annually" were more appropriate time increments because some pollutants are "poorly suited to daily load regulation."[111] EPA argued, "[d]ischarges of such pollutants . . . might not immediately affect water quality, but could instead inflict environmental damage over a longer period."[112] The court dismissed EPA's arguments, focusing on the clear language of "daily."[113] In doing so, it refused to apply the absurd results doctrine, holding that EPA failed to meet its burden of proving that the court should disregard the clear language of the statute.[114]

Although the courts often hesitate to apply the absurd results doctrine, they have not renounced the doctrine *per se*. In fact, by refusing to apply the doctrine in specific cases, the courts have implicitly acknowledged the doctrine's validity as a general matter.[115] Therefore, the absurd results doctrine is a relevant doctrine for arguing that a court or agency may bypass the language of a statute to avoid absurd results and maintain congressional intent.

Jellum states that two types of absurd results cases exist: 1) specific absurd results cases, "where a statute is absurd only in a specific situation" and 2) general absurd results cases, "where a statute is absurd *regardless* of the specific situation."[116] The following two examples illustrate the distinction between the two cases.

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108. Although the court in *Friends of the Earth, Inc.* did not define what "historical fact" meant, it is highly likely that the term includes, at the very least, the legislative history of the statute.

109. *Friends of the Earth, Inc.*, 446 F.3d at 146 (quoting *Engine Mfrs. Ass'n*, 88 F.3d at 1089).

110. Memorandum from Benjamin H. Gumbles, Assistant Administrator, Envtl. Prot. Agency to Director, Office of Ecosystem Protection, et al., Regional Administrators, Envtl. Prot. Agency 8 (Nov. 15, 2006), *available at* http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/upload/2006_11_21_tmdl_anacostia_memo111506.pdf.

111. *Friends of the Earth, Inc.*, 446 F.3d at 145.

112. *Id.*

113. *Id.* at 148.

114. *Id.* at 146.

115. *Specific Absurdity*, *supra* note 23, at 927.

116. MASTERING STATUTORY INTERPRETATION, *supra* note 53, at 74.

> A statute that prohibits individuals from keeping wild animals as pets might be absurd as applied to a person who rescued an injured squirrel, which was exactly what the court held in *Ohio Div. of Wildlife v. Clifton*. . . . But the statute as applied generally would not be absurd; for health and safety reasons, we do not want people keeping wild animals in their homes. Thus, this statute would be absurd in its specific application, but not absurd in its general application.[117]

By contrast, statutes that impose *waiting periods* instead of *filing deadlines* for litigants to appeal certain cases from trial courts are generally absurd.[118] Specifically, in *Amalgamated Transit Union Local v. Laidlaw Transit Services, Inc.*, the Ninth Circuit held that " 'less' " should be read to mean " 'more.' "[119] In *Laidlaw*, "the court rejected the plain meaning of the text of the Class Action Fairness Act . . . [which] . . . provided that 'a court of appeals may accept an appeal [in certain cases] if application is made to the court of appeals not less than 7 days after entry of the order.' "[120] In other words, the plain text of the statute imposed a seven day waiting period to appeal rather than providing for a deadline to appeal.[121] "The Ninth Circuit found this requirement 'illogical' and turned to the purpose of the [statute] . . . [and] concluded that Congress had intended for the [statute] to impose a

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117. *Id.* at 74-75 (citing Ohio Div. of Wildlife v. Clifton, 692 N.E.2d 253 (Ohio Mun. Ct. 1997)).

Although *Clifton* actually deals with the vagueness and due process doctrines of the Constitution, it is clear that what drives the court's holding is the absurdity and injustice of applying a generally reasonable law to the specific situation in that case. The following language in the case is particularly instructive: "Is there a rationale for the underlying statute? Of course! . . . [The] statute is logical and its general enforcement may be appropriate. *As applied in this case, it is inappropriate*." *Clifton*, 692 N.E.2d at 8 (emphasis added). Therefore, although *Clifton* is not directly on point, a court can extrapolate the underlying reasoning of the case to the absurd results doctrine jurisprudence.

118. *Specific Absurdity, supra* note 23, at 931-32.

119. Amalgamated Transit Union Local v. Laidlaw Transit Services, Inc., 435 F.3d 1140, 1146 (9th Cir. 2006) (citing Pritchett v. Office Depot, Inc., 420 F.3d 1090, 1093 n. 2 (10th Cir. 2005)).

120. *Specific Absurdity, supra* note 23, at 931-32 (citing *Laidlaw*, 435 F.3d at 1142).

However, *Laidlaw* does not support Jellum's analysis regarding the absurd results doctrine. In fact, rather than applying the absurd results doctrine at all, the court in *Laidlaw* merely applied the scrivener's error doctrine to a typographical error by Congress regarding whether the 7 day period was a deadline or a waiting period. *Laidlaw*, 435 F.3d at 1145. The absurd results doctrine and scrivener's error doctrine are materially distinguishable from each other in the following way: The scrivener's error doctrine questions the *expression* of Congress by saying that Congress inadvertently erred in communicating its legislative intent. By contrast, the absurdity doctrine questions the *wisdom* of Congress by addressing "unforeseen, egregious applications of statutory language." Andrew S. Gold, *Absurd Results, Scrivener's Errors and Statutory Interpretation*, 75 U. CIN. L. REV. 25, 56 (2006).

121. *Laidlaw*, 435 F.3d at 1145.

time limit for appealing rather than a waiting period."[122] The court therefore refused to apply the language of the statute literally because the language was generally absurd in all cases dealing with appeals of class actions, regardless of the specific facts of the case.[123] To date, Jellum's analysis has never been explicitly recognized by any court applying the absurd results doctrine.

2. Overview of Theories of Statutory Interpretation

Familiarity with the various theories of statutory construction is also essential for understanding the arguments for why the courts should uphold the validity of the absurd results doctrine. This thesis argues that the absurd results doctrine is largely consistent with both an intent-based approach and a text-based approach to statutory construction. Accordingly, this sub-section describes the various theories of interpretation, ranging from textualism, intentionalism and purposivism, that courts use when interpreting a statute, as well as the arguments for and against each approach.

Textualism is the dominant theory of statutory interpretation.[124] It requires that when a court interprets a statute, it must limit its inquiry to discerning the meaning of the statute's text.[125] Accordingly, textualists believe that the court should not look beyond the text of the statute unless the language is absurd or ambiguous on its face.[126] Under this theory, only if the statutory language is vague or ambiguous may the courts consider legislative history or policy to interpret the meaning of the language.[127] If the language is clear, however, the courts may only examine the language of the statute and must do so based on the plain meaning

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122. *Specific Absurdity*, *supra* note 23, at 932 (citing *Laidlaw*, 435 F.3d at 1146).

123. *Id.* Jellum presents a dilemma based on her analysis of general and specific absurdity. She argues that "[t]extualists should be particularly loath to apply the doctrine in cases of specific absurdity because specific absurdity, unlike general absurdity, is not readily apparent from the text of the statute alone and the statute, as written and generally applied, was exactly what Congress intended." *Id.* at 918. Therefore, Jellum contends that courts would have to examine extrinsic sources of intent such as legislative history, and that this approach undermines textualism. *Id.* at 918-20. The dilemma, according to her, is that it is in cases when statutes are "specifically absurd that judicial intervention is most essential" because legislatures have less of a political motivation to remedy individual absurdities that result from a unique and absurd application of the law. *Id.*

124. *See* MASTERING STATUTORY INTERPRETATION, *supra* note 53, at 16.

125. *Id.* at 17.

126. Even when the language of the statute is ambiguous or absurd, many strict textualists, as opposed to modified textualists, argue that looking at extrinsic sources of intent such as legislative history is improper. *See* Abbe R. Gluck, *The States as Laboratories of Statutory Interpretation: Methodological Consensus and the New Modified Textualism*, 119 YALE L.J. 1750, 1839 (2010).

127. *See* MASTERING STATUTORY INTERPRETATION, *supra* note 53, at 17.

of the statutory text.[128] Therefore, textualist judges will examine the language of the statute, which includes the text of the specific provision, "the statute as a whole, linguistic canons and the text of other statutes."[129] Most textualists will also look at dictionaries to determine the plain meaning of a statutory term if the statute does not provide a definition.[130]

The rationale for textualism derives from the structure of the Constitution.[131] Textualists reason that looking beyond the statutory language and considering legislative history and policy when the text is clear raises significant separation of powers concerns.[132] For example, considering legislative history effectively permits members of Congress to legislate without completing the Constitutionally required bicameral and presentment processes because legislators could (and often do) make statements on the floor or during conferences that may influence the outcome of litigation, affecting the interpretation of statutes in the future.[133] In making these statements, the legislators would not be subject to the checks and balances inherent in the legislative process.[134] Therefore, considering these statements and other forms of legislative history would violate the doctrine of separation of powers.[135]

Furthermore, textualists maintain that it is impossible to define what the "intent" of Congress is.[136] The legislative enactment process reflects political debates, disagreements and compromises. Thus, each legislator has different reasons for voting to approve a bill and the courts should stick to determining the meaning of the text of the statute rather than attempt to discern any congressional "intent."[137]

On the opposite side of the spectrum of statutory construction is intentionalism. The goal behind intentionalism is for the courts to determine the specific intent behind a particular provision of a statute that presents an issue of interpretation in the case at hand (as opposed to the court determining the general purpose or goal of an entire statute—that is purposivism).[138] In determining the intent behind a statutory provision, the courts need not examine only the text of the statute but also may consider

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128. *Id.* at 17.
129. *Id.* at 21.
130. *Id.* at 17.
131. *Id.* at 16-17.
132. *Id.*
133. *See id.*
134. *Id.*
135. *Id.*
136. *See, e.g.*, *id.* at 23.
137. *See id.*
138. *Id.* at 21-22.

extrinsic sources of intent such as the legislative history and policy behind the statute.[139] Under a theory of intentionalism, the statutory language need not be vague or absurd for the courts to consider these extraneous sources of evidence of intent.[140]

As with textualism, the rationale for intentionalism stems from the doctrine of separation of powers.[141] Intentionalists argue that Congress makes the law and the judiciary interprets the law and that the role of the judiciary is to faithfully carry out the intent of Congress.[142] Accordingly, the courts must faithfully interpret statutes in a manner that is consistent with the intent of Congress that existed at the time Congress enacted the statute.[143] In taking this approach, intentionalist judges examine sources of evidence of congressional intent such as legislative history and policy, even if these sources suggest that Congress intended something different from what the text of the statute explicitly says.[144]

From a policy standpoint, intentionalists argue that despite what textualists claim, it is *not* impossible for the courts to identify a single intent of Congress when enacting a statute.[145] Although legislators may often have different political *motives* from each other for agreeing to vote to approve a bill, they can still have the same *intent* for what the language of the bill should mean.[146] Therefore, textualists arguably overlook a critical distinction between motives and intent in the legislative enactment process.

Intentionalists also disagree with textualists who completely reject the use of legislative history, contending that although "legislative history is not enacted law," it "can offer insight into what some or all of the legislators may have been thinking" when enacting the law.[147] Thus, although intentionalists agree that legislative history should be used with caution, they argue that such history can offer additional useful evidence to determine Congress's intent behind a statute.[148]

In addition to intentionalism, purposivist judges also examine the intent of Congress.[149] However, unlike the narrow focus of intentionalism on a specific provision within a statute, the goal of purposivism is for courts to determine the general intent of a

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139. *Id.* at 22-23
140. *Id.* at 23.
141. *See id.*
142. *See id.*
143. *See id.*
144. *Id.*
145. *Id.* at 23-24.
146. *Id.* at 24.
147. *Id.*
148. *Id.*
149. *Id.* at 26.

statute by examining the underlying goals and purposes behind the entire statute *as a whole*.[150] Therefore, purposivism is broader in scope than intentionalism because intentionalism only focuses on questions of interpretation of a specific piece or pieces of statutory language. Purposivism is also the most controversial theory of statutory interpretation of the three described in this thesis because the theory allows judges to examine statutes in light of their overall purpose even if that purpose is wholly divorced from the text of the statute.[151]

In many ways, purposivism is very similar to intentionalism. As with intentionalism, the courts need not focus solely on the text of the statute but may also consider legislative history and policy to determine congressional intent, even if the text of the statute is clear on the matter.[152] The rationale for purposivism is also very similar to the rationale for intentionalism. As with the latter, purposivism is consistent with the doctrine of separation of powers because the courts are faithfully carrying out the overall goals of Congress, and it is not impossible to determine the general congressional intent behind the law since the political motives of individual legislators, which are usually difficult to determine, are distinct from legislative intent.[153]

3. Overview of the *Chevron* Standard

This article argues that the absurd results doctrine, both in the abstract and as applied to the Tailoring Rule, is compatible with the *Chevron* standard of review for agency interpretations rendered in notice-and-comment legislative rulemaking. Therefore, it is critical for the reader to understand *Chevron*. *Chevron* has a familiar two-step analytical process for deciding whether to uphold an agency's interpretation of a statute.[154] The first question courts consider is "whether Congress has directly spoken to the precise question at issue."[155] If Congress has clearly and unambiguously spoken to the issue at hand, "that is the end of the matter."[156] However, if Congress has not spoken to "the precise question at issue," the agency's interpretation of the statutory provision will stand if it is reasonable.[157] For this second step, the reviewing courts will defer to the agency's interpretation, even if

150. *Id.* at 26-27.
151. *See id.* at 29.
152. *Id.*
153. *Id.*
154. *See* Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc., 467 U.S. 837 (1984).
155. *Id.* at 842.
156. *Id.* at 842-43.
157. *Id.* at 843-44.

it believes that a different policy choice is better.[158] The courts are far more deferential to agencies in this second step.[159] According to an empirical study done by Kerr from 1995-96, agencies prevail at step one forty-two percent of the time and at step two eighty-nine percent of the time.[160] In addition, according to a study of the EPA conducted by Glicksman and Schroeder, the agency lost fifty-eight percent of the time at step one of *Chevron* while it prevailed under *Chevron* step two 92.6% of the time.[161]

> The Court justified this increased level of deference [at step two] to the agencies for three reasons: First . . . agency personnel are "experts in [their] field"; judges are not. Congress entrusts agencies to implement the law in a particular area because of this expertise. For example, scientists and [engineers] working for [EPA] are more knowledgeable about [the health effects of air pollutants and emissions calculations for power plants] than are judges. Because [agency experts] are specialists in their field, they are in a better position to implement effective public policy.[162]

Agencies typically understand better than courts do the impact of competing statutory interpretations on underlying statutory policies.[163]

Secondly, deferring to agency experts follows the intent of Congress because the *Chevron* court ruled that when Congress leaves open regulatory gaps in a statute, it intends to enable the agencies with the expertise the discretion to fill the gaps, rather than have the courts do so.[164] The Supreme Court recognized that "Congress simply cannot legislate every detail in a comprehensive regulatory scheme [and since] [g]aps and ambiguities are inevitable; an agency must fill and resolve these gaps and ambiguities."[165] "The *Chevron* Court presumed that by leaving open these gaps and ambiguities, Congress impliedly delegated to the agency the authority to resolve them."[166] Furthermore, even though Congress

158. *Id.* at 843-845.

159. *See, e.g.*, *id.* at 844-45.

160. Orin S. Kerr, *Shedding Light on* Chevron*: An Empirical Study of the Chevron Doctrine in the U.S. Courts of Appeals*, 15 YALE J. REG. 1, 31 (1998).

161. Christopher H. Schroeder & Robert L. Glicksman, *Chevron, State Farm, and the EPA in the Courts of Appeals During the 1990s*, 31 ENVTL. L. REP. 10371, 10375-79 (2001), *reprinted in* 32 LAND USE & ENV'T L. REV. 327 (2002).

162. MASTERING STATUTORY INTERPRETATION, *supra* note 53, at 215-16 (quoting *Chevron*, 467 U.S. at 856).

163. *Id.*

164. *Chevron*, 467 U.S. at 843-44.

165. MASTERING STATUTORY INTERPRETATION, *supra* note 53, at 216.

166. *Id.*

knew that an agency might follow its own political agenda rather than that of Congress, it still desired for agency experts to make the policy decisions in implementing statutes.[167]

Third, the President of the United States and its administrative officials "have a political constituency to which they are accountable."[168] "[F]ederal judges—who have no constituency—have a duty to respect legitimate policy choices made by those who do."[169] "Thus, in creating its two-step deference framework, the Court based its decision on three concepts: agency expertise, implied congressional delegation, and democratic theory."[170]

B. The Absurd Results Doctrine is Consistent with the Doctrine of Separation of Powers

This sub-section asserts that the absurd results doctrine is valid in the abstract. As noted above, although courts are reluctant to apply the absurd results doctrine, it is a valid doctrine that has never been overruled. Furthermore, applying the doctrine is largely consistent with the various theories of statutory interpretation. To begin, the doctrine is consistent with the theories of intentionalism and purposivism. More importantly, even assuming that textualism is the proper theory of interpretation, the absurd results doctrine is consistent with textualism as well. This is because the need for having the doctrine is firmly rooted in the Constitution and, even under a textualist approach, the absurd results doctrine is valid in cases that do not require the courts to examine legislative history or other extrinsic sources of legislative intent. In such cases, the absurd results doctrine is consistent with the doctrine of separation of powers.

Many textualists embrace the absurd results doctrine because it provides a safety-valve to limit the harsh effects of strictly construing a statute. Manning, however, argues that the absurd results doctrine is, in reality, inconsistent with the theory of textualism because the doctrine does not comport with separation of powers principles.[171] Manning argues that judges should not be allowed to read exceptions into the clear language of statutes because doing so creates legislative abdication.[172] Under this

167. *See id.*
168. *Id.*
169. *Chevron*, 467 U.S. at 866.
170. *Id.*
171. Manning, *Absurdity Doctrine*, *supra* note 30, at 2437; *see also* O'Brien, *supra* note 35, at 635.
172. Manning, *Absurdity Doctrine*, *supra* note 30, at 2437.

argument, when legislators know that the courts will read exceptions into statutes in cases where Congress has made an error, Congress will be less cautious and deliberative in the enactment process because they know that the courts will catch and correct their mistakes—reducing the incentive for Congress to do its own job carefully.[173] Manning argues that this approach is problematic because judges are not politically accountable. Therefore, he concludes that the courts should not do the jobs of elected officials by altering the clear language of a duly-enacted statute.[174]

In addition, Manning argues that allowing the courts to alter the clear language of a statute based on legislative intent ignores and nullifies the political compromises inherent in the legislative process.[175] To ensure liberty and democracy, the Constitution sets up a system of checks and balances in the legislative process in order to prevent any one branch of the government from garnering too much power at the expense of another branch.[176] To this end, the bicameralism clause requires that both houses of Congress deliberate and agree on the language of a bill before it can proceed.[177] Similarly, the presentment clause requires that Congress present the bill to the President of the United States, who can sign or veto it.[178] These constitutional safeguards ensure that legislators compromise with each other as well as with the President during the legislative process in order to prevent factionalism and to protect minority party interests.[179] Manning contends that no uniform legislative intent exists and allowing the judiciary to alter the clear language of a duly-enacted statute in the name of intent violates the doctrine of separation of powers because it ignores the political compromises that legislators make.[180]

Despite Manning's arguments, allowing courts to deviate from the text of a statute produces better outcomes than the alternative when judged by a pragmatic constitutional standard. If Congress does not have the safety-net of knowing that the judiciary will deviate from the language of a statute in cases where following the language would yield absurd results, the legislative process may grind to a near-halt because Congress would be faced with the unrealistic task of anticipating all the scenarios in which an

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173. *Id.* at 2438-39.
174. *Id.*
175. *Id.* at 2437-38.
176. *See* U.S. CONST. art. I, § 7.
177. *See id.*
178. *See id.*; Manning, *Absurdity Doctrine*, *supra* note 30, at 2437-38.
179. *See* U.S. CONST. art. I, § 7.
180. *See* Manning, *Absurdity Doctrine*, *supra* note 30, at 2435-38.

absurd result would exist under a statute.[181] Congress may get little or nothing done in such a case. Although Manning seems to acknowledge this potential outcome, he understates the issue by characterizing it as increased legislative "procedural costs."[182] However, in reality, it may be much more. Congress may be crippled or, at the very least, slowed down greatly. Recent events, such as the near economic disaster with the debt ceiling debate and the gridlock over budget sequestration, serve as a cautionary tale and illustrate that Congress often has enough difficulty for arriving at agreement for whether to vote to approve a bill as it is. Granted, such slowness in Congress often exists for other various (often political) reasons. Regardless, however, taking down the judicial safety-net inherent in the absurd results doctrine may only slow down the legislative process even more. When deciding cases of constitutional import, the Supreme Court will often look at the pragmatic legal consequences of interpreting the Constitution in a certain way.[183] In the present case, holding the absurd results doctrine invalid could undermine the entire Article I of the U.S. Constitution because Congress's legislative process may be crippled or, at the very least, rendered to a crawl, as a practical matter.

Concededly, the legislative process may not grind to a halt and legislators may simply decide to do the best that they can and hope for the best, recognizing that errors will occur that can be fixed in subsequent legislation. Even in such a scenario, however, the non-delegation doctrine and its underlying separation of powers rationale makes for a strong argument that Congress is not abdicating its legislative responsibilities in the absurd results context.[184] The argument is that

> if Congress can legitimately authorize courts to develop a common law of antitrust under the Sherman Act or direct agencies to implement a standard as open-ended as "the public interest," how can the constitutional structure preclude Congress from passing a statute that, expressly or implicitly, "delegates" authority to courts to avoid absurdity?[185]

Manning attempts to rebut this point by claiming that the absurd results doctrine is distinguishable from the non-delegation

181. *Id.* at 2438.
182. *Id.* at 2438-39.
183. *See generally* Whitman v. Am. Trucking Ass'n, 531 U.S. 457 (2001).
184. Manning, *Absurdity Doctrine*, *supra* note 30, at 2440.
185. *Id.* at 2440-41.

doctrine.[186] Specifically, he contends that an intelligible principle exists only when Congress delegates rulemaking authority to an agency, often in cases where the statute is vague, unclear or ambiguous on a certain issue.[187] By contrast, the absurdity doctrine applies in cases where the statutory language is clear on an issue, but the courts will still disregard the language.[188] Manning concludes that allowing agencies the sweeping power to negate the express command of a statute when Congress has spoken clearly on an issue crosses the line into the realm of an impermissible abdication of legislative power to the courts.[189]

Manning's rebuttal overstates its case, however, because it ignores the strong parallels that exist between the non-delegation doctrine and the absurd results doctrine. Under both doctrines, judges are required to identify congressional policies. When undertaking non-delegation doctrine analysis, the courts must determine the intelligible principle behind a statute by asking whether Congress has provided any guidelines for an agency's implementation of a statute.[190] This requires the courts to examine the congressional intent behind the statute for any given issue.[191] Similarly, the courts must determine congressional intent in order to decide whether the literal language of a statute produces absurd results that contravene that intent.[192] Thus, these two doctrines are materially similar because judges in both cases must identify congressional goals.

Given the fact that the two doctrines are analogous, the courts should apply the same rationale used to support the validity of judicial application of the non-delegation doctrine in order to uphold the validity of the absurd results doctrine. The courts that have upheld the non-delegation doctrine reason that Congress cannot legislate every detail on its own, because if Congress were required to do so, the legislative process would be slowed down dramatically.[193] Therefore, by allowing Congress to delegate rulemaking authority broadly to administrative agencies, the courts are preventing the legislative process from slowing down.[194] The fact is that invalidating the absurd results doctrine would, at the

186. *Id.* at 2441-43.
187. *Id.* at 2441-42.
188. *Id.* at 2443.
189. *See id.* at 2437.
190. *See* Whitman v. Am. Trucking Ass'n, 531 U.S. 457, 474 (2001).
191. Mova Pharm. Corporation. v. Shalala, 140 F.3d 1060, 1068 (D.C. Cir. 1998).
192. *Id.*
193. *Whitman*, 531 U.S. at 488, 496 n.2 (Stevens J., concurring) (quoting Mistretta v. United States, 488 U.S. 361, 372 (1991) ("[O]ur jurisprudence has been driven by a practical understanding that in our increasingly complex society . . . Congress simply cannot do its job absent an ability to delegate power. . . .").
194. *See id.* at 488, 496 n2.

very least, dramatically slow down the legislative process—an outcome that the courts rejected in upholding the validity of the non-delegation doctrine.[195] Thus, as a matter of constitutional precedent, the court should maintain the validity of the absurd results doctrine.

Furthermore, it is difficult to argue that applying the absurd results doctrine violates the doctrine of separation of powers in cases in which the courts need only rely on the text of the statute in order to find a particular provision to be absurd on its face. In arguing that the absurd results doctrine is inconsistent with separation of powers principles, Manning overlooks this point. The argument that a statute can be found absurd on its face was brought forth by Jellum, who distinguishes between general and specific absurd results cases.[196] She argues that, although this distinction has never been explicitly recognized by the courts, the paradigm is consistent with the case law from the Supreme Court and the D.C. Circuit applying the doctrine.[197] Jellum's article weakens Manning's argument that the absurd results doctrine violates separation of powers principles because Jellum illustrates how courts often do not need to rely on extrinsic sources of legislative intent in applying the absurd results doctrine.[198]

Although Jellum's analysis has some superficial appeal, her distinction between general and specific absurdity is overly categorical and somewhat arbitrary. Jellum asserts that "general absurdity" exists when a statute is absurd on its face.[199] According to her argument, under such a scenario, a court can merely look at the text of the statute to determine that Congress did not intend for the language of the statute to exist in its present form. The specific facts of the case are not necessary to determine that the language is absurd. For example, "[a] statute that imposes a waiting period for filing an appeal rather than a time limit in which to file is absurd in all cases."[200] According to Jellum, "specif-

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195. *Id.*

196. *See Specific Absurdity, supra* note 23, at 917-18.

197. *Id.* at 929-30 (*citing* Green v. Bock Laundry Mach. Co., 490 U.S. 504 (1989); Pub. Citizen v. U.S. Dept. of Justice, 491 U.S. 440, 474 (1989)).

198. *Id.* at 938-39.

199. *See id.* at 933.

200. *Id.* Jellum's statement that "[a] statute that imposes a waiting period for filing an appeal rather than a time limit in which to file is absurd in *all* cases" is incorrect because it is overly broad. *See id.* (emphasis added). For example, citizen suit provisions typically impose waiting requirements so that agencies have an opportunity to initiate their own enforcement actions, which preclude citizen suits. *See, e.g.*, 42 U.S.C. § 7604(b)(1)(B) (2006). It would be more accurate, perhaps, to state that general absurdity exists not in *all cases*, but in cases with a clearly and broadly identifiable class of similarly-situated people. Regardless of this relatively minor point, however, as indicated *infra*, Jellum's distinction between general and specific absurdity is overly categorical and misses the mark.

ic absurdity," on the other hand, occurs when a statute is absurd only as applied to a specific or unique set of facts and often requires judges to review extra-textual sources of intent such as legislative history and policy.[201]

> For example, a statute that prohibits individuals from drawing blood in the streets is not absurd until applied to a doctor offering medical care. But in deciding whether to except the doctor from the statute's reach, a judge should consider the purpose of the statute. If the purpose of the statute was to prohibit individuals from fighting in the streets, then excepting the doctor would be consistent with that purpose. If the purpose of the statute was to protect public health by keeping blood—which is unsanitary—off the street, then excepting the doctor would be inconsistent with that purpose. Hence, [under Jellum's theory] specific absurdity often must be resolved through nontextual sources such as legislative history and unexpressed purpose. Because specific absurdity requires judges to resort to nontextual sources to determine statutory meaning, specific absurdity undermines textualism.[202]

By contrast, Jellum contends that general absurd results cases raise far fewer textualist concerns than specific absurdity cases because the courts in general absurd results cases can deviate from the language of the statute and effectuate congressional intent simply by examining intrinsic sources of evidence of congressional intent (e.g. the text of the statute).[203] For example, a judge may look at a specific provision of a statute and determine that it conflicts with the goals of the statute, as expressed by other provisions elsewhere in the statute. In such cases, the courts need not examine extra-textual sources, and the court does not undermine the bicameral and presentment clause concerns in the Constitution in general absurd results scenarios.[204]

Although Jellum's argument has some initial appeal, it overlooks many important questions. For example, why does a court not have to consider the purpose of a statute to determine whether it is generally absurd in all cases? Could scenarios not exist in which judges would have to examine legislative purpose in general absurdity cases? Furthermore, why is it impossible for a court in

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201. *Specific Absurdity, supra* note 23, at 918, 935-36.
202. *Id.* at 935.
203. *See id.* at 934.
204. *Id.*

specific absurdity cases to tell from the text of the statute that a provision is absurd? Is it not possible that even in a specific absurdity case, it may be clear by looking just at the text that Congress could not have intended the result that flows from a literal application of the statute? In reality, Jellum's distinction between general and specific absurdity is overly simplistic because the lines between general and specific absurdity are often very blurry. As this article will demonstrate in the next section,[205] provisions of the CAA relevant to the Tailoring Rule call into question the validity of Jellum's analysis.

