ARTICLES

FEDERAL CONTROL OF CARBON DIOXIDE EMISSIONS:
WHAT ARE THE OPTIONS?

Arnold W. Reitze, Jr.

Abstract: The U.S. Supreme Court in Massachusetts v. EPA held that carbon dioxide is a pollutant under the Clean Air Act (CAA) and remanded the case to EPA. The Agency must decide whether CO₂ emissions contribute to climate change. If the Agency responds affirmatively, it must meet other requirements of the CAA in order to regulate carbon dioxide or other greenhouse gases (GHGs). This Article explains why the CAA is a poor vehicle for regulating GHGs and covers in detail the difficulties that will arise in trying to use the Act to reduce CO₂ emissions. The Article then turns to what should be done to develop an energy policy that will effectively reduce U.S. GHG emissions. It examines the options for control, including the use of taxes and cap-and-trade programs and evaluates some of the most important legislative proposals being considered. It then turns to the two major sources of GHGs—electric power production and motor vehicle use—and addresses how the adverse impact these sources have on our climate could be reduced.

THE INTERNATIONAL ORGANIZATION FOR STANDARDIZATION:
PRIVATE VOLUNTARY STANDARDS AS SWORDS AND SHIELDS

David A. Wirth

Abstract: Private voluntary standards such as the International Organization for Standardization’s (ISO’s) 14000 series have played an increasingly important role in encouraging corporations to adopt more sustainable business models on their own initiative and not in direct response to governmentally mandated requirements. ISO standards have a number of
benefits, including promoting international uniformity; elevating environmental issues within an enterprise; promoting international trade; and providing a minimal level of environmental performance in countries with less than adequate regulatory infrastructure. Concerns about ISO standards include the relationship to public regulation; and ISO 14001’s essentially procedural, as opposed to performance-based, character. International trade agreements such as NAFTA and the WTO Agreement on Technical Barriers to Trade inject ISO standards into the public policy arena. Because of the structure of these agreements, ISO standards may operate either as a sword—a negative standard used to challenge a domestic regulatory action—or a shield—an internationally agreed reference point that bolsters the legitimacy of a national measure. This Essay examines the potential for ISO standards on eco-labeling to act as swords to attack domestic requirements, and those on life cycle analysis to serve as shields to insulate municipal actions from international challenge in areas such as climate protection.

NOTES

**The Clean Air Act: Citizen Suits, Attorneys’ Fees, and the Separate Public Interest Requirement**

*Matthew Burrows*

[pages 103–134]

**Abstract:** The Clean Air Act (CAA) authorizes citizen suits and empowers courts reviewing these suits to award attorneys’ fees whenever appropriate. For some courts, awarding attorneys’ fees to a CAA citizen plaintiff is appropriate whenever a plaintiff achieves some success on the merits. Other courts hold that such awards are appropriate only when the citizen plaintiff has served the public interest by bringing suit. This note argues that a CAA citizen plaintiff seeking attorneys’ fees should not be required to demonstrate that the suit served the public interest. Instead, courts should award attorneys’ fees whenever a plaintiff partially or wholly prevails on the merits of a CAA citizen suit.
Saving Fish to Save the Bay: Public Trust Doctrine Protection for Menhaden’s Foundational Ecosystem Services in the Chesapeake Bay

Patrick J. Connolly

[pages 135–170]

Abstract: The Chesapeake Bay menhaden population provides a number of ecosystem services that help keep the bay’s waters suitable for marine life, and enjoyable and profitable for the bay’s human users. Overfishing of menhaden within the bay may, however, be eroding the ability of the species to provide these services, which are foundational to rights traditionally secured by the public trust doctrine: fishery, commerce, and navigation. The Virginia courts’ failure to protect these foundational ecosystem services threatens the viability and sustainability of these public trust rights. Given the chance, Virginia courts should protect menhaden by expanding the state’s narrow conception of the public trust doctrine to comport with developments in ecology and state constitutional, statutory, and case law.

Betting the Rancheria: Environmental Protections as Bargaining Chips Under the Indian Gaming Regulatory Act

Matthew Murphy

[pages 171–206]

Abstract: In 2005, the State of California and the Big Lagoon Rancheria American Indian Tribe reached an agreement whereby the tribe agreed to forego development plans for a casino on environmentally sensitive lands in exchange for the right to build a casino in Barstow, California. In January 2008, the Department of the Interior denied the Rancheria’s land-into-trust application for land in Barstow based on the Department’s newly issued “commutable distance” memorandum. This denial represents a missed opportunity to allow California and the tribe to cooperate in fashioning a workable tribal-state compact. The Department should abandon the guidance memorandum and allow tribes to pursue off-reservation gaming in appropriate instances where the proposed development enjoys political support at the local level. In exchange, states should be afforded greater deference under the Indian Gaming Regulatory Act to achieve some level of regulatory control to address the off-reservation impacts of casino development.
LOCAL PREFERENCES IN AFFORDABLE HOUSING: SPECIAL TREATMENT FOR THOSE WHO LIVE OR WORK IN A MUNICIPALITY?

Keaton Norquist

[pages 207–238]

Abstract: Local governments are increasingly granting preference to local residents and employees when selecting occupants for affordable housing set-asides. These preferences risk being invalidated for three reasons. First, courts could view the preferences as a penalty on nonresidents' fundamental right to travel and migration. Second, preferences implemented with the intention of excluding protected classes of persons could violate the Equal Protection Clause. Finally, preferences could violate the Federal Fair Housing Act by creating or perpetuating discriminatory racial impacts. In order to avoid these legal risks, this Note proposes that local governments should structure their affordable housing selection programs as broadly and inclusively as possible. Specifically, local governments should: (1) offer multiple ways for an applicant to receive preference; (2) base the preferences on an expanded geographic area beyond the local government's particular jurisdictional boundaries; and (3) limit the scope and duration of the preferences.

I WISH THEY ALL COULD BE CALIFORNIA ENVIRONMENTAL QUALITY ACTS: RETHINKING NEPA IN LIGHT OF CLIMATE CHANGE

Conor O'Brien

[pages 239–272]

Abstract: Scientific evidence indicates that the repercussions of climate change are numerous, severe, and result from human activity. One possible method of curbing climate change may lie with the National Environmental Policy Act (NEPA), which requires that federal agencies gather and disclose information about the environmental impacts of their activities. Shortly after NEPA's passage, California enacted the California Environmental Quality Act (CEQA), a statute similar to NEPA addressing the environmental impacts of state and local agencies' activities. One significant departure from NEPA was that CEQA not only required that agencies disclose the environmental impacts of their activities, but that they avoid significant impacts in many circumstances. This Note discusses why omitting this requirement from NEPA makes it less useful in addressing climate change than its California counterpart, compares NEPA to CEQA, and suggests changes which could make NEPA a more useful tool for regulating climate change.
Taking the Pit Bull Off the Leash: Siccing the Endangered Species Act on Climate Change

Ari N. Sommer

[pages 273–308]

Abstract: Environmentalists have been warning of catastrophic climate change for years, often getting only minimal attention from lawmakers and, until recently, the public. With the political climate still moving only incrementally, citizen groups and states may have a tactic in the Endangered Species Act to jumpstart the reduction of CO₂ emissions. This Note examines the implications of a citizen suit to reduce emissions based on the section 9 “take” provisions of the Endangered Species Act. It examines Article III standing requirements alongside the citizen-suit provisions of the Endangered Species Act, and the possible existence of a nonjusticiabilable political question. The Note takes the position that such a suit could move forward successfully, given the right judicial circumstances.
FEDERAL CONTROL OF CARBON DIOXIDE EMISSIONS: WHAT ARE THE OPTIONS?

ARNOLD W. REITZE, JR.*

Abstract: The U.S. Supreme Court in Massachusetts v. EPA held that carbon dioxide is a pollutant under the Clean Air Act (CAA) and remanded the case to EPA. The Agency must decide whether CO₂ emissions contribute to climate change. If the Agency responds affirmatively, it must meet other requirements of the CAA in order to regulate carbon dioxide or other greenhouse gases (GHGs). This Article explains why the CAA is a poor vehicle for regulating GHGs and covers in detail the difficulties that will arise in trying to use the Act to reduce CO₂ emissions. The Article then turns to what should be done to develop an energy policy that will effectively reduce U.S. GHG emissions. It examines the options for control, including the use of taxes and cap-and-trade programs and evaluates some of the most important legislative proposals being considered. It then turns to the two major sources of GHGs—electric power production and motor vehicle use—and addresses how the adverse impact these sources have on our climate could be reduced.

Introduction

The United States Supreme Court, in Massachusetts v. EPA, in a five to four decision, held that carbon dioxide (CO₂) qualifies as an air pollutant under section 302(g) of the Clean Air Act (CAA).¹ Proponents of greenhouse gas (GHG) regulation, since the Rio de Janeiro Conference in 1992, have been seeking, without success, to obtain congressional and administration support for both international treaties and domestic legislation that mandate GHG emission reductions. From 1999 to the date of the Court’s decision, more than 200 bills were introduced in Congress to regulate GHGs, but none were enacted.² The

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petitioners were asking the Court to give them through litigation what they had failed to achieve from lobbying the legislative or the executive branch, and they were successful. The majority opinion determined GHGs are air pollutants based on section 302(g) of the CAA and then addressed the issue of whether EPA properly refused to exercise its authority to regulate CO₂, the most important GHG emitted in the U.S., pursuant to section 202(a)(1) of the CAA. The Court held that, “EPA can avoid taking further action only if it determines that greenhouse gases do not contribute to climate change or if it provides some reasonable explanation as to why it cannot or will not exercise its discretion to determine whether they do.” The Court went on to say EPA cannot refuse to regulate because of its concerns over scientific uncertainty or because of the implications concerning foreign affairs. “The statutory question is whether sufficient information exists to make an endangerment finding.” The Supreme Court remanded the case to EPA for additional proceedings. The Court did not say whether EPA must make an endangerment finding, and it did not articulate what policy concerns may be considered by EPA in making its finding.

EPA must decide whether carbon dioxide and other GHGs are air pollutants that endanger public health or welfare. An affirmative finding will produce intense pressure to regulate mobile sources as well as stationary sources. But, regulating CO₂ emissions from motor vehicles, given the constraints imposed by section 202(a)(2) of the CAA, will be a challenge.

I. Is the CAA an Effective Tool to Control Carbon Dioxide?

The first problem in using the CAA to control carbon dioxide is that, despite the Supreme Court majority’s position that carbon dioxide is within section 302(g)’s definition of pollution, carbon dioxide and


3 The petitioners probably would disagree, arguing the case involved statutory interpretation of the CAA. See generally Lisa Heinzerling, Climate Change and the Clean Air Act, 42 U.S.F. L. Rev. 111 (2007) (Professor Heinzerling was the primary author of the petitioners’ briefs in Massachusetts v. EPA).


5 Id. at 533.

6 Id. at 533–34.

7 Id. at 534.

8 Id.

9 Id.
water vapor are the natural end products of combustion. Conventional air pollution control efforts usually seek to create ideal combustion conditions that are expressed as: \( \text{HC} + \text{O}_2 + \text{N}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O} + \text{N}_2 + \text{heat} \).\(^{10}\) The process of forming carbon dioxide and water vapor from the combustion of hydrocarbons releases heat that produces steam to run electric power plants and the energy to propel motor vehicles.\(^{11}\) Without the production of carbon dioxide and water vapor from fossil fuel combustion, there would be no useful energy produced. The modern world would come to a standstill. Because carbon dioxide is one of the end products of burning fossil fuels, the only ways to prevent the harmful effects of \( \text{CO}_2 \) emissions are either not to use fossil fuels or to capture and sequester the \( \text{CO}_2 \) before it is released to the atmosphere.

How may EPA control carbon dioxide within the traditional scope of the CAA? Conventional pollutants have been regulated by “command and control” measures since the Act was created. More recently, economic controls also have been utilized that usually involve an overall cap on emissions and an emissions trading system (cap-and-trade). If EPA is to regulate \( \text{CO}_2 \), it will be difficult to develop a viable program using the CAA’s traditional command and control approach. For six common pollutants, called criteria pollutants, EPA sets national ambient air quality standards (NAAQS).\(^{12}\) Five of the six criteria pollutants are released or formed primarily from the combustion of fossil fuel. Each state creates its state implementation plan (SIP) to control emissions from various sources in order to reach the ambient levels of pollution set out in the applicable NAAQS.\(^{13}\) This is supplemented by technology-based requirements imposed on various sources in order to reduce emissions.\(^{14}\) Section 126 of the CAA provides EPA additional authority to prevent major sources from releasing air pollution that may significantly contribute to levels of air pollution in excess of NAAQS in another state.\(^{15}\) Interstate air pollution transport also may be controlled by EPA using section 110(k)(5) of the CAA.\(^{16}\) A SIP revision

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11 The total heat (enthalpy) given off (or absorbed) by a reaction is the difference between total heat content of the reactants and the heat content of the products. Charles E. Mortimer, Chemistry: A Conceptual Approach 169, 175 (4th ed. 1979).


16 42 U.S.C. § 7410(k)(5).
may be required if a plan does not adequately deal with air pollution being transported to a downwind state.

Carbon dioxide cannot be controlled effectively using the SIP process because atmospheric concentrations of CO₂ essentially are the same everywhere in the world. Moreover, control based on the CAA is limited by the fact that the United States contributes only about twenty-two percent of the world’s anthropogenic GHG releases.

Under section 108(a) of the CAA, the Administrator shall list air pollutants “which may reasonably be anticipated to endanger public health or welfare.” After listing a pollutant the Administrator “shall publish” a proposed primary and secondary air-quality standard. Primary standards are to protect public health; secondary standards are to protect public welfare. No existing criteria pollutant has been designated solely for its impact on public welfare. It is not clear from the wording of section 109 of the CAA that the Administrator could promulgate a criteria pollutant standard for a pollutant that adversely affected human welfare but did not adversely affect public health, and CO₂ does not adversely affect human health at the concentrations found in the atmosphere.

If EPA adopted a criteria pollutant approach to control CO₂, it would have to set atmospheric numerical standards that were either above or below present values. If CO₂ standards are set below present CO₂ atmospheric concentration, the entire country would have a non-attainment status with no realistic expectation that any measure taken as part of a SIP would lead to attainment of the standard. If a NAAQS value above the present CO₂ atmospheric concentration was selected, the entire nation would be in attainment, and significant effort to reduce CO₂ would not be needed. Compliance with the prevention of significant deterioration program (PSD) would be the major applicable

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17 There are small variations in the northern and southern hemisphere of about two ppm because approximately 95% of fossil fuel is combusted in the northern hemisphere. John Houghton, Global Warming: The Complete Briefing 27 (2d ed. 1997).
21 42 U.S.C. § 7409(b)(1)–(2).
requirement. Sources could be forced to comply with the expensive and time-consuming new source review (NSR) process even if there is no effective technology to control carbon dioxide. Industry is concerned that the 100/250 ton per year of any pollutant that is the threshold for triggering the PSD program under section 169(1) and the 100 ton per year or less threshold for nonattainment areas under section 302(j) and sections 181 through 187 will result in the CAA’s NSR program applying to millions of carbon dioxide sources.

A gallon of gasoline when combusted combines with oxygen in the air to produce about twenty pounds of carbon dioxide. Therefore, the PSD threshold may be triggered by using about 10,000 gallons of fuel a year; in a nonattainment area it can take less combusted fuel to trigger the program’s applicability. Some people in industry would like to see EPA increase the 100-ton threshold, but it is not clear how the Agency could legally change a statutory requirement. Another approach would be to create a significant level test for CO₂ that would remove most sources from the need to comply with NSR. Carbon monoxide (CO) has a significance level of 100 tons per year. However, to reduce the number of CO₂ sources needing regulation to a manageable level would require the significance threshold to be set at a number approaching 1000 tons per year. Whether the courts would approve such a regulatory fix is unknown. If the existing 100/250 ton threshold for determining what is a major source is not modified for CO₂ sources, the regulatory burden on permitting agencies will be overwhelming.

EPA could regulate CO₂ based on the new source performance standard (NSPS) provision found in section 111 of the CAA, which has no emissions threshold. Therefore, almost all changes to existing facilities potentially could trigger NSPS applicability, although the absence of cost-effective control technology would hamper the use of this section. In addition, unlike other sections of the CAA, section 111(b)(1)(A) requires an air pollutant to “significantly” contribute to endangerment of public health or welfare. It is not clear how much discretion the term “significantly” provides to EPA. Because section

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27 40 C.F.R. § 51.165(a) (1) (x) (A) (2007).
29 42 U.S.C. § 7411(b) (1) (A).
111(b)(1)(B) requires EPA to review NSPS every eight years,\textsuperscript{30} environmental advocates are expected to continue to pressure EPA to impose CO$_2$ controls in any new NSPS regulations. The Agency promulgated a final NSPS for refineries on April 28, 2008, but the rule does not regulate CO$_2$.\textsuperscript{31} EPA rejected consideration of GHG limits in a proposed NSPS for Portland cement facilities on May 30, 2008,\textsuperscript{32} and did not regulate GHGs in the NSPS for petroleum refineries that was published June 24, 2008.\textsuperscript{33} The Agency is scheduled to propose other NSPSs. If EPA decides not to regulate GHGs, litigation is likely.\textsuperscript{34} It also has been suggested that EPA regulate CO$_2$ emitted by existing sources using its section 111(d) authority, but this would not appear to provide any relief from the problems already discussed. If EPA designates CO$_2$ as either a criteria pollutant or a hazardous air pollutant (HAP) it cannot be regulated under section 111(d).\textsuperscript{35}

The CAA regulates HAPs that produce adverse health or environmental effects by limiting emissions using technology-based requirements pursuant to section 112.\textsuperscript{36} Section 112(b)(1) lists 189 hazardous pollutants for potential regulation; CO$_2$ is not on the list.\textsuperscript{37} EPA can add or subtract substances from section 112’s list.\textsuperscript{38} A substance is considered to be a hazardous pollutant if it creates serious health risks at low concentrations.\textsuperscript{39} But despite its universal presence, there are no known adverse health effects due to CO$_2$ exposure at the concentration levels found in the atmosphere.

Section 112(b)(2) requires the health effects to come from “inhalation or other routes of exposure” and then goes on to list effects such as carcinogenicity.\textsuperscript{40} These health effects are all the result of direct exposure. Any health effects from climate change, whether or not caused by increases in atmospheric CO$_2$ concentrations, are indirect effects, such

\begin{itemize}
\item \textsuperscript{30}Id. § 7411(b)(1)(B).
\item \textsuperscript{31} Proposed regulations were promulgated at 72 Fed. Reg. 27,177 (May 14, 2007).
\item \textsuperscript{33} Standards of Performance for Petroleum Refineries, 73 Fed. Reg. 35,838 (June 24, 2008) (to be codified at 40 C.F.R. pt. 60).
\item \textsuperscript{34} Steven D. Cook, Agency to Confront Greenhouse Gas Controls as Litigation, Probes, Rulemakings Loom, 39 Env’t Rep. (BNA) No. 156 (Jan. 18, 2008).
\item \textsuperscript{35} 42 U.S.C. § 7411(d)(1).
\item \textsuperscript{36} § 112, 42 U.S.C. § 7412.
\item \textsuperscript{37} See 42 U.S.C. § 7412(b)(1).
\item \textsuperscript{38} Id. § 7412(b)(2).
\item \textsuperscript{40} 42 U.S.C. § 7412(b)(2).
\end{itemize}
as diseases spread by insect populations that increase at higher temperatures. This differs from the direct harm caused by substances regulated pursuant to section 112. Furthermore, when section 112 discusses adverse environmental effects as a basis for regulating a substance, the language “whether through ambient concentrations, bioaccumulation, deposition, or otherwise,” indicates a concern for the direct harmful effects of a substance. While EPA is given some flexibility in making decisions on the “frontiers of scientific knowledge,” case law requires a rational basis for a decision to designate a pollutant as hazardous.

There is not a rational basis for EPA to designate CO₂ as hazardous. None of the section 112 toxic pollutants are as ubiquitous in the environment as is CO₂. It is unreasonable to assume Congress overlooked listing a pollutant emitted in the U.S. in the amount of 5061.6 million metric tons in 1990, when the CAA amendments were enacted.

The HAP control program primarily regulates major stationary sources, which are defined as sources of emissions of ten tons per year of a HAP or twenty-five tons per year of multiple HAPs. If CO₂ is designated a HAP, section 112’s requirements would be triggered by the emission of ten tons of CO₂ per year. This threshold would be reached by burning about 1000 gallons of petroleum-based fuel and would make almost every home in America a hazardous emissions stationary source. Nearly every furnace in the country would require an operating permit. Administering such a program would be difficult and expensive with marginal benefits, but some people in industry consider the need for an operating permit to be less onerous than having to comply with NSR requirements. If section 112 is used to control CO₂ emissions, presumably the technology standard of maximum available control technology (MACT) would need to be established.