Although Jellum's formulaic distinction is overly simplistic, her ultimate conclusion, however, rings correct: not all absurdity cases raise separation of powers concerns because, in some cases, judges may be able to tell or infer from the language and structure of the statute whether a provision of the law is absurd on its face, without having to resort to extrinsic tools of statutory interpretation, such as legislative history.[206] This makes it difficult for textualists to argue that applying the absurd results doctrine always implicates the doctrine of separation of powers.[207]

C. The Absurd Results Doctrine Comports with Chevron

The importance of upholding the validity of the absurd results doctrine is even more critical for administrative agencies as opposed to the judiciary because courts applying the doctrine are deferring to agency expertise, which promotes legislative intent. Unlike with courts and legislatures, agency experts are required to navigate complex and technical subject matter areas within their legal jurisdiction.[208] This means that agencies must have the discretion and flexibility to make choices about how to implement the law. The absurd results doctrine furthers this goal by allowing agency experts to disregard certain provisions of a statute when doing so would follow legislative intent.

Of course, the fact that agencies have expertise only becomes relevant during *Chevron* step two analysis. Critics of the absurd results doctrine may argue that the doctrine is incompatible with *Chevron* because in cases where the statutory language is plain

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205. *See infra* Section III.

206. *Specific Absurdity, supra* note 23, at 933-34.

207. Unlike with textualism, an intent or purpose-based approach to statutory interpretation obviates the need for the absurd results doctrine because the courts are already examining the intent of Congress in the first place, despite what the text of the statute says.

208. Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc., 467 U.S. 837, 865-66 (1984).

and unambiguous, Congress has spoken to the precise question at issue and any agency's attempt to contravene that language fails under *Chevron* step one analysis.[209] This argument, however, is incorrect as a matter of law. In fact, the absurd results doctrine is an overlay on *Chevron* and provides agencies with a basis for arguing that Congress has not spoken to the precise question at issue when the unambiguous text of the statute produces absurd results.[210] The Court in *Ron Pair* held that while the text of the statute is the best method of determining whether Congress has clearly spoken to the precise question at issue, it is not the only method.[211] In cases where the plain language of the statute produces absurd results, the courts must determine that Congress has not clearly spoken.[212] Part of the reason for this is a judicial respect for Congress; namely, that when examining a statute, courts assume that Congress does not intend to produce absurd results while enacting the law.[213] Therefore, courts have held that agency experts should be afforded *Chevron* deference by the courts if the agency can demonstrate that following the literal language of the statute would create absurd results.[214]

III. THE ABSURD RESULTS DOCTRINE APPLIES TO UPHOLD EPA'S TAILORING RULE

A. Overview of Relevant Legal Framework

1. Standing

The previous section of this article analyzed the absurd results doctrine in the abstract. By contrast, this section argues that the absurd results doctrine applies to uphold EPA's Tailoring Rule in order to avoid application of the PSD and Title V 100/250 tpy thresholds to GHGs. As the reader will recall, however, the D.C. Circuit dismissed the Petitioner's claims against EPA's rule due to lack of standing.[215] In order for the merits of the validity of the rule to become relevant, it is necessary to address the threshold issue of standing. Thus, the reader must understand the scenarios in which plaintiffs could plausibly obtain standing to challenge

209. *See id.* at 842.
210. *See, e.g.,* United States v. Ron Pair Enters., 489 U.S. 235 (1989).
211. *Id.* at 241-42.
212. *Id.* at 242.
213. Manning, *Absurdity Doctrine*, *supra* note 30, at 2405-08.
214. Griffin v. Oceanic Contractors, Inc., 458 U.S. 564, 571 (1982); *Ron Pair*, 489 U.S. at 242-43.
215. Coalition for Responsible Regulation, Inc. v. Envtl. Prot. Agency, 684 F.3d 102, 146-48 (D.C. Cir. 2012).

the rule in the future. Accordingly, this section presents various arguments that different types of plaintiffs could make to allege standing, arguments that were either not argued before the D.C. Circuit, or that were argued inadequately.

Three plausible, if not likely, scenarios exist in which future plaintiffs challenging the Tailoring Rule could prove standing. First, large corporate emitters could raise a successful standing claim by asserting competitive economic injury as compared to smaller emitters that would be exempt from costly PSD or Title V regulation under the rule. Second, states could bring forth a successful standing claim by arguing that they would be adversely affected by climate change as a result of the reduction in GHG regulation under the Tailoring Rule. Third, some environmental groups may choose to sue EPA over its rule and would easily be able to prove standing as long as they have a member of the organization who suffers an environmental injury resulting from climate change.

Regarding the competitive economic injury claim, large industrial emitters could argue that they will be subject to regulation under PSD and Title V of the CAA, as opposed to smaller competitors who are exempt under the rule and enjoy a cost advantage. The Supreme Court's opinion in *Association of Data Processing Service Organizations, Inc. v. Camp*[216] supports this argument. In that case, the plaintiffs who provided data processing services to businesses argued for standing by asserting that they suffered competitive economic injury as a result of a ruling by the Comptroller of the Currency permitting national banks to make data processing services available to other banks and bank customers—thereby cutting into the plaintiffs' customer base.[217] The Supreme Court upheld the Petitioner's standing claims, holding that competitive economic injury is a valid basis for a standing claim.[218] Thus, in challenging the Tailoring Rule, perhaps the easiest claim a large industrial future plaintiff could make to prove standing would be to argue that it would suffer competitive economic disadvantage as compared to smaller emitters of GHGs.

In addition to large industrial emitters being able to claim standing, the states could also easily prove standing in the future. The states would have to assert, as the state parties did in *Massachusetts v. Environmental Protection Agency*, that they want more regulation than what the Tailoring Rule provides for and that they

216. *See* Ass'n Data Processing Svc. Orgs. v. Camp, 397 U.S. 150 (1970).
217. *Id.* at 152.
218. *Id.* at 153-54.

will be adversely affected by climate change.[219] It is undisputed that the rule allows for more emissions of GHGs than what a strict application of the statutory language of the CAA would allow. Specifically, in assessing the costs and benefits of the final rule in its preamble, the EPA conceded that the rule will create some "social costs," namely the "foregone environmental benefits" due to the lack of regulation of smaller emitters of GHGs.[220] The states could therefore argue that they have *parens patriae* standing to sue in a representative capacity to challenge the Tailoring Rule because the increased GHG emissions contribute to climate change that harms the interests of the state.[221]

In making these arguments, the states should make sure that they cite to specific evidence proving a causal link between the Tailoring Rule, climate change and its harmful effects on the states. The D.C. Circuit in its decision dismissing the challenges to the Tailoring Rule on jurisdictional grounds rejected the same arguments for *parens patriae* standing made by the state Petitioners in that case because the Petitioners raised them for the first time in their reply briefs and failed to offer any specific evidence linking the Tailoring Rule to the harmful effects of climate change imposed on their states.[222] The court emphasized this lack of data and distinguished the case before it from *Massachusetts v. Environmental Protection Agency*, where Massachusetts had brought forth "unchallenged affidavits and declarations showing that 1) rising sea tides due to global warming had 'already begun to swallow Massachusetts' coastal land,' and 2) '[t]he severity of that injury will only increase over the course of the next century.' "[223] By contrast, the Petitioners in the case before the D.C. Circuit failed to cite to any specific data or evidence in the record in order to prove a concrete or particularized injury-in-fact caused by the Tailoring Rule.[224] Thus, any future state plaintiffs would have to gather evidence and cite to specific evidence linking

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219. *See* Massachusetts v. Envtl. Prot. Agency, 549 U.S. 497, 532 (2007).

220. LINDA M. CHAPPELL, EVNTL. PROT. AGENCY, REGULATORY IMPACT ANALYSIS FOR THE FINAL PREVENTION OF SIGNIFICANT DETERIORATION AND TITLE V GREENHOUSE GAS TAILORING RULE 16 (2010), *available at* http://www.epa.gov/ttn/ecas/regdata/RIAs/riatailoring.pdf.

221. *See Massachusetts*, 549 U.S. at 521 (holding that the State of Massachusetts had standing to petition for review of an order of EPA refusing to regulate GHG emissions from motor vehicles under the CAA because EPA's "refusal to regulate . . . present[ed] a risk of harm to Massachusetts [by a rise in sea levels associated with global warming] that [was] both 'actual' and 'imminent,' " and that there was "a 'substantial likelihood that the judicial relief requested would prompt EPA to take steps to reduce that risk' ") (citation omitted).

222. Coal. for Responsible Regulation, Inc. v. Envtl. Prot. Agency, 684 F.3d 102, 146-48 (D.C. Cir. 2012).

223. *Id.* at 148 (citing *Massachusetts*, 549 U.S. at 522-23).

224. *Id.*

the Tailoring Rule to the harmful effects of climate change on their states.

Proving that the injury on the states results from climate change should be easy for the states because the Supreme Court held in *Massachusetts v. Environmental Protection Agency* that the redressability requirement for standing is met even when other causes of the injury exist.[225] Specifically, the Court held that although emissions from motor vehicles, as well as emissions from foreign countries like China and India, may offset the decrease in GHG emissions from stationary sources in the United States, all that matters for a standing analysis is whether the Court can offer some remedy to the plaintiff that would alleviate the effects of global warming, even if it only alleviates the impact *to a limited extent*.[226] Thus, the Court applied the causation and redressability requirements of standing loosely only to require a mere drop in the bucket, so to speak.[227] Accordingly, any future state plaintiffs challenging the rule should easily be able to prove *parens patriae* standing.

Likewise, environmental groups, should they choose to sue, could also easily prove standing. Certain groups on the political fringe outside of the mainstream may decide to sue EPA and challenge the Tailoring Rule, and they should succeed as long as they can prove that one of their members is injured on an individual basis by the harmful effects of climate change. In *Sierra Club v. Morton*, the Sierra Club challenged the federal government's approval for private entities to undertake development of a national park.[228] The Supreme Court made two significant holdings relevant to the case at hand. First, the Court held that a "person has standing to seek judicial review . . . if he can show that he himself has suffered or will suffer injury, *whether economic or otherwise*."[229] This broad application of the injury requirement allows future plaintiffs to allege environmental injuries. The Court also held, however, that the Sierra Club, in its organizational capacity, lacked standing to challenge the development of the park.[230] Importantly, however, the Court did say that the organization could sue on behalf of any of its members who had individual standing because the government approval of the development adversely impacted the group members' aesthetic or recreational

225. *Massachusetts*, 549 U.S. at 523-24.
226. *Id.* at 524.
227. *Id.*
228. Sierra Club v. Morton, 405 U.S. 727 (1972).
229. *Id.* at 727 (emphasis added).
230. *Id.* at 739-41.

interests.[231] Thus, any environmental group that chooses to sue the EPA over the Tailoring Rule in the future would have to sue on behalf of its members who suffer environmental injury on an individual basis, due to the effects of climate change. This analysis makes it clear that plaintiffs in future cases could easily obtain standing to challenge the validity of the Tailoring Rule.

2. PSD

With the standing hurdle out of the way, the merits of the validity of the Tailoring Rule become ripe for consideration, along with the application of the absurd results doctrine to the rule's deviation from the PSD and Title V thresholds as applied to GHGs. However, in order to understand the arguments that this paper presents, it is essential for the reader to understand the relevant provisions of PSD and Title V.

"The PSD program is a preconstruction review and permitting program applicable to new major stationary sources and major modifications at existing major stationary sources, [in the terminology of EPA's implementing regulations.]"[232] "The PSD program applies in areas [meeting the health-based] National Ambient Air Quality Standards (NAAQS)" or for which there is insufficient information to determine whether they meet the NAAQS ("unclassifiable" areas).[233] The purpose of the PSD program is "to protect and enhance air quality" by preventing the significant deterioration of air quality in regions which have attained the national ambient air quality standards (NAAQS) or are unclassifiable.[234]

The applicability of the PSD program to a specific source must be determined prior to the construction or modification of the source.[235] In addition, PSD applicability is pollutant-specific.[236] In other words, PSD may be applicable to a source's emissions of particulate matter, while not applicable to its sulfur dioxide emissions. The PSD permit program applies to the construction of new or the modification of existing "major emitting facilities."[237] The primary criterion in determining whether a source is a "major

231. *Id.* at 734-36.

232. Tailoring Rule, *supra* note 1, at 31,520.

233. *Id.*

234. 42 U.S.C.A. §§ 7401(b)(1), 7470 (2011). "The PSD program is contained in part C of title I of the CAA. The 'nonattainment . . . [NSR]' program applies in areas not meeting the NAAQS and in the Ozone Transport Region, and is implemented under the requirements of part D of title I of the CAA. Collectively . . . these two programs [are] the major NSR program." Tailoring Rule, *supra* note 1, at 31520.

235. Tailoring Rule, *supra* note 1, at 31,520.

236. *Id.*

237. *Id.*

emitting facility" is whether the source falls into a specific category under the statute, in terms of its emissions.[238] Specifically, if a source that falls into a standard industrial category listed in section 7479(1) of the statute "emits and has the potential to emit 100 tpy . . . of any air pollutant," the source constitutes a "major emitting facility."[239] Likewise, any source that is not listed in section 7479 of the statute and emits and has the potential to emit 250 tpy of any air pollutant is also covered by PSD.[240]

The PSD program applies both to new sources and existing sources that undergo a major modification.[241] Specifically, if an existing "major emitting facility" undergoes a physical or operational change that results in a significant net emissions increase, the facility falls within the scope of the PSD program, just as if it were newly-constructed.[242] Once a major modification triggers PSD, the statute imposes Best Available Control Technology (BACT) and other substantive requirements (e.g. air quality monitoring) on the facility.[243] BACT requires EPA to set numerical emissions limitations based on the best available control technology that exists for any given source.[244] These emissions limitations require sources to reduce their emissions at the time of the major modification in order to offset the emissions increase that results from the modification. The EPA applies BACT on a case-by-case basis, taking into account costs, environmental and energy needs, technological feasibility and other factors, when setting the numerical emissions limitation.[245]

3. Title V

The purpose of Title V is to consolidate all applicable CAA requirements (including PSD) into one document in order to enable EPA, state and local permitting authorities, regulated sources and citizens to know what requirements apply to any given facility and to make it easier for the permitting authorities and citizens to enforce the CAA.[246] Title V applies to the ongoing operation of any facility that emits or has the potential to emit 100 tpy or more.[247]

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238. *Id.*
239. *Id.*
240. 42 U.S.C. § 7479(1) (2006).
241. *Id.* § 7479(2)(A)-(C).
242. Tailoring Rule, *supra* note 1, at 31,520.
243. 42 U.S.C. § 7475(a)(4).
244. *Id.* § 7479(3).
245. *Id.*
246. New York Pub. Interest Research Grp. v. Whitman, 321 F.3d 316, 320 (2d Cir. 2003).
247. 42 U.S.C. § 7602(j).

Unlike PSD, Title V does not create any new substantive requirements—only procedural ones.[248] Monitoring and record-keeping, as well as other procedural requirements, are included in the Title V operating permit.[249]

4. EPA's Tailoring Rule

As with PSD and Title V, it is also necessary for the reader to understand the Tailoring Rule itself. As mentioned above, the Tailoring Rule raises the applicability thresholds for both PSD and Title V.[250] In doing so, the rule advances two major goals: to exempt smaller facilities such as residences and small business from bearing the costs to comply with PSD and Title V and to lessen the adverse economic impact imposed on regulated facilities and permitting authorities under the rule by phasing in the regulation of the facilities' GHG emissions over time.[251] To meet these goals, the Tailoring Rule contains four major steps for both PSD and Title V.[252] During the first step for PSD for existing modified sources (i.e. as opposed to newly-constructed sources), EPA regulates all "anyway" sources (sources that are *already* subject to PSD for non-GHG emissions) that also have a net emissions increase of GHGs of 75,000 tpy or more.[253] In addition, there must be a significant increase in emissions of at least one regulated non-GHG pollutant for EPA to regulate the facility.[254] During the second step, additional sources of GHGs are phased into the regulatory scope of PSD.[255] Specifically, *any* existing or new stationary source (regardless of whether it is already subject to PSD for non-GHG emissions) that emits or has the potential to emit (PTE) GHGs at or above 100,000 tpy will fall under the definition of "major emitting facility" and will therefore potentially be subject to the scope of PSD.[256] In order to trigger the substantive requirements of PSD, including those for best available control technology (BACT), the "major emitting facility" must, in addition, undertake a major modification that causes an increase in emissions of 75,000 tpy or more.[257]

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248. *Whitman*, 321 F.3d at 320.
249. *Id.*
250. Tailoring Rule, *supra* note 1, at 31,514.
251. *Id.*
252. *See generally id.*
253. *Id.* at 31,516.
254. *Id.*
255. *Id.*
256. *Id.* Under the CAA, PSD only applies to "major emitting facilities." EPA's PSD regulations use the term "major stationary source" as synonymous to the term "major emitting facility." *See* 40 C.F.R. 52.21(b)(l)(i)(a) (2011).
257. Tailoring Rule, *supra* note 1, at 31,516.

The Tailoring Rule's steps for Title V applicability for facilities that emit GHGs largely mirror the steps for PSD applicability. For step one, EPA regulates "anyway" sources.[258] However, unlike with PSD, the 75,000 tpy emissions increase is not required for Title V to apply to facilities that emit GHGs.[259] In addition, as with PSD, EPA regulates *all* existing or new stationary sources (no "anyway" requirement exists) that emit or have the PTE GHGs at or above 100,000 tpy.[260]

Regarding the third step of the Tailoring Rule, EPA established an enforceable commitment to complete additional rulemaking by July 1, 2012, in which the Agency agreed to propose or solicit comment on a Step 3 of the phase-in. In doing so, EPA stated that it may consider other approaches, such as permanently excluding certain categories of sources from PSD or Title V, pursuant to the "absurd results" doctrine.[261]

In addition,

- EPA also plans to explore a range of opportunities for streamlining future GHG permitting that have the potential to significantly reduce permitting burdens. EPA will propose viable streamlining options in the "Step 3" rulemaking.
- Step three, if it's established, will not require permitting for sources with greenhouse gas emissions below 50,000 tpy.
- EPA will not require permits for smaller sources in step three or through any other action until at least April 30, 2016. [262]

The Tailoring Rule also provides for a fourth step, in which EPA must "complete a study on remaining GHG permitting burdens that would exist if [the Agency] applied the program to smaller sources."[263] This study must be completed by the end of April 2015.[264] In the study, EPA has stated that it will "consider the results of the study to complete a rule by April 30, 2016, fur-

258. *Id.*
259. *Id.*
260. *Id.*
261. *Id.* at 31,524.
262. *Final Rule: Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule Fact Sheet*, U.S. ENVTL. PROT. AGENCY, at 2-3, www.epa.gov/nsr/documents/20100413fs.pdf (last visited Mar. 28, 2013).
263. *Id.* at 3.
264. *Id.*

ther addressing Clean Air Act permitting for these facilities."[265] The EPA "may decide that successful streamlining will allow [the Agency] to phase in more sources, but [EPA] may also decide that certain smaller sources need to be permanently excluded from permitting."[266]

B. A Literal Application of the Numerical PSD and Title V Applicability Thresholds Would Conflict with the Text and Goals of the CAA

EPA's Tailoring Rule is valid under the absurd results doctrine because the rule is "necessary" to carry out the intent of Congress, as required by *Shalala*.[267] The text of the CAA makes it clear that Congress intended: 1) for EPA to preserve economic growth and protect air quality, 2) to be able to implement the statute without imposing undue administrative burdens on the government or on regulated sources and 3) to maintain regulatory flexibility to make decisions based on sound science.[268] The PSD and Title V numerical applicability thresholds, however, undermine all three of these goals, while EPA's Tailoring Rule ensures that these goals are met.[269] Given the fact that the plain language of the statute makes these goals clear, the court should hold that a literal application of the PSD and Title V applicability thresholds would produce a case of absurd results that are readily apparent from the face of the statute. Thus, the court does not need to look at any extrinsic evidence of legislative intent to determine that absurd results exist. Therefore, one cannot argue that applying the absurd results doctrine to uphold the Tailoring Rule would violate the doctrine of separation of powers.

1. Congress's Goals under the CAA

As described above, in the D.C. Circuit, administrative agencies have an "exceptionally high burden" to "avoid a literal interpretation" of a statute.[270] EPA, however, meets this burden for its Tailoring Rule. Specifically, EPA can demonstrate that, "as a matter of historical fact, Congress did not mean what it appears to have said . . . [and] that, as a matter of logic and statutory struc-

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265. *Id.*
266. *Id.* at 3.
267. *See* Mova Pharm. Corp. v. Shalala, 140 F.3d 1060, 1067-69 (D.C. Cir. 1998).
268. 42 U.S.C. § 7470 (2006).
269. *See generally*, Tailoring Rule, *supra* note 1.
270. Friends of the Earth, Inc. v. Envtl. Prot. Agency, 446 F.3d 140, 146 (2006) (citation omitted).

ture, it almost surely could not have meant it"[271] in the statute regarding the PSD and Title V applicability thresholds in the context of GHG emission regulation. Furthermore, EPA can also meet the *Shalala* test because the Tailoring Rule deviates from the applicability thresholds no more than *necessary* to protect congressional intent.[272]

As a matter of logic and statutory structure, Congress could not have meant to apply the 100/250 tpy thresholds to GHG emissions because doing so would undermine the economic goals that are explicitly expressed in the statute. Likewise, literally applying the thresholds would also undercut the need for the government and regulated sources to have lowered economic costs and other burdens, and these goals are also reflected by the structure and text of the CAA. In order to fully understand these arguments, however, and to understand how EPA's rule is necessary to protect Congress's intent, it is necessary to explain exactly how the literal language of the PSD and Title V applicability thresholds would contravene these statutory goals. In order to do that, this article will explore precisely what the relevant CAA goals are.

Under a textual reading of the statute, it becomes clear that one of the primary goals of the PSD program is "to insure that economic growth will occur in a manner consistent with the preservation of existing clean air resources."[273] However, EPA has shown in its preamble to its proposed rule that "a literal application of the applicability threshold of 100 or 250 tpy for GHG emitters would create significant tensions" with this goal.[274] "First, a literal application would render it impossible for permitting authorities to meet the requirement in CAA section [7475(c)] to process permit applications within one year."[275] This one-year deadline provision indicates that Congress intended for EPA not to unnecessarily hinder economic growth. However, EPA has determined that if the statute were applied literally "the number of permit applications would increase by 50-fold, . . . far exceed[ing the agency's] administrative resources."[276] According to EPA:

> [p]ermitting authorities have estimated that it would take 10 years to process a PSD permit application, on average, and the resulting backlog would affect the permit applica-

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271. Engine Mfrs. Ass'n v. EPA, 88 F.3d 1075, 1089 (1996).

272. *Shalala*, 140 F.3d at 1068.

273. 42 U.S.C. § 7470(3).

274. Proposed Rule, Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, 74 Fed. Reg. 55,292, 55,303 (Oct. 27, 2009) [hereinafter Proposed Tailoring Rule].

275. *Id.* at 55,304.

276. *Id.*

> tions for all sources, not just the GHG emitters. This backlog would grow by tens of thousands each year following the triggering of PSD applicability . . . .[277]

This longer time period to process a permit would produce an absurd result inconsistent with congressional intent.[278]

In addition, a literal application of the 100 tpy Title V applicability thresholds to all GHG sources would conflict with a specific CAA requirement, section 7661b(c), which imposes an 18-month time-limit for permitting authorities to grant or deny a permit once they receive a permit application.[279] Under the 100 tpy thresholds, however, the workload of the permitting authorities would increase "from some 14,000 permits to 6.1 million."[280] This would make it "impossible for permitting authorities to meet this statutory requirement. . . .[but] [i]nstead, permit applicants would face multi-year delays in obtaining their permits."[281] These delays would slow economic growth, an outcome that is contrary to congressional intent.[282]

A literal application of the applicability thresholds for PSD and Title V would unnecessarily burden economic growth for another reason. EPA has demonstrated that the "majority of stationary source GHG emissions in the U.S. come from a relatively small number of high-emitting sources that would remain subject to PSD under the Tailoring Rule because they emit at or above the 24,000-tpy CO_2e threshold" that the rule provides for.[283] However, "a literal application of the [statute] would [also] sweep in large numbers of . . . sources" that contribute a very small amount to overall CO_2 emissions.[284] In the absence of the Tailoring Rule, EPA has estimated that "the PSD program would expand . . . from the current 280 sources per year to almost 82,000 sources . . . most of which would be small commercial and residential sources."[285] The results would be even more dramatic under Title V. As

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277. *Id.*

278. *Id.*

279. 42 U.S.C. § 7661b(c) (2006).

280. Proposed Tailoring Rule, *supra* note 274, at 55,310.

281. *Id.*

282. *Id.* at 55,304.

283. Proposed Tailoring Rule, *supra* note 274, at 55,311. "Carbon dioxide equivalent[] [or CO_2e] is a unit of measurement that allows the effect of different [GHGs] to be compared using carbon dioxide as a standard unit for reference. Chris McGrath, *Carbon Dioxide Equivalents*, SKEPTICAL SCIENCE (Sept. 1, 2010) http://www.skepticalscience.com/print.php?n=340. The other GHGs aside from carbon dioxide that EPA considers in the Tailoring Rule are nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. *See* Tailoring Rule, *supra* note 1, at 31,518.

284. *Id.* at 55,304.

285. Tailoring Rule, *supra* note 1, at 31,556.

mentioned above, EPA estimated that "an extraordinarily large number of sources—some 6.1 million—[would] become subject to title V, an increase of over 400-fold over the 14,700 sources that currently are subject to title V [and] [t]he great majority of these will be small commercial or residential sources."[286] Thus, a literal application of the PSD and Title V numerical thresholds would undermine the goal of PSD "to insure that economic growth will occur in a manner consistent with the preservation of existing clean air resources."[287]

Furthermore, since PSD "require[s] permits before sources may construct or modify—tens of thousands of sources seeking to construct or modify . . . would . . . face many years of delay."[288] "This delay would impede economic growth by precluding any type of source—whether it emits GHGs or not—from constructing or modifying for years after its business plan contemplates." This would result in the loss of business investments in the corporations that own the facilities and, ultimately, the loss of jobs.[289] In addition, PSD would impose "significant regulatory costs to affected sources because the sources would have to identify and implement BACT on a source-specific basis."[290] As indicated above, under BACT, the permitting authorities would be required to undertake an individualized review of a number of complex factors in order to determine what the best available pollution control technology is for the source.[291]

Since even "very small sources emit CO_2 in quantities as low as 100/250 tpy, a literal application of the threshold to GHG emitters . . . would sweep in large numbers of [additional] sources and subject them to the high costs of determining and meeting individualized BACT requirements."[292] The additional BACT applications would overwhelm the federal, state and local permitting authorities.[293]

In addition, the text of other sections of the CAA indicates that Congress intended to provide EPA the flexibility to set different applicability standards for different types of air pollutants. For

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286. *Id.* at 31,562.

287. Proposed Tailoring Rule, *supra* note 274, at 55,304.

288. *Id.*

289. *Id.*

290. *Id.*

291. 42 U.S.C. § 7479(3) (2006). Proposed Tailoring Rule, *supra* note 274, at 55,298 (BACT "is determined on a case-by-case basis taking into account, among other factors, the cost and effectiveness of the control. EPA has developed a top-down approach for BACT review which involves a decision process that includes identification of all available control technologies, elimination of technically infeasible options, ranking of remaining options by control and cost effectiveness, and then selection of BACT.").

292. Proposed Tailoring Rule, *supra* note 274, at 55,304.

293. *Id.*

example, the hazardous air pollutant provisions of the statute have different (i.e. lower) thresholds for when a facility constitutes a "major source" (i.e. 10/25 tpy) than PSD does.[294] Furthermore, the non-attainment provisions of NSR for ozone have different sections for marginal, moderate, serious, severe, and extreme areas than PSD does and each non-attainment section contains lower applicability thresholds respectively.[295] Therefore, the language of the statute itself, taken as a whole, demonstrates that Congress did not intend a "one-size-fits-all" approach for EPA to regulate air pollutants under the CAA. Requiring EPA to take the rigid approach of applying the strict 100/250 tpy PSD applicability thresholds to sources that emit GHGs would run counter to Congress's intent to provide EPA with regulatory flexibility, an intent that is expressed by the text of the CAA.

Furthermore, one cannot argue that the canon against redundancy applies and that Congress intended for EPA to not have regulatory flexibility, at least for GHGs, under PSD. The canon against redundancy is a textualist technique that dictates that judges should refrain from reading a statute in a manner that would render any words of the statute superfluous.[296] The canon is based on the presumption that Congress drafts its bills with care and that it intends for each word in its statutes to have independent meaning.[297] Critics of the Tailoring Rule may claim that if Congress really intended for EPA to have a flexible approach in regulating PSD, Congress would have created the same multiplicity of provisions that appear in the ozone nonattainment part of the statute. Accordingly, the critics may claim that the fact that Congress did not include these varied thresholds in the PSD provisions indicates that Congress did not intend for them to exist, and that holding otherwise would render those varied thresholds superfluous. According to the critics of the Tailoring Rule, a strict, uniform threshold should therefore exist in the PSD context and EPA should not have regulatory flexibility when regulating GHGs under PSD.

This argument, however, misses the mark regarding GHGs because it assumes that when the CAA was enacted in 1970, and amended in 1977 and 1990, Congress undertook a decision-making process about the manner in which EPA should regulate GHGs

294. 42 U.S.C. § 7412(a)(1); *cf.* 42 U.S.C. § 7479(1).

295. *See* 42 U.S.C. § 7511(a).

296. *See, e.g.*, Whitman v. Am. Trucking Ass'n, 531 U.S. 457 (2001) (applying the rule against surplusage to prohibit EPA from considering costs when setting the NAAQS because CAA explicitly allowed for EPA to consider costs elsewhere in the statute but not in the NAAQS provisions); Feld v. Robert & Charles Beauty Salon, 459 N.W.2d 279, 284 (Mich. 1990).

297. *See* MASTERING STATUTORY INTERPRETATION, *supra* note 53, at 104.

and decided that EPA should regulate GHGs in a rigid manner. In reality however, Congress did not consider GHG regulation in any way at all because the science on global warming did not exist at the time.[298] Put differently, GHG regulation was not an issue that Congress was thinking about at all. Thus, critics of the Tailoring Rule cannot persuasively contend that Congress intended to apply a strict applicability threshold for GHG permitting under PSD merely because Congress took the time to identify varied thresholds in the National Emissions Standards for Hazardous Air Pollutants (NESHAP) provisions and within the Nonattainment New Source Review (NNSR) context and not anywhere else.[299] Even when presuming that Congress drafts its statutes with care, one cannot expect Congress to account for the unforeseeable.

Furthermore, although Congress did not have GHGs specifically in mind when it designed the PSD requirements of the CAA, it did have the foresight to allow EPA discretion to determine in what manner to regulate air pollutants, based on sound science.[300] *Massachusetts v. Environmental Protection Agency* establishes that Congress intended for EPA to have "regulatory flexibility" when addressing air pollution in order to effectively protect and enhance air quality based on new sound science.[301] The Court reasoned that while Congress "might not have appreciated the possibility that burning fossil fuels could lead to global warming, they did understand that without regulatory flexibility, changing circumstances and scientific developments would soon render the Clean Air Act obsolete."[302] The expansive statutory language "reflects an intentional effort to confer the flexibility necessary to forestall such obsolescence."[303] Requiring EPA to regulate pollutants under a rigid 100/250 tpy standard would run counter to the CAA's inherent flexibility.[304]

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298. *See, e.g.*, Massachusetts v. Envtl. Prot. Agency, 549 U.S. 497, 532 (2007) (stating that GHG regulation was a "situation[] not expressly anticipated by Congress. . . .").

299. *See* 42 U.S.C. § 7412(a)(1); 42 U.S.C. § 7511(a).

300. *Massachusetts*, 549 U.S. at 532.

301. *Id.*

302. *Id.*

303. *Id.* (" '[T]he fact that a statute can be applied in situations not expressly anticipated by Congress does not demonstrate ambiguity. It demonstrates breadth.' " (quoting Pennsylvania Dept. of Corrections v. Yeskey, 524 U.S. 206, 212 (1998))).

304. Opponents of the Tailoring Rule may claim that the language of § 202(a)(1) of the CAA allowing EPA the regulatory discretion to determine which air pollutants reasonably constitute a risk to public health and welfare is not relevant to the PSD provisions of the CAA. § 202(a)(1) states that EPA must "prescribe . . . standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which *in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare*." 42 U.S.C. § 7521(a)(1) (2006) (emphasis added). Other sections of the CAA, such as the NAAQS, contain the same language as § 202(a)(1). *See, e.g.*, 42 U.S.C.A. § 7408(a)(1) (2006) (stating that EPA must establish and revise "a list which includes each air pollutant . . . emissions of which, *in his judgment,*

2. Applying the Absurd Results Doctrine to the PSD and Title V Thresholds is Consistent with Textualism and Separation of Powers

As shown above, the language and structure of the CAA demonstrates that Congress intended for EPA to preserve economic growth, implement the statute without undue administrative burden and retain regulatory flexibility. Furthermore, it is clear that the literal language of the statute would undermine these goals. Therefore, strictly applying the literal terms of the statute would produce absurd results that are repugnant to the rest of the statute. Given that the language of the statute makes this clear to a court without legislative history or policy that is divorced from the statute, the court should disregard the applicability thresholds of PSD and Title V without implicating the doctrine of separation of powers.

According to Jellum, general absurd results in statutes are "often apparent and resolvable with intrinsic sources, including the textual context."[305] To illustrate, when someone misspeaks, the listener "often knows what the [speaker] mean[s] from the rest of the words."[306] Likewise, "when a statute provides that litigants have a seven day waiting period to appeal, the absurdity and fix [i.e. a seven day deadline] are both readily apparent from the textual context."[307] Using contextual clues can help resolve issues of general absurdity so using the absurd results doctrine to avoid

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cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare.") (emphasis added). However, the PSD provisions in particular do not contain any such language, so Congress could not have intended for such regulatory flexibility to exist in the PSD context. This argument should fail because the requirements of the NAAQS should be incorporated into the requirements of PSD because PSD is more of an ambient-based statutory mechanism than anything else. Specifically, Congress intended PSD to be an essential tool to maintaining the NAAQS and therefore PSD should be considered a crucial component of the ambient standards. Furthermore, the substantive requirements of the NSR program differ, depending on whether the NAAQS have been achieved. Therefore, PSD and the NAAQS are inextricably linked and the court should apply the "reasonably anticipate a danger to health and welfare" language to the PSD provisions of the statute to hold that Congress intended EPA's ability to have regulatory flexibility under the NAAQS to be incorporated into the PSD permitting program of the CAA. It should be noted, however, that PSD also applies to non-criteria pollutants such as GHGs (thus going beyond the NAAQS). Furthermore, PSD contains technology-based requirements such as BACT in addition to ambient-based requirements. These facts may weaken the argument that PSD is primarily an ambient-based mechanism used to maintain the NAAQS, thus undercutting the claim that the "reasonably anticipate a danger to health and welfare" language in the NAAQS should be incorporated into PSD.

305. Specific Absurdity, *supra* note 23, at 934.

306. *Id.*

307. *Id.*

clear statutory language in cases of general absurdity "does not undermine textualism, at least not to the same extent that specific absurdity does."[308]

Likewise, the absurd results that would arise from strictly applying the thresholds for PSD and Title V to all sources that emit GHGs are also "readily apparent" from the face of the CAA.[309] For one, forcing EPA to cover smaller GHG emitters would conflict with the goal expressly articulated in § 7470 of the CAA.[310] As mentioned above, this section directs EPA to balance out its obligation to protect air quality with a duty to preserve economic growth.[311] A literal application of the applicability thresholds, however, "would sweep in a large number of . . . sources" that contribute very few GHGs and impose significant economic costs in exchange for little environmental benefit.[312] Therefore, applying the applicability thresholds in the statute to GHGs would clearly conflict with the economic goals articulated in § 7470 of the CAA.

Furthermore, the NESHAP and NNSR provisions for hazardous and non-attainment New Source Review pollutants require different applicability thresholds than PSD does.[313] As noted

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308. *Id.*

In reality, however, Jellum's analysis that distinguishes between general and specific absurdity is overly simplistic and arbitrarily categorical because the lines between general and specific absurdity are often hard to define and overlap more greatly than Jellum acknowledges. The relevant provisions of the CAA in question are a prime example of this extreme overlap occurs. Jellum claims that cases of general absurdity are a result of a "drafting error or the hubbub of the legislative process." *Id.* In the CAA context, however, the 100/250 tpy thresholds are clearly not the result of a drafting error or the confusion of the legislative process. In drafting the applicability thresholds, Congress intended for them to apply to conventional air pollutants. Congress did not make any mistakes. Rather, Congress simply and understandably did not anticipate the application of the CAA to the emissions of GHGs. In a way, the absurdity that exists for the PSD and Title V applicability thresholds more resembles specific absurdity because the thresholds are certainly not illogical on their face. Furthermore, in upholding the validity of the Tailoring Rule, the courts would have to, in effect, carve out an exception to the CAA's applicability thresholds for the specific and unique context of GHG emissions. This also resembles specific absurdity under Jellum's analysis. At the same time, however, the CAA scenario also contains characteristics of general absurdity. For example, the absurdity of the thresholds as applied literally to GHGs is readily apparent from the text of the CAA (because the congressional goals of EPA having regulatory flexibility, administrability, and the economic goals of the CAA, as expressed by the statute's text, are all undermined by an application of the 100/250 thresholds to GHG emissions). Accordingly, the present case illustrates how Jellum's analysis is, at least in some cases, overly categorical. Regardless of this, her underlying point remains correct: not all absurdity cases raise severe separation of powers concerns. Given that the absurdity of the 100/250 tpy thresholds is readily apparent from the text of the statute, the separation of powers doctrine should not present a hurdle for the Tailoring Rule's validity. Thus, any weaknesses in Jellum's analysis do not alter the outcome of the analysis in this paper.

309. *Id.*

310. 42 U.S.C. § 7470 (2006).

311. *Id.*

312. Proposed Tailoring Rule, *supra* note 274, at 55,304.

313. 42 U.S.C. §§ 7412, 7511(a) (2006).

above, these provisions indicate that Congress intended to provide EPA regulatory flexibility under the Act, and a literal "one size fits all" application of the PSD applicability thresholds to GHGs would undermine congressional intent.

Accordingly, a judge can infer from the overall text of the CAA that Congress did not mean to apply the PSD and Title V thresholds to GHGs, the same way that a listener during a conversation can tell from the rest of the words what the speaker means—or does not mean—when he speaks.[314] In both situations, a common sense contextual approach is necessary.

Moreover, from a textualism perspective, there is nothing wrong with looking at the varied thresholds under NESHAP and NNSR in order to infer that Congress intended to provide EPA regulatory flexibility. Textualist judges often make logical inferences about the intent of Congress from the structure and language of the statute.[315] In addition, Manning states that "textualists frequently infer legislative purpose from such sources as the overall tenor or structure of a statute."[316] Therefore, it is entirely proper for textualist judges to look at the various statutory thresholds that apply to different types of air pollutants under NESHAP and NNSR in order to infer that Congress intended to provide EPA with the ability to utilize a varied approach in regulating air pollutants. Put differently, the language and structure of the CAA reflects an "objectified legislative intent"[317] for EPA to have inherent regulatory flexibility. This is not a case in which the courts would have to reconstruct congressional purposes and supposed policies that are divorced from the text of the statute. Rather, Congress's goal for regulatory flexibility is expressed in the text and structure of the varied applicability thresholds of NESHAP and NNSR. Accordingly, these varied thresholds illustrate Congress's desire for EPA to have flexibility to regulate air pollutants such as GHGs, as EPA sees fit.

From a policy perspective, examining legislative intent that derives from the text of the statute is consistent with the doctrine of separation of powers because the courts are less likely to substitute their own subjective value judgments for that of our democratically-elected Congress when they base their determinations of congressional purpose on the language of the statute. According

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314. *See Specific Absurdity*, *supra* note 23, at 934.

315. John F. Manning, *Textualism and Legislative Intent*, 91 VA. L. REV. 419, 424 (2005) [hereinafter Manning, *Textualism*] (stating that "textualists focus on '*objectified* intent'—the import that a reasonable person conversant with applicable social and linguistic conventions would attach to the enacted words.") (emphasis added).

316. *Id.* at 439, n. 65.

317. *Id.* at 425.

to textualists, avoiding imaginative reconstruction of congressional intent is critical for preserving the doctrine of separation of powers because the judiciary lacks political accountability and should not legislate from the bench.[318] When making a determination of congressional purpose that is derived from the statute itself, however, judges are far more likely to use objective analysis, which is firmly rooted in the statutory language.

In any case, it is clear that the absurd results that exist under the literal language of the CAA are intrinsically obvious from the text of the statute. This obviates the need for the courts to examine extra-textual sources of congressional intent such as legislative history. This, in turn, avoids implicating the separation of powers concerns that textualists such as Manning raise because, by not considering legislative history, the courts are not undermining the bicameral and presentment clauses of the Constitution.[319]

In addition, relying on the absurd results doctrine to exempt GHG emitting facilities from the 100/250 tpy thresholds does not nullify any legislative compromises. Critics may claim that even if the application of the absurd results doctrine does not rely on the use of legislative history, using the absurd results doctrine is problematic from a separation of powers standpoint because applying the doctrine requires an analysis of determining congressional intent.[320] Critics may argue that, when interpreting a statute, it is constitutionally impermissible for judges to attempt to identify any uniform intent of Congress because trying to do so both ignores and nullifies the political compromises that legislators make during the enactment process, thus violating the bicameral and presentment clauses of the Constitution.[321] Even if one agrees with this argument generally,[322] it ignores the fact that Congress was most likely not *considering global warming at all* at the time when it enacted and amended the CAA.[323] Thus, Congress could not have made any compromises on the issue of whether the PSD and Title V applicability thresholds should apply to GHGs because the topic of GHG regulation under the CAA was not even an issue

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318. MASTERING STATUTORY INTERPRETATION, *supra* note 53, at 16-21.

319. *See* Manning, *Absurdity Doctrine, supra* note 30, at 2437.

320. *See* Mova Pharm. Corp. v. Shalala, 140 F.3d 1060 (D.C. Cir. 1998).

321. Manning, *Absurdity Doctrine*, *supra* note 30, at 2437.

322. In reality, this argument conflates political motives for individual legislators with congressional intent. While individual legislators may have their own motivations for entering into a legislative deal, this does not mean that they have differing intentions on the meaning of the statute itself. *See* MASTERING STATUTORY INTERPRETATION, *supra* note 53, at 24.

323. *See, e.g.*, Massachusetts v. Envtl. Prot. Agency, 549 U.S. 497, 532 (2007) (stating that Congress "might not have appreciated the possibility that burning fossil fuels could lead to global warming.").

thought of by Congress. As a result, using the absurd results doctrine to uphold the rule does not raise any separation of powers concerns.

Furthermore, the courts should not interpret any section of a legislative act in isolation, but rather should examine the entire act as a whole and relate it to the specific sections in question.[324] This textual canon assumes that Congress drafts its bills with care and intends to harmonize all the sections within the bill.[325] In the present scenario, the literal application of the PSD and Title V numerical thresholds to sources that emit GHGs cannot be harmonized with the language of the CAA in numerous ways, as shown above, when viewed in light of the statutory goals. Accordingly, the courts should find that applying the literal language of the statute to GHGs would produce an absurd result that contravenes congressional intent.

Not only would a literal application of the PSD and Title V applicability thresholds conflict with the CAA and congressional intent of the statute, but it would also contradict recent judicial interpretations of environmental statutes. These cases reflect a tendency for the courts to "use[] administrative burdens to tip the scales in favor of a certain interpretation of a statute" in order to save an agency from having to "do the impossible."[326] Specifically, in *E.I. du Pont de Nemours & Co. v. Train*, the Supreme Court preferred an interpretation of the Clean Water Act that would not impose "impossible burden[s]" on EPA because the Court did not "believe that Congress would have failed so conspicuously to provide EPA with the authority needed to achieve the statutory goals."[327] In addition, the Fourth Circuit in *Potomac Electric Power Co. v. Environmental Protection Agency* accepted EPA's interpretation of its own regulation largely based on the policy of administrative convenience and necessity in interpreting a rule under the CAA.[328] Although these cases arose in scenarios in which the

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324. *See* MASTERING STATUTORY INTERPRETATION, *supra* note 53, at 100.

325. *Id.*

326. *See* Kirti Datla, *The Tailoring Rule: Mending the Conflict Between Plain Text and Agency Resource Constraints*, 86 N.Y.U. L. REV. 1989, 2004-05 (2011).

327. E.I. du Pont de Nemours & Co. v. Train, 430 U.S. 112, 132–33 (1977).

328. Potomac Elec. Power Co. v. Envtl. Prot. Agency, 650 F.2d 509, 513–514 (4th Cir. 1981). In this case, EPA argued that a facility had become subject to New Source Performance Standard (NSPS) because the owner of the facility had commenced construction of certain units after EPA had promulgated proposed NSPS regulations for the industry of the facility. *Id.* NSPS does not apply to facilities when they enter into contractual obligations before EPA makes the proposed NSPS regulations public. *Id.* The facility owner argued that it had entered into contractual obligations regarding the construction of the plant units before the date of the proposed regulations, thus commencing construction before having notice of the proposed NSPS rules. *Id.* In reality, however, the facility owner was allowed to cancel the contract for a period of time without penalty. *Id.* The facility owner argued that EPA should apply usage of trade and other common law contract principles in order to de-

statutes and regulations were ambiguous, the underlying reasoning from these cases indirectly supports EPA's claim that it should be able to take regulatory measures in order to meet its statutory goals.

3. Applying the Absurd Results Doctrine to the PSD and Title V Thresholds is Consistent with an Intent-Based Approach

The courts would have an even easier time finding that a literal application of the PSD and Title V applicability thresholds produces absurd results by using an intent-based approach to statutory construction than using an text-based approach because an intent-based approach allows the courts to consider a broader range of sources of congressional intent of a statute, including extraneous sources of evidence like legislative history and policy, than under a textual approach.[329] In the present scenario, these extra-textual sources of intent make it clear that Congress did not intend for smaller business and residential sources to be covered by the permitting provisions of the CAA or for permitting authorities to be overwhelmed with permit applications to the point that the permitting authorities cannot do their jobs such as meeting their permit processing deadlines.

For example,

> Congress relied on an EPA memorandum—the Steigerwald-Strelow memorandum—that "identified the range of industrial categories that EPA regulated under its program that constituted the precursor to the statutory PSD program, and listed both the estimated number of new sources constructing each year and the amount of pollution emitted by the "typical plant" in the category.[330] The Steigerwald-Strelow memorandum confirms that the 100 tpy cut-off for the 28 listed sources categories, and the 250 tpy cut-off for all other sources, would exclude from PSD a large number of sources. However, virtually all, if not all, of the sources in

termine that a binding contract existed between the facility owner and the contractor for the construction of the plant units. *Id.* EPA argued that a contractual obligation required either the existence of a cancellation fee or reliance expenditures made by the non-breaching party to the contract. *Id.* The court upheld EPA's interpretation of what constituted a contractual obligation under a theory of administrative necessity, reasoning that requiring EPA to gather evidence of industry customs to determine whether a contract exists would be unduly burdensome on the agency, especially given the multiple number of industries to which NSPS applies. *Id.* at 514.

329. MASTERING STATUTORY INTERPRETATION, *supra* note 53, at 21-24.

330. Due to the similarities between the precursor program and the current one, Congress's intent to avoid placing undue burdens and costs on smaller sources in the precursor program should be read in to the current PSD program.

> half the 28 categories emit CO_2 in quantities that equal or exceed the 100 tpy threshold, and almost all of the sources in the remaining categories emit CO_2 in quantities that equal or exceed the 100 tpy threshold.[331]

Likewise,

> the legislative history on the Senate side . . . specifically identified certain source categories that Senators believed should not be covered by PSD. [The language of the Senate bill] limited PSD to sources of 100 tpy or more in 28 listed source categories, and to any other categories that the Administrator might add. Sen. Muskie stated that the Senate bill excluded "houses, dairies, farms, highways, hospitals, schools, grocery stores, and other such sources.[332]

Therefore, applying the literal definition of "major emitting facility" to GHG facilities that emit GHGs without the Tailoring Rule, would, as a practical matter, undermine a primary goal behind the 100 tpy cut-off for industrial facilities—to avoid placing undue burden and costs on smaller sources.[333] The legislative history and policy of the PSD provisions of the CAA indicates that Congress did not intend for commercial and residential facilities to be covered by the permitting provisions of the CAA or for permitting authorities to be overwhelmed with permit applications to the point that they cannot do their jobs or meet their permit processing deadlines.

Regarding Title V, the CAA's legislative history also "focuses on Congress's concern about costs to sources and administrability."[334] For example, the legislative history indicates that Congress did not intend for "printers, furniture makers, dry cleaners, and millions of other small businesses" to become subject to Title V.[335] Applying Title V to any source that emits, or has the potential to emit, 100 tpy of GHGs would subject all of these small businesses to regulation under Title V.[336] Accordingly, the courts should hold that the 100 tpy thresholds are absurd.

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331. Tailoring Rule, *supra* note 1, at 31,556.
332. *Id.*
333. *Id.* at 31,533.
334. *Id.* at 31,565.
335. *Id.* at 31,552 (citing H.R. REP. NO. 101–590, at 354 (1990)).
336. *Id.*

C. EPA's Tailoring Rule is Necessary to Protect Congressional Intent under Shalala and Step Two of Chevron

As described above, *Shalala* allows for no more deviation than *necessary* to protect congressional intent.[337] EPA's rule meets this test. Garrison analogizes the present scenario to *Shalala* and argues that EPA has gone beyond what is necessary to maintain congressional intent.[338] Despite the data brought forth in the Tailoring Rule, Garrison claims that EPA needs to "show substantial, empirical evidence supporting the need for thresholds that are approximately 1,000 times greater than those set forth in the statute."[339] Garrison contends that the Agency needs to provide "detailed evidence of its methods for calculating the expected increase in permit applications - e.g., [that] "x" number sources are capable of producing "y" number of GHG emissions, "z" number of these sources was never before regulated under the CAA, [and] this is the increase in applications."[340] He claims that, without this data, the D.C. Circuit will most likely conclude "that the increase [in the thresholds] is greater than the protection of congressional intent warrants."[341]

Garrison's argument misses the mark for several reasons. First, EPA does not need to provide absolute and precise empirical data in order to show that its rule is "necessary" to maintain congressional intent, as Garrison's argument suggests. Deeming something to be "necessary" is an inherently qualitative consideration that involves an element of subjectivity. Therefore, the courts should defer to EPA's discretion in drawing the line as to what is necessary to maintain congressional intent. As long as EPA can make a reasonable showing that the rule is necessary to maintain congressional intent, the courts should defer to the agency. GHG regulation is a technical matter that falls directly within EPA's technical expertise. Thus, it is the role of EPA experts, and not the courts, to determine what is "necessary" for maintaining congressional intent under *Shalala* and step two of *Chevron*.[342]

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337. Mova Pharm. Corp. v. Shalala, 140 F.3d 1060, 1068 (D.C. Cir. 1998).

338. Garrison, *supra* note 14, at 719-20.

339. *Id.*

340. *Id.* at 720.

341. *Id.*

342. One might argue that this sort of deference is inappropriate because some courts do not defer to agencies' interpretations of the scope of their own authority because that hands too much power to self-interested agencies. *See, e.g.*, AKM LLC v. Secretary of Labor, Dep't of Labor, 675 F.3d 752, 765-66 (D.C. Cir. 2012) (Brown J., concurring) ("I see no reason a court should have to defer to an agency's interpretation of ambiguities in a provision setting out the court's own jurisdiction to review that agency's action."); Love v. Thomas, 858 F.2d 1347, 1352 n. 9 (9th Cir. 1988) ("While we ordinarily give great weight to the in-

Shalala does not present any obstacles for EPA in arguing that the courts should provide *Chevron* deference to its Tailoring Rule. A challenger may claim that the courts should refuse to defer to EPA when considering necessity under the absurd results doctrine because the D.C. Circuit in *Shalala* decided the issue of necessity under the non-deferential step one standard of review.[343] This argument misses the mark. To the extent that *Shalala* stands for the proposition that the courts should not defer to EPA for the "necessity" test, *Shalala* was wrongly decided.

The courts should defer to EPA under *Chevron* step two on the question of whether departing from the CAA's language is necessary to maintain legislative intent. A court's determination of when disregarding clear language in a statute is "necessary" to follow congressional intent requires some sort of deference to the agencies because of the subjective nature of determining when a certain course of action is "necessary."[344] This determination is basically one of degree and involves some sort of value judgment. Therefore, the courts should defer to the agency experts on this issue of administrative line-drawing, as least to a certain degree.

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terpretation of the agency charged with enforcement of the statute we are construing . . . that deference does not extend to the question of judicial review, a matter within the peculiar expertise of the courts."). However, the Supreme Court has held that a court must defer under *Chevron* to an agency's interpretation of a statutory ambiguity, even when it concerns the scope of the agency's jurisdiction. City of Arlington, Tex., v. F.C.C., 133 S.Ct. 1863 (2013). Even assuming that limits on deference provided to agencies are proper, in this scenario, such limits exist. As mentioned *infra*, agencies would still be required to make a reasonable showing to the court that applying the absurd results doctrine would be necessary to effectuate congressional intent. This reasonableness requirement would preserve the power the courts have regarding judicial review of agency action.

343. Mova Pharm. Corp. v. Shalala, 140 F.3d 1060, 1069 (D.C. Cir. 1998).

344. One might contend that courts do not defer to the government's arguments about whether restrictions on free speech are necessary or narrowly tailored for purposes of First Amendment analysis, and that these issues involve value judgments and questions of degree, just like the arguments for necessity in absurd results doctrine cases. *See, e.g.*, U.S. v. Playboy Ent't Group, Inc., 529 U.S. 803, 817 (2000) (" '[a] content-based restriction of speech imposes an especially heavy burden on the Government to explain why a less restrictive provision would not be as effective.' ") (quoting Reno v. ACLU, 521 U.S. 844, 879 (1997)). Critics may argue that, as a result, the courts should not defer to EPA for necessity determinations any more than they should in First Amendment cases. Freedom of speech analysis, however, is inapplicable to the present context. This is not an individual rights case. In the individual rights context, it is certainly true that the courts should be vigilant and not merely take the government at its word about whether it is violating individual rights. After all, it is the role of the judiciary to defend individual rights, and the courts should not abdicate this responsibility. *See, e.g.*, Trop v. Dulles 356 U.S. 86, 103 (1958) (stating that "[t]he Judiciary has the duty of implementing the constitutional safeguards that protect individual rights."); *accord* Brill v. Hedges, 783 F.Supp. 340, 346 (S.D.Ohio 1991) ("[T]he judiciary's role [is to serve] as a protector of individual rights and freedoms."). The present case, however, does not raise individual rights concerns. Rather, this is a case dealing with the pragmatic concerns of administrative agencies with being able to carry out their statutory mandates. Therefore, any argument about the courts not deferring to the government about necessity for strict scrutiny purposes is distinguishable from the present scenario.

Accordingly, making the *Shalala* test of necessity a step two question by providing deference to EPA is more consistent with *Chevron*.

By contrast, reading the necessity requirement in *Shalala* as a step one requirement would produce the odd result of having the courts decide necessity before step two "reasonableness," making step two of *Chevron* redundant and would make *Chevron* no longer a two-step process in absurd results cases. A finding of necessity necessarily subsumes any finding of reasonableness because if a court finds that disregarding statutory language is necessary to meet legislative goals, then it has, in effect, already decided that ignoring that language is reasonable. Thus, interpreting necessity as a step one question would make the second step of *Chevron* completely superfluous. Therefore, to the extent that *Shalala* requires the courts to consider necessity under step one of *Chevron*, the case was incorrectly decided and should be overruled.