Another approach would be for EPA to claim CO₂ is primarily an interstate transport problem and regulate it at the federal level. This would be similar to the approach used to regulate SO₂ in subchapter

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41 Id.
45 See id.
46 Id. § 7412(d).
IV-A of the CAA.\textsuperscript{47} However, to comply with a CO$_2$ reduction program would mean rationing the use of fossil fuel energy.

If EPA makes an endangerment finding for CO$_2$ in response to the remand in \textit{Massachusetts v. EPA}, it will have ramifications beyond the CAA, because other environmental laws have provisions similar to the language of the CAA. This could result in most environmental laws being required to regulate GHG emissions. A critical issue will be whether EPA limits any endangerment finding under the CAA to impacts on the environment or extends an endangerment finding to include health effects.\textsuperscript{48} On June 26, 2008, the D.C. Circuit rejected a petition seeking mandamus to compel EPA to regulate GHG emissions from automobiles.\textsuperscript{49} In an Advance Notice of Proposed Rulemaking published in the Federal Register on July 30, 2008, EPA effectively decided not to regulate GHG at that time and initiated a lengthy regulatory process, precluding a decision being made before the end of the Bush Administration.\textsuperscript{50}

\section*{A. Construction Permit Litigation}

The CAA may not be an effective tool for regulating GHG emissions, but that has not prevented opponents of new carbon emission sources from litigating to prevent construction of facilities that will release carbon dioxide in large quantities for the next half-century or more. The new source review (NSR) program requires major proposed new or modified sources to obtain a construction permit.\textsuperscript{51} The NSR process includes a determination of the appropriate pollution control to be used by an applicant. In areas that meet national ambient air quality standards, called prevention of significant deterioration (PSD) areas, section 165(a)(4) of the CAA requires the use of best available control technology (BACT),\textsuperscript{52} which, as defined in section 169(3), requires the consideration of economic impacts and costs.\textsuperscript{53} In nonat-

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\textsuperscript{47} See § 401, 42 U.S.C. § 7651.  
\textsuperscript{52} § 165(a)(4), 42 U.S.C. § 7475(a)(4).  
\textsuperscript{53} § 169(3), 42 U.S.C. § 7479(3).
tainment areas, section 173(a)(2) requires technology to be used that meets the lowest achievable emission rate (LAER).\textsuperscript{54} To determine what qualifies as BACT/LAER, EPA usually uses a “top-down” analysis. The primary guidance is EPA’s 1990 New Source Review Workshop Manual.\textsuperscript{55} This requires considering process changes, fuels, add-on controls and any other available methods to obtain the maximum degree of emission reduction,\textsuperscript{56} but there is no effective technology to control CO\textsubscript{2} that meets BACT/LAER requirements.

The PSD process is applicable to “each pollutant subject to regulation under this chapter emitted from, or which results from, such facility.”\textsuperscript{57} In nonattainment areas, the NSR process applies to any pollutant that is subject to a new source performance standard.\textsuperscript{58} NSPSs apply to any air pollutant as defined in section 302(g).\textsuperscript{59} This may provide permitting authorities the discretion to impose more stringent requirements than otherwise would be imposed by the CAA. Moreover, states may impose more stringent standards pursuant to section 116.\textsuperscript{60} All states have been delegated the authority to run their nonattainment NSR programs; most states have been delegated the authority to run their PSD programs.\textsuperscript{61}

An issue of concern is whether pollutants that are not regulated, but could be regulated, are subject to Federal PSD/NSR requirements. If emissions offsets may be imposed on any air pollutant as part of the PSD/NSR review process, may issues involving climate change be addressed?\textsuperscript{62} EPA has taken the position that CO\textsubscript{2} is not yet regulated by the CAA, therefore, its impacts do not have to be considered as part of the NSR permit process.\textsuperscript{63} This resulted in EPA granting a PSD permit

\textsuperscript{54} § 173(a)(2), 42 U.S.C. § 7503(a)(2).


\textsuperscript{56} Id. at B.1.

\textsuperscript{57} 42 U.S.C. § 7475(a)(4).

\textsuperscript{58} § 171(3), 42 U.S.C. § 7501(3).


\textsuperscript{60} § 116, 42 U.S.C. § 7416.


on August 30, 2007 to the Deseret Power Electric Company’s proposed new facility near Bonanza, Utah, despite its potential for increasing CO₂ emissions. The granting of the permit was appealed by the Sierra Club to EPA’s Environmental Appeals Board (EAB), which on November 13, 2008 remanded the permit to EPA’s Region 8 to reconsider whether to impose CO₂ BACT limits and to develop an adequate record for its decision. The Board found that the Region wrongly believed its discretion was limited by historical Agency interpretation. The EAB suggested the Region consider whether the public and the Agency would benefit from having the phrase “subject to regulation under the Act” determined as an interpretation of nationwide scope rather than through this specific permitting proceeding. On June 2, 2008, the EAB rejected a challenge to a refinery expansion project for tar sands processing in Illinois that did not include GHG controls. The case, however, was a win for environmentalists because the EAB remanded the permit to the state to review emission limitations for conventional pollutants.

While EPA has resisted designating GHGs as subject to PSD/NSR, states deny construction permits based on climate change concerns. On October 18, 2007, the Kansas Department of Health and Environment denied an air permit for a proposed new coal-fired power plant saying it could consider the effect of unregulated pollutants if they present a substantial endangerment to public health or the environment. On March 21, 2008, the governor of Kansas vetoed a bill that would have allowed the construction of two coal-fired generation units by the Sunflower Electric Power Corporation. The bill was designed to over-

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turn the state environmental agency’s decision to deny a construction permit because of the facility’s carbon dioxide emissions.  

A legislative effort to override the governor’s veto failed.  

On February 26, 2007, environmentalists announced a nonbinding agreement that eight of eleven proposed coal-fired power plants in Texas would not be built as part of a TXU Energy buyout.  

The company also agreed to reduce their carbon dioxide emissions to 1990 levels and invest $400 million in energy efficiency.  

On March 19, 2007, a legally binding agreement between the Sierra Club and Kansas City Power and Light (KCPL) allowed a new 600-megawatt coal-fired electric power plant to be built in return for an agreement to offset its GHG emissions through energy efficiency measures and to build 400 megawatts of wind-generated electric power by 2012.  

On February 28, 2007, the North Carolina Utility Commission approved one of two 800-megawatt facilities proposed by Duke Energy, but required the company to invest one percent of its revenues in energy efficiency and demand-side programs.  

On April 30, 2008, the Iowa Utilities Board approved a construction permit for a predominately coal-fired power plant to be built by Interstate Power and Light Company.  

As part of the permit, five percent of the plant’s electric generation is to be fueled by biomass within two years and ten percent of the power is to be fueled by biomass in five years.  

In addition, ten percent of the company’s electric generation in Iowa is to be from renewable sources by 2013, rising to twenty-five percent by 2028.  

In this fast-changing regulatory environment, the ability to obtain a construction permit and the offsets that may be required is uncertain.

70 Id.
71 Christopher Brown, State Legislature Fails to Override Veto of Bill Allowing Coal-Fired Project, 39 Env’t Rep. (BNA) 923 (May 9, 2008).
73 Id.
76 Mark Wolski, State Regulators Approve Power Plant, Tell Utility to Supplement Coal with Biomass, 39 Env’t Rep. (BNA) 923 (May 9, 2008).
77 Id.
78 Id.
For NSR permits, section 173(a)(5) of the CAA provides that a permit may be issued only if “an analysis of alternative sites, sizes, production processes, and environmental control techniques” for the proposed source demonstrates that the benefits significantly outweigh the environmental and social costs that are imposed by construction or modification.\textsuperscript{79} For a PSD permit, section 165(a)(2) requires consideration of the “air quality impact of such source, alternatives thereto, control technology requirements, and other appropriate considerations.”\textsuperscript{80} The extent to which alternative analysis can be used to require an alternative be adopted is not clear, and this ambiguity can be expected to be used to challenge permit applications.\textsuperscript{81} Court decisions have held that BACT/LAER requirements cannot be used to force an applicant to redesign a proposed facility, for example by forcing a proposed coal-burning plant to use alternative energy, gas or nuclear power.\textsuperscript{82} On August 24, 2006, EAB ruled that EPA could not require the use of low sulfur coal at Peabody Energy’s proposed Prairie State facility in Illinois because it would redefine the basic design of the facility, which was planned as a mine-mouth facility that would burn high-sulfur Illinois coal.\textsuperscript{83} Subsequently, in \textit{Sierra Club v. EPA}, the Seventh Circuit ruled that EPA does not have to consider whether the applicant should use low-sulfur coal as a pollution control technology because such a requirement would require significant modifications of the plant.\textsuperscript{84} This case is considered an important precedent for the principle that BACT review cannot be used to require a redesign of a proposed facility. However, in Georgia, a state court in \textit{Friends of the Chattahoochee, Inc. v. Couch}, on June 30, 2008, decided an appeal from a state administrative law judge that awarded a

\textsuperscript{80} Id. § 165(a)(2).
\textsuperscript{82} \textit{Sierra Club v. EPA}, 499 F.3d 653, 656–57 (7th Cir. 2007) (imposing requirement to use low sulfur coal from another location is not BACT for proposed mine-mouth power plant).
\textsuperscript{83} \textit{Prairie State Generating Co.}, PSD Appeal No. 05-05, slip op. at 36–37 (E.A.B. Aug. 24, 2006).
\textsuperscript{84} \textit{See Sierra Club}, 499 F.3d at 655.
construction permit to a coal-fired power plant.\textsuperscript{85} The court remanded the case to the agency finding that CO\textsubscript{2} emissions are subject to BACT requirements.\textsuperscript{86} Moreover, the 1977 amendments to the CAA require BACT analysis to consider innovative fuel combustion, and integrated gasification combined cycle (IGCC) is an innovative fuel combustion technique.\textsuperscript{87} On June 30, 2008, environmentalists challenged a proposed power plant near Great Falls, Montana because of the failure of the state to require an analysis of BACT for carbon dioxide.\textsuperscript{88}

The extent to which old plants can be forced to comply with current standards remains an ongoing political and legal struggle. The PSD/NSR program applies to major facilities that are modified.\textsuperscript{89} On April 2, 2007, the U.S. Supreme Court moved in the direction of supporting EPA’s position when it ruled that, for new source review purposes, an increase in emissions means an annual increase, not an hourly increase.\textsuperscript{90} Winning this case was important to those concerned with the effects of power plant emissions, but it was only one step in an effort to control old electric power plants. Environmentalists and states have started challenging operating permit renewals pursuant to subchapter V of the CAA in an effort to force existing electric utilities to control emissions.\textsuperscript{91} Environmental organizations also are using the operating permit requirements to enforce the provisions of existing operating permits.\textsuperscript{92} However, they have had more success at preventing new facilities from being constructed than in controlling existing facilities.

B. Mobile Source Control

The 1970 CAA Amendments created the mobile source program in use today.\textsuperscript{93} Exhaust emissions of hydrocarbons, carbon monoxide,

\begin{itemize}
\item \textsuperscript{86} Id. at 9.
\item \textsuperscript{87} Id. at 14.
\item \textsuperscript{89} Clean Air Act §§ 169(2)(C), 171(4), 42 U.S.C. §§ 7479(2)(C), 7501(4) (2000).
\item \textsuperscript{91} \textit{Compare} Nat’l Parks Conservation Ass’n v. Tenn. Valley Auth., 502 F.3d 1316 (11th Cir. 2007) (ruling in favor of TVA), \textit{with} Nat’l Parks Conservation Ass’n v. Tenn. Valley Auth., 480 F.3d 410 (6th Cir. 2007) (ruling against TVA).
\item \textsuperscript{92} See, e.g., N.Y. Pub. Interest Research Group v. Johnson, 427 F.3d 172, 180 (2d Cir. 2005).
\item \textsuperscript{93} Clean Air Act Amendments of 1970, Pub. L. No. 91-604, § 6, 84 Stat. 1676, 1690.
\end{itemize}
and nitrogen oxides were to be reduced through the program found in section 202(b). From 1970 to 1990, the numerical values for emissions from light-duty vehicles (LDVs) and light-duty trucks (LDTs) became more stringent, and more mobile sources became subject to control, but this program to control mobile sources did not significantly change. EPA’s practice for the past thirty years has been to implement the pollutant-specific provisions of subchapter II, but it never regulated any other mobile source pollutant.

Heavy-duty vehicles (HDVs) manufactured after 1983 are subject to section 202(a)(3)(A) of the CAA, which regulates emissions of hydrocarbons, carbon monoxide, nitrogen oxides, and particulate matter. Standards for HDVs under section 202 are to “reflect the greatest degree of emission reduction achievable through the application of technology which the Administrator determines will be available for the model year to which such standards apply, giving appropriate consideration to cost, energy, and safety factors associated with the application of such technology.” Changes to heavy-duty truck standards are limited to standards promulgated under the CAA prior to the CAA Amendments of 1990, except for nitrogen oxides from model year 1998 and thereafter heavy-duty trucks. Since GHGs, including CO₂, were not regulated prior to 1990, the language of section 202 appears to preclude their regulation from heavy-duty vehicles.

Section 202(a)(1) of the CAA grants the Administrator of EPA the power to regulate “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,” but that power is restricted by section 202(a)(3)’s provision for heavy-duty trucks. Air pollutant is defined in section

94 Frank P. Grad et al., The Automobile and the Regulation of Its Impact on the Environment 119 tbl.4-3, 335 (1975).
96 Id. § 202(a)(3)(A)(i).
97 Id. § 202(a)(3)(B).
98 Id. § 202(a)(1), (3). The origin of EPA’s authority in § 202 of the CAA appears to be § 202(a)(1) of S. 4358, which was introduced in the 91st Cong., 2d Sess. by Senator Byrd (D-W.Va.) for Senator Muskie (D-Me.) on September 17, 1970. Section 202(b) included specific emission reduction requirements for pollutants regulated prior to 1970, including a ninety percent emission reduction from MY1970 vehicles by MY1975. Clean Air Act Amendments of 1970, Pub. L. 91-604, § 6, 84 Stat. 1676, 1690. A Senate Report prepared to accompany the National Air Quality Standards Act of 1970 explains that subsection (b) was to regulate carbon monoxide, hydrocarbons and nitrogen oxides. S. Rep. No. 91-1196, at 425 (1970). It stated that § 202(a) would regulate particulate matter because such standards could not be established under § 202(b) due to the lack of measurement tech-
302(g). The clause “which in his judgment causes or contributes to, or is likely to cause or to contribute to, air pollution which endangers the public health or welfare;” found in the 1970 Amendments was changed in 1977 to “which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.” The remainder of sections 202(a)(1) and (2) has not been changed since 1970. Because the “endangerment” language also appears in section 211(c) (regulating fuels and fuel additives), section 213 (regulating non-road engines), and in section 213 (regulating aircraft), the Supreme Court’s decision in Massachusetts v. EPA has the potential to affect most of the CAA’s subchapter II mobile source program.

Welfare is defined in section 302(h) to include effects on climate. If GHGs endanger health or welfare they can be regulated after giving vehicle manufacturers the time to develop and apply the requisite technology and after giving appropriate consideration to costs. Thus, it appears that for a GHG to be regulated, there must be findings that: (1) it is a pollutant; (2) it endangers public health or welfare; (3) there is an appropriate control technology; (4) the technology is cost effective; and (5) appropriate time is provided to apply the technology. While the Supreme Court has ruled that GHGs are air pollutants, the requirements imposed by the other four tests have not yet been the subject of EPA guidance.

The major problem in meeting section 202(a)(2)’s requirements is that there is no technology to control CO₂ emissions.

II. What Should Be Done?

For EPA to attempt to develop a response to climate change based on the CAA would be unwise. However, if Massachusetts v. EPA spurs

99 Clean Air Act § 302(g).
100 Id. § 201(a)(1)–(2), 84 Stat. at 1690.
101 Id. § 201(a)(1).
102 Id. § 202(a)(1).
103 Id. § 302(h).
104 Id. § 202(a)(2).
Congress to develop a rational climate change and energy policy, the Court’s decision will have achieved a desirable outcome. An appropriate response to climate change requires balancing scientific uncertainty against costs, including mitigation costs, and the costs of delayed response. Moreover, the costs of reducing both U.S. and global GHG emissions will depend on future population size, economic growth, technology development and use, and the mix and quantity of fossil fuels combusted. These factors may be influenced but are not subject to control by the United States. Moreover, costs and benefits of climate change mitigation are not incurred by the same people. Since CO₂ emissions will remain in the atmosphere for a century or more, present expenditures to control emissions will benefit generations not yet born. Because benefits occur in the future but costs will be incurred in the near term, a benefit/cost analysis will be extremely sensitive to the discount rate selected.¹⁰⁵ Put another way, utilizing traditional economic analysis, it is difficult to justify present expenditures that require a long time to achieve benefits.¹⁰⁶ Furthermore, most knowledgeable people do not believe that global warming can be prevented, but if we act appropriately we may be able to reduce some of its adverse consequences.

The costs of responding effectively to reduce GHG emissions will be high, but the costs of not responding could be even higher. The costs increase if a sudden, catastrophic, large-scale, irreversible change in the planet is considered a threat that requires an immediate response, such as the shutdown of the oceanic heat conveyor or the collapse of the West Antarctic ice sheet.¹⁰⁷ Most of the cataclysmic disasters identified by scientists are predictions based on computer analysis. But when real world evidence is available, it may be too late to effectively respond.¹⁰⁸ If uncertainties exist, who should bear the burden of proof, those who advocate business as usual or those who advocate GHG reductions? A noted scholar has written “catastrophic risks deserve some kind of precautionary principle.”¹⁰⁹ But efforts to avert catastrophic harm should not be used if they give rise to other risks of catastrophic

¹⁰⁵ For more in-depth coverage of this issue, see Daniel A. Farber, From Here to Eternity: Environmental Law and Future Generations, 2003 U. ILL. L. REV. 289.
¹⁰⁸ For a discussion of abrupt climate change, see Cong. Budget Office, supra note 106.
harm. “[E]ven for the Catastrophic Harm Precautionary Principle, the cost matters.” This advice is worth pondering because climate change involves high risks and high response costs.

In the United States in 2005, 83.9% of the GHGs released from human sources were CO₂, and 94.44% of the CO₂ emissions were from fossil fuel combustion. A program to deal with climate change needs to focus on fossil fuel use and be tailored to the various sectors of the economy. Electric power plants, for example, depend heavily on coal for fuel. Coal combustion not only is responsible for CO₂ emissions, but also produces conventional air pollutants that have adverse health and ecosystem effects. Nearly all motor vehicles are petroleum fueled. In 2005, about forty-one percent of the CO₂ from fossil fuel combustion was released from electric power plants and thirty-three percent came from the transportation sector. With these two sources accounting for seventy-four percent of the releases, they are the obvious targets for control efforts.

The first step to control CO₂ emissions should be to create an accurate emissions inventory that is publicly disclosed in a useful form such as facility specific, company wide, and source category aggregation of data. The Energy Policy Act of 1992, section 1605(b), requires the tracking of GHG emissions, but it has weak reporting standards, no verification, and no penalties for companies that do not report their data. This lack of accurate data makes it very difficult to have baseline protection for companies that take steps to reduce their GHG emissions. The voluntary reporting program permits three different types of reporting: (1) “[p]roject-level reporting, defined as the reporting of the emission reductions or carbon sequestration achieved as a result of a specific action or group of actions”; (2) “[e]ntity-level reporting, defined as the reporting of emissions, emission reductions, and carbon sequestration for an entire organization, usually defined as a corporation”; and (3) “[c]ommitment reporting, defined as the reporting of pledges to take action to reduce emissions in the future.” At present, electric generators are the primary sources reporting CO₂

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110 Id. at 17.
112 Id. at ES-7, ES-8.
emission data and their data is not readily available in a useful form. The FY2008 omnibus spending bill enacted on December 26, 2007 requires EPA to finalize an economy-wide GHG registry within eighteen months that is expected to be integrated into the CAA’s section 412 reporting program. The bill instructed EPA to adopt the quality controls mandated by the Regional Greenhouse Gas Initiative (RGGI) that is applicable to electric power plants in the Northeastern states. Congress appropriated $3.5 million for EPA to develop and publish a rule for mandatory reporting of GHG emissions. It is unclear what will happen to DOE’s section 1605(b) registry. However, in the FY2009 budget the Bush Administration eliminated funding for development of regulations by EPA for mandatory GHG emissions reporting.

EPA, however, is moving forward. The Agency has developed an “Emissions & Generation Resource Integrated Database (eGRID)” that is a comprehensive inventory of environmental data on electric power systems that is based on information supplied to EPA, the Energy Information Administration (EIA), and the Federal Energy Regulatory Commission (FERC). Emissions data is integrated with generation data from EIA to produce useful information for policy making. EPA’s responsibilities concerning GHG reporting were expanded by the Consolidated Appropriation Act of 2008, which requires implementation regulations to be promulgated by the Agency.

To stabilize atmospheric concentrations of CO₂ at even twice the pre-industrial level will be very difficult in the context of a growing world population and a growing demand for useable energy. To achieve stabilization will require that growth in primary power consumption come from non-CO₂-emitting sources. These include renewable sources (solar, wind, hydroelectric, biofuels), nuclear, geothermal, and fossil fuel combustion if it includes carbon capture and sequestration. A transition to a low-carbon economy could take half a century

115 Id. See id.
117 Id.
and will be expensive. However, a low-carbon society may be healthier and more economically competitive. More than 2500 economists, including eight Nobel Prize winners, have stated that “[GHG] emissions can be cut ‘without harming American living standards.’”\textsuperscript{122} No single technology will provide a “silver bullet” solution to global warming; a long-term strategy needs to evolve using many approaches. In the shortterm, however, energy conservation measures may provide the best opportunity for meaningful reductions in CO\textsubscript{2} emissions. To develop alternative energy sources and to encourage conservation requires that energy costs remain high or higher than they were in the summer of 2008. If energy costs are allowed to drop, those who invest in a low-carbon energy future may lose their investment, and attracting capital for a post-carbon economy will be difficult.

A. Taxing Fossil Fuels

The Congressional Budget Office (CBO) evaluated the pervasive uncertainty concerning both the risks from climate change and the uncertainty concerning the costs and effectiveness of the three options for limiting climate change effects: “research and development, mitigation of [GHGs], and adaptation to a warmer climate.”\textsuperscript{123} It concluded the best policy is to select responses likely to minimize the costs of choosing an inappropriate level of control.\textsuperscript{124} The CBO advocates price controls rather than emission caps in order to control costs.\textsuperscript{125} If prices are set at a level close to the projected benefits of a measure, the risk to the economy is minimized. However, choosing the appropriate level of costs that should be incurred today to obtain benefits many years in the future is difficult. If standard economic evaluation approaches to discounting are used, benefits that are obtained a hundred years from now have almost no present value. Benefits also are keenly influenced by the values assigned to ecosystem protection, which are not easy to quantify. Imposing caps on emissions is a questionable policy choice when there is no known threshold for significant damage; price-based controls are the better way to proceed. Prices can be increased over


\textsuperscript{124} Id. at xi.

\textsuperscript{125} Id. at 27–28; see also Cong. Budget Office, \textit{The Economic Costs of Fuel Economy Standards Versus a Gasoline Tax} 22–23 (2003).
Various energy taxes have been proposed to discourage the use of fossil fuels, including taxes on gasoline, oil imports, carbon, or the energy content of a fuel (Btu tax). A carbon tax would tax fossil fuels based on their carbon content, which determines the amount of carbon dioxide that will be emitted when the fuel is burned. Not all fossil fuels produce the same quantity of CO₂ per molecule of fuel combusted. The heat value comes from the formation of CO₂ and water after breaking the hydrogen bonds of the fuel. Thus, the more hydrogen atoms for each carbon atom in a molecule of fuel, the greater the energy that can be extracted from the fuel per molecule of CO₂ created.

Coal is a mixture of various chemicals. A typical coal molecule is C₁₃H₁₀O. Gasoline also is a mixture of hydrocarbons. Indoline is a common fuel and is expressed as C₇H₁₃. Natural gas is a mixture that may contain ethane (CH₃CH₃), propane (CH₃CH₂CH₃), butane (CH₃CH₂CH₂CH₃) or other similar gases. The ratio of carbon to hydrogen bonds is about thirteen to ten for coal, seven to thirteen for gasoline, and two to five for butane. Because coal has fewer hydrogen atoms per carbon atom than oil or natural gas, it produces more carbon dioxide per Btu than the other fossil fuels. Because the carbon to hydrogen ratio varies among fuels, a carbon tax should be imposed on natural gas, petroleum and coal in a ratio of approximately 0.6, 0.8 and 1 per Btu respectively. This means that a carbon tax would impact those who use coal far more than users of petroleum or natural gas. To produce a kilowatt hour of electricity results, on average, in emission of 0.57 lbs of carbon from coal, 0.54 lbs of carbon from petroleum, and 0.36 pounds of carbon from natural gas. The carbon from any fuel reacts with

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oxygen in the air in a three to eight ratio by weight.\textsuperscript{130} Thus, for example, burning a gallon of gasoline weighing 6.32 pounds will release 5.47 pounds of carbon, which will combine with oxygen to create a little over twenty pounds of CO\textsubscript{2}.

In the United States we tax labor and savings, which are activities that we should seek to encourage. Taxes should be imposed on activities we wish to discourage, such as pollution and fossil energy use. The impact that carbon taxes would have on the national economy depends primarily on how the revenues from the tax are used, and what other taxes are affected. Taxes on GHGs could be developed that are revenue neutral. The best approach would be to return the money collected equally to every citizen. Those who purchased less than the average amount of energy would benefit financially. Ultimately, the economic and environmental benefits of a pollution tax are determined by how it is designed and implemented.\textsuperscript{131} An ideal tax would be set at the lowest amount that modifies behavior but that does not have an unacceptable adverse impact on those subject to the tax.\textsuperscript{132} This may not be possible to accomplish.

A carbon tax has advantages and disadvantages, but its advantages make this approach a useful policy choice.\textsuperscript{133} It would promote fuel efficiency, provide a wide variety of opportunities for energy conservation, and be “resilient and equitable” because its impacts would be diffuse, thus easing the burdens on sensitive sectors of the economy such as the automobile and farming industries.\textsuperscript{134} A carbon tax would be less regressive than other energy taxes, such as a gasoline tax, because the “wealthy consume a greater share of electricity and ‘intermediate energy’ from manufactured goods than gasoline.”\textsuperscript{135} A tax on coal, petroleum and natural gas would be shared more equally and generate the same revenue as a much larger gasoline tax. The disadvantage of a carbon tax would be its disproportionate effect on the coal industry and

\textsuperscript{130} Carbon with an atomic weight of 12 reacts with two atoms of oxygen, each having an atomic weight of 15.9994. This results in a carbon to oxygen ratio of 12 to 32 or 3 to 8.


\textsuperscript{135} Id.
their customers because coal contains more carbon than other fossil fuels of equal heat values.\textsuperscript{136} Coal is produced domestically, and reducing its use would adversely impact the U.S. economy.

A gasoline tax imposes a direct tax on each gallon of this fuel. Such a tax could be used to reduce vehicle miles traveled (VMT) and raise revenue by making automobile travel more expensive. Each additional penny per gallon in taxes generates about one billion dollars per year in revenue.\textsuperscript{137} However, if VMT decreases, so will the revenue raised by a gasoline tax. A gasoline tax has several advantages. To the extent that VMT is reduced, carbon dioxide and other vehicle emissions would be lowered. A gasoline tax would help reduce U.S. dependency on foreign oil. It also would help compensate for costs that the price of energy currently does not reflect, including the costs associated with pollution, congestion, and the national security costs necessary to assure our petroleum supply.\textsuperscript{138} One estimate is that the direct costs of military protection for Middle Eastern petroleum supplies from 1993 to 2003 was $49 billion a year, and this does not include the cost of two wars in Iraq.\textsuperscript{139}

A gasoline tax has several disadvantages. It may be regressive and it may impact certain elements of the economy and regions of the country more than others. It has the potential to cripple sensitive industries like auto manufacturing, and it ignores other energy sources, such as coal, which contribute more \( \text{CO}_2 \), as well as other pollutants, on a per-Btu basis. Moreover, because of the “relative price inelasticity” of gasoline demand, the size of the tax increase necessary to significantly reduce gasoline consumption may have a damaging effect on the economy.\textsuperscript{140}

Gasoline or other liquid fuel taxes obviously would affect the petroleum industry and transportation sector, especially the trucking and airline industries. Carbon taxes would impact all fossil-fuel energy sources but would affect the coal industry and its customers more than industries that use other fuels. Industries most affected by a broad energy-based tax include electric power generators, steel, petrochemical,
and some aluminum producers. Industry generally opposed energy taxes in the 1990s, but some members of the automobile industry advocated a gasoline tax as a substitute for regulatory controls based on Corporate Average Fuel Economy (CAFE) standards. For years, most people believed there was no realistic prospect that an energy tax could be enacted unless a catastrophic event occurred. But this view may be changing. The U.S. Chamber of Commerce has come out in favor of transportation user fees and a carbon tax if the money is used to upgrade roads, bridges, ports, airports, and the energy infrastructure. The House Energy and Commerce Committee Chairman John Dingell (D-Mich.) proposed a carbon tax on September 27, 2007.

Any government action, including fuel taxes, can be misused to reward a group with political power. For example, in 1993 Congress created a flexible-fuel credit that allows automobile manufacturers to receive credit toward the federal fuel economy requirements for producing vehicles that run on ethanol. CAFE standards provide for flexible-fuel vehicles to have their fuel economy calculated as 1.74 times their actual fuel economy with a total maximum increase per manufacturer of 1.2 miles per gallon (mpg). “This adjustment is based on a legislative assumption that fifty percent of the fuel such vehicles use would, on average, be E85.” However, in reality, drivers use pure ethanol less than one percent of the time, and less than 0.2% of the gas stations in the U.S. sell ethanol. The manufacturers have used this provision to avoid $1.6 billion in federal penalties while selling vehicles that have poor fuel economy. As implemented by the federal government, vehicles only need to have the capability to run on ethanol; they do not actually have to use the fuel. The vehicle is credited

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143 Lynn Garner, Chamber’s Donohue Endorses User Fees, Carbon Tax for Modernizing Infrastructure, 39 Env’t Rep. (BNA) 70 (Jan. 11, 2008).
144 Id.
147 Id.
148 Id.
with a fictional gas mileage. The flexible-fuel credit was to expire in 2008, but it was extended until model year 2019 with a declining credit in the Energy Independence and Security Act of 2007.\footnote{Pub. L. No. 110-140 § 109 (2007) (amending 49 U.S.C. § 32906 (2000)). The statute was also changed to provide a new formula for calculating fuel economy. \textit{Id}.} As we move toward serious GHG regulation we can expect to see similar efforts by organized economic interests to direct large amounts of money from the public sector to their enrichment regardless of whether the environment of the nation benefits.


B. \textit{Cap-and-Trade}

Market-based mechanisms usually focus either on limiting emissions or limiting compliance costs. Tradable permits set emission limits using a cap. The costs then must be absorbed, and the trading mechanism should be designed to allow these costs to be efficiently distributed. Tradable permits have predictable emission reductions, but unknown costs. Emission taxes impose a predictable cost, but the marketplace determines the extent to which emissions are reduced. Tradable permits are a more rational approach for sulfur dioxide control, where costs and benefits can be more accurately estimated, than
for CO₂ control, where costs and benefits often are unknown and are heavily influenced by modeling assumptions.\textsuperscript{157}

It is unlikely that EPA legally could institute a tax-based program using its existing legal authority; it may need to use cap-and-trade if it seeks to reduce carbon emissions using an economic-based approach. However, cap-and-trade programs also are a suspect class since the U.S. Court of Appeals for the D.C. Circuit, on July 11, 2008, vacated EPA’s Clean Air Interstate Rule (CAIR) that included a cap-and-trade program for nitrogen oxides.\textsuperscript{158} If a cap-and-trade program for controlling carbon emissions could be promulgated that would withstand judicial scrutiny, presumably it would be similar to the program used to control sulfur dioxide under the CAA.\textsuperscript{159} This program is a closed system that imposes an emissions limit on a group of sources, primarily fossil-fueled electric power plants, and each source is allocated a portion of the overall emissions cap, called allowances, that it can use to cover its emissions or sell if it has excess allowances.\textsuperscript{160}

A cap-and-trade program used to control CO₂ emissions could be imposed on major emission sources or it could be imposed on fuels at the source of the supply. Alternatively, a nationwide cap on gasoline consumption could be imposed where individuals would be given the right to buy a specified amount of gasoline, which they could use or sell to anyone seeking to obtain more gasoline than they were authorized to purchase. This would be similar to the rationing of gasoline during World War II. In Europe, a cap-and-trade system is used and this approach appears to be the technique of choice for much of the world, but it has been criticized as “ineffective, unwieldy, and prone to gaming and cheating.”\textsuperscript{162} According to Congressma n John Dingell, the European market for CO₂ emissions trading has fallen apart.\textsuperscript{163} Nevertheless, the European Union is committed to cap-and-trade. One important change that is being proposed is a move toward having all allowances being auctioned by 2020 because of the windfall profits gar-

\begin{itemize}
  \item \textsuperscript{157} See Larry Parker, Cong. Research Serv., Global Climate Change: Controlling CO₂ Emissions—Cost-Limiting Safety Valves 2 (2004).
  \item \textsuperscript{158} North Carolina v. EPA, 531 F.3d 896, 929–30 (D.C. Cir. 2008). The court changed the vacatur to a remand without imposing a schedule for revising the rule. State of North Carolina v. EPA, No. 05-1244 (D.C. Cir. Dec. 23, 2008).
  \item \textsuperscript{159} Clean Air Act §§ 401–406, 42 U.S.C. §§ 7651–7651e (2000).
  \item \textsuperscript{160} Id.
  \item \textsuperscript{161} David Harrison, Jr. et. al., Using Emissions Trading to Combat Climate Change: Programs and Key Issues, 38 Envtl. L. Rep. (Envtl. Law Inst.) 10,367, 10,367 (June 2008).
  \item \textsuperscript{162} Fareed Zakaria, In Search of a Better Kyoto, Wash. Post, Apr. 9, 2007, at A13.
\end{itemize}
nered by electric generators in the first phase of the Emissions Trading Scheme (ETS) from 2005 through 2007.\footnote{Stephen Gardner, EU Parliament, Council Making Progress on Post-2012 Emissions Trading Scheme, 39 Env’t Rep. (BNA) 1417 (July 11, 2008).} Using the CAA to impose a cap-and-trade program probably would work for a limited number of major sources, but it would be impractical to try to include all CO2 stationary sources in a program. Because of the large number of mobile sources, to be manageable a cap aimed at motor vehicle emissions is most likely to be imposed at the refinery.\footnote{See Robert R. Nordhaus, New Wine into Old Bottles: The Feasibility of Greenhouse Gas Regulation Under The Clean Air Act, 15 N.Y.U. ENVTL. L.J. 53, 70 (2007).} A cap-and-trade program appears to be more politically acceptable than a revenue-neutral carbon tax, but it will have higher transaction costs, it will be more complex, and it is unlikely to be revenue-neutral.\footnote{See generally J.R. DeShazo & Jody Freeman, Timing and Form of Federal Regulation: The Case of Climate Change, 155 U. PA. L. REV. 1499, 1539 (2007).} It may lead to a massive transfer of wealth to the energy industries. This is a major problem with the legislation pending before the Congress.

C. Legislative Proposals

In the 105th Congress (1997–1998), seven bills dealing with climate change were introduced,\footnote{Pew Center on Global Climate Change, Legislation in the 109th Congress Related to Global Climate Change, http://www.pewclimate.org/what_s_being_done/in_the_congress/109th.cfm (last visited Jan. 13, 2009).} and in each succeeding Congress interest in climate-change legislation intensified. In the 109th Congress (2005–2006), 106 bills, resolutions, and amendments were introduced that related to climate change.\footnote{Id.} An important GHG bill has been the Climate Stewardship Act (a.k.a. the McCain-Lieberman bill). It was introduced in January 2003 as S. 139 and provided for emission caps and tradable GHG allowances, but failed to pass.\footnote{Pew Center on Global Climate Change, Summary of the McCain-Lieberman Climate Stewardship Act, http://www.pewclimate.org/policy_center/analyses/s_139_summary.cfm (last visited Jan. 13, 2009).} It was reintroduced on February 10, 2005, as S. 342.\footnote{Id.} On May 26, 2005, Senators John McCain and Joseph Lieberman introduced a modified version of their climate change bill called the Climate Stewardship and Innovation Act (S. 1151).\footnote{Pamela Najor, Incentive to Push Technology Added to Bill by McCain, Lieberman on Greenhouse Gases, 36 Env’t Rep. (BNA) 1118 (June 3, 2005).} This third version of the bill continued to seek a reduction in CO2 emissions to 2000 levels by 2010 through a regulatory program.
to be promulgated by EPA that would apply to GHG emissions from electric generators and to the transportation, industrial, and commercial sectors.\textsuperscript{172} The major change in the bill was that it allowed revenues generated by the trading program to be used to develop alternative energy technologies including solar, nuclear, and IGCC technologies, energy efficiency improvements, alternative vehicles, and alternative fuels.\textsuperscript{173} On June 22, 2005, the Senate voted down the proposed legislation in a sixty to thirty-eight vote.\textsuperscript{174} The addition of potential funding for nuclear power may have helped defeat the bill because eleven Democrats voted against it.\textsuperscript{175}

The Energy Policy Act of 2005 did not enact any provision directly regulating carbon emissions.\textsuperscript{176} It provides numerous incentives to encourage the development of nuclear and renewable energy, but provides substantially more money to expand the use of carbon-based fuels.\textsuperscript{177} These include the clean coal tax credit (section 1307), royalty incentives for natural gas production in the Gulf of Mexico (section 1344), and the shortening of the recovery period for depreciation deductions on natural gas distribution lines from twenty to fifteen years (section 1325).\textsuperscript{178}

Numerous legislative proposals before the 110th Congress in 2007 addressed some aspect of climate change.\textsuperscript{179} Some dealt comprehensively with GHG issues while others were concerned with petroleum independence, terrorism, or were simply “pork” disguised as environmental legislation.\textsuperscript{180} The most common proposal was to increase the corporate average fuel economy (CAFE) standards.\textsuperscript{181} Other bills

\begin{itemize}
\item\textsuperscript{172} Id.
\item\textsuperscript{173} Id.
\item\textsuperscript{174} 151 CONG. REC. S7029 (daily ed. June 22, 2005).
\item\textsuperscript{175} See id.
\item\textsuperscript{177} See Joint Comm. on Taxation, 109TH CONG., ESTIMATED BUDGET EFFECTS OF THE CONFERENCE AGREEMENT FOR TITLE XIII OF H.R. 6, THE “ENERGY TAX INCENTIVES ACT OF 2005,” at 1 (Comm. Print 2005).
\item\textsuperscript{178} Energy Tax Incentives Act of 2005, §§ 1307, 1325, 1344, (codified in scattered sections of 26 U.S.C.).
\item\textsuperscript{179} Pew Center on Global Climate Change, Legislation in the 110th Congress Related to Global Climate Change, http://www.pewclimate.org/what_s_being_done/in_the_congress/110thcongress.cfm (last visited Jan. 13, 2009).
\item\textsuperscript{180} Id.
\end{itemize}
sought to establish a GHG tradable allowance system.\textsuperscript{182} Some bills would nationalize the California mobile source standards.\textsuperscript{183} Still another approach is to limit automobile carbon dioxide emissions on a gram per mile basis.\textsuperscript{184} An important issue for Congress involves the choice of the agency to establish GHG emission standards for passenger vehicles. Some of the bills give the authority to EPA.\textsuperscript{185} Other bills give the authority to the Department of Transportation, which presently has the authority to administer motor vehicle fuel efficiency standards.\textsuperscript{186}

The most important bill in 2008 was the Lieberman-Warner bill, S. 3036, America’s Climate Security Act of 2008, which was introduced on May 20, 2008.\textsuperscript{187} It is a modified version of the McCain-Lieberman bill that was first introduced in 2003 and evolved into the Climate Security Act of 2007, S. 2191.\textsuperscript{188} S. 2191 was revised after it passed out of committee in December 2007 and was assigned a new bill number, S. 3036. The 2008 version of the bill has numerous changes from the 2007 version, but the overall thrust of the legislation remains focused on capping GHG emissions and substantially reducing them between 2012 and 2050.\textsuperscript{189} These emission reductions would be implemented using three separate cap-and-trade programs: the first covers most GHGs, the second covers hydrochlorofluorocarbons (HFCs), and the third covers emissions embodied in imported products. Section 4(5) establishes the basic regulatory unit for the Act’s program as one metric ton of carbon dioxide equivalent for GHGs. The bill’s section 4(7) defines the facilities covered as those that use 5000 tons of coal a year; facilities in the natural gas sector; facilities that produce or import petroleum- or coal-based fuel; facilities that produce or import chemicals that are GHGs in excess of 10,000 CO\textsubscript{2} equivalent units; and facilities that emit as a byproduct of the production of HFCs more than 10,000 carbon dioxide equivalents of HFCs. The Act provides in sections 1103 and 1104 for affected facilities to comply with mandatory reporting and a verifica-

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\textsuperscript{183} Proposed Bills on: Transportation Emissions, \textit{supra} note 181 (H.R. 2635).
\textsuperscript{184} Id. (S. 309 and H.R. 2927 both propose gpm standards).
\textsuperscript{185} Id. (S. 1297 & S. 1324).
\textsuperscript{186} Id. (S. 1419 & S. 2927).
\textsuperscript{187} S. 3036, 110th Cong. (2008).
\textsuperscript{188} The McCain-Lieberman bill, S. 280, continued to be one of several bills on climate change that also were pending in the Senate in 2007.
\end{flushright}
tion process based on regulations to be issued by EPA to establish a federal GHG registry that would be published on the internet. A failure to comply with the Act’s requirements would subject the violator to its section 1106 civil penalty of up to $25,000 for each day’s violation.