It should be unnecessary, however, to overrule *Shalala* because that case is distinguishable from the present scenario. Unlike here, the court in *Shalala* did not address the issue of whether the courts should defer to an agency's reasonable showing of necessity for absurd results purposes because the FDA did not even attempt to make such a showing in the first place. Nowhere in its briefs did the FDA attempt to show why a rule requiring first applicants to successfully defend against a patent infringement suit was *necessary* to maintain the congressional goal of making generic drugs widely-available to the public,[345] nor did the FDA address the issue in the preamble to its final rule.[346] Thus, the issue of necessity never came up.

In the present scenario, the court should defer to EPA because, unlike in *Shalala*, the issue *has* come up. In fact, EPA has made a reasonable showing of necessity in the preamble to its rule.[347] Namely, the agency has provided substantial empirical data explaining why it had to raise the applicability thresholds as high as it did.[348] For example, EPA has demonstrated that had the agency set the thresholds any lower, the additional workload would have overwhelmed EPA, the states, and local permitting authorities with a multitude of additional applications.[349] Specifically, EPA estimated that Step 1 of the rule would "result in a 23

345. Brief for Appellee, Mova Pharm. Corp. v. Shalala, 140 F.3d 1060 (D.C. Cir. 1998) (Nos. 97-5082, 97-5111), 1998 WL 35239807, *see also Shalala*, 140 F.3d at 1066.

346. Abbreviated New Drug Application Regulations; Patent and Exclusivity Provisions, 59 Fed. Reg. 50,338 (Oct. 3, 1994) (to be codified at 21 C.F.R. pt. 314).

347. Tailoring Rule, *supra* note 1.

348. *Id.*

349. *Id.*

percent increase in permitting authority work hours and a $3 million increase—which [would] amount[] to a 25 percent increase from the current program cost of $12 million—in their annual costs for running PSD programs," attributing the increase in costs primarily to the "GHG BACT review requirements."[350]

> For Title V programs, [EPA] estimat[ed] a 2 percent increase in permitting authority work hours and a $1 million increase in the title V annual program costs for permitting authorities under Step 1 as compared to the current program cost of $62 million [and that] [t]hese work hours and costs [would] be needed primarily to review GHG emissions information, add any GHG related requirements to title V revisions and renewal actions that would otherwise be occurring, respond to comments and petitions from the public, as well as develop fee requirements and make fee determinations associated with issuing new or revised title V permits that add GHG-related information.[351]

EPA calculated the additional combined costs "[f]or both the PSD and title V programs . . . [to] be $4 million, which amounts to a 5 percent increase in the current combined program cost of $74 million."[352] The agency concluded that "these administrative burdens [would be] substantial but manageable."[353]

To provide another illustration, the Agency's rationale for setting the final Step 2 thresholds in the rule was based on estimates that "the almost 900 additional PSD permitting actions per year at the[] [new] levels [would] result in an approximately $21 million increase (from Step 1) in states' annual costs for running PSD programs."[354] The estimated 1,000 additional Title V permit actions would "cause the total [T]itle V burden for permitting authorities to increase by $6 million annually from Step 1."[355] These increased burdens would constitute "a 34 percent increase over the $78 million in total cost of PSD and [T]itle V programs at Step 1."[356] The Agency argued that since the Step 1 and Step 2 would go into effect so close in time that this would constitute a substantial increase.[357] Furthermore, "Step 1 [would] entail a substantial increase in permitting authority obligations, so that

350. *Id.* at 31,568.
351. *Id.*
352. *Id.*
353. *Id.*
354. *Id.* at 31,571.
355. *Id.*
356. *Id.*
357. *Id.*

adding the costs of Step 1 and Step 2 together—$31 million—means that permitting authorities [would] be required to increase their permitting resources by approximately forty-two percent between now and Step 2.[358] Based on this data, EPA concluded that "any lower thresholds in this timeframe, whether in the PSD and title V applicability levels or in the significance level, would give rise to administrative burdens that are not manageable by the permitting authorities."[359] Specifically, EPA estimated that, had it chosen a 25,000/25,000 tpy level for PSD, the lower threshold would have resulted in "250 additional PSD permit actions for new construction . . . and an additional 9,200 PSD permits for modifications each year. . . ."[360] According to the agency, "[t]his level of permitting would require an additional 2,815,927 work hours, or 1,400 FTEs . . . and would cost an additional $217 million each year."[361] EPA calculated the "$217 million amount [to] represent[] approximately a 1,800 percent increase over current permitting authority annual cost of $12 million for the major NSR programs."[362] EPA concluded that this would constitute an unmanageable burden.[363]

As a result, EPA's showing meets the necessity test for the absurd results doctrine because the agency has "reconcile[ed] the statutory levels with congressional intent by requiring that the PSD and title V requirements be applied to GHG sources at levels as close as possible to the statutory thresholds, and as quickly as possible, in light of costs to sources and administrative burdens."[364] The agency stressed that "the administrative burdens at the 100,000/75,000 tpy CO_2e level are as heavy as the permitting authorities can reasonably be expected to carry. . . ."[365] According to EPA, if it were to have set the applicability thresholds any lower, the agency would have been overwhelmed with permits and unable to carry out its requirements under the CAA.[366] Accordingly, EPA has provided sufficient empirical data to make a showing that the Tailoring Rule is necessary to maintain congressional intent.

Admittedly, EPA has not provided any data to indicate what the agency's or the state or local permitting authorities' actual, current administrative resources are, and this makes it impossible

358. *Id.*
359. *Id.*
360. *Id.* at 31,569-70.
361. *Id.* at 31,570.
362. *Id.*
363. *See id.*
364. *Id.* at 31,571.
365. *Id.*
366. *See id.*

to calculate with precision to what degree the Tailoring Rule preserves administrative resources. Regardless, Garrison's argument overstates how precise EPA's empirical justification for the Tailoring Rule must be as a matter of law. EPA's showing of necessity need only be reasonably apparent to the court.

Granting *Chevron* deference here would also be consistent with Congress's desire to provide EPA with the "regulatory flexibility" to decide the manner and scope of how to regulate air pollutants; a congressional goal that the Supreme Court ascribed to the CAA in *Massachusetts v. Environmental Protection Agency*.[367] Thus, the court should grant the EPA some measure of flexibility in deciding whether the Tailoring Rule is necessary to carry out the goals of Congress. Of course, granting *Chevron* deference and flexibility to EPA does not mean that the court needs to grant the agency limitless discretion. Rather, the court should require EPA to make a reasonable demonstration that its deviation from the statute is necessary to protect Congress's goals. In doing so, EPA should have reasonable discretion under *Chevron* to define what is "necessary." EPA has done so here.

The absurd results doctrine is an overlay on the *Chevron* analysis.[368] This means that the court must integrate the *Chevron* doctrine with the absurd results doctrine. Regarding step one of *Chevron*, although the text of a statute is the best indicator of whether Congress has clearly spoken to the precise question at issue, this is not the case when the language of the statute produces absurd results.[369] "In such cases, the [plain] language cannot be said to [truly] reflect the intent[] of [Congress], and therefore does not control."[370] Accordingly, the courts must go to the step two "reasonableness" test of *Chevron* and evaluate whether EPA can reasonably demonstrate that the Tailoring Rule is necessary to further the goals of the CAA.[371] In the present case, EPA has done so. Accordingly, the court should uphold EPA's Tailoring Rule pursuant to the absurd results doctrine.

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367. Massachusetts v. Envtl. Prot. Agency, 549 U.S. 497, 532 (2007).

368. *See* United States v. Ron Pair Enters., 489 U.S. 235, 242 (1989) (holding that the literal meaning of a statutory provision is not conclusive "in the 'rare cases [in which] the literal application of a statute will produce a result demonstrably at odds with the intentions of the drafters' . . . the intention of the drafters, rather than the strict language, controls.")(quoting Griffin v. Oceanic Contractors, Inc., 458 U.S. 564, 571 (1982)).

369. *See id.* at 571.

370. Tailoring Rule, *supra* note 1, at 31,554-55.

371. *See* Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc., 467 U.S. 837, 842–43 (1984); *see also* Shays v. Federal Election Comm'n, 528 F.3d 914, 919 (D.C. Cir. 2008) ("In applying *Chevron*'s second step . . . we 'must reject administrative constructions of [a] statute . . . that frustrate[s] the policy that Congress sought to implement.' ")(quoting Cont'l Airlines, Inc. v. Dep't of Transp., 843 F.2d 1444, 1453 (D.C. Cir. 1988)).

IV. AVOIDING THE NEED FOR THE ABSURD RESULTS DOCTRINE: TWO ALTERNATIVE INTERPRETATIONS OF THE CLEAN AIR ACT

This following section of the thesis considers two arguments stating that the absurd results doctrine should be rejected. The first argument is proposed by this article and states that EPA need not use the absurd results doctrine. The argument, however, also states that the Tailoring Rule is still within the authority of EPA. The second argument is proposed by challengers of the Tailoring Rule and states that the absurd results doctrine should be rejected and that, consequently, the Tailoring Rule should be struck down. This article rebuts that second argument.

A. EPA Need not Use the Absurd Results Doctrine; However, the Tailoring Rule is Still Within the Authority of EPA

The EPA need not rely on the absurd results doctrine to persuade the court to uphold the validity of the Tailoring Rule. Rather, EPA could argue that the rule is consistent with the language of the statute. Recall that the absurd results doctrine is a doctrine of last resort.[372] Therefore, courts are hesitant to apply the doctrine.[373] Accordingly, this section presents an alternative argument for EPA, namely, that the language of the definitions section in 7479(1) that applies the applicability thresholds to "any air pollutant" is actually unclear on its face and must be viewed in its statutory context, requiring an interpretation that would exclude GHGs below the 100,000 and 75,000 tpy thresholds outlined in the Tailoring Rule. This argument would be a beneficial alternative for EPA to defend the Tailoring Rule because the agency would not have to rely on the absurd results doctrine.

1. The Phrase "Any Air Pollutant" is Contextual and Does Not Apply to GHGs

EPA's rule is consistent with the "any air pollutant" language in the PSD applicability thresholds. Challengers of the Tailoring Rule cannot successfully argue that "any" means "any" by claiming that section 7479(1) is clear on its face. Challengers may point out that Section 7479(1) states that "[t]he term 'major emitting facility' means any of the following stationary sources of air pollutants

372. Pub. Citizen v. U.S. Dept. of Justice, 491 U.S. 440, 474 (1989) "([T]he potential of this doctrine to allow judges to substitute their personal predelictions [sic] for the will of the Congress is so self-evident from the case which spawned it as to require no further discussion of its susceptibility to abuse.") (Kennedy, J., concurring).

373. *See id.*

which emit, or have the potential to emit, one hundred tons per year or more of *any air pollutant*."[374] Likewise, they may note that the section states that the definition of "major emitting facility" also applies to "any other [non-listed] source with the potential to emit two hundred and fifty tons per year or more of *any air pollutant*."[375] Challengers may therefore claim that the phrase "any air pollutant" is clear because "any" means "any." They may attempt to analogize the Supreme Court's decision in *Massachusetts v. Environmental Protection Agency*, in which the Court interpreted the language in section 202 of the CAA for mobile sources.[376] Section 202 contained the same "any air pollutant" language that exists in the PSD applicability thresholds.[377] The Court in in that case held that the definition of "any air pollutant" should include GHGs because holding otherwise would render the term "any" meaningless.[378] Industry may argue that the courts should apply the same reasoning to the "any air pollutant" language in the 100/250 tpy thresholds and that any argument that the 100/250 tpy thresholds should not apply to GHGs would render the word "any" superfluous, a result similar to what the Court rejected in *Massachusetts v. Environmental Protection Agency*.[379]

This argument, however, incorrectly assumes that one can understand the meaning of "any" in a vacuum. In fact, one can only linguistically understand what the word "any" refers to by examining the specific context in which the word is used. For instance, suppose that a hungry patron is dining in a restaurant and tells the server, "I will order any food that you give me." Without considering the contextual fact that the patron is in a restaurant, someone listening in would not know what "any" refers to. Does "any food" refer to any food off the menu? Or would it be okay for the server to go to the backroom, pull out a sandwich that he had bought at 7-11, and put it on the customer's plate? Only by looking at the surrounding circumstances (i.e. the fact the customer is at a restaurant) can one reasonably understand that the customer's use of the word "any food" refers to any food from the menu.[380]

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374. 42 U.S.C. § 7479(1) (2006) (emphasis added).

375. *Id.* (emphasis added).

376. Massachusetts v. Envtl. Prot. Agency, 549 U.S. 497, 528-29 (2007).

377. *Id.* at 528.

378. *See id.* at 528-29.

379. *See id.*

380. *See, e.g.*, Ali v. Fed. Bureau of Prisons, 552 U.S. 214, 243-44 (2008) (Breyer, J., dissenting) ("The word 'any' is of no help because all speakers (including writers and legislators) who use general words such as . . . 'any' . . . normally rely upon context to indicate the limits of time and place within which they intend those words to do their linguistic work. . . . When I call out to my wife, 'There isn't any butter,' I do not mean, 'There isn't any butter in town.' The context makes clear to her that I am talking about the contents of our refrigerator.").

By analogy to the present scenario, the court can only determine what the phrase "any air pollutant" refers to by looking at the phrase in its specific statutory context. This contextual approach is consistent with the 2006 opinion from the D.C. Circuit in *New York v. Environmental Protection Agency*.[381] In that case, the court held that "any" does not mean "some" in the context of what constitutes "any physical change" for PSD modifications, but rather it means exactly what it says—"any."[382] At a first glance, this decision would seem to cut against the argument that the word "any" means something other than "any" for CAA purposes. Notably, however, the court in *New York v. Environmental Protection Agency* focused on the specific statutory context of the word "any" in that particular case, holding that interpreting the word "any" to mean "any" would not create " 'strange and indeterminate results' " that would conflict with the remainder of the CAA.[383] In doing so, the court left open the possibility that under a different set of facts, the court might reach a different result. In the present scenario, if the D.C. Circuit were to apply its same contextual approach, it would arrive at the opposite conclusion from its holding in *New York v. Environmental Protection Agency*. This is because the statutory context surrounding the term "any air pollutant" in section 7479(1) would require the court to interpret "any" narrowly.[384]

According to the facts of *New York v. Environmental Protection Agency*, a "coalition of states and environmental groups challenged [EPA's] rule exempting many equipment replacements from New Source Review."[385] Under the statute, a modification is defined as "*any* physical change in, or change in the method of operation of, a stationary source which increases the amount of *any* air pollutant emitted by such source. . . ."[386] EPA argued that it could exempt a category of modifications dubbed routine maintenance, repair and replacement (RMRR) on a case-by-case basis.[387]

> The rule at issue in this case created the "Equipment Replacement Provision," which stated categorically that the replacement of components with identical or functionally equivalent components that does not exceed twenty percent

381. *See* New York v. Envtl. Prot. Agency, 443 F.3d 880 (D.C. Cir. 2006).
382. *Id.* at 884.
383. *Id.* at 886 (quoting Nixon v. Mo. Mun. League, 541 U.S. 125, 126 (2004).
384. 42 U.S.C. § 7479(1).
385. Susannah Landes Foster, Note, *When Clarity Means Ambiguity: An Examination of Statutory Interpretation at the Environmental Protection Agency*, 96 GEO. L.J. 1347, 1355 (2008).
386. 42 U.S.C. § 7411(a)(4) (emphasis added).
387. Foster, *supra* note 385, at 1355 (quoting 40 C.F.R. § 52.01 (2007)).

> of the replacement value of the process unit and does not change its basic design parameters is not a physical change and is within the RMRR exception. From a policy perspective, the EPA [asserted] that the rule would "promote the safe, reliable, and efficient operation of facilities by removing obstacles to replacing old equipment with safer and more efficient equipment."[388]

Challengers alleged that the Agency's interpretation "failed step one of the *Chevron* analysis."[389]

To find ambiguity in the rule, the EPA analyzed the terms "any," "physical change," and "which increases the amount of any air pollutant" in isolation.[390] In addressing the term "physical change," the Agency argued that the term " 'physical change' "—or 'change' alone—could have a number of different meanings."[391] Specifically, the EPA cited to several dictionaries "to demonstrate that the definition of 'change' may range from 'to replace' to 'to make radically different.' "[392] EPA also claimed that merely because a "modification is defined as any physical change that *increases emissions*, does not eliminate the ambiguity in 'physical change' because both a physical change and an emissions increase are required" for the court to find that a modification exists.[393] Most relevantly, EPA "argued that the modifier 'any' did not limit its discretion in defining 'physical change.' "[394] The agency asserted that using the term " 'any' . . . merely means that once you have decided what is and is not a 'physical change,' then 'any' such change may require [New Source Review] permitting if it increases emissions.' "[395] The determination from the agency was that " 'the term 'physical change' is ambiguous, and the use of the modifier 'any' does not eliminate that underlying ambiguity.' "[396] Thus, the term "any" does not " 'remove EPA's interpretive authority.' "[397]

The D.C. Circuit disagreed with EPA, striking down the agency's regulation under step one of *Chevron*.[398] The court reasoned that " 'the word 'any' has an expansive meaning, that is, one or

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388. *Id.*
389. *Id.*
390. *Id.*
391. *Id.* at 1356.
392. *Id.*
393. *Id.* at 1356 (citing Brief of Respondent at 20, *New York*, 443 F.3d (No. 03-1380)).
394. *Id.* (quoting Brief of Respondent at 34-35, *New York*, 443 F.3d (No. 03-1380)).
395. *Id.* (quoting Brief of Respondent at 34-35, *New York*, 443 F.3d (No. 03-1380)).
396. *Id.* (quoting Brief of Respondent at 34-35, *New York*, 443 F.3d (No. 03-1380)).
397. *Id.* (quoting Brief of Respondent at 35-36, *New York*, 443 F.3d (No. 03-1380)).
398. *New York*, 443 F.3d at 885.

some indiscriminately of whatever kind.' "[399] Notably, however, the court acknowledged that "the sort of ambiguity giving rise to *Chevron* deference 'is a creature not of definitional possibilities, but of statutory context.' "[400] The court agreed with EPA "that the meaning of 'any' can differ depending upon the setting."[401] In striking down the rule, therefore, the court did not foreclose the possibility of using a contextual analysis in interpreting "any." Instead, it went ahead and applied a contextual analysis and declined to interpret "any" broadly *in that particular case* because "EPA [could point] to no 'strange and indeterminate results' that would emerge from adopting the natural meaning of 'any . . . ' " and therefore, "the context of the Clean Air Act warrant[ed] no departure from the word's customary effect."[402] In making this statement, however, the D.C. Circuit expressly acknowledged that the word "any" must be viewed in its proper statutory context and that a contextual argument may convince the court to interpret "any" more narrowly in future cases.[403]

Accordingly, *New York v. Environmental Protection Agency* opens the door for EPA to argue in the present statutory context that the words "any air pollutant" in the PSD applicability thresholds does not actually mean *any* air pollutant. Rather, the text and structure of the CAA as a whole make it clear that the 100/250 tpy thresholds do not apply to NESHAP or NNSR, which have their own numerical applicability thresholds. Moreover, the text of the statute reflects Congress's judgment that applying the PSD 100/250 tpy thresholds to facilities under NESHAP and NNSR would fail to make sense from a scientific or economic standpoint. Therefore, the only reasonable interpretation of the "any air pollutant" language for the PSD applicability thresholds is any air pollutant *by a source to which application of the thresholds makes scientific and economic sense.*

This interpretation in § 7479(1) finds implicit support in the text of the statute. To begin, the CAA makes it clear that the PSD applicability thresholds do not apply to NESHAP. Specifically, § 7412(b)(6) explicitly states that "the provisions of . . . [PSD] . . . shall not apply to pollutants listed under [NESHAP]."[404] In addition, the NESHAP provisions contain much lower applicability thresholds than PSD does. For example, § 7412(a)(1) defines a

399. *New York*, 443 F.3d at 885 (quoting United States v. Gonzales, 520 U.S. 1, 5 (1997)).

400. *Id.* at 884 (quoting American Bar Ass'n v. FTC, 430 F.3d 457, 469 (D.C. Cir. 2005).

401. *Id.* at 885 (citing Nixon v. Mo. Mun. League, 541 U.S. 125, 126 (2004).

402. *Id.* at 885-86.

403. *Id.* at 886.

404. 42 U.S.C. § 7412(b)(6) (2006).

"major source," to which stringent regulatory controls apply, as "any stationary source . . . that emits or has the potential to emit . . . 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants"[405] as opposed to the 100/250 tpy thresholds in the PSD provisions of the statute. Therefore, the phrase "any air pollutant" in the PSD thresholds clearly does not require EPA to regulate *all* air pollutants. Accordingly, the only logical inference that one can make from the lower applicability thresholds in the text of NESHAP is that Congress decided that the benefits of regulating toxic air pollutants greatly outweigh the costs much more than they do under PSD, given the harmful health and environmental effects resulting from the emissions of hazardous air pollutants. Therefore, one must interpret "any air pollutant" as any air pollutant *in which it makes scientific and economic sense to apply the thresholds*.

Likewise, for economic and health-related reasons, the non-attainment NSR provisions of the CAA contain lower applicability thresholds than PSD. NNSR and PSD are opposite sides of the same program. Namely, NNSR applies to air quality control regions that have not achieved the NAAQS[406] while PSD applies to areas that have achieved the NAAQS.[407] Therefore, the two programs are mutually exclusive and EPA cannot regulate a region for the same pollutant under both NNSR and PSD. The NNSR numerical thresholds differ from the thresholds in PSD in the following ways and each criteria pollutant has different categorizations. Taking the example of ozone, NNSR is divided up into marginal, moderate, serious, severe and extreme areas, and EPA applies lower applicability thresholds to areas with the worst air quality problems (e.g. extreme areas) in order to ensure that more stringent control of sources of air pollution exists in places where protection is needed the most.[408] For example, "major stationary sources" located in marginal and moderate areas are defined as facilities "that emit, or have the potential to emit, [100 tpy] or more" of ozone or VOCs.[409] Furthermore, § 7511a(c) states that "[f]or any Serious area, the terms 'major source' and 'major stationary source' . . . [means] any stationary source or group of sources . . . that emits, or has the potential to emit, at least 50 tons

405. 42 U.S.C. § 7412(a)(1).

406. 42 U.S.C. § 7502(c)(5); *see also* ROBERT J. MARTINEAU & DAVID P. NOVELLA, EDS. THE CLEAN AIR ACT HANDBOOK, 136 (2d ed. 2004).

407. 42 U.S.C. § 7410(a)(2)(D)(1)(I).

408. 42 U.S.C § 7511.

409. 42 U.S.C. § 7602(j).

per year of volatile organic compounds."[410] In addition, § 7511a(d) for severe areas defines major sources as sources that emit twenty-five tpy, and section 7511a(e) for extreme areas defines major sources as facilities at only 10 tpy.[411] Therefore, the phrase "any air pollutant" in the PSD 100/250 tpy thresholds cannot reasonably be understood to require EPA to regulate *every* air pollutant because pollutants emitted by NNSR facilities are distinct from—and often much lower than—the thresholds for PSD.[412] Moreover,

410. 42 U.S.C. § 7511a(c).

411. U.S.C. § 7511a(d), (e).

412. A related argument is that Congress geared its 100/250 tpy thresholds to the quantities that it deemed necessary in order to avoid the harmful effects of air pollutants, and that, unlike with criteria pollutants, GHGs were not on Congress's radar at the time when it adopted the PSD program. If Congress had thought about GHGs, and understood that low levels of GHGs are not as harmful to air quality as emissions of similar amounts of criteria pollutants, it would have specified a higher threshold for GHGs than the 100/250 tpy levels. Critics of the Tailoring Rule might claim, however, that this "necessary levels" argument could undercut the standing analysis articulated in *Massachusetts v. Environmental Protection Agency* (i.e., that even a "drop in the bucket" regarding harmful effects from GHGs satisfies the causation requirement for standing purposes, even if the GHGs don't fully cause the harmful effects) because setting higher thresholds for GHGs fails to account for GHG emissions from multiple sources. *See* Massachusetts v. Envtl. Prot. Agency, 549 U.S. 497, 524 (2007). The one-step-at-a-time doctrine, however, applies in this scenario to allow EPA to regulate GHGs using a step-by-step approach. The one-step-at-a-time doctrine essentially allows agencies to implement their statutory mandates step-by-step, using a phased approach. *See* City of Las Vegas v. Lujan, 891 F.2d 927, 935 (D.C. Cir. 1989). Pragmatically speaking, an agency will be paralyzed if it has to resolve all the necessary answers to a problem all at once. The one-step-at-a-time doctrine recognizes that agencies have limited resources and that it often is more efficient for the agencies to address issues incrementally, rather than all at the same time. *Id. See also Massachusetts,* 549 U.S. at 524. For example, the court in *Florida Wildlife Fed'n v. Jackson*, a CWA case, upheld the validity of the one-step-at-a-time doctrine. Florida Wildlife Fed'n v. Jackson, 853 F.Supp. 2d 1138, 1159-60 (N.D. Fla. 2012). In that case, the court held that EPA did not improperly discriminate against Florida by singling them out in setting its CWA nutrient limits for Florida first because Florida had a large number of endemic species that were affected by the effluent and the quantity of data in Florida for EPA to develop nutrient standards exceeded that of any other state. *Id.* at 1159-60. Thus, the court held it was reasonable for EPA to set the standards for Florida before moving on to other states--thus allowing EPA to take things one-step-at-time. *Id.* at 1160. In the present case, EPA can rely on this doctrine to take a phased-in approach to regulating GHG emitting facilities.

Furthermore, EPA's setting of the thresholds at a higher level does not undermine the *Massachusetts v. Environmental Protection Agency* standing analysis merely because GHGs are emitted from numerous sources. The "drop in a bucket" analysis can be limited to the issue in which it arose—namely, for the purpose of determining whether there is causation for Article III constitutional standing. Given the fact that standing is a threshold issue that governs whether a litigant can even bring a case in the first place, the burden of proving the element of causation for a petitioner or plaintiff is intended to be easy to meet. Also, it would be a stretch for one to analogize the "drop in the bucket" analysis for causation for standing purposes to EPA's policy choice that it makes within the context of a statute. Therefore, the *Massachusetts v. Environmental Protection Agency* standing issue is not an obstacle for EPA setting the 100/250 tpy thresholds at a higher level than the CAA provides.

Additionally, EPA's not taking into account GHG impacts from multiple sources in setting the thresholds for GHGs at the level that it did (i.e. 75,000/100,00 tpy) is not arbitrary and capricious. *State Farm* merely requires that an agency consider all relevant factors in promulgating a rule. Motor Vehicle Mfrs. Ass'n Inc. v. State Farm Mutual Automobile Ins. Co., 463 U.S. 29, 42-43 (1983). As shown in the preamble to the Tailoring Rule, the agency undertook a thorough cost-benefit analysis in deciding where to set the increased thresh-

the difference between the 100/250 tpy PSD applicability thresholds and the lower numerical thresholds for NNSR areas reflects a congressional cost-benefit analysis that weighs more in favor of stringent controls for NNSR than it does for PSD. Specifically, the text and structure of the CAA indicates that Congress intended for EPA to regulate regions that have not attained the NAAQS more stringently than attainment areas, and that EPA should do this in order to improve the air quality for areas with lower quality ambient air. Therefore, instead of applying BACT, which allows for a substantial consideration of costs when choosing the best available control technology, the text of the CAA requires major sources in non-attainment areas to install technology based on the lowest achievable emissions rate (LAER); a technology-based standard that, unlike BACT, prohibits the consideration of costs.[413] This difference in treatment of economic costs between the NNSR and PSD programs underscores the reason why Congress intended for the numerical PSD thresholds not to apply to NNSR. Namely, the environmental need for more stringent NNSR regulation outweighs any cost considerations to a much greater degree than it does under PSD. This explains why the CAA often requires a lower applicability threshold for non-attainment areas than it does for PSD.

Given the fact that "any" in § 7479(1) does not mean "any," one must interpret "any" more narrowly. Congress's economic and scientific rationale for setting the NNSR thresholds to be more protective than the PSD thresholds implicitly supports a more flexible interpretation of "any air pollutant" to which the 100/250 thresholds apply. Thus, the court should interpret "any air pollutant" for the PSD thresholds as any air pollutant *in which it makes scientific and economic sense to apply the thresholds*.

The following sub-section explains how GHGs fit into the flexible standard of any air pollutant *in which it makes scientific and economic sense to apply the thresholds*. This modified interpretation opens the door for EPA to argue that applying the 100/250 tpy thresholds to GHGs does not comport with sound scientific or economic considerations. First, EPA has demonstrated that GHGs are emitted at a much higher rate than conventional air pollu-

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olds. As mentioned *supra*, EPA empirically determined that setting the 75,000/100,000 threshold would cover large emitters that contribute the most to global warming, while excluding the large number of smaller emitters (e.g. homes and small businesses) that contribute to climate change to a far lesser degree. To use economic terms, EPA set the threshold at a point at which the marginal benefits of regulation still exceed the rule's incremental costs (e.g. the compliance costs to sources and administrative burdens of the government). Therefore, the court should uphold EPA's rule under the deferential standard of review articulated in *State Farm*.

413. 42 U.S.C. § 7501(3) (2006); MARTINEAU & NOVELLO, *supra* note 406, at 179.

tants; well beyond the 100/250 tpy thresholds.[414] Second, the agency has shown that the economic costs of regulating the large number of small businesses and residences that emit over 100/250 tpy of GHGs would greatly outweigh any marginal benefits to the environment.[415] These small sources contribute only a small amount to overall GHG emissions, as opposed to the larger emitters still covered under the Tailoring Rule and would be unduly burdened by the costs of compliance. Third, EPA has stated that most GHGs, such as CO_2, do not generally impact human health in as much of a direct or immediate manner the way that conventional pollutants do.[416] Therefore, GHG emissions below EPA's tailoring rule applicability thresholds should not fall under the phrase any air pollutant *in which it makes scientific and economic sense to in which to apply the 100/250 tpy thresholds*.

Interpreting "any air pollutant" as any air pollutant *in which it makes scientific and economic sense to apply the thresholds* is consistent with a textual analysis of the statute. Many textualist judges have held that a court should not interpret any section of a legislative act in isolation, but rather must examine the entire act as a whole and relate it to the specific sections in question.[417] This approach is based on the premise that Congress drafts its bills with care and intends for all the sections within its statutes to be harmonized.[418] Using this approach, the courts must reconcile the PSD applicability thresholds in section 7479(1) with the NESHAP and NNSR provisions in order to interpret the language "any air pollutant" as any air pollutant *in which it makes scientific and economic sense to apply the thresholds*.

Under this modified definition, the courts should conclude that it does not make scientific and economic sense to apply the PSD thresholds to greenhouse gasses. Accordingly, EPA's Tailoring

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414. Tailoring Rule, *supra* note 1, at 31,549.

415. CHAPPELL, *supra* note 220, at 16.

416. *Assessing Air Quality, Greenhouse Gas, and Public Health Benefits*, ENVTL. PROT. AGENCY, http://www.epa.gov/statelocalclimate/state/activities/assessing-air-quality-and-public-health.html (last updated Sept. 14, 2012) ("While GHGs have a global effect, contribute to climate change, and can last more than 100 years, criteria air pollutants have a local to regional effect on air quality and human health. . . ."). Furthermore, one cannot argue that this interpretation of the statute would authorize EPA to act in a manner that is arbitrary and capricious by ignoring the indirect cumulative effects of GHG emissions from multiple sources. As mentioned above, EPA has "empirically determined that setting the 75,000/100,000 threshold would cover large emitters that contribute the most to global warming, while excluding the large number of smaller emitters (e.g. homes and small businesses) that contribute to climate change to a far lesser degree." *See supra* note 412. Therefore, EPA has made a judgment that the Tailoring Rule is adequately protective against the effects on climate change caused by GHG emissions because the rule still covers the largest emitters of GHGs.

417. MASTERING STATUTORY INTERPRETATION, *supra* note 53, at 99-100.

418. *Id.*

Rule exempting GHGs from the PSD numerical thresholds is consistent with the language of the CAA. As a result, EPA does not need to rely on the absurd results doctrine to persuade the court to uphold the Tailoring Rule for PSD, which is beneficial for EPA because courts are often very hesitant to utilize the absurd results doctrine.

This argument for interpreting the language of the PSD thresholds more flexibly also takes care of avoiding the applicability of Title V to a majority of stationary sources, thus reducing the costs to the regulated sources as well as regulatory burdens on agencies. Given the fact that neither PSD nor any other substantive CAA requirements apply to sources that emit GHGs below the 75,000/100,000 tpy threshold, Title V will not incorporate any "applicable [substantive] requirements."[419]

Recall that "Title V does not create new substantive requirements under the CAA.[420] Rather, the goal of the permitting program is to consolidate all applicable CAA requirements into a single document."[421] Given that there are no substantive requirements that will be pulled into the Title V permit for facilities that fall below the 75,000/100,000 cut-off, the courts should not require facilities to incur costs in complying with the procedural costs of Title V. It would make no sense to require massive numbers of sources to go through the paper-pushing exercise of applying for a Title V permit that will impose no substantive constraints on it. The cost-benefit ratio in such situations is infinite—the benefit denominator is zero. In drafting the bills for the CAA, Congress surely was aware of this. Therefore, Congress could not have possibly intended to require sources to apply for "empty" Title V permits.

The argument that facilities should not be required to obtain "empty" Title V permits is significant for EPA because, if this argument succeeds, the agency will avoid incurring the costs associated with a broader application of Title V. According to EPA's regulatory impact analysis for the Tailoring Rule, the costs of complying with a literal application of Title V are much higher than the costs of complying with the requirements that would

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419. New York Public Interest Research Group v. Whitman, 321 F.3d 316, 320 (2d Cir. 2003) ("Title V permits do not impose additional requirements on sources but, to facilitate compliance, consolidate all applicable requirements in a single document."); 42 U.S.C. § 7661a(a).

420. *See, e.g.*, N.Y. Pub. Interest Research Grp. v. Whitman, 321 F.3d 316, 320 (2d Cir. 2003); Com. of Va. v. Browner, 80 F.3d 869, 873 (4th Cir. 1996), *cited by* Michael J. Cole, *A Blueprint For EPA: How The Agency Can Overcome The Statute Of Limitations When Enforcing PSD Under The Clean Air Act*., 31 UTAH ENVTL. L. REV. 181, 185 (2011).

421. Cole, *supra* note 420, at 185 (citing *Whitman*, 321 F.3d at 320).

result from a literal interpretation of PSD.[422] As a result, the argument that stationary sources that emit or have the PTE below 75,000/100,000 tpy need not obtain a Title V permit is invaluable to EPA's regulatory efforts.

2. The Rule Against Surplusage Does Not Apply

A challenger may attempt to counter the argument that "any air pollutant" under § 7479 means *any air pollutant in which it makes scientific and economic sense in which to apply the 100/250 tpy thresholds*. The argument would be that this interpretation inappropriately reads additional words into the statutory definition of "any air pollutant" and that reading in these additional words is improper because other sections of the statute have additional qualifying language (e.g. the "subject to regulation" language in section 7479(3)[423] for air pollutants under BACT) and Congress didn't include any additional qualifying language in 7949(1). The challenger would claim that if Congress had intended for additional qualifiers to exist in section 7479(1), it would have explicitly included them in the statute—but Congress chose not to. Therefore, reading additional language into the statute would violate the rule against surplusage of statutory construction.

The rule against surplusage presumes that when drafting a statute, Congress means what it says and that each word is the result of thoughtful and careful deliberation.[424] The idea is that Congress makes sure to choose its words carefully in drafting a statute and therefore each word should have independent force.[425] Therefore, adding additional words to modify the definition of "any air pollutant" would dilute the meaning of other terms in the statute and show a lack of respect for the amount of care in which Congress drafted the CAA.

This argument must fail. Like many other linguistic canons, the rule against surplusage is merely a rebuttable presumption that must yield to contrary legislative intent.[426] Courts can refuse to apply the rule against surplusage when utilizing it would create

422. CHAPPELL, *supra* note 220, at 18-20.

423. 42 U.S.C. § 7479(3) (2006).

424. *See* Montclair v. Ramsdell, 107 U.S. 147, 152 (1883) (holding that the courts should "give effect, if possible, to every clause and word of a statute, avoiding, if it may be, any construction which implies that the legislature was ignorant of the meaning of the language it employed.").

425. *See, e.g.*, Bailey v. United States, 516 U.S. 137, 146 (1995) ("We assume that Congress used two terms because it intended each term to have a particular, nonsuperfluous meaning") (rejecting interpretation that would have made "uses" and "carries" redundant in statute penalizing using or carrying a firearm in commission of offense).

426. *See id.* at 105.

results that are " 'repugnant to the rest of the statute.' "[427] As shown above, interpreting the word "any" as "all" or "every" conflicts with the text and structure of other sections of the CAA and therefore the court should refrain from applying the rule against surplusage in the present case.

B. Any Claim That the Absurd Results Doctrine Should be Rejected and That, Consequently, the Tailoring Rule Should be Struck Down, is Incorrect as a Matter of Law.

The argument that the phrase "any air pollutant" is contextual in nature, would, in effect, preclude EPA from having to rely on the absurd results doctrine because the agency would have an alternative method of interpreting the CAA without having to deviate from the clear language of the statute. Regardless, however, EPA's use of the Tailoring Rule would still be upheld under this alternative rationale. By contrast, the following sub-section rebuts an argument brought forth by several Petitioners in the case on the Tailoring Rule before the D.C. Circuit. During oral argument, both Chief Judge Sentelle and Judge Tatel seemed amenable to this argument.[428] It states that EPA has an alternative interpretation of the CAA that it could use to effectuate the intent of Congress without having to raise the applicability thresholds in the CAA at all[429]—thus undermining the validity of the Tailoring Rule. Petitioner's argument, however, is incorrect as a matter of law.

Unlike the alternative argument presented in the previous sub-section that would preclude EPA's having to rely on the absurd results doctrine to support the Tailoring Rule, Petitioners' argument would require the court to not only reject EPA's use of the absurd results doctrine, but also, as a consequence, to strike down the rule.[430] The Petitioners claim that EPA should have interpreted the CAA to apply PSD controls only to sources for their GHG emissions when, in addition to emitting GHGs, the sources emit (or have the PTE) criteria pollutants at, or in excess, of the 100/250 tpy thresholds.[431] In cases where such criteria pollutant emissions exist, any GHG emissions from the facilities would be pulled into PSD review along with the criteria pollutants.[432]

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427. *See id.* (quoting Chickasaw Nation v. United States, 534 U.S. 84, 94 (2001)).

428. Transcript of Oral Argument at 108, American Chemistry Council v. Envtl. Prot. Agency (2011) (No. 10-1167).

429. Brief of Non-State Petitioners and Supporting Intervenors at 31-32, Coalition for Responsible Regulation, Inc., v. Envtl. Prot. Agency, No. 10-1073 (D.C. Cir. June 20, 2011).

430. *Id.* at 21.

431. *Id.* at 15-29.

432. *Id.*

Furthermore, the GHG emissions would only need to be at, or in excess, of the 100/250 tpy thresholds for triggering PSD review—thus not changing the numeric thresholds in the statute at all.[433] The Petitioners claim that this argument would effectuate the legislative intent of the CAA because the large industrial sources that would be subject to PSD controls for GHGs would already be covered by PSD in the first instance due to their emissions of criteria pollutants—thereby avoiding any significant administrative burdens on the agencies.[434]

Petitioners claim that the language and structure of the CAA requires EPA to adopt the Petitioners' interpretation under step one of *Chevron*.[435] Alternatively, Petitioners claim that even if the statute is ambiguous and that EPA can plausibly interpret the CAA in either direction, EPA still loses.[436] This is because, according to Petitioners, EPA's understanding of the literal language of the CAA (as applying PSD controls to facilities that emit GHGs at or above 100/250 tpy) fails under step two of *Chevron* because, as the agency itself has stated, this interpretation yields absurd results and contravenes congressional intent by undermining the goals of the CAA.[437] Therefore, the Petitioners argue that EPA's interpretation "frustrates, rather than advances, Congress's goals" and is unreasonable under *Chevron* step two, claiming that it would defy logic for a court to find that an agency's understanding of a statute yields absurd results while also being reasonable.[438] Accordingly, Petitioners claim that EPA cannot use the absurd results doctrine to remedy this unreasonableness because the Petitioners have offered an alternative interpretation of the statute that avoids undermining the congressional goals of the CAA.[439] Given the fact that the absurd results doctrine is one of last resort, Petitioners contend that the agency must adopt Petitioners' interpretation of the statute because the interpretation does not require EPA to use the absurd results doctrine.[440]

Petitioners' argument, however, misses the mark because its interpretation of the CAA overlooks the fact that EPA enjoys *Chevron* deference on the issue of how much of an increase of the statutory thresholds is necessary to effectuate congressional intent. As argued above in Section III, sub-section C of this article,[441]

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433. *Id.* at 33.
434. *Id.*
435. *Id.* at 13.
436. *Id.* at 20-21.
437. *Id.* at 13-14.
438. *See id.* at 18.
439. *Id.* at 19.
440. *Id.*
441. *See supra* Part III.C.

the courts should grant EPA step two *Chevron* deference on the issue of necessity because the agency has made a reasoned empirical demonstration that raising the thresholds under step one of the rule to 75,000 tpy would be necessary to preserve the economic goals of the CAA. Accordingly, Petitioner's interpretation does not rise to the level of demonstrating that EPA's judgment on this issue is unreasonable under *Chevron* step two.

Petitioners' alternative approach under the CAA would exempt far fewer facilities from PSD than step one of EPA's approach would under the Tailoring Rule. Both approaches are similar in the sense that they apply PSD thresholds only to "anyway sources."[442] Namely, PSD only covers GHG emitting facilities that are already subject to PSD for their emissions of conventional air pollutants under each approach.[443] However, unlike the Petitioners' approach, EPA's rule raises the amount of GHG's that the facility must emit from 100/250 tpy to 75,000 tpy, while the Petitioners leave the 100/250 tpy thresholds as is.[444] In raising the thresholds, EPA has empirically demonstrated that any threshold lower than 75,000 tpy would impose unmanageable administrative burdens that would undermine the economic goals of the CAA.[445] As a result, the courts should defer to EPA's determination that departing from the language of the statute to the extent that EPA did is necessary to protect congressional intent. In proposing an alternative interpretation of the CAA, however, Petitioners have ignored the fact that EPA's determination of necessity is entitled to deference under *Chevron* step two because the Petitioners have not even attempted to prove that EPA's empirical findings are unreasonable. Thus, the courts should defer to EPA's use of the absurd results doctrine in upholding the Tailoring Rule.

V. CONCLUSION

This conclusion is divided up into two sub-sections. The first sub-section summarizes the arguments for upholding the validity of EPA's Tailoring Rule. The second sub-section explores a number of broader principles that can be taken away from the analysis in this article in order to define the permissible scope of the absurd

442. Brief of Non-State Petitioners, *supra* note 429, at 15-29; *cf* Tailoring Rule, *supra* note 1, at 31,514, 31,523.

443. Brief of Non-State Petitioners, *supra* note 429, at 15-29.

444. *Id.* at 15-29; *cf* Tailoring Rule, *supra* note 1, at 31,514, 31,523. EPA requires a significant emission's increase of 75,000 tpy for step one of the Tailoring Rule, which means that the facility will end up emitting way more than 100 or 250 tpy so, it doesn't matter that the measurement of significant emissions increases is superficially different from the measurement of applicability thresholds. In both cases, the issue is how much the facility emits.

445. Tailoring Rule, *supra* note 1, at 31,568.

results doctrine. It therefore provides guidance to agencies that desire to deviate from the clear language of their enabling statutes.

A. EPA's Tailoring Rule is Valid

Despite the clear language of the CAA, the courts should uphold EPA's Tailoring Rule under the absurd results doctrine in order to carry out the goals of Congress. The absurd results doctrine is valid in the abstract because it does not significantly undermine separation of powers principles and is consistent with *Chevron*. Furthermore, the court should apply the doctrine to uphold EPA's Tailoring Rule because doing so is necessary to carry out Congress's desire to avoid unnecessary costs to sources and permitting authorities, and to provide regulatory flexibility to EPA. In the alternative, however, even if EPA does not prevail under the absurd results doctrine, the courts should uphold the rule as consistent with a contextual interpretation of "any air pollutant" for the PSD thresholds under the statute. The courts should reject the argument, however, that EPA can apply PSD to sources for their GHG emissions only when the sources also emit criteria pollutants at or above the PSD applicability thresholds.

B. Moving Forward: Defining the Parameters of the Absurd Results Doctrine for Future Cases

In addition to concluding that EPA's Tailoring Rule is valid, this thesis offers broader principles that may be taken away with regard to when an administrative agency has the discretion to depart from the clear language of a statute. In doing so, this thesis imparts three principles that can be used as guidance for courts to interpret and apply the absurd results doctrine in the future. In offering these principles, the article limits the scope of the absurd results doctrine in a manner that prevents agencies from having unfettered discretion at the expense of the doctrine of separation of powers.

1. Applying the Absurd Results Doctrine to Resolve Internal Conflicts within a Statute

As illustrated throughout this paper, the absurd results doctrine is a doctrine of last resort.[446] Accordingly, when dealing an internal conflict within a statute, the absurd results doctrine

446. *See* Pub. Citizen v. U.S. Dep't of Justice, 491 U.S. 440 (1989).

applies only if the conflicts between two or more statutory provisions cannot be reconciled by any other canon of statutory construction. Specifically, as the analysis in this aeticle illustrates, a litigant must prove that an inherent tension exists between a statutory phrase or provision and other parts of the statute that reflect underlying congressional goals that the original statutory phrase or provision defeats. In such a case, it is necessary to apply the absurd results doctrine because there is no other way to reconcile the tension between the competing statutory provisions (such as carving out an exception to a general rule). In these cases, the absurd results doctrine is permissibly used as a doctrine of last resort.

EPA's use of the absurd results doctrine to uphold its Tailoring Rule for GHGs falls within the category of a case of last resort. It is necessary for EPA to apply the absurd results doctrine because there is no other method of reconciling the internal clash between the provisions of the CAA—specifically, one cannot reconcile the conflict between the provisions of the CAA that require the regulation of specific levels of pollutants and the general goals of the CAA (e.g. the economic goals of the statute) as expressed elsewhere in the law. This statute's internal clash is the result of the application of the CAA in a new and unanticipated context—namely, the Supreme Court requiring EPA to regulate GHGs under the CAA.[447] As mentioned above, EPA's dilemma is that GHGs occur naturally at much higher levels than the pollutants that were the original target of the CAA.[448] If GHGs are regulated at the same levels as other pollutants, not only would regulation be extended to individuals and small businesses that Congress clearly did not wish to regulate, but EPA would be overwhelmed by the enforcement effort and unable to carry out its duties under the statute, thus contravening the congressional goals of the CAA.[449] Had EPA not utilized the absurd results doctrine, the agency would have been stuck in a Hobson's Choice between implementing the statute for GHGs in a manner that violates congressional intent, and not regulating GHGs at all, in violation of the Supreme Court's ruling in *Massachusetts v. Environmental Protection Agency*.[450] In this scenario, there was no other method of resolving the inherent tension in the CAA (other than using the alternative interpretation of "any air pollutant" presented above).

447. *See* Massachusetts v. Envtl. Prot. Agency, 549 U.S. 497 (2007).
448. *See* Tailoring Rule, *supra* note 1, at 31,534.
449. *Id.*
450. *Id.*

It is also important to note that the absurdity doctrine rests on the judicial canon that Congress intends to create laws that make sense.[451] This, of course, is a rebuttable presumption. An express textual showing that Congress intends for a statutory provision to apply in a certain way must stand, even if it produces an absurd result.[452]

In the Tailoring Rule context, however, no such express textual showing of congressional intent exists. For example, nowhere in the statute has Congress expressly stated that the 100/250 tpy thresholds shall apply to GHGs. If such an express statement existed, it would seem pretty clear that Congress intended for the 100/250 tpy thresholds to apply to emissions of GHGs, regardless of the absurd results that would follow. Such evidence of congressional intent, however, does not exist. This, of course, is unsurprising since GHG regulation was not even on Congress's radar at the time when it enacted and amended the CAA.[453] Therefore, although the absurdity doctrine will not apply in cases where the language in a statute demonstrates that Congress in fact intended for an absurd result to take place, no evidence of such congressional intent exists in the Tailoring Rule context.

2. Statutory Construction and Determining the "Objectified Intent" of Congress

In addition to defining the parameters of the absurd results doctrine, this thesis concludes that making logical inferences about the intent of Congress from the structure and language of the statute is a legitimate textualist method of interpreting a statute. In other words, determining "objectified congressional intent" is consistent with textualism and the separation of powers principles. As noted by Manning, "textualists frequently infer legislative purpose from such sources as the overall tenor or structure of a statute."[454] This principle, of course, does not apply when courts or agencies imaginatively reconstruct the supposed intent of Congress. In such cases, the courts' determination of intent is wholly divorced from the language of the statute and arguably violates the doctrine of separation of powers.[455]

From a constitutional standpoint, examining legislative intent that is derived directly from the text of the statute is consistent with the doctrine of separation of powers because the courts are

451. *See, e.g.*, Church of the Holy Trinity v. United States, 143 U.S. 457, 459 (1892).
452. *Specific Absurdity*, *supra* note 23, at 923.
453. *See* Tailoring Rule, *supra* note 1, at 31,517.
454. Manning, *Textualism*, *supra* note 315, at 439 n. 65.
455. Manning, *Absurdity Doctrine*, *supra* note 30, at 2400.

less likely to substitute their own subjective value judgments for that of our democratically-elected Congress when examining legislative intent in this manner.[456] This is because the courts are objectively basing their determinations of congressional intent on the text of the statute, rather than applying their own personal value judgments. According to many textualist scholars, the use of imaginative reconstruction of congressional intent violates the doctrine of separation of powers because the Constitution requires Congress to make the law without judicial interference. [457] Congress is politically accountable while the courts are not; therefore, the courts should restrain themselves from making assumptions (often value-driven) about the supposed intent of Congress.[458] To do otherwise would allow judges to substitute their own personal beliefs for those of our democratically-elected law-makers. By contrast, making a determination of congressional intent that is derived from the statutory text itself does not implicate these concerns. Judges are far less likely to substitute their own values for that of Congress's when they are undertaking an analysis of congressional intent that is firmly rooted in the statutory text.

In the Tailoring Rule context, a court can infer from the language and structure of the CAA that Congress intended for EPA to preserve economic growth, implement the statute without undue administrative burden, and retain regulatory flexibility.[459] For example, the CAA's one-year deadline provision for EPA to approve or deny PSD permit applications for major modifications demonstrates that Congress intended for the CAA not to unnecessarily hinder economic development.[460] In addition, the purpose provisions of the statute make it abundantly clear that the congressional intent of the PSD provisions of the CAA is to preserve the economic growth as consistent with the protection of air quality.[461] Furthermore, a court can infer from the varied applicability thresholds for air pollutants in NESHAP and NNSR that Congress intended for EPA to have a flexible approach in regulating air pollutants.[462] Therefore, none of the interpretations of congressional intent are divorced from the statutory language and structure. By upholding the validity of the Tailoring Rule as protecting these congressional goals, the court would not be replacing its own personal values for that of Congress.

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456. *Id.* at 2437 (arguing that the judiciary should restrain itself from doing the job of Congress because the courts are not politically accountable).

457. *Id.*

458. *Id.*

459. *See supra* Part III.B.

460. 42 U.S.C. § 7475(c) (2006).

461. 42 U.S.C. § 7470(3).

462. *See supra* Part III.B.

3. Integrating the Absurd Results Doctrine with Chevron: An Agency's Last Resort/Necessity Determination Requires Step Two Deference

As mentioned earlier, an agency's determination of whether its deviation from a statute is necessary to protect congressional intent is a step two *Chevron* issue and not a step one question.[463] The subjective nature of determining necessity requires a court to defer to an agency's judgment—particularly, when that agency exercises its judgment on a matter that falls directly within its technical expertise. In such cases, the courts should only require an agency to make a reasonable showing of necessity. If the agency can meet this burden, the court should grant it discretion.[464]

EPA has met its burden of reasonably showing necessity in the Tailoring Rule case. Specifically, the agency brought forth a myriad of empirical data to make a reasonable showing that raising the PSD and Title V applicability thresholds was necessary to avoid unmanageable costs on the source and burdens to the permitting authorities.[465] For example, EPA estimated that, had it chosen a lower 25,000/25,000 tpy threshold for PSD applicability instead of the 75,000/100,000 tpy threshold, the lower threshold would have resulted in "250 additional PSD permit actions for new construction . . . and an additional 9,200 PSD permits for modifications each year. . . ."[466] According to the agency, "this level of permitting would require an additional 2,815,927 work hours, or 1,400 FTEs [full-time equivalents] . . . and would cost an additional $217 million each year. . . ."[467] EPA then calculated the $217 million amount to represent approximately a "1,800 percent increase over current permitting authority annual cost of $12 million for the major NSR programs."[468] EPA concluded that this would constitute an unmanageable burden. Although EPA failed to provide any data indicating what the agency's or the state or local permitting authorities' actual, current budget was in order to calculate with precision how much the Tailoring Rule would preserve government resources, EPA still made a reasonable demonstration

463. *See supra* Part II.C.
464. *See supra* Part II.C.
465. *See supra* Part II.C.
466. Tailoring Rule, *supra* note 1, at 31,569-70.
467. *Id.* at 31,570.
468. *Id.*

of necessity.[469] Accordingly, the D.C. Circuit should defer to EPA's exercise in line-drawing on the issue of necessity for purposes of applying the absurd results doctrine.

The *Chevron* deference that applies to an agency's determination of necessity does contain limits.[470] Applying step two deference does not grant an agency unfettered discretion to contravene the clear language of its enabling statute without any check.[471] At some point, the courts must draw the line. Had EPA, for example, brought forth bare bones, superficial or conclusory data to support its claims about the costs to sources and regulatory authorities, then the agency would have failed to make a showing of necessity that would be reasonably apparent to a court. In such cases, the courts should not grant *Chevron* deference to agencies that utilize the absurd results doctrine.

469. *See supra* Part II.C.
470. *See supra* Part II.C.
471. *See supra* Part II.C.

THE MARINE MAMMAL PROTECTION ACT: FOSTERING UNJUST CAPTIVITY PRACTICES SINCE 1972

STEPHANIE DODSON DOUGHERTY*

"There is about as much educational benefit to be gained in studying dolphins in captivity as there would be in studying mankind by only observing prisoners held in solitary confinement."
– Jacques Cousteau

I. INTRODUCTION

Passed in 1972, the Marine Mammal Protection Act[1] (MMPA) recognized the plight of marine mammals and sought to set appropriate management standards to safeguard their integral position in the marine ecosystem.[2] Dangerously near extinction or depletion, certain population stocks no longer maintain their role in the ecosystem.[3] Recognizing this, Congress sought to maintain optimum population levels of species not yet depleted[4] and to take emergency measures to mitigate immediate, severe impacts threatening depletion.[5] Furthermore, Congress sought to ensure that appropriate resource management measures be followed to maintain marine ecosystem stability.[6] To achieve these policy goals, the MMPA establishes a moratorium, with limited exceptions, on taking or importing marine mammals.[7] Permits to hold a

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1. 16 U.S.C. §§ 1361-1423h (2006).
2. *See id.* § 1372. *See also id.* § 1361(2).
3. *Id.* § 1361(1). *See also* H.R. REP. NO. 92-707 (1972), *reprinted in* 1972 U.S.C.C.A.N. 4144, *cited in* Jamie M. Woolsey, *Detailed Discussion of Dolphins Under the MMPA*, ANIMAL LEGAL & HISTORICAL CTR. (2002), *available at* http://www.animallaw.info/articles/ddus dolphins.htm#original.
4. 16 U.S.C. § 1361(2).
5. *See id.* § 1387(g).
6. *See id.* § 1361(6).
7. *See id.* § 1371.

captive marine mammal may be granted for scientific research and public display. According to the House of Representatives, when presenting the legislation:

> The effect of this set of requirements is to insist that the management of the animal populations be carried out with the interests of the animals as the prime consideration. . . . The primary objective of this management must be to maintain the health and stability of the marine ecosystem; this in turn indicates that animals must be managed for their benefit and not for the benefit of commercial exploitation.[8]

The Act underwent amendment in 1988 and again in 1994. The first amendment set further restrictions on public display permit eligibility, specifying that such permits would only be granted to public display entities wanting to exhibit the animal for an educational or conservation-oriented program that conforms to "professionally recognized standards of the public display community."[9] Additionally, these standards were required to be approved by the Secretaries of Commerce and Interior.[10] However, these standards were not compiled or published at the time.[11] The 1994 amendment removed the requirement for Secretarial approval of the standards to govern the public display industry.[12] This amendment also transferred the primary authority for the care and maintenance of captive marine mammals to the Animal and Plant Health Inspection Service (APHIS).[13] Previously, these responsibilities were shared among National Marine Fisheries Service (NMFS), United States Fish and Wildlife Service (FWS), and APHIS.[14] As these standards still had not been collected, APHIS promulgated these regulations under the Animal Welfare Act.[15] After negotiated rulemaking involving the public display industry, animal protection groups, veterinarians, and government managers, APHIS published the new standards for care, treatment, and transportation of captive marine mammals in 2001.[16] The public display industry's representatives included the Ameri-

8. H.R. REP. NO. 92-707, *reprinted in* 1972 U.S.C.C.A.N. 4144, 4151, 4154.
9. 16 U.S.C. § 1374(c)(2)(A)(i).
10. *See* Marine Mammal Protection Act Amendments of 1988, Pub. L. No. 100-711, 102 Stat. 4755 (1988).
11. NAOMI ROSE ET AL., THE HUMANE SOC'Y, THE CASE AGAINST MARINE MAMMALS IN CAPTIVITY 51 n. 5 (4th ed. 2009).
12. *See* Marine Mammal Protection Act Amendments of 1994, Pub. L. No. 103-238, 108 Stat. 532 (1994).
13. *See id.*
14. *See* Marine Mammal Protection Act of 1972, Pub. L. No. 92-522 86 Stat. (1972).
15. *See generally* 7 U.S.C. §§ 2131-2159 (2006).
16. *See generally* 9 C.F.R. §§ 3.100-118 (2012).

can Zoo and Aquarium Association (AZA)[17] and the Alliance of Marine Mammal Parks and Aquariums (AMMPA).[18] These industry associations represent approximately eighty percent of the marine parks, aquariums, dolphariums, zoos, and research facilities holding captive marine mammals.[19] Therefore, their members are the professionals over which the standards are intended to govern.