Section 1201 creates an emission allowance account that begins in 2012 with 5775 million metric ton allowances and diminishes over time to 1732 million allowances in 2050. There were 7201.9 million tons of CO₂ equivalent emitted in 2006, therefore, it will take many years to achieve reductions that are considered to be needed sooner than the bill requires. Section 1203 provides that emissions without an offsetting allowance would be subject to a penalty of at least $200 per ton. Section 2601 would create a Carbon Market Efficiency Board to limit price spikes and act as a regulator of the carbon market. A Climate Change Credit Corporation would be established by section 4201 that will be a private corporation that will auction allowances allocated to it pursuant to section 3103 and distribute the rest based on regulations to be promulgated by EPA pursuant to sections 3201, 3301, and 3304. Distribution requirements are found in sections 3501 through 3504 for natural gas distribution and in sections 3902 and 3903 for electric power companies. The industrial sector and others would be guaranteed a portion of the allowances by sections 3904 through 3908. Sections 4301 through 4302 govern the auction process. Section 3101 provides for a deficit-reduction fund that will receive 6.10% of the allowances in 2012 and the percentage increases each year and peaks at 15.99% in 2031, remaining at that level through 2050. These allowances will be auctioned and the proceeds used for deficit reduction. While the proposed legislation provides for some allowances to be distributed through an auction, for many years most of the allowances will be given, without charge, to the major emitters of GHGs. Section 3103 provides that only 21.5% of the allowances are to be sold at auction in 2012 with increases each year until 2031 and thereafter when 69.5% of the allowances are to be auctioned.

Section 4402 encourages deployment of zero- or low-carbon technology. Incentives are provided for advanced coal technology development, including carbon sequestration in section 4403. Incentives to produce fuel from cellulosic biomass are found in section 4404. Section 4405 creates an incentive program for advanced-technology vehicles. Subtitle E provides for assistance to reduce energy costs for low-income

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persons as well as for those in off-grid rural areas.\footnote{S. 3036 §§ 4501–4502.} Seven funds are to be created by section 4101 that will receive money from auctioning carbon dioxide allowances, including: The Energy Assistance Fund; The Climate Change Worker Training Fund; The Adaptation Fund; and The Climate Change and National Security Fund. Title V of the Act includes appliance efficiency standards that would modify the Energy Policy and Conservation Act at 42 U.S.C. § 6925(f) to create new boiler standards and modifications of 42 U.S.C. § 6297 to create new heating and cooling standards.\footnote{Id. §§ 5101–5102, 5201–5202.} It would require the Secretary of Energy to update building energy efficiency codes in 42 U.S.C. § 6833.\footnote{Id. § 5201.} Title VI encourages international efforts to reduce GHG emissions.\footnote{Id. §§ 6101–6107.}

Title VIII provides a framework for geological sequestration of carbon dioxide.\footnote{Id. §§ 8001–8004.} The Act in section 8001 would amend the Safe Drinking Water Act to allow carbon dioxide to be injected underground. Section 9003 provides for the retention of state authority to regulate GHGs if the regulations are no less stringent than applicable federal standards under the Act.

Free allowances that increase the price of energy would be a tremendous windfall to the regulated industries.\footnote{Dean Scott, Air Board Urges Auction of Allowances Under Federal Cap-and-Trade Legislation, 38 Env’t Rep. (BNA) 2199 (Oct. 12, 2007).} It would be far more equitable to auction allowances and return the money to consumers. Because the financial benefits from the carbon allowances are estimated as having a value between $50 billion and $300 billion per year, there will be substantial competition by potential beneficiaries to financially benefit from the bill.\footnote{See id.} The effect of most of the provisions in S. 3036 would be to increase the cost of energy to all Americans and to distribute the money gathered by the government to the interests that successfully lobby for funds.

A competing bill is the Bingaman-Specter bill, the Low Carbon Economy Act of 2007, S. 1766, which in section 101 calls for a reduction from the year 2000 GHG emissions of one percent by 2025 and an eight percent reduction by 2050.\footnote{S. 1766, 110th Cong. § 101 (2008); Kenneth R. Richards & Stephanie Hayes Richards, An Analysis of the Leading Climate Change Bills in the U.S. Senate, 38 Env’t L. Rep. (Envtl.} However, reductions of sixty per-
cent or more below 2006 levels are authorized by section 501 if the five largest trading partners of the United States reduce their emissions through comparable action.\footnote{S. 1766 § 501(b)(1).} This bill would effectively cap the cost of allowances at twelve dollars per ton.\footnote{Id. § 102(d)(1).} Other competing bills are Senator Carper’s S. 1177 and Senator Diane Feinstein’s S. 317.\footnote{Pew Center on Global Climate Change, 110th Congress Index of Proposals, http://www.pewclimate.org/what_s_being_done/in_the_congress/indexbills.cfm (last visited Jan. 13, 2009).} They apply to the power sector while the Lieberman-Warner bill applies to most sources of carbon emissions. The Lieberman-Warner bill, S. 2191, was approved by the Public Works Committee on December 5, 2007, the first such bill to obtain approval, but it failed to pass the Senate in 2008.\footnote{Leora Falk, Senate Climate Bill Goes Down to Defeat, 12 Votes Short on Cloture Motion, 39 Env’t Rep. (BNA) 1146 (June 13, 2008).} It is expected to return as a priority legislative matter in the new Congress in 2009.

Legislative efforts in the Senate have received more attention than the House cap-and-trade bills, and efforts to enact the House versions must contend with the powerful House Energy and Commerce Committee Chairman, John Dingell.\footnote{See Dean Scott, House Democrats Introduce Bill to Require 80 Percent Cut in Greenhouse Gas Emissions, 39 Env’t Rep. (BNA) 1210 (June 20, 2008).} However, the Democratic leadership has worked to limit the influence of Representative Dingell. Representative Edward Markey (D-Mass.) is sponsoring H.R. 6186, and Representatives Lloyd Doggett (D-Tex.), Christopher Van Hollen (D-Md.), and Earl Blumenauer (D-Ore.) introduced the Climate MATTERS Act on June 19, 2008.\footnote{Id.} Both bills call for a 100% auction of emissions allowances, but the Doggett bill would make the Treasury Department responsible for auctioning allowances, thereby bypassing the Energy and Commerce Committee.\footnote{Id.} The Doggett bill is expected to become more important in 2009 because it is the Democratic leadership’s bill and is supported by about half the Democrats on the Ways and Means Committee.\footnote{Key Democrats Back Climate Bill that Bypasses House Energy Panel, 19 Clean Air Rep. (Inside Wash. Publishers, Washington D.C.) No. 13 (June 26, 2008), available at 2008 WLNR 11928452.
If the Lieberman-Warner bill, or something similar, is enacted the big winner will be the nuclear industry, although the industry is not mentioned by name. The nuclear industry expects to tap into the money from the carbon dioxide auction proceeds that will fund the “zero- or low-carbon energy technologies program.” More important, however, is that an emissions cap and the cost of emission allowances will be an impediment to the expansion of the coal industry, which will benefit the nuclear industry.\textsuperscript{207} Geographically, the major loser will be the Southeast and Midwest states that are the most dependent on coal-fired electricity and that have relatively high summer and winter demand for cooling and heating.\textsuperscript{208}

There should be a comprehensive federal program designed to reduce GHG emissions and Congress, not the Supreme Court, should designate the agency or agencies to implement the program. The mandate from the Supreme Court in \textit{Massachusetts v. EPA}, while a poor way to deal with climate change, may turn out to be an appropriate stimulus for Congress to act. Congress now should move quickly to enact new climate change legislation that would give political legitimacy to federal efforts to control CO\textsubscript{2}. Such legislation should explicitly overrule \textit{Massachusetts v. EPA} to provide structure and guidance to the EPA or some other government department concerning how Congress expects the new energy policy program to function. As part of this program, the cost of using carbon-based fuels must increase, but the increased costs should not be used to enrich the energy industry through free allowances or to create large semi-permanent subsidies for the energy industry.

\textbf{IV. Control of Fossil-Fueled Electric Power’s Carbon Emissions}

Even if legislation is enacted to increase the cost of using fossil fuel, there will remain a need to regulate industries with high GHG emissions. Fossil fuel combustion in 2005 in the United States was responsible for about 94\% of the CO\textsubscript{2} emissions and 79.2\% of the nation’s overall GHG emissions.\textsuperscript{209} Forty-one percent of the CO\textsubscript{2} from fossil fuel combustion was emitted by electric power plants, which makes them the largest source of GHG emissions in the United States.\textsuperscript{210} There were

\begin{itemize}
  \item \textsuperscript{207} Mike Ferullo, \textit{More Nuclear Plant Applications Expected; Climate Debate Could Spur More Incentives}, 39 Env’t Rep. (BNA) 199 (Jan. 18, 2008).
  \item \textsuperscript{208} Dean Scott, \textit{Uneven Impact of Senate Cap-and-Trade Bill Raises Concerns Following EPA Cost Analysis}, 39 Env’t Rep. (BNA) 547 (Mar. 21, 2008).
  \item \textsuperscript{210} \textit{Id.} at 3–11.
\end{itemize}
1336 electric-generating units in the United States in 2000 and 1032 of them were coal fired.\textsuperscript{211} In 2006, U.S. electric power production by fuel source was: 49% coal, 19% natural gas, 20% nuclear, 7% hydroelectric, 1.6% oil, and 2.4% other renewable resources.\textsuperscript{212} Approximately one ton of CO$_2$ is produced for each megawatt-hour of electricity generated from coal.\textsuperscript{213} But emissions can vary significantly depending on factors such as the age of the plants.\textsuperscript{214} In California in 2007, 358.55 pounds of CO$_2$ were emitted per megawatt-hour; in Texas, 1278.71 pounds per megawatt-hour were emitted.\textsuperscript{215} CO$_2$ emissions from electric power production in 2005 increased 31.5\% since 1990, and in the same period overall U.S. CO$_2$ emissions increased 21.74\%.\textsuperscript{216} In 2007, power plant CO$_2$ emissions increased 2.9\%, which is the largest one-year increase since 1998.\textsuperscript{217} In government reports, the electric power industry’s CO$_2$ emissions are usually attributed on a pro-rated basis to the other end-use sectors: transportation (where it is negligible), industrial, commercial, and residential.

Getting rid of old coal-burning power plants would be the single move that could significantly reduce CO$_2$ and criteria-pollutant emissions. Replacing coal with modern natural gas plants would be the most practical immediate step if GHG emissions are to be reduced. Modern gas turbines are up to sixty percent efficient compared to thirty-three percent for coal-fired steam turbine plants,\textsuperscript{218} so CO$_2$ emissions are lower, but natural gas availability and its high cost are problematic. Moreover, using natural gas for boiler fuel is not the best use for this valuable natural resource. A long-term goal should be to use renewable energy technologies to meet an increasing share of the nation’s electric power demand.


\textsuperscript{213} Steven Cook, Report Finds Some Power Plant Emissions Decline, but Carbon Dioxide Holds Steady, 38 Env’t Rep. (BNA) 1606 (July 27, 2007).


\textsuperscript{215} Id.


\textsuperscript{217} Falk, supra note 214.

Even if coal is replaced by cleaner technology, such as combined cycle natural gas generation, government intervention will be required to prevent old coal plants from being used to provide capacity reserve rather than being retired. More stringent air pollution control requirements applicable to such plants could spur their retirement. Emission limitations based on power produced rather than fuel input would be an obvious step in the correct direction. EPA’s regulations usually provide for emissions based on heat input, not on the amount of electricity generated. This allows inefficient electric power producers to legally have emissions higher than energy-efficient plants.

The role of coal in generating electricity in the United States is an important policy issue that has not yet been resolved. In early 2008 there were twenty-four coal-fired plants under construction involving $23 billion of new capital investment. These facilities are expected to be far less polluting than older existing plants, but they could contribute massive amounts of carbon dioxide to the atmosphere for a half-century or more. At the same time, pressure from environmental groups and state governments caused electric utilities to cancel or delay the construction of fifty-nine coal-fired power plants in 2007. The coal industry is lobbying hard to have the U.S. taxpayer dramatically increase the funding for clean-coal-related programs. If they are successful in obtaining the funding, and the money expended results in technology advances, the continued dependence on coal-fired electric power plants would likely continue. However, the coal-fired electric power industry is not only facing expensive regulatory requirements related to climate change, but is also facing other increases in costs that threaten the economic viability of new coal-burning plants. The costs of these plants are two to three times the costs incurred in the 1970s even without CO₂ control being mandated by EPA.

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220 An exception is the nitrogen oxides standards for sources whose construction commences after July 9, 1997, which have emissions limitations of 1.6 pounds per mega-watt-hour of gross energy output. Id. § 60.44Da(d)(1).
222 Id.
223 See id.
says their construction costs have nearly doubled since 2002.\textsuperscript{225} Many states are imposing reductions in GHGs as well as imposing renewable energy and energy efficiency requirements.\textsuperscript{226} Sequestering carbon emissions will be a costly process, although the costs and effectiveness of such measures are currently uncertain. More stringent controls on conventional air pollutants and the potential regulation of mercury emissions using MACT standards based on section 112 of the CAA will add to the costs and uncertainty.\textsuperscript{227} Moreover, the worldwide growth in electric power generation is creating competition for the resources and skills necessary to build plants, and that is leading to skyrocketing increases in construction costs.\textsuperscript{228}

A. \textit{Integrated Gasification Combined Cycle Technology}

For new coal-burning electric power plants, conventional technology is to use pulverized coal boilers. The use of circulating fluidized bed (CFB) boilers results in less air pollution. Even better is the use of integrated gasification combined cycle (IGCC) technology, which is based on coal gasification. The coal gasification process can use high-sulfur, low-quality coal or petroleum coke to produce coal gas (a.k.a. synthetic gas or syngas), which is then processed to remove pollutants. Coal of any quality is fed to a gasifier where it is partly oxidized by steam under pressure. By reducing the oxygen in the gasifier, the carbon in the fuel is converted to a gas that is eighty-five percent carbon monoxide and hydrogen. Sulfur can be removed as elemental sulfur or sulfuric acid and sold. Inorganic ash and metals drop out as slag, which is impervious to leaching and may be used in construction materials. When used to produce electricity in an IGCC facility, coal gas is combusted relatively cleanly in a gas turbine and the heat from the exhaust gas is used to run a separate steam turbine in order to increase the system’s efficiency. This is known as a combined cycle. Conventional coal-burning power plants combust fuel at about 3000 degrees Fahrenheit to produce process steam at temperatures that are usually below 400 degrees Fahrenheit.\textsuperscript{229} Much of the heat energy of the fuel is wasted.

\begin{enumerate}
\item \textit{Id.}
\item \textit{Id.}
\item ICCR Report, \textit{supra} note 224.
\end{enumerate}
Cogeneration facilities use the excess heat to produce electricity, and can be twice as efficient as conventional power plants.\textsuperscript{230}

IGCC, when used with stack gas pollution controls, provides the lowest emissions of criteria pollutants from coal-burning electric power plants and has a superior ability to cost-effectively reduce mercury and CO\textsubscript{2} emissions. IGCC technology can reduce sulfur dioxide by ninety-eight percent or more and nitrogen oxides by ninety percent\textsuperscript{231} which exceeds New Source Performance Standards. New coal-burning facilities require a heat input of about 10,500 Btu per kilowatt-hour of electricity produced, but the best IGCC generation facilities need only 4500 Btu per kilowatt-hour.\textsuperscript{232} Because IGCC is more thermally efficient than a conventional pulverized coal plant, CO\textsubscript{2} emissions are less per kilowatt-hour of production. IGCC technology may be a partial solution to the control of carbon dioxide emissions because it creates a separate gas stream of carbon dioxide that can be removed from the process and sequestered when the technology to accomplish this becomes available.\textsuperscript{233}

In 2002, there were 160 commercial IGCC plants, built or planned, in twenty-eight countries.\textsuperscript{234} The United States has only two IGCC plants, the Polk County Florida 260 megawatt facility owned by the Tampa Electric Company, and the Wabash River Repowering Project owned by Cinergy. The Wabash River IGCC project cost, if applied to a green field project, was estimated at $1700 per kilowatt.\textsuperscript{235} The Tampa Electric Project cost $1213 per kilowatt.\textsuperscript{236} Project costs have dropped, but despite construction costs as low as $1000 per kilowatt and very effective emissions control, these plants have not been able to compete with low cost retrofits of existing plants that are subject to less stringent air pollution controls.\textsuperscript{237} Moreover, to get nitrogen oxide emissions to the level of natural gas-fired facilities requires the use of selective catalytic reduction devices which significantly increase the costs of using

\begin{itemize}
  \item \textsuperscript{230} Id.
  \item \textsuperscript{231} U.S. DEPT. OF ENERGY, CLEAN COAL DEMONSTRATION PROGRAM: PROGRAM UPDATE 2001, at 5-121 (2002) [hereinafter CLEAN COAL DEMONSTRATION PROGRAM].
  \item \textsuperscript{232} Id. supra note 229, at 119 n.49.
  \item \textsuperscript{233} Id.
  \item \textsuperscript{235} Id. supra note 231, at 5-127.
  \item \textsuperscript{236} Id. at 5-119.
  \item \textsuperscript{237} Id. supra note 234, at 10,372.
\end{itemize}
Tampa Electric was seeking to build another IGCC plant at the site of its first plant, but on October 4, 2007, the company announced it was scrapping its plan and giving up $133.5 million in federal tax credits because of the uncertainty concerning the requirements for carbon capture and sequestration and the associated costs. On March 3, 2008, environmental groups sued the Department of Energy to prevent the granting of $1 billion in tax credits for new power plants in nine states that are to employ “clean coal” technology, including three IGCC facilities.

Section 1307 of the Energy Policy Act of 2005 provides a tax credit for IGCC projects in the Internal Revenue Code (IRC). Section 48A of the IRC provides a twenty percent investment tax credit for qualifying advanced coal projects using IGCC technology. On February 21, 2006, the Internal Revenue Service issued Notice 2006-24 to establish the tax credit program. Section 48A defines a “qualified advanced coal project” as one that: (a) uses IGCC; (b) operates at forty percent efficiency; or (c) is a retrofitted or repowered unit that achieves an efficiency of thirty-five percent and meets specified design efficiency improvements. The project also is required to have ninety-nine percent sulfur dioxide removal and ninety percent mercury removal.