Despite its species management and sustainable population objective, the MMPA suffers from several inherent shortcomings that ultimately impede the policy and conservation goals. These shortcomings include the industry-set standards, fractured agency responsibility, and a lack of regulation, the combination of which leads to the questionable educational value of the display industry and the promulgation of the conservation fallacy.[20]

II. SHORTCOMINGS OF THE MARINE MAMMAL PROTECTION ACT

The first major shortcoming of MMPA that inhibits the species management it purports to achieve is the industry's control of the standards. Since public display facilities must only follow uncollected and unapproved "professionally recognized standards"[21] for education or conservation programs, this requirement relies completely on self-regulation. By allowing the public display industry such broad control, Congress essentially quashed any future tightening of regulations that may be appropriate for conservational or animal welfare purposes. The AZA and AMMPA compiled the standards already used by their members, which became the required "professionally recognized standards" [22] of the public display industry. These standards, on which the AZA and AMMPA members have built their educational and conservational programs, require that all institutions have a mission statement including education, a written education plan, and structured education programs directed by a professional with educational programming training.[23] The education programs hosted by permit-holding public display facilities must "offer multiple levels of

17. The AZA is now called the Association of Zoos and Aquariums.

18. ROSE ET AL, *supra* note 11, at 51 n.5. *See also* ERICH HOYT ET AL., OBSERVATIONS OF DISPARITY BETWEEN EDUCATIONAL MATERIAL RELATED TO KILLER WHALES (*ORCINUS ORCA*) DISSEMINATED BY THE PUBLIC DISPLAY INSTITUTIONS AND THE SCIENTIFIC LITERATURE 2 (1995), *available at* http://www.orcanetwork.org/nathist/biennial.pdf.

19. HOYT ET AL., *supra* note 18, at 2.

20. *See* ROSE ET AL., *supra* note 11, at 4.

21. 16 U.S.C. § 1374(c)(2)(A)(i) (2006).

22. *Id.*

23. ALLIANCE OF MARINE MAMMAL PARKS & AQUARIUMS, STANDARDS AND GUIDELINES 5 (2010), *available at* http://ammpa.org/_docs/S_GSummary2010.pdf.

learning opportunities, which include advanced education programming for all ages as well as teacher training."[24] The information presented to the public about the animals, their ecosystems, or marine wildlife conservation "must be based on the best current scientific knowledge." [25] Additionally, the standards require compliance with relevant government regulations, such as the rules promulgated by APHIS relating to animal care and facility special requirements.[26]

Despite these standards being collected and published, there is little oversight to ensure compliance. The educational and conservation programs of any particular display facility are largely unregulated, allowing for a wide range of quality as well as notable disparities with the current scientific knowledge. Chairing the Congressional Subcommittee on Insular Affairs, Oceans and Wildlife Oversight hearing entitled "Marine Mammals in Captivity: What Constitutes Meaningful Public Education?," Madeleine Z. Bordallo observed that "the [regulating] agency apparently has no process for ongoing evaluation of education and conservation programs at public display facilities to ensure that they are meeting the [mandatory] professional standards that the industry has established."[27]

The fractured responsibilities of regulating agencies further contribute to the regulation and oversight inadequacies of the MMPA. NMFS under the Department of Commerce protects whales, dolphins, porpoises, seals, and sea lions.[28] NMFS is required to maintain life history records of these marine mammals in U.S. display facilities and all foreign dolphinaria and aquaria with which they trade.[29] Entities under this requirement must submit their records to NMFS, to be retained and periodically updated in the *Marine Mammal Inventory Report* (MMIR).[30] The

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24. *Id.* at 4.

25. *Id.*

26. *See id.* at 11.

27. *Subcommittee on Insular Affairs, Oceans and Wildlife Oversight Hearing on "Marine Mammals in Captivity: What Constitutes Meaningful Public Education?"*, COMM. on NATURAL RES. (2010), http://naturalresources.house.gov/calendar/eventsingle.aspx?EventID=181362.

28. *See generally* 16 U.S.C. §§ 1361-1423h (2006). *See also* THE MARINE MAMMAL COMM., ANNUAL REPORT TO CONGRESS (2009) [hereinafter MMC ANN. REP.], *available at* http://www.mmc.gov/reports/annual/pdf/2009annualreport.pdf; EUGENE H. BUCK, CONG. RESEARCH SERV., RL30120, MARINE MAMMAL PROTECTION ACT: REAUTHORIZATION ISSUES (2007).

29. 16 U.S.C. § 1374(c)(10) ; ROSE ET AL., *supra* note 11, at 2.

30. *See* 16 U.S.C. § 1374(c)(10). For a searchable database of the complete inventory through March 24, 2010, see *Database: U.S. Marine Mammal Inventory*, SUN SENTINEL, http://databases.sun-sentinel.com/news/broward/ftlaudMarineMammals4/ (last visited May 7, 2013). For the MMIR specifically on orcas, see JOHN KIELTY, THE ORCA PROJECT CORP., MARINE MAMMAL INVENTORY REPORT: KILLER WHALES (ORCINUS ORCA) IN CAPTIVITY

inventories "chart a history of disturbing causes of death, high mortality rates, and low birth rates."[31] While the public display industry argues that these mortality rates are reflective of the steep learning curve of marine mammal care,[32] they are really more indicative of the animals' inability to adapt well to captivity.[33] The Department of the Interior, through the United States Fish and Wildlife Service (FWS), maintains regulatory authority over walruses, manatees, dugongs, sea otters, and polar bears.[34] Unlike NMFS, the FWS is not required to maintain life history or inventory records of the species under its purview.

APHIS, under the Department of Agriculture, sets the regulatory standards for managing marine mammal captivity enclosures.[35] These standards address facilities and operations, such as space requirements;[36] health and husbandry, including water quality[37] and sanitation;[38] and transportation, as in in-transit care[39] and intermediate handlers.[40] Unfortunately, many of these standards are now outdated. Recognizing this in 1993, APHIS announced revision plans.[41] Over eight years later, in 2001, the agency finally released some revised sections,[42] but some important regulations still remain unchanged. Some members of the animal protection community call for APHIS's jurisdiction to be removed or limited in favor of reestablishing NMFS and FWS as the regulation agencies.[43] They argue that APHIS's expertise does not include marine species and therefore lacks the qualifica-

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(2011), *available at* http://theorcaproject.files.wordpress.com/2011/03/mmir-deficiency-evaluation-killer-whales2.pdf.

31. ROSE ET AL., *supra* note 11, at 2.

32. LAURENCE COUQUIAUD, EUROPEAN ASS'N FOR AQUATIC MAMMALS, AQUATIC MAMMALS: A SURVEY OF THE ENVIRONMENTS OF CETACEANS IN HUMAN CARE 283 (2005) ("Husbandry and medical care were learned empirically over the years by trainers and veterinarians. . . .").

33. This view is shared by the World Society for the Protection of Animals, the Humane Society of the United States, and numerous other organizations and researchers. *See generally* ROSE ET AL., *supra* note 11.

34. *See* 16 U.S.C. §§ 1361-1423h (2006). *See also* MMC ANN. REP., *supra* note 28, at 34-98; BUCK, *supra* note 28, at 4.

35. *See generally* Specifications for the Humane Handling, Care, Treatment, and Transportation of Marine Mammals 9 C.F.R. §§ 3.100-118 (2012).

36. *Id.* § 3.104.

37. *Id.* § 3.106.

38. *Id.* § 3.107.

39. *Id.* § 3.116.

40. *See id.* § 3.118.

41. *See* Standards for Marine Mammals, 58 Fed. Reg. 39,458 (July 23, 1993) (codified at 9 C.F.R. pt. 1 & 3).

42. *See* 9 C.F.R. §§ 3.101-118 (2012).

43. BUCK, *supra* note 28, at 17.

tions to supervise marine mammal care.[44] APHIS's poor record of proper regulation and oversight lends credence to this argument.[45] The public display industry wants to maintain APHIS as the primary captivity authority as it has more experience with animal husbandry and marine mammal maintenance than NMFS or FWS.[46] Although not a pillar of their argument, the public display industry also benefits from APHIS's lax oversight and history of avoiding citations.[47]

This fractured responsibility, especially combined with the limited oversight of the public display industry's self-regulation, creates a regulatory void. Swim-with-the-dolphins (SWTD) programs offer an excellent example of this regulatory void. APHIS assumed regulatory authority over these programs in 1994 and published proposed regulations soon after.[48] However, the agency did not publish final regulations until nearly four years later,[49] allowing these interactive programs to operate without any federal regulation during this time. The final regulations released in 1998 reflected animal welfare policies by setting protective requirements for refuge areas, allowable ratios of swimmers to dolphins and staff, interaction times, etc.[50] Less than six weeks after the final regulations were published, industry opposition managed to attain the exemption for "wading programs" from these regulations until further notice.[51] In 1999, an influential member of the display community funded a lobbyist to seek the

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44. *See id.*; *see also* PATRICIA LAWSON & EUGENE H. BUCK, CONG. RESEARCH SERV., REP. 97-517 ENR, MARINE MAMMALS IN CAPTIVITY: BACKGROUND AND MANAGEMENT ISSUES IN THE UNITED STATES (1997).

45. *See* S. Kestin, *Regulatory System Misses Many Problems*, SUNSENTINEL, May 23, 2004, http://articles.sun-sentinel.com/2004-05-23/news/0405230050_1_marine-mammals-veterinary-care-marine-sciences-business; *Lolita the Orca; Facts, Legal Issues and How to Get Her Home*, THE ORCA PROJECT (Sept. 1, 2010), http://theorcaproject.wordpress.com/2010/09/01/lolita-the-orca-her-life-her-legal-issues-and-her-way-home/; *APHIS in Action... or inaction?*, THE ORCA PROJECT (Sept. 10, 2010), http://theorcaproject.wordpress.com/2010/09/10/aphis-in-action-or-inaction/.

46. *See* BUCK, *supra* note 28, at 17. *See also* Naomi A. Rose, Address at the European Cetacean Society 18th Annual Conference: Captive Cetaceans: The Science Behind the Ethics (Mar. 29, 2004) [hereinafter Rose Address].

47. For examples and commentary on specific cases of APHIS's lax enforcement, see *APHIS in Action... or inaction?*, *supra* note 45. For the case regarding Six Flags, see *Shouka Six Flags Killer Whale Attacks Trainer*, ANIMAL CONNECTION (July 15, 2012), http://animalconnectionac.wordpress.com/2012/07/15/shouka-six-flags-killer-whale-attacks-trainer/.

48. *See* Marine Mammals, 60 Fed. Reg. 4383 (Jan. 23, 1995) (codified at 9 C.F.R. pt. 1 & 3).

49. Specifications for the Humane Handling, Care, Treatment, and Transportation of Marine Mammals, 9 C.F.R. § 3.111 (2012)*, suspended* effective Apr. 2, 1999.

50. *Id.*

51. *See* Swim-With-the-Dolphin Programs, 63 Fed. Reg. 55,012 (Oct. 14, 1998) (codified at 9 C.F.R. pt. 1 & 3). The exemption was based on the unanswered question of whether the standards for swimming interactions should also apply to sessions when visitors remain standing and non-buoyant. *See id.*

repeal of these regulations,[52] which were quickly suspended.[53] APHIS claims to be revising the regulations, but, nearly thirteen years later, the suspension is still in place. Therefore, SWTD facilities currently operate with no federal regulation.

Despite these considerable deficiencies, the MMPA still allows exemptions for public display. The law reads, in relevant part, "A permit may be issued to take or import a marine mammal for the purpose of public display only to a person which the Secretary [of Commerce] determines . . . offers a program for education or conservation purposes that is based on professionally recognized standards of the public display community."[54] The primary justification for the public display of marine mammals is the educational benefit of these exhibits. Unfortunately, the dolpharia and aquaria's programs are of questionable educational value,[55] a deficiency likely to continue under the current scheme.[56] Various independent studies and surveys confirm a minimal educational gain from visiting marine parks.[57] Researcher and acclaimed author Susan Davis notes both the low quality and quantity of educational content at SeaWorld's performing dolphin shows, the parks' main attraction:

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52. Stephen Wynn, who owned the Mirage Hotel in Las Vegas in 1999, wanted to open interactive programs with the display dolphins he owned, according to a Mar. 2, 1999 article in *Washington Legal Times*, *cited in* ROSE ET AL., *supra* note 11, at 67-68 n.205.

53. *See* Swim-With-the-Dolphin Programs, 64 Fed. Reg. 15,918 (Apr. 2, 1999) (to be codified at 9 C.F.R. pt. 1 & 3).

54. 16 U.S.C. § 1374(c)(2)(A)(i) (2006).

55. *See* VANESSA WILLIAMS, WHALE & DOLPHIN CONSERVATION SOC'Y, CAPTIVE ORCAS 'DYING TO ENTERTAIN YOU': THE FULL STORY 51 (1999), *available at* http://www.wdcs.org/submissions_bin/orcareport.pdf ("The larger parks also claim to educate through the medium of a wide variety of glossy brochures, educational packs for schoolchildren, 'Killer Whale Fact Sheets' and other pamphlets. In these, as in the show commentaries, a highly selective view of orcas is presented, carefully orchestrated to present the captive situation in the best possible light and deflect any potential opposition.").

56. ERICH HOYT, WHALE & DOLPHIN CONSERVATION SOC'Y, THE PERFORMING ORCA–WHY THE SHOW MUST STOP: AN IN-DEPTH REVIEW OF THE CAPTIVE ORCA INDUSTRY 60 (1992) [hereinafter THE PERFORMING ORCA] ("Few marine parks have made more than a pretence at education. In 1989, on the 25th anniversary of Sea World's [sic] opening, George Millay, the father of Sea World [sic], said, 'Sea World [sic] was created strictly as entertainment. We didn't try to wear this false facade of educational significance.' Millay thinks that Sea World [sic] should stick to pure entertainment. His comments were not appreciated by current Sea World executives who, following 1988 amendments [regarding] . . . programmes for education and conservation, are forced to whistle another tune.").

57. *See* JOHN H. FALK ET AL., ASS'N OF ZOOS & AQUARIUMS, WHY ZOOS & AQUARIUMS MATTER: ASSESSING THE IMPACT OF A VISIT TO A ZOO OR AQUARIUM 5 (2007), *available at* http://www.aza.org/uploadedFiles/Education/why_zoos_matter.pdf. *See generally* Yixing Jiang et al., *Public Awareness, Education, and Marine Mammals in Captivity*, 11 TOURISM REV. INT'L 237 (2008), *available at* http://www.mlueck.org/pdf/tri2008.pdf; D. L. Rhoads and R. J. Goldsworthy, *The Effects of Zoo Environments On Public Attitudes Towards Endangered Wildlife*, 13 INT'L J. ENVTL. STUD. 283 (1979).

> [T]he Shamu show reveals very little actual scientific or natural historical information, and discussions of research goals and discoveries are hazy. True, not much can be packed into a twenty-minute performance, but a look at what is included is revealing. The audience is asked whether Shamu is a fish or a mammal and is told that it is a mammal—but the definition of mammals, or the significance of mammalian status, or the importance of the differences between marine mammals and fish is never discussed.[58]

One study examined children's comprehension of animals' adaptation, interaction with the environment, ecosystem significance, and threats to the species. Comparing their understanding after visiting a museum to that after observing live animals at zoos, researchers found that museum still-life dioramas lead to higher comprehension and appreciation.[59]

As trained behaviors and exercises in showmanship, the animal performances have no relationship to natural behaviors and therefore no educational value.[60] Audiences may be entertained, but learn nothing. In fact, most marine park visitors attend for entertainment purposes over education.[61] Researchers examining learning at zoos in the U.S. found that only about a third of patrons visited zoos to purposely learn about the animals on display and even fewer went with hopes of learning about conservation.[62] Studying public awareness of marine mammals in captivity, researcher Jiang also found that more dolphinarium visitors went to the park for entertainment, such as viewing marine mammal performances, than for education.[63]

Even public display industry leaders have acknowledged the lack of education, such as in the welcoming speech given at a conference on education by W.V. Donaldson, then president of the

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58. SUSAN G. DAVIS, SPECTACULAR NATURE: CORPORATE CULTURE AND THE SEA WORLD EXPERIENCE 298 n.39 (1997).

59. Barbara Ann Birney, *Children, Animals, and Leisure Settings*, 3 SOC'Y & ANIMALS 171, (1995).

60. *See* Michael Lück & Yixing Jiang, *Keiko, Shamu and Friends: Educating Visitors to Marine Parks and Aquaria?*, 6 J. ECOTOURISM 127, 127-38 (2007). *See also* ROSE ET AL., *supra* note 11, at 3.

61. STEPHEN R. KELLERT & JULIE DUNLAP, ZOOLOGICAL SOC'Y OF PHILA., INFORMAL LEARNING AT THE ZOO: A STUDY OF ATTITUDE AND KNOWLEDGE IMPACTS 20-22 (1989) (finding that only a third of zoo visitors sought educational experiences while most attended for entertainment and recreation). *See also* Jiang et al., *supra* note 57, at 242.

62. *See* KELLERT & DUNLAP, *supra* note 61, at 21. *See generally* C. Wright and E. Kelsey, 18TH INT'L MARINE ANIMAL TRAINERS ASS'N CONF., AFTER THE 'SHOW': NEW DEVELOPMENTS IN THE TRAINING AND INTERPRETATION OF KILLER WHALES AT THE VANCOUVER AQUARIUM (1990) *cited in* Lück & Jiang, *supra* note 60, at 128.

63. *See* Jiang et al., *supra* note 57, at 242.

Zoological Society of Philadelphia: "[T]he overwhelming majority of our visitors leave us without increasing either their knowledge of the natural world or their empathy for it. . . . I wonder if we don't make things worse by reinforcing the idea that man is only an observer of nature and not part of it."[64] Nonetheless, the vast majority of marine parks intentionally exclude comprehensive, thorough educational material on all subjects, including marine mammals' natural habitats and behaviors, social structures, biology, and roles in the marine ecosystem.[65] Not only are the depth and quality of educational information lacking, but the actual provision of materials such as brochures is also inadequate. A survey of the thirteen marine parks with captive orcas revealed just how few educational materials are provided.[66] Only six supplied any information for children; five, for teachers; three, for sale.[67] Even more telling of the parks' priorities, ten sold photographs of the visitors with a whale and six offered the opportunity for visitors to feed orcas.[68] Not only do marine parks limit their educational materials to topical coverage by minimal means, the information is frequently biased, scientifically incorrect, or distorted.[69] Some researchers argue that the public display industry's motive for distorting information is obvious: "The more understanding people have of the natural history and ecology of marine mammals, the more likely they are to question why marine mammals are held in captivity."[70]

The public display industry engages in miseducation, outright lying, and emotional manipulation to hide the deficiencies of their educational offerings.[71] SeaWorld bans its staff from using the word "evolve" to avoid controversy or offending visitors' religious beliefs.[72] The scripts and performances portray aggressive behaviors in wild animals as play, such as slapping the surface

64. W. V. Donaldson, President, Zoological Soc'y of Phila., Welcome to the Conference on Informal Learning, Proceedings of the Conference on Informal Learning (1987), *cited in* MARINE WILDLIFE AND TOURISM MANAGEMENT 140 (James Higham & Michael Lück eds., 2008).

65. ROSE ET AL., *supra* note 11, at 3. *See generally* Lück & Jiang, *supra* note 60 (examining educational materials at marine parks and aquaria that house orcas).

66. Lück & Jiang, *supra* note 60, at 133–34.

67. *Id.*

68. *Id.*

69. ROSE ET AL., *supra* note 11, at 3.

70. Lück & Jiang, *supra* note 60, at 128 (citing NAOMI A. ROSE & RICHARD FARINATO, THE HUMANE SOC'Y, THE CASE AGAINST MARINE MAMMALS IN CAPTIVITY 38 (3rd ed. 1995)).

71. *See* ROSE ET AL., *supra* note 11, at 3; *see also* WILLIAMS, *supra* note 55, at 50-51.

72. A 1991 SeaWorld training manual instructs "because evolution is a controversial theory, use the word 'adapt'." DAVIS, *supra* note 58, at 298 n.40; *A Whale of a Business*, PBS, Nov. 1997, http://www.pbs.org/wgbh/pages/frontline/shows/whales/seaworld/buzz.html.

with tail or flippers, jaw snapping,[73] and tossing trainers through the air.[74] Not only do these shows mislead the audience, they also encourage these aggressive behaviors for which the animals are punished when they exhibit these natural behaviors off cue and cause injury.[75] Furthermore, these performances and segregated holding pools miseducate the visitors by ignoring the animals' complex social structure and need for familial bonds.[76] Dolphins and orcas develop societal relationships integral to their natural existence:

> Small cetaceans are not merely gregarious; they form a complex society that is frequently based on kinship. Certain cetacean species are known to retain family bonds for life. In some populations of orcas, family ties are so persistent and well-defined that all family members are usually within a four-kilometer radius of each other at all times. Captive facilities, with their logistical constraints, commercial considerations, and space limitations, cannot provide conditions that allow natural social structures to form. In captivity, social groups are wholly artificial. Facilities mix Atlantic and Pacific stocks, unrelated animals, and, in the case of orcas, races (transient and resident), which have disparate diets, habits, and social structures.[77]

The marine parks fail to acknowledge these disparities in their performance scripts and other materials disseminated to their visitors.[78]

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73. *See* Susan H. Shane, *Behavior and Ecology of the Bottlenose Dolphin at Sanibel Island, Florida*, *in* THE BOTTLENOSE DOLPHIN 245-61 (Stephen Leatherwood & Randall R. Reeves eds., 1990); *see also* Jan Östman, *Changes in Aggressive and Sexual Behavior Between Two Male Bottlenose Dolphins (*Tursiops truncatus*) in a Captive Colony*, *in* DOLPHIN SOCIETIES 305-17 (Karen Pryor & Kenneth S. Norris eds., 1990)); *see also Killer Whales: Behavior*, SEAWORLD.ORG, http://www.seaworld.org/animal-info/info-books/killer-whale/behavior.htm (last visited May 7, 2013) (stating that orcas "establish dominance by slapping their tails against the water, head-butting, jaw-snapping, . . . and various other vigorous postures and gestures."); ROSE ET AL., *supra* note 11, at 3-4.

74. *See* ROBIN W. BAIRD, KILLER WHALES OF THE WORLD: NATURAL HISTORY AND CONSERVATION 27 (Voyageur Press 2006).

75. *See* OCEANIC PRESERVATION SOC'Y, THE DANGERS OF MARINE MAMMALS IN CAPTIVITY (2011), *available at* http://thecovemovie.com/Blog_Photos_Here/marine%20mammals%20timeline.pdf; *see also* WHALE & DOLPHIN CONSERVATION SOC'Y, BITING THE HAND THAT FEEDS: THE CASE AGAINST DOLPHIN PETTING POOLS 5-6 (2003).

76. *See* THE PERFORMING ORCA, *supra* note 56, at 46-47 (comparing social structures of captive orcas with wild pods); Michael A. Bigg et al., *Social Organization and Genealogy of Resident Killer Whales (*Orcinus orca*) in the Coastal Waters of British Columbia and Washington State*, *in* 12 REPORT OF THE INT'L WHALING COMM'N 383 (1990).

77. ROSE ET AL., *supra* note 11, at 21-22 (footnote omitted).

78. *See id.* at 3; *see also* Lück & Jiang, *supra* note 60, at 128 (discussing these claims from critics of marine parks).

Display facilities create and disperse scientifically distorted or incorrect information, such as why captive orcas' dorsal fins collapse and captive versus wild life spans. Nearly all captive adult orcas have at least partially collapsed dorsal fins.[79] Most males in captivity display fully collapsed fins.[80] However, research shows that only one to five percent of wild orcas suffer from this deformity[81] and only wild males have fully collapsed fins.[82] Research suggests that ill-health and stress cause the wild orca fin collapse.[83] To account for the high rate of collapsed dorsal fins in their tanks, many display facilities claim that it is a genetic condition.[84] However, the wild pods from which the display whales (or the parents of captive-born individuals) were captured do not suffer from a high frequency of the deformity.[85] Therefore, "[t]he only logical conclusion is that conditions of captivity play a far greater part than . . . genetics"[86] in captive orca dorsal fin collapse.

The "Ask Shamu" feature on SeaWorld's website shows intentional manipulation of scientific information.[87] In answering the question "Why do some killer whales' dorsal fins flop over?" SeaWorld offers diluted, somewhat relevant "scientific" information from which real conclusions unfavorable to the corporation may be extrapolated. By only using the term "bent over," the script downplays the deformity.[88] The website refers to an orca study that found twenty-three percent of the wild New Zealand males exhibited "bent" dorsal fins,[89] but conveniently does not mention that this included twisted, wavy, hooked, and notched—not just collapsed or even "bent"—dorsal fins.[90] SeaWorld's website also fails to note that virtually 100% of their captive males exhibit the

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79. JERYE MOONEY, WHALE & DOLPHIN CONSERVATION SOC'Y, CAPTIVE CETACEANS: A HANDBOOK FOR CAMPAIGNERS 23 (1998), http://www.wdcs.org/submissions_bin/captivity handbook.pdf; *Aquariums: The Issues*, LIBERATION BC, http://liberationbc.org/issues/ aquariums (stating that in captivity "virtually all males and [ ] most females have at least partially to completely collapsed dorsal fins").

80. MOONEY, *supra* note 79, at 23.

81. JOHN K. B. FORD ET AL., KILLER WHALES (University of British Columbia Press 1994).

82. *Id. See also* Robin W. Baird & Antoinette M. Gorgone, *False Killer Whale Dorsal Fin Disfigurements as a Possible Indicator of Long-Line Fishery Interactions in Hawaiian Waters*, 59 PAC. SCI. 593, 595 (2005).

83. Baird & Gorgone, *supra* note 82, at 595, 597.

84. ROSE ET AL., *supra* note 11, at 52 n.16. *See also* HOYT ET AL., *supra* note 18, at 10.

85. *See, e.g.*, FORD ET AL., *supra* note 81, at 78; ROSE ET AL., *supra* note 11, at 52 n.16.

86. HOYT ET AL., *supra* note 18, at 10.

87. *See Ask Shamu: FAQ's*, SEAWORLD.ORG, [hereinafter *Ask Shamu*] http://www. seaworld.org/ask-shamu/faq.htm#killer-whales (last visited May 7, 2013).

88. *Id.* See HOYT ET AL., *supra* note 18, at 10 for an example of SeaWorld's distorting of information regarding dorsal fins.

89. *Ask Shamu*, *supra* note 87.