If IGCC technology is to be used to make it easier to control CO₂ emissions, some assurance of an appropriate return on investment will be needed. There has been an effort to get the federal government to provide loan guarantees to encourage IGCC installation, but environmental groups often oppose efforts to expand the use of coal. A site was to be selected in either Texas or Illinois for the construction of a 275 megawatt prototype plant as part of the FutureGen initiative that would produce electricity and hydrogen while removing and sequester-

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243 § 1307, 119 Stat. at 1000–03.
244 Id. at 1003.
ing carbon dioxide in a coal gasification process.\textsuperscript{246} However, after selecting the Mattoon, Illinois site, the estimated cost increased about fifty percent, and in January 2008, DOE announced it planned to cancel the FutureGen program, and it did so on June 13, 2008.\textsuperscript{247} Some members of Congress are holding hearings, claiming that the FutureGen project was cancelled because an Illinois site, rather than the Texas site, was selected.\textsuperscript{248} However, industry continues to lobby Congress for funds to continue the project, but may build the facility without government funding assistance.\textsuperscript{249}

In June 2007, EPA approved a construction permit to build a 630 megawatt IGCC plant in Taylorville, Illinois, but the plant is not designed to sequester carbon.\textsuperscript{250} If the plant becomes operational, it will be the first commercial scale IGCC plant in the United States.\textsuperscript{251} The Sierra Club subsequently challenged EPA’s position before the Environmental Appeals Board in In re: Christian County Generation, LLC,\textsuperscript{252} but the EAB denied review of the PSD permit on January 28, 2008.\textsuperscript{253} In Minnesota, Excelsior Energy is attempting to build an IGCC plant, although it will not capture and sequester carbon dioxide emissions.\textsuperscript{254} It will be years before there can be large-scale commercial deployment

\textsuperscript{246} U.S., China to Expand Environmental Work; China Joins U.S. “Clean Coal” Initiative, 37 Env’t Rep. (BNA) 2582 (Dec. 22, 2006).


\textsuperscript{250} Michael Bologna, State Issues Air Permit for Construction of Power Plant Using Coal Gasification, 38 Env’t Rep. (BNA) 1297 (June 8, 2007).

\textsuperscript{251} Id.

\textsuperscript{252} Jonathan S. Martel, Climate Change Law and Litigation in the Aftermath of Massachusetts v. EPA, Daily Env’t Rep. (BNA) B-1 (Nov. 6, 2007).

\textsuperscript{253} Steven D. Cook, EPA Permit for Utah Coal-Fired Power Plant Under Challenge at Agency’s Appeals Board, 39 Env’t Rep. (BNA) 344 (Feb. 22, 2008).

of sequestration technologies. For that reason, the Sierra Club and other environmental organizations are opposing the project.\textsuperscript{255}

With about 154 new coal-fired plants proposed in forty-two states,\textsuperscript{257} an important factor for IGCC technology acceptance is whether it is mandated as BACT or LAER in order to obtain a construction permit under section 173(a)(2) of the CAA in a PSD area or section 165(a)(4) in a nonattainment area. It has been argued that IGCC is BACT even though it is a different production process and is not an “end of stack” control. This position is supported by referring to the language of section 169(3) of the CAA that includes different production processes, fuel cleaning, and innovative fuel combustion processes as BACT options.\textsuperscript{258} EPA’s 1990 draft guidance indicated that it was not the Agency’s general policy to redefine an applicant’s design for a facility for purposes of considering what is the best available control technology.\textsuperscript{259} In the 2005 Energy Policy Act, Congress did not take a position as to whether IGCC was adequately demonstrated for purposes of section 111 or whether it is achievable for the purposes of sections 169 or 171 of the CAA.\textsuperscript{260} EPA’s Stephen D. Page, in a letter of December 23, 2005, stated that IGCC is not BACT because it involves the basic design of a proposed source.\textsuperscript{261} EPA’s position is that section 165(a)(2) requires alternative sources to be considered at an early stage in the permitting process, but once a technology is selected, section 165(a)(4) requires appropriate air pollution controls to be considered.\textsuperscript{262} IGCC is considered by EPA to be a technology for generating electricity; it is not an air pollution control technology.\textsuperscript{263}


\textsuperscript{262} Id.

\textsuperscript{263} Id.; see also Steven D. Cook, EPA Official Reports Gasification as Standard for New Coal-Fired Electric Power Plants, 36 Env’t Rep. (BNA) 2625 (Dec. 23, 2005).
the Page letter was not final Agency action; it creates no rights and does not have any legally binding effect.\textsuperscript{264} However, the 2008 decision by a Georgia state court, previously discussed, held that IGCC is an innovative fuel combustion technology that must be considered.\textsuperscript{265}

**B. Sequestration**

Carbon sequestration may be accomplished through storage in a geologic depository or by using a biologic process in which carbon dioxide is removed from the atmosphere by plants that store carbon. A major benefit from effective sequestration is that America’s abundant supply of coal could be utilized without the adverse environmental impacts associated with CO\textsubscript{2} emissions. Risks from sequestration that have been identified include changes in soil chemistry that could harm the ecosystem, effects on water quality due to acidification, and the potential for large releases that could harm or suffocate people and animals. A report developed by the Intergovernmental Panel on Climate Change (IPCC) suggests that the risks of CO\textsubscript{2} storage are equivalent to the risks from existing industrial activities.\textsuperscript{266} However, for geologic sequestration (GS) to be effective it must prevent releases for centuries. We do not have much experience with injection on the scale that will be required for GS. GS will require dealing with the properties of flue gas from fossil-fuel combustion. That includes the relative buoyancy of CO\textsubscript{2}, its mobility within subsurface formations, the corrosive properties of the gases in water, the impact of the impurities in the flue gas, and the large volume of material that will need to be injected.\textsuperscript{267} The flue gas is expected to be compressed in order to convert it from gas to a supercritical fluid.\textsuperscript{268} It then will be transported to the injection site by pipeline; aided by the location of ninety-five percent of the largest stationary sources within fifty miles of a potential storage reservoir.\textsuperscript{269} The supercritical liquid will be injected, using proven technology, at a depth

\textsuperscript{264} Mugdan, \textit{supra} note 257, at 59 & n.34.


\textsuperscript{268} \textit{Id.}

\textsuperscript{269} \textit{Id.}
of about 800 meters (2625 feet) in order to keep the CO₂ in a liquid state.²⁷⁰

Carbon sequestration in underground reservoirs requires a permit issued under the Safe Drinking Water Act (SDWA).²⁷¹ The Energy Independence and Security Act of 2007 gave EPA the explicit authority under the SDWA to regulate injection and geologic sequestration of carbon dioxide.²⁷² Governors from oil and gas producing states did not want federal regulation of CO₂ injection because they do not want interference with the use of CO₂ to force natural gas and petroleum to the surface.²⁷³ These operations are small compared to what would be required to sequester CO₂ emissions from fossil-fueled electric power plants.²⁷⁴ EPA’s proposed rule governing underground injection of carbon dioxide under the Safe Drinking Water Act was released July 15, 2008.²⁷⁵

The proposed rule creates a new class of injection well for GS wells, but it does not mandate the capture and sequestration of CO₂.²⁷⁶ It includes requirements to ensure wells are appropriately sited and are constructed to prevent fluid movement.²⁷⁷ There are monitoring and reporting requirements, including periodic re-evaluation of the underground area to verify the material injected is moving as predicted.²⁷⁸ It includes testing requirements to ensure underground sources of drinking water are protected, including post-injection monitoring.²⁷⁹ The rule also includes financial responsibility requirements to assure the resources are available for well plugging, site care, closure, and emergency remedial response.²⁸⁰ The proposed rule does not resolve the uncertainty concerning whether carbon dioxide injected underground will be considered to be a hazardous substance under the Resource

²⁷⁰ Id.
²⁷⁴ Id.
²⁷⁶ Id. at 43,495.
²⁷⁷ Id. at 43,498–99.
²⁷⁸ Id. at 43,499.
²⁷⁹ Id.
²⁸⁰ Id.
Conservation & Recovery Act (RCRA)\textsuperscript{281} or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund).\textsuperscript{282} EPA indicates that the concentration of impurities in the waste is expected to be low, but the Agency will not categorically determine whether CO\textsubscript{2} injection is hazardous under RCRA or CERCLA.\textsuperscript{283} This means that those involved in sequestration could be subject to liability under these federal laws if there is contamination of underground water.\textsuperscript{284}

The proposed rule affects state regulation, but the role of the states cannot easily be preempted because many legal issues concerning sequestration will involve property, tort, and contract law that are controlled by state law.\textsuperscript{285} An important issue is whether the surface owner or the mineral owner has the right to sequester CO\textsubscript{2} and which property interest has the associated liability.\textsuperscript{286} Wyoming became the first state to address this issue when on March 2, 2008, House Bill 89 was enacted.\textsuperscript{287} It provides that the pore space underneath the surface estate is owned by the surface owner.\textsuperscript{288} However House Bill 90, which became law on the same day, allows the mineral interest owner to drill through sequestration sites.\textsuperscript{289} These laws help to answer some questions but do not remove uncertainties concerning liability.\textsuperscript{290} Moreover, it has not yet been resolved which federal agency will have oversight over long-term liability for sequestration or other aspects of the program.\textsuperscript{291}

\begin{itemize}
  \item \textsuperscript{281} 42 U.S.C. §§ 6901–6992k (2000).
  \item \textsuperscript{282} 42 U.S.C. §§ 9601–9675 (2000).
  \item \textsuperscript{283} See 73 Fed. Reg. at 43,497.
  \item \textsuperscript{286} Id.
  \item \textsuperscript{288} Id. § 1 (to be codified at Wyo. Stat. § 34-1-152(a)).
  \item \textsuperscript{290} See Kipp A. Coddington, David M. Meezan & Kristin Holloway Jones, \textit{The Commercial Deployment of Carbon Capture and Storage Technology}, 38 Envt’l Rep. (BNA) 2045 (Sept. 21, 2007).
\end{itemize}
While the federal government has not been a leader in GHG regulation, the Department of Energy has been active in promoting the development of a framework and infrastructure needed to validate and deploy carbon sequestration technologies. It created seven Regional Carbon Sequestration Partnerships with more than 140 organizations in thirty-three states, three Indian nations, and two Canadian provinces as participants. Many profit and non-profit corporations are part of the various partnerships. The partnership program has two phases. Phase I is to develop partnerships, over about a two year period; identify potential carbon sources and projects; and evaluate infrastructure needs. Phase II will establish monitoring, mitigation, and verification protocols and begin to implement sequestration projects. Data from the partnerships characterizing sources and sinks are being integrated into the National Carbon Sequestration Database and Geographic Information System (NATCARB). There also is a website for terrestrial sequestration demonstrations and for the environmental impact statement evaluating the DOE sequestration program.

The Department of Energy is providing $66.7 million for its seven-year Regional Carbon Sequestration Partnership Program. To evaluate carbon sequestration injection technology, DOE is funding a three-year effort to inject one million tons of CO₂ one mile beneath the earth’s surface in Illinois beginning in October 2009. An issue in moving such projects forward is the long-term liability of those participating. Texas and Illinois passed legislation providing protection through indemnification.

At this time there is no commercial-scale demonstrated technology for use at electric generating plants that would capture and store carbon
Moreover, carbon capture from most conventional power plants that use pulverized coal would require post-combustion capture using technologies such as chilled ammonia, which could increase the cost of electricity by fifty-nine percent. However, a report prepared at the University of Utah found the cost of carbon capture to be about forty dollars per ton and underground storage costs ten dollars per ton, which would add 7.5 cents to the cost of a kilowatt-hour or a seventeen percent incremental increase in the cost of generating electricity. EPA is backing the creation of a carbon capture fund, and DOE plans to support sequestration efforts “at multiple sites as an alternative to its canceled FutureGen demonstration facility.” The FY2009 budget request includes $156 million to support carbon capture and storage efforts at several commercial scale electric power plants.

C. Nuclear Energy

Nuclear energy has no conventional air pollution emissions and no GHG emissions. While its use as a substitute for coal provides obvious environmental benefits, there are tradeoffs involving safety, radioactive waste disposal, and the centralization of energy generation (an issue not limited to nuclear power). Nuclear power facilities also present targets for terrorists, although the industry is a “harder” target than many other potential targets.

The United States generates nineteen percent of its electric power from 104 nuclear plants located in thirty-one states, mainly located in the eastern half of the U.S. Ten companies that operate seventy-six reactors dominate the nuclear electric power industry; Exelon is the largest with seventeen reactors. There have been no new nuclear

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300 Garner, supra note 221; Steven D. Cook, Energy Industry Officials Disagree On Future of Carbon Capture, Storage, 38 Env’t Rep. (BNA) 2071 (Sept. 28, 2007).
304 Dean Scott, Budget Boosts Clean Coal, Nuclear Research, but Solar, Other Renewables Would See Cuts, 39 Env’t Rep. (BNA) 247 (Feb. 8, 2008).
305 See generally Fred Bosselman, The Ecological Advantages of Nuclear Power, 15 N.Y.U. Envtl. L.J. 1 (2007) (Contrasting the “disastrous” impacts of coal use on ecological systems as compared to nuclear power).
307 Id.
plants ordered in the United States since 1973. After the 1979 partial meltdown of Pennsylvania’s Three Mile Island plant the nuclear industry was crippled. In the 1980s, Duke Power abandoned its partially built reactor in Cherokee County, S.C. at a loss of $2.7 billion.\textsuperscript{308} But the climate for the nuclear industry may be changing. In 2007, the Tennessee Valley Authority opened a reactor it closed in 1985.\textsuperscript{309} In late 2007, NRG filed an application to build two new plants in Alabama.\textsuperscript{310} Constellation Energy Group is seeking a partial license to add a nuclear unit to its Calvert Cliffs, Maryland facility.\textsuperscript{311} As of January 2008, the Nuclear Regulatory Commission had been notified that fifteen license applications would be submitted in 2008.\textsuperscript{312} Each application is expected to take forty-two months to process and will cost the applicant approximately $100 million.\textsuperscript{313}

One of the reasons for the interest in nuclear plants is that the production cost of electricity is lower than natural gas, its primary rival energy. The nuclear industry’s average production cost for electricity in 2007 was 1.68 cents per kwh.\textsuperscript{314} Moreover, most of the cost of waste disposal and decommissioning of the plant is paid by the electric power consumer. But a nuclear power plant is expensive to build. A new nuclear reactor costs over $4 billion, and the cost of twin reactor facilities that most nuclear applicants will propose cost $12 to $18 billion.\textsuperscript{315} Florida Power and Light claims its proposed twin advanced design reactors near Miami could cost as much as $24 billion.\textsuperscript{316} An important element in revival of the nuclear energy industry is the amount of public subsidies and loan guarantees Congress is willing to provide. Title VI of the Energy Policy Act of 2005, provides $1.6 billion for research and infrastructure and includes a number of provisions intended to jump-start the construction of new nuclear power plants.\textsuperscript{317} Foremost among these are the approval of a production tax credit of 1.8 cents per kwh

\textsuperscript{309} \textit{Id.}
\textsuperscript{310} \textit{Id.}
\textsuperscript{311} \textit{Id.}
\textsuperscript{312} Ferullo, \textit{supra} note 207.
\textsuperscript{313} \textit{Id.}
\textsuperscript{315} Ferullo, \textit{supra} note 207.
for the first eight years of operation in section 1306 and the authorization of the Department of Energy to provide loan guarantees of up to eighty percent of project cost for advanced nuclear energy facilities.\textsuperscript{318} Section 638 provides standby support for delays beyond 180 days in the commencement of full operation for up to six new facilities due to litigation or delayed Nuclear Regulatory Commission approval, and section 602 extends liability protection for NRC licensees and DOE contractors to 2025 through amendments to the Price-Anderson Act.

The Energy and Water Appropriations Act of 2008 extends the loan guarantee program to FY 2010 and provides $18.5 billion for nuclear reactors and $2 billion for uranium enrichment.\textsuperscript{319} In early 2008, it had not been resolved how the loan guarantee program was going to be financed. Project applicants may have to pay fees to cover the risk of default on the loans that are federally guaranteed, but the industry would prefer the risk and costs to be placed on the taxpayer. It also is not clear whether the loan guarantee program is large enough to move the industry to a new construction phase because of the high cost of construction.\textsuperscript{320} The FY2009 budget request would more than double funding for nuclear research and development from $259 million in FY2008 to $630 million in FY2009.\textsuperscript{321} This is more than ten times the budget for wind power development. The budget request also would extend the loan guarantee fund for nuclear projects through FY2011.\textsuperscript{322} A characteristic of nuclear power is its long dependency on federal subsidies, which have amounted to $145 billion over the past fifty years.\textsuperscript{323} This is twenty-five times the support provided to develop wind and solar technologies.\textsuperscript{324}

Another consideration are the limitations of the entire nuclear cycle. Uranium conversion is mainly carried out in a plant operated by CONVERDYN in Illinois.\textsuperscript{325} Uranium enrichment is primarily done at a

\textsuperscript{320} See Ferullo, supra note 207, at 199.
\textsuperscript{321} Dean Scott, Budget Boosts Clean Coal, Nuclear Research, but Solar; Other Renewables Would See Cuts, 39 Env’t Rep. (BNA) 247 (Feb. 8, 2008).
\textsuperscript{322} Mike Ferullo, Energy Department Plans Loan Guarantees for Clean Energy Nuclear Projects in 2008, 39 Env’t Rep. (BNA) 272 (Feb. 8, 2008).
\textsuperscript{324} Id.
United States Enrichment Corporation (USEC)-operated plant in Paducah, Kentucky.\textsuperscript{326} Two new plants are being constructed, one at Piten-ton, Ohio and another at Eunice, New Mexico. Both are targeted to begin operating in 2009. The uranium oxide (UO$_2$) fuel assemblies are produced at four plants in Lynchburg, Virginia; Columbia, Maryland; Richland, Washington; and Wilmington, North Carolina. After the fuel is used in the reactor and removed it must be recycled and/or stored. Since 1977, there has been no recycling of spent nuclear fuel in the United States. Until recently, it was expected that spent fuel would be stored at Yucca Mountain, Nevada. However construction delays and political opposition have resulted in spent fuel being stored in fuel storage pools or in dry casks at reactor sites. Since 1998, the DOE has been responsible for storing this waste, with the costs covered by a tax on the production of electricity from nuclear plants. Yucca Mountain’s capacity is now too small to store the reactor waste produced to date. This led the Bush Administration, in February 2006, to propose re-processing spent fuel in the United States, which in addition to producing new fuel would reduce waste volume and its radioactive life.\textsuperscript{327}

In many European nations nuclear power is an important source of electricity. Five nations generate more than half their electricity from nuclear sources—France (78.1%), Lithuania (72.1%), Slovakia (55.2%), Belgium (55.1%), and Sweden (51.8%).\textsuperscript{328} Germany and Finland and the other Eastern European nations are heavily dependent on nuclear power, and the Eastern European nations are building a new generation of nuclear power plants.\textsuperscript{329} China has nine plants and may build up to thirty more by 2021.\textsuperscript{330}

D. Renewable Energy

Renewable energy sources such as wind, solar, biomass, landfill gas-to-energy projects, geothermal, and hydro can reduce dependence on fossil fuels. The cost of generating electricity using renewable energy has dropped by eighty to ninety percent in the past twenty years and is...\textsuperscript{326} USEC, Overview: Paducah Gaseous Diffusion Plant, http://www.usec.com/gaseousdiffusion_pad_overview.htm (last visited Jan. 13, 2009).


\textsuperscript{329} See id.

\textsuperscript{330} Steven Mufson, Warming Up to Nuclear Power; Energy Source Gets Another Look as Fuel Costs Reach New Heights, WASH. POST, Apr. 27, 2006, at D1.
continuing to drop. Development of these “green” energy sources is a fast-growing segment of the energy industry, but the government has a mixed record in encouraging “green” power. The federal research and development budget for wind power is a modest $50 million in FY2008 and in FY2009 it is to increase to $53 million.

Subchapter IV of the CAA provides 300,000 bonus allowances for utilities that implement renewable energy and conservation programs—as of November 2002, 47,493 allowances had been allocated. Most were in the western United States, not in the South or Mid-West where most electric power plant pollution is produced. Yet wind power in 2005 could be generated at $.04 to $.05 per kwh and some facilities get close to $.03 per kwh. Replacing ten percent of 1993 levels of electric power production with wind power could have been accomplished by developing 1.8% of the wind resources in the lower forty-eight states.

An important development is the spread of state renewable portfolio standards (RPS) that require a minimum percentage of the power sold in a state to come from renewable energy. Iowa, in 1991, was the first state to enact an RPS; it requires a specific amount of renewable electricity to be sold in the state. Most states that subsequently enacted RPS specified a percentage of electricity that had to be generated from renewable sources. The percentage of renewable electricity that is required to be sold ranges from 0.2 to 33%. By mid-2007, twenty-four states and the District of Columbia had RPS. New York, for example, requires twenty-five percent of the state’s power to be generated from renewable sources by 2013; California requires at least twenty percent by 2017. The major problem with RPS is they will not produce carbon reductions beyond those that could be achieved with a cap-and-trade system. Moreover cap-and-trade will achieve the same objective as

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331 Jeff Deyette, *Easing the Natural Gas Crisis*, CATALYST, Fall 2003, at 12, 13.
334 *Id.*
335 *Id.* at 10,376.
336 *Id.*
338 *Id.* at 4 tbl.1.
RPS at a lower cost and will preserve the freedom of the regulated entities to decide for themselves how to best comply.\textsuperscript{341}

The U.S. Department of Interior’s Bureau of Land Management (BLM) on June 21, 2005, published its programmatic environmental impact statement (EIS) that is part of BLM’s Wind Energy Development Program.\textsuperscript{342} BLM hopes that in twenty years electricity generated using wind power on public lands will increase from 500 to 3200 megawatts of capacity.\textsuperscript{343} While the plan covers the western states, most of the development is expected to occur in Utah and in the three states—California, Nevada, and Wyoming.\textsuperscript{344} The BLM considers 160,000 acres of public land to be capable of wind-powered electric generation, based on both technical and economic suitability criteria.\textsuperscript{345}

The federal government prior to 2005 provided tax incentives such as the 1.5 cents per kilowatt-hour production tax credit for wind, solar, closed-loop biomass, and geothermal projects.\textsuperscript{346} There also is a federal investment tax credit available.\textsuperscript{347} However, the tax incentives were not effective because they were unpredictable in their duration, while the industry’s financing typically is based on twenty-year power purchase agreements. The production tax credit was available only for facilities coming on line before January 1, 2006. The uncertainty and short duration of these federal incentives limited their value.\textsuperscript{348}

The 1992 Energy Policy Act, established a 1.5 cent tax credit for every kilowatt hour of electricity produced using “qualified energy resources,” a term that includes by definition only wind and closed-loop biomass, at a “qualified facility.”\textsuperscript{349} Closed-loop biomass is defined as “any organic material from a plant which is planted exclusively for purposes of being used at a qualified facility to produce electricity.”\textsuperscript{350} This credit may be earned by a qualified facility, which is “any facility owned


\textsuperscript{342} Mike Ferullo, Interior Completes Environmental Review Aimed at Boosting Wind Power Production, 36 Env’t Rep. (BNA) 1335 (July 1, 2005).

\textsuperscript{343} Id.

\textsuperscript{344} Id.

\textsuperscript{345} Id.


\textsuperscript{347} See id. § 48(a).


by the taxpayer which is originally placed in service after December 31, 1992 for closed-loop biomass or after December 31, 1993 for wind.\textsuperscript{351} The Energy Policy Act of 2005 provided a two-year extension for certain facilities of the production tax credit and expanded the qualifying methods to include solar, landfill gas, trash combustion, and certain hydropower facilities in addition to wind and biomass.\textsuperscript{352} Various tax credits for renewable energy have either expired or are near their termination date. Section 45 of the IRC provides a production tax credit for electricity produced from renewable energy.\textsuperscript{353} IRC section 48 provides investment tax credits for commercial solar and fuel cell installation, and section 25D provides investment tax credits for residential solar and fuel cell installation.\textsuperscript{354} The tax benefits for renewable energy were to be extended by the bill that became the 2007 energy act. However, the bill’s renewable tax provisions were removed at the last minute because of opposition of the Bush Administration and the electric power industry. It also was opposed by the petroleum industry because Democrats wanted to fund the renewable program by removing $16 billion in tax benefits from the oil and gas industry.\textsuperscript{355} The efforts to extend the investment tax credit for solar energy investment and the production tax credit for building wind turbines continued in 2008 as a small part of a tax bill, S. 3335.\textsuperscript{356} The bill is opposed by many interests because of its costs, and supported by those who stand to benefit, but renewable energy subsidies are trapped in the larger issue of tax legislation.\textsuperscript{357}

Both wind power and solar power are intermittent power sources. Providing back-up power to intermittent sources is costly and limits their use. Therefore, to be economically viable these sources need to be able to sell surplus electricity to the power grid and to have the right to purchase power from the grid when needed. This is known as net metering or net billing, and is encouraged by laws in many states.\textsuperscript{358} An-
other potential solution is to use intermittent power to produce hydrogen from water, which is a form of energy storage. But this also adds to the cost of using these technologies.

Some of the costs of using alternative energy sources may be offset by siting the facilities near the source of demand. This reduces the need for long-distance transport of electricity and the accompanying stress on the power grid and also reduces the danger of disruption of the electricity supply from mistakes, natural forces, or terrorism. As the number of independent generating units grows, so does the overall reliability of the system. But, despite the environmental benefits of using renewable energy, coal-burning plants enjoy a significant cost advantage. A centralized coal-burning electric power plant can produce electricity for about $0.045 per kwh, while distributed alternative energy, such as that from small wind turbines, can cost about $0.11/kwr.\footnote{Ferrey, supra note 229, at 123.}

\section*{V. Controlling the Transportation Sector}

In 2006, the U.S. used twenty four percent of the world’s oil supply but it has only two percent of the world’s petroleum reserves.\footnote{Davis, Diegel & Boundy, supra note 155, at 1-6 tbl.1.5.} Transportation is responsible for 68.3\% of U.S. petroleum consumption.\footnote{Id. at 1-1 & 1-17 tbl.1.13.} The U.S. imports approximately fifty-nine percent of the country’s oil, with nearly one-fifth of the imports coming from the Persian Gulf states.\footnote{Id. at 1-8 tbl.1.7, 1-15.} Twenty-two percent of the world’s oil is controlled by states that are under U.S./U.N. sanctions for sponsoring terrorism.\footnote{Lou Dobbs, That Old Black Magic, U.S. News & World Rep., Mar. 21, 2005, at 52.} Venezuela does not support international terrorism, but its President, Hugo Chavez, is unfriendly to the U.S.\footnote{See Jackson Diehl, The Facade of Latin Democracy, Wash. Post, June 6, 2005, at A19.} With the United States importing about 4938 billion barrels of oil each year at prices in the summer of 2008 that were in excess of $130 a barrel, producers are receiving about half a trillion dollars for petroleum. However, the U.S. Commerce Department reported a trade deficit for 2007 of $815.6 billion, with only $293.5 billion being the petroleum deficit.\footnote{U.S. Census Bureau, Annual Trade Highlights (2008), www.census.gov/foreign-trade/statistics/highlights/annual.html.} Regardless of the apparent

Colorado on March 26, 2008, legislation was enacted that allows customers to sell power back to the grid at the retail price that they pay as consumers. Tripp Baltz, Governor Signs Legislation Allowing Renewable Energy to Offset Consumption, 39 Env’t Rep. (BNA) 677 (Apr. 4, 2008). This is an attractive incentive.
discrepancy in these figures, our international relations and diplomacy options are dominated by the nation’s dependence on oil. This petroleum dependence requires tremendous public sector expenditures to support the military capability to protect our petroleum supply. The expenditures for petroleum affect the value of the dollar and the overall economy, and the increasing worldwide demand is expected to keep upward pressure on oil prices despite the temporary drop in late 2008 due to a worldwide recession.

If efforts to limit climate change are to obtain the support of a majority of American voters, GHG controls need to be justified based on issues of concern to voters, such as energy security, the trade deficit, and national security. Concern for biosphere protection is unlikely to motivate either the national political leadership or the American public to modify their behavior, but other national economic and energy security concerns may do so. A program that involves the United States incurring a substantial portion of the costs and receiving a disproportionately small share of the benefits is difficult to sell to American voters.

The transportation sector accounted for thirty-three percent of the U.S. CO₂ emissions from fossil fuel combustion in 2005. Petroleum use is responsible for “virtually all” of the sector’s emissions—gasoline consumption for personal vehicle use accounted for over sixty percent and other activities, including diesel use, accounted for the rest. From 1990 to 2005, CO₂ emissions from the transportation sector increased about twenty-nine percent for an average annual growth of 1.9%. During the same time period, population in the U.S. grew at a rate of 1.1%. Thus, more than half of the growth in carbon dioxide emissions from the transportation sector may be attributable to the effects of population growth.

The U.S. Supreme Court sent a strong signal to EPA that it should regulate carbon dioxide from motor vehicles. This will be difficult unless subsequent judicial decisions interpret away the clear language of the CAA that limits EPA’s power to regulate motor vehicle GHG emissions. To effectively regulate CO₂ would require the Agency to limit the amount of fuel consumed by the transportation sector. Its efforts will of necessity overlap and perhaps supplant law that presently regulates motor vehicle fuel economy.

367 Id.
368 See id. at 2-28.
369 Id. at ES-16 tbl.ES-9.
Prompted by the 1973–1974 Arab oil embargo and the consequent tripling of petroleum prices, in 1975 Congress enacted the Energy Policy and Conservation Act (EPCA). Among its provisions were Corporate Average Fuel Economy (CAFE) standards that impose fuel economy standards on light-duty vehicles. Since model year 1990 they have been set at 27.5 miles per gallon (mpg) for passenger cars and for light-duty trucks they were 20.7 mpg from MY1996 through MY2004. CAFE standards for light trucks increased in stringency to 21.0 mpg in 2005, 21.6 mpg in MY2006, and 22.2 mpg in MY2007, and the standard was changed in 2007 to require modest fuel efficiency improvements in MY2008 and thereafter in light-duty trucks. The 2007 changes are discussed below.

Passenger car fuel efficiency standards are set by Congress and are administered by the National Highway Traffic Safety Administration (NHTSA) within the Department of Transportation. NHTSA’s authority is limited to adjusting the standards within a range of 26.0 to 27.5 mpg. If NHTSA amends the standard above or below the mandated range, the amendment must be submitted to Congress, and either House has sixty days to veto the amendment, although this one-House veto may be unconstitutional. NHTSA may amend the CAFE standards for light-duty trucks after considering “technological feasibility, economic practicability, other vehicle standards, and the need to conserve energy.” However, from FY1996 to FY2001, Congress prohibited NHTSA from changing CAFE standards.

EPA determines fuel economy using the Federal Test Procedure (FTP) that it uses to determine a vehicle’s emissions, but the test reports higher gas mileage than is achieved in real world driving. The FTP numbers are lowered by EPA because these unadjusted values are about twenty-five percent higher than an adjusted “real world” compos-
ite value (55/45 combined city/highway mileage).\textsuperscript{378} CAFE standards are based on vehicle tests at the end of each model year; EPA calculates the fuel economy performance for each manufacturer.\textsuperscript{379} If the company’s production fails to meet the standard, it is liable to the federal government for a civil penalty of five dollars for each 0.1 miles per gallon the fleet is above the standard for each vehicle manufactured.\textsuperscript{380} The CAFE program distinguishes between domestic and imported passenger cars. An imported car is one with less than seventy-five percent domestic content. The domestic fleet and the imported fleet each must meet the 27.5 mpg standard.

The actual fuel economy of U.S. cars and light trucks was 22.0 mpg in MY1987.\textsuperscript{381} It dropped to its lowest value of 19.3 mpg in MY 2004 and then improved slightly to 20.2 mpg in MY2006 and 2007.\textsuperscript{382} Because of the increased sales of light trucks, vans, and sport utility vehicles (SUVs) the fuel efficiency of the motor vehicle fleet remained relatively constant for a decade despite improvements in vehicle technology.\textsuperscript{383} In 1970, trucks made up 17.4\% of the nation’s vehicle fleet,\textsuperscript{384} but in 2007, light-duty trucks and SUVs accounted for 49\% of new vehicle sales.\textsuperscript{385} In 2006, 44.35\% of the U.S. vehicle fleet were trucks and SUVs.\textsuperscript{386}

In 1978 Congress created a gas-guzzler tax to discourage the purchase of passenger cars that get less than 22.5 mpg.\textsuperscript{387} This tax increased in the 1990 Omnibus Budget Reconciliation Act.\textsuperscript{388} However, the failure to impose the tax on light-duty trucks exacerbated the tendency of consumers to purchase trucks that actually are used as passen-
ger vehicles. For a car that gets 12.5 mpg or less, the gas-guzzler tax is $7700. The tax drops as fuel economy improves and is not applicable to cars that meet a 22.5 mpg standard. EPA does not appear to have the power to modify this law.

The Energy Policy Act of 2005 contained no significant provision for improving the fuel economy of conventional vehicles, but it did authorize $3.5 million per year to carry out fuel economy rulemakings. It requires a report on the feasibility and effects of a significant reduction in fuel consumption by 2014, and it requires the estimated in-use fuel economy that is posted on the window of a new vehicle to be adjusted to approximate the mileage per gallon actually obtained by the vehicle.

CAFE standards for automobiles are more stringent than the standards for light-duty trucks, SUVs, and crossover vehicles. A light-duty truck is “any truck or ‘truck derivative’ with a gross vehicle weight rating (GVWR) of 8500 pounds or less, and a vehicle curb weight (VCW) of 6000 pounds or less.” On April 6, 2006, the Department of Transportation published a final rule mandating new fuel economy standards for sport-utility vehicles, pickup trucks, vans, and minivans beginning with MY2008. The rule is expected to result in fuel economy for these vehicles of approximately twenty-four miles per gallon in MY2011. The new rule divides light-duty trucks into six classes according to size, with each class required to meet a different fuel economy standard. President Bush asked Congress for statutory authority to develop passenger car standards using a similar classification system, but Congress did not enact legislation, so NHTSA must continue to use a straight-line average for passenger cars.

Manufacturers are required to follow the reformed CAFE system starting in 2011. During a transition period from MY2008 through 2010, “manufacturers may comply with CAFE standards established under the [new] structure (Reformed CAFE) or with standards established

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390 Id.
392 Id. § 773, 119 Stat. at 834; Yacobucci & Bamberger, supra note 140, at CRS-11.
393 Yacobucci, supra note 376, at CRS-2.
395 Id. at 17,568.
396 Id.
397 Id. at 17,566.
in the traditional way (Unreformed CAFE).” The unreformed fuel economy limits will go from the MY2007 standard of 22.2 mpg to 22.5 mpg in MY2008, 23.1 mpg in MY2009, and 23.5 mpg in MY2010. In MY2011, the reformed light truck CAFE standards impose a fuel economy standard of 21.79 to 30.42 mpg and apply to all manufacturers. In addition, the final rule expands the applicability of CAFE standards. Starting in MY2011, the CAFE program will include medium-duty passenger vehicles (MDPV) (i.e., larger passenger vans and SUVs with a gross vehicle weight rating of under 10,000 lbs), which is expected to bring an additional 240,000 vehicles into the CAFE program by MY2011. MDPVs have been subject to EPA’s “Tier 2” emission standards since MY2004. Pickup trucks and panel trucks are not subject to MDPV requirements. The final rule also contains language claiming that federal requirements relating to fuel economy preempts California’s mandate to reduce carbon dioxide emissions from motor vehicles.

The new light-duty truck CAFE standards have been criticized by environmental groups for not going nearly far enough in tightening fuel economy standards. However, the new system attempts to incorporate safety concerns into the standards by considering the product of a vehicle’s width (distance between tires) and its wheelbase (the distance from the front to the rear axles). The increased costs of the new CAFE average requirements are expected to be more than offset by fuel cost savings.

In the Center for Biological Diversity v. National Highway Traffic Safety Administration, California, Connecticut, Maine, Massachusetts, New Jersey, New Mexico, New York, Oregon, Rhode Island, Vermont, Minnesota, the District of Columbia, New York City, and four national environmental organizations challenged the “Average Fuel Economy Standards for Light Trucks, Model Years 2008–2011,” promulgated by the NHTSA. Petitioners challenged the final rule under EPCA and

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398 Id.
399 Id. at 17,568.
400 71 Fed. Reg. at 17,607 tbl.4.
401 Id. at 17,570.
402 See id. at 17,654.
405 See Yacobucci & Bamberger, supra note 140, at CRS-9.
406 508 F.3d 508, 508, 513 (9th Cir. 2007).
the National Environmental Policy Act of 1969 (NEPA). Petitioners claimed the rule could lead to increased GHG emissions because the use of vehicle weight classifications may encourage manufacturers to build larger, less fuel-efficient vehicles. Petitioners also challenged the final rule as arbitrary, capricious, and contrary to EPCA because it does not meet the “maximum feasible” standard; it perpetuates the SUV loophole that allows light-duty trucks to satisfy lower fuel economy standards; and it excludes most vehicles between 8500 and 10,000 pounds gross vehicle weight.

On November 15, 2007, the Ninth Circuit held that the final rule is “arbitrary and capricious, contrary to the EPCA in its failure to monetize the value of carbon emissions, failure to set a backstop, failure to close the SUV loophole, and failure to set fuel economy standards for all vehicles in the 8500 to 10,000 GVWR class.” The court also held that the Environmental Assessment was inadequate. The Ninth Circuit remanded the rule to NHTSA to promulgate new standards as expeditiously as possible and to prepare a full Environmental Impact Statement. The case will have continuing significance because of the court’s comprehensive review of CAFE regulation under the 1975 EPCA legislation.

While the challenges to NHTSA’s weak regulations were being litigated, the ongoing efforts to enact legislation imposing more stringent CAFE standards for passenger vehicles succeeded when the Energy Independence and Security Act of 2007 was signed into law on December 19, 2007. Section 102 imposes more stringent CAFE standards beginning with MY2011. Two sets of standards are imposed, one set for passenger vehicles and another set for non-passenger vehicles. The two categories are to achieve a combined fuel economy of thirty-five mpg for the fleet of vehicles sold in the United States by MY2020. For 2021–2030, the fuel economy of each fleet of passenger and non-passenger automobiles sold in the United States shall meet the maximum feasible average fuel economy as determined by regulations to be

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407 Id. at 513.
408 See id. at 513–14.
409 Id.
410 Id. at 558.
411 Id.
412 Ctr. for Biological Diversity, 508 F.3d at 558.
414 Id. at 1499.
415 Id.
issued by the Secretary of Transportation.\textsuperscript{416} In addition, each manufacturer shall meet a minimum standard for domestically manufactured passenger automobiles that is the greater of 27.5 mpg or “92 percent of the average fuel economy projected by the Secretary for the combined domestic and non-domestic passenger automobile fleets manufactured for sale in the United States by all manufacturers in the model year.”\textsuperscript{417} How this legislation will affect EPA’s efforts to regulate mobile source GHGs is not clear. The Act, however, does not preempt EPA’s authority to set vehicle GHG emission standards, which will allow EPA to promulgate standards that either have the same effect as CAFE requirements or are more stringent. Creating two sets of overlapping fuel economy standards seems absurd, but such an action would be consistent with the Supreme Court’s holding.

Commercial medium-duty and heavy-duty highway vehicles as well as work trucks with a gross vehicle weight of 8500 to 10,000 pounds are to have new standards based on the maximum feasible improvement as determined by the Secretary.\textsuperscript{418} The regulations are to be promulgated within two years after a report—called for by section 108 of the Ten-in-Ten Fuel Economy Act—is published by the National Academy of Sciences.\textsuperscript{419} After regulations are promulgated they shall not be applicable for four full model years.\textsuperscript{420} Thus, the earliest that new regulations can be expected to be applicable will be in MY2016. The legislation enacted in 2007 includes a program that allows manufacturers that exceed the standards to obtain credits that can be applied to other vehicles in the manufacturer’s fleet that fail to meet the standard.\textsuperscript{421} The Act also includes new labeling requirements aimed at requiring more accurate fuel efficiency information as well as information on GHG emissions.\textsuperscript{422} The Act will require new regulations to be promulgated that will be applicable in about four years.

The effectiveness of the 2007 legislation will not be manifested for many years and will depend on the discretionary actions of NHTSA. The discussion found in the Center for Biological Diversity demonstrates that NHTSA cannot be considered a strong supporter of environ-

\textsuperscript{416} See id.
\textsuperscript{417} Id.
\textsuperscript{418} Id. at 1500–01.
\textsuperscript{419} § 102, 121 Stat. at 1500.
\textsuperscript{420} Id.
\textsuperscript{421} § 104, 121 Stat. at 1502.
\textsuperscript{422} § 105, 121 Stat. at 1503.
mental protection. Nevertheless, the U.S. Department of Transportation may be trying to act more responsibly. On April 22, 2008, its Secretary, Mary Peters, announced a proposed rule that calls for a 4.5% increase in fuel efficiency from MY2011 through MY2015, which exceeds the 3.3% increase in efficiency called for in the 2007 legislation. For passenger cars, the standard will be an industry average of 35.7 mpg by 2015. Light-duty trucks must average 28.6 mpg by 2015, and the combined average must meet a 31.6 mpg standard.