90. Ingrid N. Visser, *Prolific Body Scars and Collapsing Dorsal Fins on Killer Whales (*Orcinus orca*) in New Zealand Waters*, 24 AQUATIC MAMMALS 71, 72-77 (1998).

condition.[91] Nor does it admit that none of their orcas came from New Zealand pods.[92] Additionally, no qualifying information about the New Zealand pod study is provided—such as the year, research team, sample size, or statistical significance of the finding. The website goes on to explain that "scientists have a couple of theories" on fin collapse.[93] The first reason given is that submersion supports the fin, so that an orca "that spends more time at the surface, with its fin protruding out of the water, has a greater tendency for its fin to bend."[94] However, "Shamu" does not discuss the depth of their holding tanks, which are prohibitively shallow so as to prevent diving and keep the whales near the surface. Second, the website states that "collagen [which composes dorsal fins] becomes more flexible when warmed, such as if it is exposed to sunlight."[95] Of course, the comparative temperatures of the natural ocean habitat and of the pool water are not discussed. Temperatures at SeaWorld's Orlando and San Antonio parks frequently reach higher than ninety degrees Fahrenheit.[96] Moreover, aerial photographs of the three Shamu Stadiums as well as visitor observations show that most of the pools have no shade, coverings, or grottos for the whales to escape the sun.[97] It is highly probable that these captive orcas endure temperatures far higher and for more extended periods than their wild counterparts. The third explanation for fin collapse is the "genetic tendency"[98] argument, as discredited above. The answer audaciously concludes with "[n]either the shape nor the droop of a whale's dorsal fin are indicators of a killer whale's health or well-being."[99] This illogical conclusion is not only a false statement, but clearly fails the test of simple deductive reasoning from the arguments given.

Marine parks also promulgate scientifically incorrect information, as indicated by the vast disparity in various parks' information on orca life spans. The scientific community accepts that wild female orcas live an average of at least fifty years; males,

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91. *See generally* KIELTY, *supra* note 30.

92. *See generally* WHALE & DOLPHIN CONSERVATION SOC'Y, CAPTIVE ORCAS BY FACILITY (2011) [hereinafter WDCS], http://www.wdcs.org/submissions_bin/orcas_in_captivity_facilities_march2011.pdf (noting where each orca in Sea World's possession as of 2011 originated).

93. *Ask Shamu*, *supra* note 87.

94. *Id.*

95. *Id.*

96. *See Monthly Averages for Orlando*, THE WEATHER CHANNEL, http://www.weather.com/weather/wxclimatology/monthly/graph/USFL0372 (last visited May 7, 2013); *Monthly Average for San Antonio*, THE WEATHER CHANNEL, http://www.weather.com/weather/wxclimatology/monthly/graph/USTX1200 (last visited May 7, 2013).

97. *See Current Facilities Holding Orcas*, ORCA FREAK, http://www.freewebs.com/orcafreak/facilities.htm (last visited May 7, 2013).

98. ROSE ET AL., *supra* note 11, at 52 n.16. *See also* HOYT ET AL., *supra* note 18, at 10.

99. *Ask Shamu*, *supra* note 87.

thirty.[100] The estimated maximum life span of wild orcas is eighty to ninety for females and roughly sixty for males.[101] In captivity, the average captive-born orca survives for only four and a half years; wild-caught, four years.[102] The longest living captive orcas are two forty-one-year-old females.[103] SeaWorld's Killer Whale Animal InfoBook claims, "[n]o one knows for sure how long killer whales live,"[104] and that orcas in certain populations live "at least" thirty-five years.[105] Furthermore, it states that "scientists *believe* that if a killer whale survives the first six months, a female's life expectancy is 50 years and a male's is 30 years,"[106] intentionally disregarding the fact that these are the average ages and not the maximum ages. This also discredits that this statement is accepted as factual by the scientific community but instead is merely a belief. SeaWorld shares culpability for this prolonged lie with other members of the public display industry. A study of all parks holding at least one orca in the United States and Canada asked how long orcas live, and their responses were compared to the most recent scientific literature.[107] Five of the parks responded to the survey inquiries, and their answers are telling. Miami Seaquarium and SeaWorld reported that the longevity of orcas is twenty-five to thirty-five years; Marineland of Ontario, "up to 35 years;" Marine World Africa USA, fifty to seventy-five years; and Vancouver Aquarium, seventy to eighty years for females and fifty years for males.[108] Researchers concluded that "[a]ll educational material derived from the four Sea World marine parks, Marine-

100. Peter F. Olesiuk et al., *Life History and Population Dynamics of Resident Killer Whales (*Orcinus orca*) in the Coastal Waters of British Columbia and Washington State in* 12 REP. INT'L WHALING COMMISSION 209 (P.S. Hammond et al. eds., 1990); John K. B. Ford, *Killer Whale,* Orcinus orca *in* ENCYCLOPEDIA OF MARINE MAMMALS 650-56 (W. F. Perrin et al. eds., 2002). These publications are considered the definitive sources for life history information on this species.

101. Ford, *supra* note 100, at 650. For a discussion of the ongoing photo-identification study that has tracked individually identified orcas for over 30 years, see Peter F. Olesiuk, et al., *Life History and Population Dynamics of Northern Resident Killer Whales (*Orcinus orca*) in British Columbia*, FISHERIES AND OCEANS CANADA 33 (2005), http://www.dfo-mpo.gc.ca/CSAS/Csas/DocREC/2005/RES2005_045_e.pdf (noting, inter alia, "[i]t has become clear that killer whales can live much longer than the 25-30 years suggested by annuli in teeth . . . or survival rates of captive animals").

102. WHALE & DOLPHIN CONSERVATION SOC'Y, CAPTIVE ORCA STATISTICS (2011), *available at* http://www.wdcs.org/submissions_bin/captive_orca_statistics_march2011.pdf.

103. WDCS, *supra* note 92 (Lolita, captive at the Miami Seaquarium, and Corky II, captive at SeaWorld San Diego).

104. *Killer Whales: Longevity & Causes of Death*, SEAWORLD.ORG, http://seaworld.org/animal-info/info-books/killer-whale/longevity.htm (last visited May 7, 2013).

105. *Id.*

106. *Id.* (emphasis added).

107. *See generally* HOYT ET AL., *supra* note 18 (discussing survey of marine parks knowledge of, *inter alia*, orca lifespan).

108. *Id.* at 4-6.

land of Ontario, and the Miami Seaquarium contained longevity information that significantly and consistently contradicted recent scientific literature."[109]

Some marine parks have even been known to engage in outright lying. The Indianapolis Zoo's website reported the average life span of wild bottlenose dolphins as thirty-seven years until a newspaper noted that none of the zoo's captive dolphins lived past twenty-one years.[110] Instead of using the opportunity to educate the public about the challenges of captive marine mammals, by which the zoo could have promoted its successes, their response was to change the website to say that wild dolphins live only seventeen years on average.[111]

Consistent with the practice of not providing accurate educational information, the dolphin and orca shows are grand-scale exercises in emotional manipulation designed to distract visitors from the cruelties of captivity and the learning void.[112] These shows demonstrate trained behaviors and capitalize on the facade of emotional connection between the animals and their trainers.[113] They portray the cetaceans as jovially subservient: trainers pet their heads and noses like domesticated house pets, play follow-the-leader and monkey-see-monkey-do, and ride their backs, noses, and even stomachs.[114] Whale and dolphin shows rely on anthropomorphized waving of flippers and impressive jumps choreographed to specially-composed music.[115] The parks strive to provide an entertaining show or create a sense of wonder at the seemingly

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109. *Id.* at 1.

110. Sally Kestin, *What Marine Attractions Say vs. the Official Record,* S. FLA. SUN-SENTINEL, May 24, 2004.

111. *Id.*

112. *See* ROSE ET AL., *supra* note 11, at 3*; see also* D. Schwab, *Interact with the Dolphins,* BEACH & BAY PRESS, Dec. 14, 1995, at 1, 5-6 (finding that visitors are mostly attracted to the performances and petting pools), *cited in* Lück & Jiang, *supra* note 60, at 127; THE PERFORMING ORCA, *supra* note 56, at 60.

113. THE PERFORMING ORCA, *supra* note 56, at 61 ("[T]he images that persist are those of the trainers riding, kissing, hugging, patting and flying off the heads of orcas as trained animals are put through their paces of 'the wettest show on Earth'. [sic] To some, the orca comes off as a cuddly, inflatable caricature, like the lovable toothed monsters of children's books, as emphasized by the kiss awarded in some shows by a trainer or even a young member of the audience."). *See also* ROSE ET AL., *supra* note 11, at 3.

114. THE PERFORMING ORCA, *supra* note 56, at 29, 61; WILLIAMS, *supra* note 55, at 68 (describing a 1991 SeaWorld advertisement that displays a child sitting on one of the park's orcas with the caption "[e]very great American theme park has an unforgettable ride! . . . [W]hen it comes to memorable experiences, perhaps nothing compares with sitting on the back of a killer whale").

115. For more information about SeaWorld's current orca show, "One Ocean," see *One Ocean*, SEAWORLD PARKS, http://seaworldparks.com/en/seaworld-orlando/attractions/shows/one-ocean (last visited May 7, 2013).

chummy relationship shared by the animals and trainers.[116] The perky trainers encouraging stadium-wide hand-clapping suggest that the marine mammals enjoy performing, instead of the fact that they are literally working for their food and social interaction.[117] Audiences misinterpret the dolphins' natural curve at the corners of their mouth for smiles.[118] After the grand finale of a triple-coordinated jump, visitors leave the stadium entertained and incognizant of the cruelties behind the series of learned behaviors strung together.[119]

The public display industry's rhetoric, distortion, and emotional manipulation facilitate desensitization—falling short of the goals of the MMPA. Nonetheless, the industry insists its educational programs are sufficient: after all, they clearly meet the "professionally recognized standards" required by the MMPA. Avowing their educational benefits and effectiveness, these facilities "frequently cite annual attendance figures, apparently convinced that visitors learn about marine mammals simply by walking through a turnstile."[120] The real effects on their visitors' education and mindset towards captive animals are dismal as people become desensitized to the cruelty of captivity. Studying the impact of zoo visits on public attitudes, researchers found less concern for the right and wrong treatment of animals after being exposed to captive animal exhibits.[121] Another study found that marine park visitors "were more likely to agree with the notion

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116. *See* Jeffery Wright, *So Wrong, But Thanks for All the Fish: A SeaWorld Ethics Primer,* SAN ANTONIO CURRENT (Apr. 14, 2010), http://www2.sacurrent.com/news/story.asp?id=71101; WILLIAMS, *supra* note 55, at 5 (describing " 'Playtime with the whales' ").

117. Some marine parks, including Sealand and SeaWorld, have been known to withhold food from display orcas and dolphins. After resigning over management disagreements, former Sealand trainer Eric Walters admitted:

> some marine mammals including seals, sea lions and orcas were kept in a permanently "hungry" state at Sealand or deprived of food if they did not perform or cooperate. . . . "If the killer whales did not enter the module pool [a small, dark, metal holding pool about 20 feet (6 m) deep and 26 feet (8 m) in diameter] at the end of the day to spend the night, we, as trainers, were instructed to withhold their end of-the-day allotted food. This was usually at least 25 to 35 percent of their daily food intake.

THE PERFORMING ORCA, *supra* note 56, at 35. A former SeaWorld trainer reported that food is sometimes withheld from orcas and dolphins who do not perform cooperatively. *Id.* "They would only be given their 'base' including vitamins—about 2/3 of their daily food allotment. 'Usually the whales would start performing when they realized they weren't going to get fed.' " *Id.*

118. CHRIS CATTON, DOLPHINS 128 (1995), ("[W]ith their energy, their playfulness, and their apparent sense of fun, [dolphins] convince us that they are happy to see us, even if we know that in truth the quizzical fixed smile is just a result of the unusual shape of the dolphin's jawline."). *See also* ROSE ET AL., *supra* note 11, at 24 ("The dolphin's perpetual smile is often taken as a sign of contentment; in truth, it is just an anatomical characteristic that has no relation to health or emotional state.").

119. *See* LAWSON & BUCK, *supra* note 44.

120. ROSE ET AL., *supra* note 11, at 4.

121. *See* KELLERT & DUNLAP, *supra* note 61, at 77, 82.

that humans were created to rule over the rest of nature."[122] The public display industry strives to achieve this desensitization. For example, marine park staff refers to the marine mammals' pool as a "habitat,"[123] intentionally avoiding any term that would suggest that the pools, tanks, and cages are insufficient, but instead, easily comparable to their natural environment. A park brochure even went so far as to claim, "SeaWorld is committed to maintaining the largest and most sophisticated marine mammal habitats in the world."[124] Clearly false propaganda, this statement is indicative of the industry's goal to deceive and desensitize its visitors.[125]

III. THE CONSERVATION FALLACY

The exception in the MMPA allowing display facilities to maintain captive marine mammals requires that those facilities, among other things, offer "a program for education *or conservation* purposes that is based on professionally recognized standards of the public display community."[126] However, marine parks do not promote conservation attitudes or behaviors in their visitors. Repeated independent studies show most U.S. public display facilities do not contribute even moderately to conservation efforts or education.[127] Nonetheless, their constant marketing and public

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122. Jiang et al., *supra* note 57, at 246.

123. *See* HOYT ET AL., *supra* note 18, at 11-12. Zoos, aquariums, and dolphinariums are frequently accused of knowingly and deliberately misleading the public:

> The language of the promoter is always suspect, often disingenuous. The word "habitat," for example, has replaced "cage." People hear about zoos building new habitats and putting animals from their collections into the new habitats, and draw the wrong conclusions when they hear zoos also openly boast that they are arks destined to save the earth's wildlife.

Id. at 12 (quoting David Hancocks, *Lions and Tigers and Bears, Oh No! in* ETHICS ON THE ARK (B. G. Norton et al. eds., 1995)).

124. HOYT ET AL., *supra* note 18, at 11(quoting SEAWORLD PARKS, THE REAL STORY ON KILLER WHALES (1993)).

125. Erich Hoyt, Senior Research Fellow with the Whale and Dolphin Conservation in the United Kingdom, notes:

> Far from educating people about habitats, the promotional literature from some marine parks undermines the meaning of the word. . . .
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> . . . .
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> Such promotional hyperbole has a way of seeping into and corrupting the vernacular language. . . . Such a message is, in effect, an anti-conservation message, contradicting scientific uses of the word and the professionally recognized standards of the public display community . . .

Id. at 12.

126. 16 U.S.C. § 1374(c)(2)(A)(i) (2006) (emphasis added).

127. S*ee* Tammie Bettinger & Hugh Quinn, *Conservation Funds: How Do Zoos and Aquariums Decide Which Projects to Fund?, in* AMERICAN ZOO & AQUARIUM ASSOCIATION ANNUAL CONFERENCE PROCEEDINGS 88 (2000) (discussing results of a survey on American Zoo and Aquarium members regarding money put towards conservation efforts); Andrew Tribe & Rosemary Booth, *Assessing the Role of Zoos in Wildlife Conservation*, 8 HUMAN DIMENSIONS WILDLIFE, 65-74 (2003). For a discussion of a public display facility's successful conservation and education efforts, see J. D. Kelly, *Effective Conservation in the Twenty-*

relation campaigns promote the illusion of the public display industry as the "modern ark."[128]

These parks do not promote conservation-friendly attitudes or behaviors in their visitors. Recognizing that they had not assessed their impact on visitors, the AZA conducted a nationwide study to assess the parks' impacts on guests about conservation.[129] The results showed a dismal effect of captive animal exhibits on visitors' conservation knowledge and behaviors. The study concluded, inter alia, that only ten percent of visitors learned more about conservation and forty six percent felt compelled to change to more conservation-oriented behaviors.[130] Unfortunately, the AZA did not address whether visitors actually did modify their behaviors.[131] Some parks make no attempt to even disseminate information on conservation to visitors. In a study on the education and conservation efforts by marine mammal parks exhibiting orcas, less than half provided any information on conservation.[132]

Public display facilities do not play a meaningful role in conservation efforts. Based on a 1999 study, AZA member facilities, on average, only spent a 0.1% of their operating budgets on conservation projects—both zoo- and field-based.[133] In 2007, the SeaWorld and Busch Gardens Conservation Fund (Fund) made its largest ever donation to conservation projects—$1.3 million.[134] However, that amount was less than one percent of SeaWorld Orlando's revenue that year alone.[135] The Orlando park generates over $250 million per year in admission fees, plus additional millions of revenue dollars from merchandise, food, and drink sales.[136] SeaWorld San Antonio collects around $90 million in

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First Century: The Need to be More Than a Zoo, 35 INTERNATIONAL ZOO YEARBOOK, 1 (1997), at 1–14.

128. ROSE ET AL., *supra* note 11, at 4. *See also* WHALE & DOLPHIN CONSERVATION SOC'Y, WHALE & DOLPHIN SHOWS & INTERACTION PROGRAMMES, http://www.wdcs.org/submissions_bin/Introduction_to_Captivity.pdf (last visited May 7, 2013) ("It is never going to be a solution to the growing number of threats dolphins face to try to preserve them in the 'ark' of dolphinariums (and no legitimate zoological facilities promote the 'ark' theory for zoos and aquariums anymore either). If people think that captivity IS a solution to habitat threats the focus is then taken away from reducing the threats to wild dolphins. . . . If people believe that it's better for dolphins to be in a cage rather than in the wide open ocean, this only emphasizes how dolphinariums miseducate the public.").

129. FALK ET AL., *supra* note 57, at 3.

130. *Id.* at 9, 11.

131. *See generally id.*

132. Lück & Jiang, *supra* note 60, at 134.

133. *See* BETTINGER & QUINN, *supra* note 127, at 89.

134. *SeaWorld & Busch Gardens Conservation Fund Awards a Record $1.3 Million,* SEAWORLD.ORG (Apr. 13, 2007), http://www.seaworld.org/whats-new/znn/2007/april/fund-awards-record.htm [hereinafter *SeaWorld 2007 Donation*].

135. ROSE ET AL., *supra* note 11, at 53-54 n.34 (citing figures retrieved from www.amusementbusiness.com, prior to its closing in 2006).

136. *Id.*

admission fees alone.[137] Therefore, the mere $1.3 million donation for conservation projects is roughly half of a percent of Orlando admission fee revenue and 1.4% of San Antonio admission fees. These figures do not take into account the revenue from other Anheuser-Busch facilities, such as SeaWorld San Diego, Busch Gardens, and Discovery Cove, as these numbers are not readily available.[138]

Adding to this disenchantment, the Fund divides the donations among over 100 conservations projects—not just marine mammal projects—including Kenyan wild dog research, tropical fish for home aquariums, big cats research, and coastal restoration programs.[139] The marine mammal programs required by the MMPA are interspersed with the copious other programs spread across more than sixty countries.[140] If the Fund divided the 2007's record donation of $1.3 million evenly across all of the programs, less than $12,000 went to marine mammals. This makes the donation flatly unimpressive, especially considering the fact that SeaWorld has paid as much as $130,000 for a single bottlenose dolphin[141] and about $1 million for an orca[142]—this reflects only the price of the animal and does not include shipping, care, feeding, facility expenses, etc.

For an aquarium, dolphinarium, or zoo to meaningfully contribute to conservation, the facility should dedicate at least ten percent of its operating income to conservation and research.[143]

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137. W. Scott Bailey, *SeaWorld GM Says the Local Park is Making a Big Splash*, SAN ANTONIO BUSINESS JOURNAL (Aug. 31, 2008), http://www.bizjournals.com/sanantonio/stories/2008/09/01/story2.html?page=all.

138. ROSE ET AL., *supra* note 11, at 53-54 n.34.

139. For the 2007 donation, see *SeaWorld 2007 Donation*, *supra* note 134 (stating that the donation was distributed among "112 environmental and research organizations worldwide"). For more recent donations, see *SeaWorld and Busch Gardens Grant More than $1 Million to Protect Animals in Need*, SEAWORLD BUSCH GARDENS CONSERVATION FUND (June 30, 2011), http://www.swbg-conservationfund.org/NewsEventsArticle.aspx?articleID=688 [hereinafter SEAWORLD CONSERVATION FUND] (stating "[t]he Fund approved grants to more than 100 wildlife protection projects"); *SeaWorld & Busch Gardens Conservation Fund Grants More than $1.1 Million to Support Wildlife Research and Conservation*, SEAWORLD BUSCH GARDENS CONSERVATION FUND (Aug. 2012), http://www.swbg-conservationfund.org/NewsEventsArticle.aspx?articleID=690 (stating "[t]he Fund approved grants to 88 wildlife research and conservation projects").

140. SEAWORLD CONSERVATION FUND, *supra* note 139.

141. Sally Kestin, *Captive Mammals Can Net Big Profits for Exhibitors*, SUN-SENTINEL (May 18, 2004), http://www.sun-sentinel.com/sfl-dolphins-moneydec31,0,5205099,full.story (stating that SeaWorld bought nine bottlenose dolphins in 2002 for $130,000 each according to the senior vice president of zoological operations for Busch Entertainment Corporation, SeaWorld's parent company).

142. Nina Easton, *The Death of Marineland: When Orky and Corky Moved to Sea World, It Meant the Whale Show Could Go On. For Marineland, the Show Is Over*, L.A. TIMES (Aug. 9, 1987), http://articles.latimes.com/1987-08-09/magazine/tm-463_1_killer-whales/2.

143. JOHN E. FA, STEPHAN M. FUNK & DONNAMARIE O'CONNELL, ZOO CONSERVATION BIOLOGY 75 (2011) (citing Kelly, *supra* note 127, at 10).

A shining example of a zoo that actually makes a serious contribution to conservation is the Jersey Zoo in the United Kingdom's Channel Islands.[144] It spends twenty-three percent of its gross income on conservation, which is "approximately 100 times the relative contribution of SeaWorld."[145] Unfortunately, such altruistic giving is not common among U.S. aquariums and marine parks. By the AZA's own count, only thirty-one of their 241 members (under 13%) made noteworthy contributions towards conservation in 2011, as measured by the percentage of their budget spent on conservation initiatives.[146]

Obviously aware of its deficiencies, the public display industry emphasizes its participation in other kinds of conservation programs, vigorously promoting themselves as "modern arks."[147] These conservation attempts include research, stranding programs, and species enhancement. The research conducted at public display facilities has minimal significance,[148] as evidenced by the few published research papers that rely on captive subjects.[149] For example, at the Society for Marine Mammalogy's Seventeenth Biennial Conference on the Biology of Marine Mammals, only twenty-nine of the 571 submitted cetacean study abstracts involved research subjects in naval or private research facilities, dolphinaria, or aquaria.[150]

Stranding programs consist of the rescue, rehabilitation, and eventual release of injured, wild marine mammals. While there are some genuine programs carrying out conservation goals, most are not in the United States, nor associated with public display facilities.[151] One such organization is the United Kingdom Sea Life Centre, which "takes pains to rehabilitate stranded young seals, teaching them to forage for live fish, while minimizing direct exposure to humans."[152] When the rehabilitated seals are ready to live independently, they are released into the wild near where

144. Tribe & Booth, *supra* note 127, at 67.

145. *Id.* at 70; ROSE ET AL., *supra* note 11, at 54 n.34.

146. *Zoo and Aquarium Field Conservation*, ASS'N OF ZOOS & AQUARIUMS, http://www.aza.org/annual-report-on-conservation-and-science/ (last visited June 10, 2013).

147. *See* Hancocks, *supra* note 123; *see generally* Ralph R. Acampora, *Zoos: Modern Arks?*, THE ENCYCLOPEDIA OF EARTH, (Jan. 14, 2008, 5:39 PM), http://www.eoearth.org/article/Zoos:_Modern_Arks.

148. SUE MAYER, WHALE & DOLPHIN CONSERVATION SOC'Y, A REVIEW OF THE SCIENTIFIC JUSTIFICATIONS FOR MAINTAINING CETACEANS IN CAPTIVITY 4 (1998), http://www.wdcs.org/submissions_bin/capmayerscijustifications.pdf.

149. ROSE ET AL., *supra* note 11, at 15, 62 nn.134, 135. For a discussion of the debate over captive versus wild studies, see David Grimm, *Are Dolphins Too Smart for Captivity?*, 332 SCI. 526 (Apr. 29, 2011).

150. ROSE ET AL., *supra* note 11, at 62 n.135.

151. *Id.*

152. *Id.*

they were originally found.[153] The American public display industry's stranding programs do not follow such conservation-friendly policies. Instead, most are driven by a desire to attain inexpensive display animals, a public relations ploy, and the opportunity to continue espousing misinformation.[154] Facilities that rescue an injured cetacean assume responsibility of nursing it back to health, rehabilitating any physical injuries it endured, and issuing a clean bill of health.[155] However, given the lack of federal regulation and the lax professionally recognized standards, rehabilitated animals may be kept indefinitely in captivity.[156] The facility simply never approves its release. Essentially, rescuing cetaceans is treated as bargain shopping for future display animals.[157] This also allows for the disquieting practice of basing rescues on the desirability and rarity of the individual for display.[158] Even if the facility spends more on rehabilitative care than it would have by buying the animal outright, the facility's extra expenses buy an altruistic image in the public eye. This public relations ploy is well worth the expense. Additionally, the public display community capitalizes on strandings "as proof that marine mammals' natural habitat is a dangerous place full of human-caused and natural hazards. The public receives a skewed picture [that] animal's natural environment is hostile and captivity is a benign alternative, a picture . . . implicitly contrary to both conservation and welfare principles."[159]

Many public display facilities argue that their species enhancement programs qualify as conservational programs.[160] The World Conservation Union (IUCN) and other world conservation bodies define "species enhancement" as breeding endangered species in captivity to one day supplement the wild population.[161]

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153. For more information regarding the Sea Life Centre's seal rescue program, see *Seal Rescue*, SEA LIFE SANCTUARY, http://www.visitsealife.com/Scarborough/protect-our-seas/seal-rescue.aspx (last visited June 6, 2013).

154. *See* Lück & Jiang, *supra* note 60, at 128 ("[O]ften education is just an exercise in public relations."); THE PERFORMING ORCA, *supra* note 56, at 61 ("Many marine parks still make no more than a feeble educational effort, and visitors leave with false or misleading information."); LAWSON & BUCK, *supra* note 44 ("[Animal protection groups] view the display of marine mammals as counter-educational, because it presents a distorted view of these animals. The public sees animal behavior that is not characteristic of what these animals would display in the wild.").

155. ROSE ET AL., *supra* note 11, at 13.

156. MOONEY, *supra* note 79, at 62-63.

157. ROSE ET AL., *supra* note 11, at 13.

158. *Id.*

159. *Id.*

160. *See* Marcia Hope Ames, *Saving Some Cetaceans May Require Breeding in Captivity*, 41 BIOSCIENCE 746 (1991). *See also* MAYER, *supra* note 148, at 25-29.

161. *See* MARGARET KLINOWSKA, DOLPHINS, PORPOISES AND WHALES OF THE WORLD: THE IUCN RED DATA BOOK (1991); INT'L UNION FOR CONSERVATION OF NATURE, CAPTIVE BREEDING, IUCN POLICY STATEMENT (1987). *See also* Noel F. R. Snyder et al., *Limitations of*

Experts emphasize that this practice should only be used as a last resort to save a species from extinction, not as a long-term solution.[162] Furthermore, "it should not displace habitat or ecosystem protection nor should it be invoked in absence of comprehensive efforts to maintain or restore populations in wild habitats."[163] Virtually no such efforts are being made in U.S. display facilities' supposed conservation programs.[164]

Several problems accompany the marine parks' claim that species enhancement qualifies as conservation programs. First, the species that these facilities are breeding—mainly orcas and bottlenose dolphins—are not endangered or threatened.[165] As acclaimed cetacean researcher Erich Hoyt notes, "neither orcas nor bottlenose dolphins—the captive-breeding successes that have received most of the attention as well as the veterinary expertise and financial backing—are reduced to levels that would normally justify an early start to captive breeding."[166] Thus, by the definition of species enhancement internationally accepted by the conservation community, these are not species enhancement programs. [167] Second, these facilities do not have enough sexually mature individuals to maintain genetic diversity necessary for breeding sustainable populations. [168] Third, U.S. facilities have never re-

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Captive Breeding in Endangered Species Recovery, 10 CONSERVATION BIOLOGY 338 (1996); ROSE ET AL., *supra* note 11, at 10.

162. *See* Snyder et al., *supra* note 161, at 338 ("Captive breeding [for species enhancement] should be viewed as a last resort in species recovery and not a prophylactic or long-term solution because of the inexorable genetic and phenotypic changes that occur in captive environments.").