Only about twelve to twenty percent of the energy in fuel is used to propel the vehicle. Between 1976 and 1989 “roughly 70% percent of the improvement in fuel economy was the result of weight reduction, improvements in transmissions and aerodynamics, wider use of front-wheel drive, and use of fuel-injection.” The potential for motor vehicle fuel efficiency improvements by 2015 is only between 10 and 15%; a mid-range 12.5% improvement would produce about an 11% CO₂ emission reduction. Ultimately, using existing technology, GHG emissions could be reduced by about thirty-eight percent for cars and light-duty trucks and twenty-four percent for heavy-duty vehicles. A National Academy of Sciences study in 2001 concluded that it is possible to obtain a forty percent fuel efficiency improvement in light-duty trucks and SUVs at costs that could be recovered over the lifetime of ownership. A study by the Northeast States Center for a Clean Air Future concluded that a twenty-five percent reduction in carbon dioxide emissions could be made using existing technology. This potential improvement would not be realized if car buyers selected vehicles

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426 Id.
427 Yacobucci & Bamberger, supra note 140, at CRS-4.
429 Id.
430 See Nat’l Research Council, supra note 146, at 5, 45.
with enhanced performance or if the improvement in fuel economy led to an increase in vehicle miles traveled (VMTs).\textsuperscript{432}

The 2007 Act requires a forty percent increase in fuel economy from cars and light-duty trucks by 2020, but improved fuel efficiency is expected to be nullified by a projected fifty percent increase in VMTs by 2030.\textsuperscript{433} Population increases, as well as consumer choice, have contributed to the doubling of VMTs since 1970.\textsuperscript{434} With VMTs averaging an increase of 1.9\% per year from 1996 through 2006, it is very difficult to improve efficiency enough to overcome the effect on CO\textsubscript{2} emissions from VMTs increases.\textsuperscript{435} The number of vehicles in the United States increased by over 55 million between 1990 and 2006.\textsuperscript{436} This is primarily the result of the growing population because the number of vehicles per thousand people in the United States increased by about sixty-seven per thousand between 1990 and 2006, so about 12 million additional vehicles are attributable to increases in consumption, but 35 million additional vehicles appear to be attributable to increased population.\textsuperscript{437} Sections 771 (automobiles), 751 (railroads), 752 (mobile emission reductions), 753 and 758 (aviation), and 754 (diesels) of the Energy Policy Act of 2005 authorize research on vehicle fuel efficiency, and section 721 establishes a program to promote domestic production and sale of hybrid and advanced diesel vehicles.\textsuperscript{438} The Energy Independence and Security Act of 2007 amended the Energy Policy Act of 1992 to include electric vehicles in the categories eligible for government assistance and created new incentives for electric vehicle development.\textsuperscript{439} But there appears to be no concern for the population growth that is driving much of the increase in VMTs.

To reduce CO\textsubscript{2} emissions from the transportation sector will require both technology improvements and changes in the use of transportation. To reduce VMTs requires long-term changes in land use and transportation that will be difficult to achieve because of the lack of political support. Moreover, many tax benefits are provided that encour-


\textsuperscript{433} Id.

\textsuperscript{434} See \textit{Nat’l Research Council, supra} note 146, at 19 fig.2-9.

\textsuperscript{435} \textit{Davis, Diegel & Boundy, supra} note 155, at 8-2 tbl.8.1.

\textsuperscript{436} See \textit{id}. at 3-5 tbl.3.3 (basing estimate on Federal Highway Administration numbers).

\textsuperscript{437} See \textit{id}. at 3-8 tbl.3.5, 8-2 tbl.8.1.


age a “petroleum-intensive lifestyle” including parking as an employee fringe benefit, “the home mortgage interest deduction,” “preferential tax treatment of the oil and gas industry,” and “rules that encourage the purchase of large sport utility vehicles.”440 Unless there is a major effort to reduce fuel consumption, GHG emissions will increase significantly. For the period 1997 to 2007, U.S. petroleum consumption by the transportation sector increased by 1.5% per year, and VMTs per capita increased by 0.9% annually from 1996 to 2006.441 This resulted in a 2.11 million gallon per day increase in U.S. fuel consumption from 1997 to 2007.442

Proponents of programs to reduce emissions of GHGs push for increased CAFE standards because it is believed to be more politically feasible than increasing gasoline taxes or imposing fees on fuel-inefficient vehicles, although both economic-based measures and more stringent CAFE requirements could be used. If we are serious about reducing petroleum demand, we will need to increase the cost of driving by enacting a carbon tax or increasing gasoline taxes or by enacting other economic disincentives. According to the National Research Council, during the 1970s, CAFE standards reinforced the effect of high fuel prices and contributed to improved fuel economy.443 In the 1990s—when gasoline prices declined—the CAFE standards helped keep fuel economy above the level to which it might have fallen.444 But CAFE requirements require many years to have a beneficial effect, and delay is increased by the need to provide manufacturers adequate time to meet the standard. Moreover, without high fuel costs, it is difficult to get consumers to buy fuel-efficient vehicles. There are at least twenty-six vehicles marketed in the United States that achieve thirty-four mpg or better, based on EPA’s highway fuel economy test.445 But not enough of these vehicles have been purchased to prevent motor vehicle CO2 emissions from increasing.

The use of hybrid vehicles can lower fossil fuel consumption and sales would benefit from more generous tax benefits for those purchasing these vehicles. The tax credit for buying a hybrid is as high as $3400

441 Davis, Diegel & Boundy, supra note 155, at 1-15 tbl.1.12, 8-3 tbl.8.2.
442 See id. at 1-15 tbl.1.12.
443 See Nat’l Research Council, supra note 146, at 14.
444 Id. at 15.
a vehicle, but the credit drops as a manufacturer sells more vehicles and terminates when a manufacturer sells 60,000 vehicles.\textsuperscript{446} Thus, the Toyota Prius, the most fuel-efficient vehicle marketed in large numbers, gets forty-six mpg and no tax subsidy. This makes the Prius less attractive to many potential buyers since its higher cost requires many years to be recouped from fuel savings. If the goal of Congress is to reduce the nation’s consumption of petroleum, it should not remove an incentive because it works. Congress wastes billions of dollars subsidizing ethanol and dual-fuel vehicles, which have little beneficial effect on fuel consumption or the environment, but Congress limits the use of incentives to purchase hybrids. While hybrids offer improved fuel economy, we should be planning to use plug-in hybrid vehicles that could be recharged at night when electric power demands are low.\textsuperscript{447}

An important part of a GHG reduction program is an alternative fuels program to replace some of the gasoline and diesel fuel used in the transportation sector. Most of the effort to use alternative fuel has been directed at increasing the use of ethanol, which in the United States is almost always made from corn. Because ethanol is made from a renewable resource, it should produce no net CO\textsubscript{2} increase to the atmosphere when combusted. However, because fossil fuel is used to produce the corn and convert it to ethanol there is little net energy gain, and the combustion of ethanol increases air pollution.\textsuperscript{448} The manufacture of ethanol also results in air pollution. On May 1, 2007, EPA promulgated regulations to allow ethanol fuel plants to avoid air pollution requirements imposed by the PSD and nonattainment programs and to avoid fugitive emissions requirements.\textsuperscript{449} Ethanol production also has significant adverse impacts on water resources. Section 208 of the Energy Independence and Security Act of 2007 responds to part of this concern with language that gives EPA the power to consider water pollution impacts when deciding whether to ban or restrict the use

\begin{itemize}
\item \textsuperscript{448} Arnold W. Reitze, Jr., \textit{Should the Clean Air Act Be Used to Turn Petroleum Addicts into Alcoholics?}, 36 Envtl. L. Rep. (Envtl. Law Inst.) 10,745, 10,754–55 (Oct. 2006).
\end{itemize}
of a fuel due to its water quality impacts. This is expected to help spur the development of cellulosic ethanol, which has a lower adverse environmental impact.

Without massive federal subsidies there would be no significant market for ethanol. Ethanol receives an excise tax credit and an income tax deduction that is worth about $0.68 per gallon. If the renewable fuels goal of 7.5 billion gallons by 2012 is met, the cost to the taxpayer will be $5.1 billion a year. If the Energy Independence and Security Act of 2007’s 9 billion gallon requirement for 2008 is met, the costs will be higher. In addition, both the production of the corn feedstock and the construction of ethanol production facilities are subsidized. Despite ethanol having no benefit, except political, that justifies the large subsidies given to mid-west corn farmers and ethanol producers, Congress in the 2007 Energy Act expanded the program to require 36 billion gallons of renewable fuel to be used by 2022. The Act defines renewable fuel as fuel produced from biomass and cellulosic ethanol. It also includes a low-carbon standard that requires refiners to achieve at least a 20% reduction in GHGs from new facilities, 50% for biomass facilities, and 60% for cellulosic facilities over their lifecycles. On February 14, 2008, EPA announced the renewable fuel standard for 2008 would require 7.76% renewable fuel, by volume, to be in gasoline.

The use of ethanol for fuel has raised the price of food and threatens the food supply of those nations that depend on U.S. food exports because farmland is being used to grow corn for ethanol production. In 2005 the United States used fifteen percent of the corn crop to supplant less than two percent of gasoline consumed. In 2007, government-created demand for ethanol was responsible for diverting twenty percent of the corn crop to ethanol refineries, which has contributed to the soaring price of corn. At the same time, we impose a fifty-four

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451 Reitze, supra note 448, at 10,760.
452 Id.
454 Id. at 1525.
cent per gallon tariff on Brazilian ethanol to keep it out of the country.\textsuperscript{458} The demand for ethanol for fuel also is leading to a worldwide conversion of land to the production of ethanol feedstock, and in the process forests are being destroyed to convert land to agricultural use.\textsuperscript{459} Congress, which appears to believe it should act first and then get the facts, authorized a study by the National Academy of Sciences to assess the impact of its renewable fuel requirements on the “production of feed grains, livestock, food, forest products, and energy,” in the Energy Independence and Security Act of 2007.\textsuperscript{460}

The CAA and other federal statutes encourage the use of alternative fuel. The Alternative Motor Fuels Act of 1988 requires the federal government to acquire as many light-duty alcohol and natural-gas-powered vehicles as is practicable.\textsuperscript{461} It established the Interagency Commission on Alternative Motor Fuels and provides for a commercial demonstration program.\textsuperscript{462} The Energy Policy Act of 1992 applies to vehicles of 8500 pounds or less in fleets of twenty or more located in 125 consolidated statistical areas, as compared with twenty-two urban regions under the CAA.\textsuperscript{463} Beginning in 1996, state entities and “alternative fuel providers” are subject to the Energy Policy Act of 1992.\textsuperscript{464} The Department of Energy (DOE) may extend regulations to private and municipal fleets in 1999 if its program fails to generate sufficient voluntary efforts to procure alternative fuel vehicles.\textsuperscript{465} On March 14, 1996, DOE issued a final rule requiring companies that produce alternative fuels and operate light-duty vehicle fleets to acquire vehicles that run on alternative fuels.\textsuperscript{466} In addition to statutory requirements, executive orders establish alternative-fuels policy. For example, Executive Order 13149 seeks to reduce the federal government’s petroleum consumption, and encourages the use of alternative fuel and hybrid vehi-

\textsuperscript{458} See Will, \textit{supra} note 456, at 64.
\textsuperscript{462} Id. at 2445 (codified at 42 U.S.C. § 6374(c)).
The Energy Independence and Security Act of 2007 added requirements for federal vehicles to improve fuel efficiency.\footnote{For many years there has been a hope that a cost-effective technology would be developed that would allow the abundant supply of coal to be converted to a liquid fuel in a manner that did not create unacceptable environmental impacts. The process for conversion was advanced by the Germans during World War II and was improved by work in South Africa.\footnote{The Air Force has been particularly interested in this technology because of its need for assured supplies of fuel for military operations.\footnote{In the Energy Independence and Security Act of 2007, Congress created a major barrier to using coal-to-liquid fuel or fuel derived from tar sands, both of which produce almost double the GHGs of conventional fuels based on a life cycle analysis. Section 526 of the Act bars federal agencies from procuring alternative fuels or synthetic fuels unless a lifecycle analysis shows that GHGs are equal to or less than the GHG emissions from conventional petroleum.\footnote{The Air Force seeks to expand its purchase of coal-based synthetic fuels and fuel derived from oil sands from Canada. It is not clear whether these fuels are alternative fuels under section 526, and Canada may litigate under international trade rules if its oil export trade is restricted.}}}}


\footnote{Jeff Kinney, \textit{Waxman Seeks to Clarify Energy Bill Ban on Fuels That May Worsen Global Warming}, 39 Env’t Rep. (BNA) 552 (Mar. 21, 2008).}


vides in section 802 for the promotion of the development of commercial hydrogen and fuel cell technology. The Act in section 804 requires the Secretary of the Department of Energy to develop a five-year plan, with milestones. The plan’s goal, found in section 805, is to develop an infrastructure by 2020 that will produce a significant number of hydrogen fuel cell and other hydrogen-powered vehicles. The goal identified in section 811(a)(4) is to have 100,000 hydrogen-fueled vehicles in the U.S. by 2010 and 2.5 million vehicles by 2020. The Act calls for programs that lead to the production of hydrogen from diverse sources including using renewable fuels, such as ethanol and methanol, and biofuels for hydrogen production. The Act’s Title VIII authorizes $3.3 billion for hydrogen fuel and fuel cell research and development during FY2006 to FY2010. However, the budget request for FY2009 calls for funding for hydrogen fuel cell and other hydrogen projects to be cut from the $211 million in FY2008 to $146 million. As part of this program numerous demonstration programs are authorized at section 808. Included in the Act’s directives are requirements to develop solar technologies to produce both electricity and hydrogen at section 812. The Act calls for five projects to demonstrate the production of hydrogen at wind energy facilities at section 812(b). The Act authorized $1.25 billion over ten years for the development of a nuclear plant to produce electricity and hydrogen, and $100 million to demonstrate hydrogen production at existing nuclear power plants at sections 645 and 634, respectively.

The only way EPA can accomplish a reduction in carbon dioxide emissions from mobile sources is to impose fuel economy standards more stringent than the CAFE fuel economy standards administered by

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474 Id. § 802.
475 Id. § 804.
476 Id. § 805.
477 Id. § 811(a)(4).
478 Id. §§ 805(h)–(i), 808(d), 809(c).
481 Id.
the Department of Transportation or by imposing requirements limiting the use of fossil fuels for transportation. Such actions would seem to be well beyond what Congress intended the CAA to regulate. However, in response to *Massachusetts v. EPA*, EPA and the National Highway Traffic Safety Administration (NHTSA) are trying to coordinate their rulemaking efforts so that compliance with one rule will achieve compliance with the requirements of both organizations.\(^{483}\)

**VI. State Mobile Source Emission Controls**

In 2002, California became the first state to impose GHG emission limits on motor vehicles when it enacted A.B. 1493.\(^{484}\) On September 24, 2004, the California Air Resources Board (CARB) adopted GHG regulations for passenger and light-duty vehicles. CARB’s regulations address carbon dioxide, methane, nitrous oxide and hydrofluorocarbons; the control level is based on each gas’s global warming potential expressed on a grams per mile (gpm) carbon dioxide equivalent basis.\(^{485}\) Compliance requirements are based on the “fleet average” for: (1) passenger cars (PCs) and light-duty trucks (LDTs) under 3750 pounds; and (2) LDTs over 3750 pounds and medium duty passenger vehicles (MDPVs).\(^{486}\) CARB’s CO\(_2\) regulations commence with MY 2009 and require a reduction in CO\(_2\) emissions of about twenty-eight percent for cars and LDTs and eighteen percent for larger trucks and sport utility vehicles before 2013.\(^{487}\) The second phase, targeted for 2013 to 2016, requires a thirty-six percent reduction for cars and LDTs and twenty-four percent for larger vehicles from 2009 levels.\(^{488}\) Manufacturers that meet or exceed the requirements receive credits that may be used to

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\(^{486}\) *Id.* § 1961.1(a).

\(^{487}\) *See id.* § 1961.1(a)(1)(A) n.1 (requiring reduction for PCs and LDTs under 3750 lbs from 323 gpm to 233 gpm and reduction for LDTs over 3750 lbs and MDPVs from 439 gpm to 361 gpm).

\(^{488}\) *Id.* (requiring reduction for PCs and LDTs under 3750 lbs from 323 gpm to 205 gpm and reduction for LDTs over 3750 lbs and MDPVs from 439 gpm to 332 gpm).
offset a manufacturer’s emissions for up to five years.\(^{489}\) The law was challenged by automobile dealers and by the Alliance of Automobile Manufacturers.\(^{490}\) They claimed the CAA and the Energy Policy and Conservation Act (EPCA) preempt California’s law.\(^{491}\) In February 2005, the Association of International Automobile Manufacturers (AIAM) joined the lawsuit.\(^{492}\)

On December 21, 2005, CARB requested a waiver from EPA pursuant to section 209(b) of the CAA in order for the state to regulate GHGs.\(^{493}\) An issue that needed to be resolved was whether EPCA preempts the field of fuel economy regulations pursuant to the Supremacy Clause of the U.S. Constitution.\(^{494}\) In *Central Valley Chrysler-Jeep v. Witherspoon*, the court, in motions for judgment on the pleadings, addressed the preemption issues.\(^{495}\) The court held that neither the CAA’s section 209, EPCA, nor any other statute before the court allows California to disrupt the CAFE program, but this is not any issue to be decided on the pleadings.\(^{496}\) The regulations, the court held, are preempted under section 209(a) unless EPA grants a section 209(b) waiver because they are emission standards.\(^{497}\) The court went on to deny that EPCA creates a Dormant Commerce Clause issue because Congress, in enacting section 209, made a decision that more stringent California emission standards were a justified burden on commerce, although the court did not rule on whether EPCA preempts California’s regulations.\(^{498}\) After this procedural skirmish, the court placed the case on hold until the Supreme Court could decide *Massachusetts v. EPA*.\(^{499}\)

Meanwhile, EPA was not acting on California’s waiver request to allow the state to set mobile source CO\(_2\) emission standards. EPA was concerned that it might not have authority to issue a waiver because such standards are actually fuel economy standards regulated by DOT,

\(^{489}\) Id. § 1961(b)(3)(B) (“[C]redits earned in the 2009 and subsequent model years shall retain full value through the fifth model year after they are earned.”).


\(^{491}\) Id. at 1166.


\(^{493}\) *Central Valley Chrysler-Jeep*, 456 F. Supp. 2d at 1165.

\(^{494}\) Id. at 1167.

\(^{495}\) Id. at 1167–75.

\(^{496}\) Id. at 1172, 1174 & n.12.

\(^{497}\) Id. at 1173.

\(^{498}\) Id. at 1185–86.

but it said that it would wait until the Supreme Court decided *Massachusetts v. EPA* before making a decision. After the Supreme Court decided the case on April 2, 2007 and approved the use of overlapping fuel economy standards by both EPA and DOT, the pressure on EPA to issue a waiver to California increased. Pursuant to section 177 of the CAA, states with nonattainment areas may adopt California’s new motor vehicle emission standards.\(^{500}\)

Nine northeastern states (Connecticut, Maine, Maryland, Massachusetts, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont), as well as Arizona, Florida, New Mexico, Oregon, and Washington adopted California’s standards. In addition, states, including California, are seeking to have the federal government impose GHG emission restrictions on nonroad engines, which were claimed to be the source of 220 million tons of GHG emissions in 2007.\(^{501}\) Their standards, however, are not enforceable until California receives a waiver from EPA allowing the standards to be implemented. Automobile dealers and manufacturers were litigating in California in the *Witherspoon* case to prevent imposition of fuel economy standards more stringent than federal requirements. In Vermont and Rhode Island, the automobile industry sued to prevent GHG regulations based on section 177 of the CAA from being implemented.\(^{502}\)

*Green Mountain Chrysler Plymouth Dodge Jeep v. Crombie* was decided on September 12, 2007.\(^{503}\) The court, in a long opinion, ruled on Vermont’s effort to regulate GHG emissions, although the regulation cannot be implemented until California receives a waiver for its regulations from EPA.\(^{504}\) The court concluded that the case was not about federal preemption under the Energy Policy and Conservation Act (EPCA), as plaintiffs claimed.\(^{505}\) The case was about the potential conflict between the EPCA and the CAA.\(^{506}\) The court held that the EPCA does not expressly preempt Vermont’s GHG regulations, nor are they preempted under the doctrine of field preemption or conflict preemption.\(^{507}\) The court held that Vermont’s rules that limit the grams per mile of carbon

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\(^{503}\) 508 F. Supp. 2d at 295.

\(^{504}\) Id. at 302.

\(^{505}\) Id. at 354.

\(^{506}\) Id. at 302.

\(^{507}\) Id. at 354–57.
dioxide equivalent that may be emitted are not fuel economy standards but are emission standards.\textsuperscript{508} The court held “the fact that manufacturers may have to increase fuel economy . . . to comply does not per se convert an emissions standard to a fuel economy standard.”\textsuperscript{509} The court suggests that new technologies can be used to reduce GHG emissions, which supports its position that emission standards are not fuel economy standards.\textsuperscript{510} The court’s position that regulatory limits on carbon dioxide equivalents in grams per mile is not a fuel economy standard is not supported by the laws of chemistry, but it is consistent with the U.S. Supreme Court’s ruling in \textit{Massachusetts v. EPA}, which also twisted the applicable science to obtain the desired holding.