163. *Id.* at 341.

164. ROSE ET AL., *supra* note 11, at 10. Cetacean researcher Erich Hoyt examines the practice of "species enchancement," or "captive breeding" programs, noting :

> Sea World's [sic] definition of 'captive breeding,' at least for orcas and bottlenose dolphins, is not the same as that used by the IUCN and other world conservation bodies—because the corporation apparently has no intention of re-introducing species to the wild. Among other things, Pacific and Atlantic orcas have been allowed to interbreed without thought of reintroduction. Yet, in principle, Sea World's captive breeding programme will mean little for conservation and the future of orcas without a companion programme to learn how to reintroduce them to the wild. Because orcas live in pods or extended family groups, a number of related orcas of prime ages and in prime condition might need to be released at the same time.

THE PERFORMING ORCA, *supra* note 56, at 59.

165. For more information, see *Species Reports*, U.S. FISH & WILDLIFE SERV., http://ecos.fws.gov/tess_public/SpeciesReport.do?groups=A&listingType=L&mapstatus=1 (last visited May 7, 2013) and *Orcinus Orca*, THE IUCN RED LIST OF THREATENED SPECIES, http://www.iucnredlist.org/details/15421/0 (last visited May 7, 2013) and *Tursiops Truncatus*, THE IUCN RED LIST OF THREATENED SPECIES, http://www.iucnredlist.org/details/22563/0 (last visited May 7, 2013).

166. THE PERFORMING ORCA, *supra* note 56, at 58.

167. *See* KLINOWSKA, *supra* note 161.

168. MAYER, *supra* note 148, at 26-27.

leased their captive-bred orcas[169] or dolphins.[170] The public display industry has "consistently maintained that wild-caught cetaceans held in long-term captivity, let alone captive-bred progeny, cannot be rehabilitated and returned to the wild. Husbandry and training methods and the constant exposure of the animals to humans lessen animals' chances of being released—a self-fulfilling prophecy."[171] In order to supplement the wild population, the purpose of species enhancement, the animals obviously must be released into the wild.[172] The scientific community doubts captive-born cetaceans' ability to succeed in the wild if released,[173] as this process has been largely unsuccessful for other species.[174] Captivity ill-equips cetaceans born into it. The released dolphins and orcas lack the wild-taught behaviors impossible to learn at a facility. These include the ability to forage, avoid predators, and interact with wild animals even of the same species.[175] Ironically, the problems faced by captive-born, released animals are not attributable to the public display facilities' alleged enhancement programs, from which their captive-born animals are never released.

The industry's supposed species enhancement programs are only thinly veiled attempts to breed replacement show or trade animals. Instead of endangered species, the industry focuses its

169. WDCS, *supra* note 92. *See also* WILLIAMS, *supra* note 55, at 57 ("[N]o captive-bred orcas have been liberated and, to date, marine parks have not shown any interest in a release project.").

170. An extensive study in 2009 only revealed six captive-bred bottlenose dolphins released by the public display industry, four in Australia and two in Israel. ROSE ET AL., *supra* note 11, at 12, 59 nn. 106, 107. *See* Nick Gales and Kelly Waples, *The Rehabilitation and Release of Bottlenose Dolphins From Atlantis Marine Park, Western Australia*, 19 AQUATIC MAMMALS 49 (1993) (discussing the release of dolphins from a marine park in Australia in 1991); *The Release of Shandy and Pashosh*, DOLPHIN REEF, http://www.dolphinreef.co.il/Default.aspx?tabid=63 (last visited May 7, 2013).

171. ROSE ET AL., *supra* note 11, at 11. For more information on the AZA's position on releasing captive-bred marine mammals, see *Frequently Asked Questions: Is It Safe to Release Whales and Dolphins to the Wild that Now Live in Zoological Parks and Aquariums?*, ALLIANCE OF MARINE MAMMAL PARKS & AQUARIUMS, http://www.ammpa.org/faqs.html#10 (last visited May 7, 2013).

172. INT'L UNION FOR CONSERVATION OF NATURE, IUCN/SSC GUIDELINES FOR RE-INTRODUCTIONS (1995), http://intranet.iucn.org/webfiles/doc/SSC/SSCwebsite/Policy_statements/Reintroduction_guidelines.pdf. *See also* CAPTIVE BREEDING, *supra* note 161, at 27-28.

173. David Dudgeon, *Last Chance to See … Ex Situ Conservation and the Fate of the Baiji*, 15 AQUATIC CONSERVATION 105, 107 (2005) ("There are good reasons why captive breeding in a dolphinarium is no substitute for *ex situ* conservation in a reserve. . . . there is no evidence that captive-bred cetaceans can be released to the wild.").

174. Benjamin B. Beck et al., *Reintroduction of Captive-Born Animals*, *in* CREATIVE CONSERVATION: INTERACTIVE MANAGEMENT OF WILD AND CAPTIVE ANIMALS 265, 278 (P. J. S. Olney et al. eds., 1994), describing a survey of 145 non-cetacean, captive-bred, endangered species releases of which only eleven percent were successful.

175. Snyder et al., *supra* note 161, at 340.

breeding on expensive species.[176] Their fallacies in their argument and their true intentions are clear:

> As the capture and import of animals have become problematic from economic, logistical, and image standpoints, dolphinaria and aquaria have made captive breeding a central objective. However, if captive dolphin facilities were serious about trying to conserve the species that they possess, they would be focusing on protecting the habitats of wild populations and would actively be trying to ensure that their captive-bred animals could be reintroduced, and survive, in the wild.[177]

The public display industry neither offers meaningful conservation programs nor engages in true conservation behaviors. Self-regulation allows the industry to escape accountability. These facilities hide behind massive public relations budgets, their self-proclaimed benevolence, and false claims.[178] The lax conditions placed on the industry's exception in the MMPA condone and even encourage the conspiracy and cruelties of captivity. Although the Act's requirements need amending and tightening, that alone will not end the pattern of injustice. As holding marine mammals captive presents other severe problems, additional measures need to be taken.

VI. INHERENT PROBLEMS WITH THE CURRENT SYSTEM OF CAPTIVITY

Holding marine mammals presents serious dangers to both the animals and the humans with which they interact. Captive orcas have killed four people since 1991.[179] Dozens of other people have nearly died in the past forty years and even more have sustained serious injuries, including lacerations, puncture wounds, broken bones and necks, ruptured kidneys, liver lacerations, and "permanent loss of head movement."[180] A 2008 marine mammal survey, commissioned by the U.S. Marine Mammal Commission, found that more than half of marine mammal workers have been

176. WILLIAMS, *supra* note 55, at 56-62.

177. ROSE ET AL., *supra* note 11, at 10.

178. *Id.* at 4-5.

179. Donna Leinwand, *Trainers Attacked: Deaths, Close Calls at Animal Parks*, USA TODAY (Apr. 15, 2010, 2:47 AM), http://www.usatoday.com/news/nation/2010-04-14-animal-attacks_N.htm?loc=interstitialskip.

180. OCEANIC PRESERVATION SOC'Y, *supra* note 75.

injured by the animals that they work with and train.[181] More than a third of the injuries are classified as severe—deep wounds, fractures, or requiring stitches.[182] Trainers and staff in contact with captive marine mammals more than fifty days per year are several times more likely to endure a traumatic injury from the animals.[183]

The captive marine mammals also suffer from a wide range of conditions, diseases, mental instability, and causes of death not found in wild populations. Some of these conditions and diseases include fungal bacterial pneumonia, bleeding ulcers, myocardial fibrosis, heart failure, chronic colitis, agranuloytosis, pseudomonas, and stress.[184] Additionally, wild captures are extremely dangerous and disruptive to the complex social structures of the marine mammals—both those taken captive and those remaining wild.[185] The process of wild captures exerts extreme stress on the animals, many of which die during the process.[186] Bottlenose dolphins face a six-fold increase in risk of mortality immediately after capture and after every transfer, indicating that they never acclimatize well to transfer.[187]

Despite all the injuries and horrors inherent in the current system of marine mammal captivity practices, these methods and culture have been fostered by the hefty influence of the public display industry. The industry strongly endorses APHIS as the primary agency regulating captive standards, due in part to APHIS's long history of regulating animal health care[188] and their

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181. Tania D. Hunt et al., *Health Risks for Marine Mammal Workers*, 81 DISEASES OF AQUATIC ORGANISMS 81, 84 (2008).

182. *Id.*

183. *Id.* at 86.

184. KIELTY, *supra* note 30.

185. THE PERFORMING ORCA, *supra* note 56, at 13, 46-47.

186. *See* Olesiuk et al., *supra* note 101, at 5; *see also* Barbara E. Curry, *Stress in Mammals: The Potential Influence of Fishery-Induced Stress on Dolphins in the Eastern Tropical Pacific Ocean*, NOAA FISHERIES (Apr. 1999), http://swfsc.noaa.gov/publications/TM/SWFSC/NOAA-TM-NMFS-SWFSC-260.PDF (discussing physiological responses to capture-related stress such as capture myopathy, hypothermia, acute shock, and dysfunctional reproductive and immune systems).

187. Robert J. Small & Douglas P. DeMaster, *Acclimation to Captivity: A Quantitative Estimate Based on Survival of Bottlenose Dolphins and California Sea Lions*, 11 MARINE MAMMAL SCI. 510, 515-18 (1995)).

188. The public display industry points to APHIS's history as the regulating entity:

> APHIS has more than 20 years' experience in monitoring and regulating the humane care and treatment of marine mammals in captivity, employing a professional veterinary staff to inspect facilities. APHIS was given authority under the AWA to regulate warm-blooded animals, including marine mammals, for public display in the early 1970s, and first published regulations on marine mammals in 1979. APHIS resources include a National Animal Health Monitoring System, National Veterinary Services Laboratories, and a Veterinarian-in-Charge in every state.

BUCK, *supra* note 28, at 17-18 n.55

lack of aggressive enforcement actions.[189] After the MMPA was reauthorized in 1994 and underwent several amendments, members of the animal protection community attempted to replace APHIS with NMFS as the regulatory agency with authority over captive standards due to APHIS's history of lax enforcement, lack of expertise with aquatic species, and susceptibility to the public display industry's influence.[190] Due to the industry's dominant influence, vast resources, and powerful lobbying, the animal protection community's attempted measures were summarily defeated.[191]

APHIS announced its intention to amend marine mammal regulations in 1990 and published an advanced notice of proposed rulemaking in 1993; however, the final rules, which left important regulations unchanged, were not published until 2001.[192] For example, orca pool and enclosure size requirements were based on the size of pools at already existing facilities, which essentially allowed the marine parks to have set the standards.[193] Formulas for determining pool size requirements were arbitrarily calculated based on how orcas were housed at the time the regulations were written: "an imaginary circle drawn in the centre of an orca enclosure must measure at least 14.6m (48ft) in diameter; roughly twice the length of the average animal. Minimum depth requirement is a mere 3.7m (12ft)."[194] The minimum volume of water traversed on average by a wild orca in one day is 45,302,778,000 gallons, which is more than 9,000 times the amount in all interconnecting orca pools at the SeaWorld parks.[195] There are numerous incidents documented of orcas intentionally ramming pool walls, slamming their bodies against their enclosures, and even jumping out of tanks onto dry cement.[196] Nonetheless, APHIS has failed to adjust these regulations, largely due to the influence of the public display industry.[197] Even today, the industry "continues to lobby to keep enclosure size . . . [at the] current outdated levels, which indicates that economic factors rather than animal well-being are the industry's first priority."[198] However, there are other

189. *Id.* at 17, n.45 ("Critics cite examples where APHIS appears content to wait for facilities to fix recurring problems rather than taking more aggressive action, and where APHIS is alleged to have accepted a facility's tank measurements rather than taking independent measurements.").

190. *See id.* at 16.

191. *See* ROSE ET AL., *supra* note 11, at 63 n.150.

192. BUCK, *supra* note 28, at 17 n.53.

193. WILLIAMS, *supra* note 55, at 32.

194. *Id.* at 32.

195. THE PERFORMING ORCA, *supra* note 56, at 40.

196. *See* OCEANIC PRESERVATION SOC'Y, *supra* note 75.

197. *See generally* 9 C.F.R. §§ 3.100-118 (2012).

198. ROSE ET AL., *supra* note 11, at 63 n.150.

factors at work—factors that cannot be assigned value and figured into the bottom line.

Holding intelligent, self-aware, highly social marine mammals in captivity creates an ethical dilemma that some can no longer ignore. In 1998, two researchers discovered that bottlenose dolphins possess self-awareness through an experiment in which dolphins recognized their own reflections.[199] Only a few species—including humans and chimpanzees—have this highly-developed cognitive skill.[200] Dolphins are also highly intelligent. Researcher John Lilly, the pioneer of dolphin research, found that dolphins understand and use a complex vocabulary. [201] Lou Herman conducted his own studies to learn that dolphins can understand grammar, syntax, and artificial languages composed of electronic sounds and human hand gestures, including finger pointing, which chimpanzees cannot understand.[202] Adjusted for body size, bottlenose dolphins have the second largest brains,[203] which allow problem-solving and even the potential for recognizing human emotion.[204] Many people—including some dolphin researchers—struggle with the practice of keeping these animals in pools devoid of cognitive interests.[205] This, in turn, leads to the ceaseless debate of captivity versus the wild.

The argument over the living conditions and quality of life enjoyed by captive versus wild marine mammals is both overworked and unbalanced. Proponents of captivity, such as the public display industry and researchers dependent on captive sub-

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199. *See* Kenneth Marten & Suchi Psarakos, *Evidence of Self-Awareness in the Bottlenose Dolphin* (Tursiops truncatus), *in* SELF-AWARENESS IN ANIMALS & HUMANS: DEVELOPMENTAL PERSPECTIVES 361 (Sue Taylor Parker et al. eds., 1995); *see also* Grimm, *supra* note 149.

200. *See* Lori Marino, *Convergence of Complex Cognitive Abilities in Cetaceans and Primates*, 59 BRAIN, BEHAV. EVOLUTION 21 (2002).

201. Grimm, *supra* note 149, at 527.

202. *Id.*

203. Jennifer Viegas, *Dolphins, Humans Share 'Brainy' Genes*, DISCOVERY NEWS (June 26, 2012 3:00 AM), http://news.discovery.com/animals/whales-dolphins/dolphins-human-brain-120626.htm ("If we use relative brain size as a metric of 'intelligence' then one would have to conclude that dolphins are second in intelligence to modern humans.").

204. David Grimm, *Is a Dolphin a Person?*, SCIENCE NOW (Feb. 21, 2010 10:50 PM), http://news.sciencemag.org/sciencenow/2010/02/is-a-dolphin-a-person.html. *See also* Diana Reiss & Lori Marino, *Mirror Self-Recognition in the Bottlenose Dolphin: A Case of Cognitive Convergence,* 98 PROC. NAT'L ACAD. SCI. 5937 (2001).

205. BUCK, *supra* note 28, at 25. *See also* Allen Goldblatt, *Behavioural Needs of Captive Marine Mammals,* 19.3 AQUATIC MAMMALS 149, 150, 154 (1993) (Under-stimulation and boredom contribute to abnormal behaviors in marine mammals, such as "exaggerated play behaviour with items [in the pool such as leaves] . . . , misdirected behavior patterns, *e.g.* sexual overtures to the trainers and other species . . . , play behavior with other species in the tank [like turtles] . . . , and high levels of stereotyped behavior patterns . . . ." The researcher concludes that marine mammals "need to receive [behavioral] stimulation and to control their environment," or they will "show signs of stress such as exaggerated stereotyped behaviour.") (citations omitted).

jects, claim that the wild environment is dangerous—full of predators and pollution.[206] They continue the propaganda campaign against allowing wild animals live in their natural habitats. A SeaWorld researcher once claimed that their orcas

> live in habitats where the water quality and temperature are carefully monitored and controlled. Unlike killer whales in the oceans, those at Sea World are not forced to contend with dangers such as shortages of food, parasites, and threats from humans. . . . [They] receive a balanced, nutritious diet, and we make sure their day includes plenty of exercise.[207]

A representative of the public display industry at the Subcommittee on Insular Affairs, Oceans and Wildlife Oversight hearing even went so far as to claim that captive marine mammals are "safer" than their wild counterparts because they "won't have a run-in with a Bumblebee Tuna boat."[208] The other side of the argument has no trouble pointing out the flaws not only in the display industry's argument, but also in their treatment of captive marine mammals. Board Chairman Bryan Pease of the Animal Protection and Rescue League points out, "I am sure the trainers will say they are well taken care of, but you can't meet the behavioral needs of these large marine animals in a marine park."[209] The evidence supports this argument. The death rate for captive orcas is three-fold that of wild orcas.[210] Captive marine mammals develop psychological—sometimes even suicidal[211] or infanticidal[212]—conditions, increasing the risk of injury and death faced by the other animals held with them and the trainers.[213] Captive marine mammals, despite constant veterinary supervision, develop

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206. LAWSON & BUCK, *supra* note 44. *See also* David Riley, *Our Love of Dolphins has Turned into a Questionable Affair*, 23 SMITHSONIAN 58, 63 (1993); Rose Address, *supra* note 46; HOYT ET AL., *supra* note 18, at 13.

207. Dan O'Dell, *Marine Zoological Parks: The Public Benefit, in* GETTING TO KNOW THE WHALES 120, 121 (Larry Wade ed., 1995).

208. Callie Enlow, *Captivity Audience*, SAN ANTONIO CURRENT (May 7, 2010, 5:22 PM), http://www2.sacurrent.com/blog/queblog.asp?perm=70330.

209. Mike Lee, *SeaWorld San Diego Suspends Shamu Show*, SAN DIEGO UNION-TRIBUNE (Feb. 24, 2010, 10:47 PM), http://www.utsandiego.com/news/2010/feb/24/seaworld-san-diego-suspends-shamu-show-after/?print&page=all.

210. ROSE ET AL., *supra* note 11, at 46.

211. For example, an orca rammed herself into a tank wall at SeaWorld San Antonio in 1991. She died of excessive skull fracturing, cerebral contusions, and hemorrhaging. OCEANIC PRESERVATION SOC'Y, *supra* note 75.

212. Another orca attacked her own six-month old calf during a show at SeaWorld Orlando in 1998. She smacked him with her tail, tossed him onto the platform, and then pinned him down while biting him. *Id.*

213. *See* NAOMI ROSE, THE HUMANE SOC'Y, KILLER CONTROVERSY: WHY ORCAS SHOULD NO LONGER BE KEPT IN CAPTIVITY 7 (2011).

fatal physical conditions and diseases that wild cetaceans do not exhibit.[214] These include herpes-driven brain inflammation called acute necrotizing encephalitis;[215] over-chlorination burning dolphins' skin;[216] and "bizarre, repetitive movements" such as heaving oneself upward out of the pool and colliding onto the cement ledge;[217] chronic, rupturing eye blisters;[218] and surgical anesthesia.[219] Clearly, the low quality and short duration of captive existence is cruel and unnecessary. Although natural predators and human-caused pollution plague the oceans, captivity facilities are not the solution as they only hasten death and offer low-quality life.

The industry spends vast resources fighting changes to the standards for fear that tighter regulations would require massive overhaul of most facilities' structures, including pools, holding tanks, veterinary care areas, as well as policies, staff training, procedures, and shows.[220] The large public display facilities, most notably SeaWorld, Inc., depend heavily on the marine mammal shows. Orca and dolphin performances net massive profits.[221] For many audience members, watching a show is the primary reason for visiting the park.[222] One visitor admitted, " 'It's [the Shamu

214. WILLIAMS, *supra* note 55, at 40 ("[N]ecropsy reports reveal that captives are not spared from parasites or natural toxins and commonly report infestation by such parasites as nematode, trematode and tapeworm. Furthermore, the captive situation appears to increase the incidence of some infections rarely encountered in wild populations.").

215. OCEANIC PRESERVATION SOC'Y, *supra* note 75.

216. *Ocean World Getting Off Too Easy*, SUN SENTINEL (June 15, 1992), http://articles.sun-sentinel.com/1992-06-15/news/9202140682_1_ocean-world-petting-pool-marine-theme-parks; OCEANIC PRESERVATION SOC'Y, *supra* note 75.

217. WILLIAMS, *supra* note 55, at 44 (Samoa, held at SeaWorld, died at thirteen after two months of this abnormal behavior).

218. Sally Kestin, *Sickness and Death Can Plague Marine Mammals at Parks*, SUN-SENTINEL, May 17, 2004, http://www.sun-sentinel.com/sfl-dolphins-conditionsdec31,0,1500614.story (stating "[t]he condition is not uncommon in captive sea lions due to multiple factors, i.e. lack of salt water, direct sunlight (lack of shade), reflection of light from pool bottom, water quality, etc.").

219. *Id.*

220. WILLIAMS, *supra* note 55, at 69. In 1994, with cash donations of up to $35,000 from Anheuser-Busch, AZA and AMMPA representative Robert Jenkins boasted that they had weakened the MMPA " 'through a consistent, coordinated and unrelenting approach to Capitol Hill and the Congressional staff responsible for the MMPA reauthorisation [sic]; the public display community was able to achieve virtually all of [its] agenda.' " *Id.* citing Summer Jenkins, *Re-authorisation of the Marine Mammal Protection Act*, 19 IMATA SOUNDINGS (1994). For annual SeaWorld Parks' lobbying budgets, see *SeaWorld Parks & Entertainment*, OPENSECRETS.ORG, http://www.opensecrets.org/lobby/clientsum.php?id=D000056553&year=2010 (last visited May 7, 2013). For more information, see Ryan Skukowski, *Double Trouble for Bart Stupak, SeaWorld Makes Waves in D.C. and More in Capital Eye Opener*, OPENSECRETS.ORG (Mar. 19, 2010, 10:30 AM), http://www.opensecrets.org/news/2010/03/double-trouble-for-bart-stupak-seaw.html.

221. *See* Kestin, *supra* note 141 (finding, *inter alia*, that dolphins can generate $1 million per year; in 2001, the Miami Seaquarium collected $16.5 million in revenue; in 2003, the Dolphin Research Center in the Florida Keys generated $3.4 million).

222. *See* Jiang et al., *supra* note 57, at 244.

Show] super cool. . . . Without it, I don't know if there's much of a SeaWorld.' "[223] Multiple economic factors are behind the display industry's actions—a very lucrative business venture stands to be lost if tighter regulations are enforced. Therefore, the industry continues to staunchly insist on their version of the situation that will most likely save their business. They insist that their facilities educate their visitors and follow important conservation practices and efforts.[224]

V. RECOMMENDATIONS & PROPOSAL FOR CHANGE

Majestic and powerful animals like orcas and dolphins capture our attention and create a sense of wondered amazement. Without this natural curiosity and attraction to marine mammals, marine parks would never survive. Unfortunately, the public display industry has perpetrated the ill-conceived notion that these animals are toys, that an orca is a huggable, "cuddly sea panda, who lets children sit upon its back and playfully splashes crowds with water"[225] instead of a powerful, intelligent animal. By ignoring the needs and natural history of marine mammals like the orca and leading the public to believe in the benefits of captivity, the public display industry has derived massive profits and worsened the plight of their captives. But, we the public have been complicit in these injustices, blindly accepting the glitzy exterior that the marine parks have so diligently crafted. The facade is cracking. What once was awe-inspiring and thrilling family fun is now being seen as the frightening circus that has always been. The time for change, for activism, and for global compassion is upon us.

From the animal rights' and conservation perspectives, the ideal solution to the numerous problems with the public display industry would be to eliminate marine mammal captivity. While that would solve these problems, it would be a sad and missed opportunity to further animal rights and conservation policies while simultaneously keeping the facilities open. Millions of visitors enjoy marine parks each year, despite their hidden faults and obvious shortcomings. Instead of smashing down with the iron hand of regulation, less severe options should first be pursued.

The goal of the government, the marine parks, and the public should be to transition captivity-based entertainment into conservation-oriented projects. This gradual process should mandate

223. Lee, *supra* note 209. This comment was made hours after the drowning of the SeaWorld orca trainer in 2010.

224. *See infra* Parts II, III.

225. WILLIAMS, *supra* note 55, at 92.

no more wild-captures that benefit the public display industry. Furthermore, wild-captured orcas and dolphins should be rehabilitated with the goal of returning them to their native pods. The management of these programs alone promises to be a lucrative, conservation-friendly business enterprise. The marine mammals' quality of life and natural behaviors should be the utmost priority. Instead of orchestrated performances, marine parks should transition to exhibits boasting their rehabilitation programs and real, scientific research should be disseminated to the public. As part of these new management programs, the facilities should be redesigned so as to create the least stressful rehabilitation environment possible. For example, new pools and enclosures should minimize background noise and maximize the acoustical experience inside the tanks. When possible, natural enclosures should be designed and built to simulate the natural experience of marine mammals, such as catching live fish and diving.

The principles of conservationism and marine mammal protection are not mutually exclusive from profitable business endeavors. These principles can be incorporated into existing facilities as evidenced by two very successful programs in the U.K. seal rehabilitation and release at the Sea Life Centre focuses on retraining life skills and release back into the wild[226] rather than the commercial aspect of incorporating these mammals into a profit producing arena. The Jersey Zoo's commitment of twenty-three percent of its gross income to conservation[227] clearly exemplifies what can be done. Self-regulation has clearly allowed U.S. facilities to favor bottom-line commercialism over a commitment to the future of these mammals through research and conservation. As research suggests, at least ten percent of each facility's operating budget should be allocated to research and conservation.[228] If the transition to rehabilitation facilities is pursued, it should be much larger.

In the interim, while the public display industry and scientists design a completely new program, the Marine Mammal Protection Act should undergo amendments regarding the public display exception for holding captive animals. These amendments should include eliminating the industry-set standards and replacing them with agency regulations derived from responsible animal care practices, current scientific knowledge, and conservation-oriented policies. Regulatory inadequacies must be addressed and mandatory standards must not only be set, but also must be

226. *See* ROSE ET AL., *supra* note 11, at 13.
227. Tribe & Booth, *supra* note 127, at 67.
228. Kelly, *supra* note 127, at 10.

enforced in a timely manner. Revisions must be made within a reasonable time frame. Additionally, the MMPA should require that the new regulations cover species-specific and geographic-specific regulations that take into account the natural habitat of the particular show species. For example, it would be illegal to hold orcas in outdoor pools in Orlando.[229] Ideally, these species-specific regulations would not allow captive orcas in false-bottom enclosures like pools. Instead, they should be in open-water, coastal holding areas like the Navy's dolphin pens in San Diego Bay. [230] The amended MMPA or the subsequent regulations should create a process for ongoing evaluation of programs to ensure that they are at least meeting the new standards. This might require removing APHIS from its current position as the primary agency regulating captivity living conditions. However, before replacing APHIS completely, the new regulations should allow the agency a limited amount of time to redeem itself. If APHIS is able to satisfactorily oversee all of the facilities and enforce the new laws, it should not be stripped of its position. In addressing these issues and amending the Act, the call for no public displays should be distinguished from the call for no captive research. Alternate funding for captive research without the accompanying shows/displays should be investigated.

Marine mammals play a crucial role in the marine ecosystems as well as in the human experience. These creatures should be treated simultaneously with dignity as intelligent, socially complex animals and the respect deserving of wild animals. The unjust practices of captivity in the United States should be terminated as we strive to be a world leader in justice for captive marine mammals just as we are in human justice.

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229. Although wild orcas do frequent the Gulf of Mexico's warmer waters, most orcas are unable to survive in exclusively warm waters. It is unknown whether orcas sighted in the Gulf remain there year-round. However, most reported Gulf sightings have occurred in the cooler months, when water temperatures range from the fifties to sixties in degrees Fahrenheit. For a temperature guide for the Western and Eastern Gulf, see *NODC Coastal Water Temperature Guide (CWTG)*, Nat'l Oceanographic Data Ctr., http://www.nodc.noaa.gov/dsdt/cwtg/index.html (last visited May 7, 2013). For more information, see *Killer Whale* (Orcinus orca)*: Northern Gulf of Mexico Stock*, NOAA FISHERIES (Nov. 2010), *available at* http://www.nmfs.noaa.gov/pr/pdfs/sars/ao2003whki-gmxn.pdf. Notwithstanding Gulf orca populations, none of the captive orcas have been captured from these pods known to frequent the Gulf. Therefore, the natural habitat of all wild-caught orcas in marine parks is cooler waters.

230. Grimm, *supra* note 149, at 528.