On December 19, 2007, EPA denied California’s request for a waiver, and on February 29, 2008, the denial was submitted for publication in the Federal Register.\textsuperscript{511} This denial also prevents the fourteen other states that have adopted California’s GHG regulations from implementing their programs.\textsuperscript{512} This is the first time that a request by California for a waiver has been denied; fifty-three waivers previously had been granted.\textsuperscript{513} In response to EPA’s action, Representative Henry Waxman (D-Ca.) opened an investigation, and other members of Congress were demanding investigations.\textsuperscript{514} On January 2, 2008, California and fifteen other states filed a lawsuit in the Ninth Circuit seeking to overturn EPA’s decision.\textsuperscript{515} The Congressional Research Service issued a report on December 27, 2007 analyzing the legal requirements for granting or denying a waiver.\textsuperscript{516} Four tests are identified: (1) whether the state has determined that its standards will be, in the aggregate, “at least as protective of public health and welfare as applicable federal

\textsuperscript{508} Id. at 397–98.
\textsuperscript{509} \textit{Green Mountain Chrysler}, 508 F. Supp. 2d at 352.
\textsuperscript{510} See \textit{id}. at 352–53, 399.
\textsuperscript{511} California State Motor Vehicle Pollution Control Standards, Notice of Decision Denying a Waiver of Clean Air Act Preemption for California’s 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles, 73 Fed. Reg. 12,156, 12,157 (Mar. 6, 2008).
\textsuperscript{516} McCarthy & Meltz, \textit{supra} note 513, at CRS-7.
standards”; (2) whether this determination was “arbitrary and capricious”; (3) “whether the state needs such standards to meet compelling and extraordinary conditions”; and (4) “whether the standards and accompanying enforcement procedures are consistent with section 202(a) of the Clean Air Act.”517 The tenor of the report supports California’s position that EPA acted illegally.

EPA’s Administrator Stephen Johnson said that the Energy Independence and Security Act of 2007 would address global warming better than a “patchwork” of standards.518 This appears to be an erroneous statement. A California Air Resources Board (CARB) study documents that its GHG rules require more than double the reduction of the federal rules.519 If the states that already have adopted the California standards are included in an evaluation, the CO₂ reduction between 2008 and 2016 would be 145 million metric tons (MMT) compared to 66 MMT from the federal standard.520 California’s rule would equate to a forty-three mpg CAFE standard by 2020 compared to a federal CAFE standard of thirty-five mpg by 2020.521

**Conclusion**

Environmental degradation usually results from combined effects of population, per capita consumption and the amount of pollution per unit of consumption.522 However, there is little, if any, widespread support for controlling either population or consumption. Because CO₂ emissions are produced even during ideal combustion, there is little hope of controlling carbon emissions through traditional pollution control efforts. To reduce CO₂ emissions requires increasing the thermal efficiency of production, substituting nuclear or renewable energy for fossil fuel, and sequestering CO₂. But utilizing these approaches will be costly and will require the use of technology that is not yet commercially available. Thus, worldwide emissions of carbon diox-

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517 *Id.* at Summary.
520 *Id.* at vii tbl.ES-1.
521 *Id.* at viii.
ide are expected to grow fifty percent from 2005 to 2030 according to the U.S. Energy Information Administration.\textsuperscript{523}

The climate change debate pits the developed world, which has been responsible for most of the increase in CO$_2$ levels, against the developing world, which is expected to contribute to most of the increase in the future.\textsuperscript{524} Moreover, much of the increase is driven by the demands of an expanding population. World carbon dioxide emissions have increased 500\% as the population increased 264\% since 1950.\textsuperscript{525} This would indicate that the growth in population is responsible for a significant portion of the increase in carbon dioxide emissions and the remainder of the increase is due to an increased standard of living, assuming a rough correlation between energy consumption and the standard of living. However, restrictions on energy use could have devastating effects on efforts to improve the standard of living in poor nations because the increase in population and the increase in energy consumption in the past half century have not necessarily occurred in the same countries.

If humans are the cause of global warming, the rational approach would be to focus on the increase in population and consumption, but these factors are usually not addressed because of the lack of any political consensus in the United States or with most of the international community. It may be fair to say that the probability of successful efforts to control world population growth is slim, and the odds of nations abandoning efforts to improve their standards of living are lower. By 2015, thirteen cities are expected to have populations exceeding 10 million. Dhaka, Bangladesh, for example, located in a region expected to have serious problems from climate change, is projected to grow

\textsuperscript{523} Steven D. Cook, \textit{EIA Forecasts 50 Percent Increase in Carbon Dioxide Between 2005–2030}, 39 Env’t Rep. (BNA) 1271 (June 27, 2008).


from 10 million people in 2000 to 22.8 million by 2015.\footnote{526} The effect of climate change on these unstable and unsustainable areas of the world will have serious repercussions for national security.\footnote{527}

The United States is the world’s third-largest nation, after China and India, with a population of over 300 million people.\footnote{528} The primary contributor to GHG emissions from U.S. sources is carbon dioxide created by our large population directly and indirectly utilizing fossil fuels.\footnote{529} Carbon dioxide emissions in the U.S. from fossil fuel combustion have increased annually since 1990 by an average of 1.4%; more recently the rate of increase has been less—0.7% in 2004.\footnote{530} The nation’s CO$_2$ emissions increase at about the same rate as the population increase of about 0.97% annually, which is among the highest rates of population increase of any developed nation.\footnote{531} In the span of thirty-nine years, from 1967 to 2006, the U.S. population rose by 100 million.\footnote{532} More than three million people are added to the U.S. population each year.\footnote{533} If present trends in birthrate and immigration continue, the country is projected to have another 100 million people by 2043.\footnote{534}

To stabilize domestic carbon dioxide emissions, each American will have to reduce their fossil-fuel energy consumption by about one percent annually to overcome the emissions that appear to be attributable to the annual U.S. population increase. To reach the 1990 emission levels, which is the target of the Kyoto Protocol, would require additional reductions to offset the effects of the production necessary to sustain the more than fifty-seven million people added to the popula-


\footnote{528} Dep’t of Econ. & Soc. Affairs, United Nations, *supra* note 525, at 49 tbl.A.3 (2007).

\footnote{529} Inventory of U.S. Greenhouse Gas Emissions and Sinks, *supra* note 43, at 2-1 (stating carbon dioxide from fossil fuel combustion “has accounted for approximately 77 percent” of GHG emissions since 1990).

\footnote{530} Id.


\footnote{534} Ginder, *supra* note 532.
tion since 1990. The required reduction creates problems not shared by most developed nations because they do not have the same generous acceptance of legal and illegal immigration. Stabilizing our population would make the control of GHG emissions easier for the United States to achieve. But, in EPA’s publication, *U.S. Greenhouse Gas Emissions and Sinks 1990–2005*, the Agency’s discussion of the factors contributing to climate change in its executive summary makes no mention of population growth as a factor in the U.S. carbon dioxide emissions.

Because population stabilization appears to be an issue that is “off-the-table,” use of fossil fuels needs to be reduced at a rate that exceeds the effect of an expanding population. The most important stationary source of CO₂ emissions is the electric power industry. Cleaner and more efficient coal-burning plants could be built if we are willing to pay for them, but for thirty-six years the CAA and the political process has protected the electric utility from being required to upgrade many of its facilities. However, while new facilities can be designed to produce significantly less conventional pollution, fossil-fuel plants at this time can reduce carbon emissions by only about fifteen percent because carbon dioxide emissions are a function of energy conversion efficiency, not pollution controls. Moreover, with a dozen new coal-burning plants under construction and up to 150 new plants being projected by the Department of Energy to be constructed by 2030, the probability of significant CO₂ reductions are small, although the move to prevent the construction of new coal-burning power plants, previously discussed, may limit the number of plants actually constructed.

An alternative approach would be to utilize more non-fossil-fueled electric power generation. Nuclear energy is an obvious choice, but its use presents issues of capital costs, subsidies, safety, and radioactive waste disposal. New hydroelectric plants are almost impossible to build because of opposition from environmentalists. Wind power often is opposed by environmentalists and by citizens living near proposed

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Moreover, wind power usually is not capable of being used for base load power. This could change if wind power generation was spread over a large area, but such an effort would require costly additions to the transmission grid. To reduce CO₂ emissions from the electric power sector is difficult, but California has successfully reduced its per capita use, primarily through conservation, to about one quarter of Wyoming’s per capita use, which is among the highest in the nation. In 2001, the overall U.S. per capita GHG emissions was twenty tons per year, but California’s per capita emissions were eleven tons per year.

Reducing the one-third of the CO₂ emissions from fossil fuel combustion that is created by the transportation sector is not a technically difficult challenge. Vehicles presently available for sale could end most of our dependence on foreign oil, and more efficient vehicles could be produced without the need for new technology to be developed. Reducing the transportation sector’s petroleum consumption is primarily a political and social problem. To get Americans to reduce their energy-consumptive lifestyle in order to reduce GHG emissions is the major challenge. Inefficient use of petroleum, exacerbated by domestic population growth and increased foreign demand for oil helps drive prices upward and the value of the dollar down. The nation’s use of petroleum is an economic problem, an energy problem, a military problem, and a foreign policy problem. The world that was awash in inexpensive petroleum for a century now is gone, and other fossil fuel prices will continue to increase because they are linked to the price of petroleum.

The sooner we face the multifaceted problems created by the use of carbon-based fuels, the more likely a political consensus will emerge that may lead to solutions. While most efforts to date have failed, it is more alarming that even if the major international and domestic proposals were implemented they would have only a modest positive effect. Only reductions in fossil fuel use significantly larger than those proposed to date will have any chance for ultimately stabilizing atmospheric CO₂ concentrations. Whether the costs necessary to control CO₂


emissions should be incurred will be a major scientific and political issue in the coming decade. However, since CO$_2$ released into the atmosphere has a residency time of perhaps 100 years, the costs that would be incurred today to prevent CO$_2$ releases mostly will benefit future generations that have little or no present political clout.

Reducing petroleum consumption should be a priority for the United States. Reducing the use of coal would help protect public health and the environment. The challenge is to do what needs to be done without unjustified adverse effects on the economy and without creating an intrusive bureaucracy that determines who can use energy and the amount that can be used. The legal system works best when it “tweaks” the system but allows the free market to work. GHGs as the primary causative factor in climate change need continued investigation, and any programs to control GHGs will need the flexibility to respond appropriately to new information. The science of climate change is still based to a great extent on mathematical models that require continued verification and refinement. The changes needed to stabilize the atmosphere’s GHG concentrations will take many years to accomplish and require profound changes in how energy is utilized. However, it is important to begin to make serious, but prudent, efforts to control GHG emissions. Many states, local governments, trade associations, and corporations are not waiting for a federal response, but have taken the lead in responding to climate change. This should be encouraged. To address climate change will involve many small steps that in aggregate could help reduce our dependence on fossil fuels. While time may be needed to develop national leadership on this issue, progress can be achieved by focusing on the fact that energy efficiency saves money.

Congress needs to take a more responsible position concerning climate change and enact comprehensive legislation aimed at lowering carbon emissions. A carbon tax would be the best approach, but such legislation may be politically impossible to enact. The energy legislation recently enacted has been designed primarily to benefit the energy industry. This needs to change. Efforts to enact new legislation to deal with climate change have focused primarily on a cap-and-trade approach. The trading part is likely to be inflationary. It also could result in a massive transfer of wealth to the industries that use or produce fossil fuels. The cap could have unintended consequences. It could lead to electric power brownouts and gasoline shortages, it would give a boost to nuclear energy, and it may lead to the kind of avoidance that appears to have occurred with the European Union’s cap-and-trade program. It also could encourage what manufacturing is left in the United States to move to foreign countries, and could lead to more importation of elec-
tricity from Canada and perhaps Mexico. A substantial energy tax designed to be as revenue neutral as possible would be a more effective approach, but no one program or piece of legislation is going to do the job.

An undesirable response would be to rely on the Clean Air Act because it is not a tool designed to deal with GHG emissions, or more specifically, CO₂. The five Justices in the majority in *Massachusetts v. EPA* promulgated a decision that pressures EPA to limit combustion. It is difficult to believe that Congress intended EPA to be the czar of fossil energy use based on the Clean Air Act. To limit carbon dioxide requires less fossil fuel to be combusted. This could be achieved through improvement in combustion efficiency, but the CAA does not provide EPA with the power or the ability to make this happen. Combustion of fossil fuels could be reduced by mandating the use of fuel-efficient motor vehicles, but Congress has a substantial track record of making only modest and ineffective use of this approach, and the CAA cannot easily be used to mandate fuel efficiency improvements. A motor vehicle program that has both EPA and the Department of Transportation imposing fuel efficiency standards would be ridiculous, but it would be consistent with the Supreme Court’s opinion. EPA could encourage the use of nuclear power, expanded use of hydroelectric power, or seek to expand the use of alternative energy. Such efforts are unlikely to be effective and would carry the EPA well beyond what most people would consider the authority granted by the Clean Air Act and perhaps beyond what many people would consider the appropriate role of the Agency. EPA could achieve some of the goals of reduced fossil fuel combustion by making the Clean Air Act so onerous and expensive that the regulated community would be forced to seek alternatives to the use of fossil fuel. EPA lacks both the resources and the expertise to function effectively as the arbiter of energy use, and the potential for it to devastate the economy in the attempt to control GHG emissions is substantial.

The best hope for a viable program is that Congress will nullify *Massachusetts v. EPA* by creating an effective new program to reduce our dependence on carbon-based fuels without harming the economy. This may be overly sanguine.
THE INTERNATIONAL ORGANIZATION FOR STANDARDIZATION: PRIVATE VOLUNTARY STANDARDS AS SWORDS AND SHELlDS

DAVID A. WIRTH*

Abstract: Private voluntary standards such as the International Organization for Standardization’s (ISO’s) 14000 series have played an increasingly important role in encouraging corporations to adopt more sustainable business models on their own initiative and not in direct response to governmentally mandated requirements. ISO standards have a number of benefits, including promoting international uniformity; elevating environmental issues within an enterprise; promoting international trade; and providing a minimal level of environmental performance in countries with less than adequate regulatory infrastructure. Concerns about ISO standards include the relationship to public regulation; and ISO 14001’s essentially procedural, as opposed to performance-based, character. International trade agreements such as NAFTA and the WTO Agreement on Technical Barriers to Trade inject ISO standards into the public policy arena. Because of the structure of these agreements, ISO standards may operate either as a sword—a negative standard used to challenge a domestic regulatory action—or a shield—an internationally agreed reference point that bolsters the legitimacy of a national measure. This Essay examines the potential for ISO standards on eco-labeling to act as swords to attack domestic requirements, and those on life cycle analysis to serve as shields to insulate municipal actions from international challenge in areas such as climate protection.

* © 2008 David A. Wirth. Professor of Law and Director of International Studies, Boston College Law School. This Essay is based on a paper presented at the symposium, “The Greening of the Corporation” at Boston College Law School on October 25, 2007. From 1997 to 2001 the author was a member of the American National Standards Institute-Registrar Accreditation Board (ANSI-RAB) Management Committee for the Environmental Management System (EMS) component of the National Accreditation Program (NAP, now the ANSI-ASQ National Accreditation Board). This project was supported by a generous grant from the Boston College Law School Fund and draws on some of the author’s previously published work. The author gratefully acknowledges Ira R. Feldman’s helpful comments on an earlier draft. The responsibility for all views expressed in this Essay, however, is the author’s own.
INTRODUCTION

Corporations may choose to “go green” for any number of reasons, and in any number of ways. Customers or consumers through the marketplace may signal a demand for environmentally friendly goods or services. Alternatively, businesses may consciously choose to cultivate an environmentally responsible image. Concern among the public in the neighborhood of a manufacturing plant may create pressure for greener policies. Firms may retool manufacturing processes in response to demands from workers exposed to hazardous materials. Investments in energy efficiency or reductions in the use of toxic substances may result in significant cost savings, benefiting the firm’s bottom line. Government regulation, the possibility of enforcement, or potential tort liability may also act as incentive-creating mechanisms. Other drivers include the cultivation of environmentally responsible consumer markets and price premiums for environmentally friendly products.

Considerations such as these among a wide variety of firms and industries have led to coordinated approaches to addressing environmental concerns in the form of private voluntary standards. This Essay discusses one example of these efforts—environmental undertakings in the International Organization for Standardization (ISO). After describing the structure and operation of ISO, the Essay evaluates both the benefits and limitations of ISO standards in the field of the environment. The utility of, and concerns about, ISO standards are particularly pronounced in international trade agreements such as the World Trade Organization (WTO) suite of agreements. Because of the structure of these agreements, ISO standards may operate either as a sword—a negative standard used to challenge a domestic regulatory action—or a shield—an internationally agreed reference point that bolsters the legitimacy of a national measure. The Essay examines the potential for ISO standards on eco-labeling to act as swords to attack domestic requirements, and those on life cycle analysis to serve as shields to insulate municipal actions from international challenge in areas such as climate protection.

I. ISO’S ENVIRONMENTAL STANDARDS

The International Organization for Standardization (ISO), created immediately after World War II with headquarters in Geneva, is an international federation of standardizing bodies from 157 countries.¹ ISO

is not an intergovernmental organization, such as the United Nations, constituted by multilateral agreement whose members are states represented by governmental authorities. Although the ISO member from some countries is a governmental entity such as a national standardizing body, ISO is primarily a forum for coordinating standardizing efforts by private business. The U.S. member of ISO is the American National Standards Institute (ANSI), a private entity. For the United States, the primary, although not sole, participants in ISO processes are representatives of private industry.

ISO’s principal work product consists of voluntary standards adopted by consensus. In contrast to some of the output of intergovernmental organizations, ISO standards are strictly hortatory and are not binding under international law. At least so far as the United States is concerned, ISO standards are both adopted by and addressed to private parties. Although ISO standards are voluntary, they often have considerable influence. Probably the best-known ISO standards are those adopted for film speeds. As a result of harmonization through ISO, film with standardized speeds of 100, 200, or 400, is compatible with virtually all cameras of whatever brand are available throughout the world.

In the mid-1990s, ISO’s Technical Committee (TC) 207 on environmental management began to issue its 14000 series of environmental management standards, a process which is still ongoing. The center-
piece of the program is ISO 14001 on environmental management systems (EMS). Unlike product standards such as film speeds, EMS is a process-oriented approach designed to help an organization “to develop and implement its environmental policy and manage its environmental aspects,” including “organizational structure, planning activities, responsibilities, practices, procedures, processes and resources.”

Also included in the 14000 series are standards for environmental assessments, product labeling and declarations, life cycle assessment, environmental communication, and greenhouse gas emission reporting.

Although the standard is intended to have societal benefits as well, the principal purpose of ISO 14001 is to assist businesses in developing and implementing their own environmental policies and programs. Apart from its voluntary character, the standard is strictly


procedural in nature and does not specify particular outcomes. The program also includes a private third-party auditing and certification scheme to verify compliance and implementation. The ISO 14000 series of standards is consequently fundamentally different in kind from mandatory governmentally adopted requirements such as effluent limitations adopted under the Clean Water Act.

In 2008, just over ten years after the issuance of ISO 14001, a process for reviewing and revising that standard has now begun. TC 207 is also at work on a new draft standard, ISO 14005, on the phased implementation of EMSs and the use of environmental performance evaluations. Environmentally related efforts are also taking place in other technical committees besides TC 207. As of this writing, for instance, there has been some activity underway in ISO with respect to liquid biofuels undertaken by TC 28 on petroleum products and lubricants, which recently created a new subcommittee to work on this topic. ISO is currently working on a new standard 26000 addressing social responsibility, which also has an environmental component.

II. Benefits of ISO’s Environmental Standards

ISO standards, including the 14000 series, potentially have a global reach. A large proportion of the countries on the planet participate in ISO activities, and ISO standards have a high profile within multinational corporations. A number of beneficial consequences flow from these attributes.

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15 See ISO, Guidelines for Quality and/or Environmental Management Systems Auditing, ISO 19011 (Oct. 1, 2002). These principles for auditing also apply to the ISO 9000 series of standards on quality management systems (QMS). Feldman & Weinfield, supra note 2, § 6A.01[2][a]. The ISO 9000 series is similar in structure to ISO 14001 and served as a model for the subsequent development of ISO’s environmental standards. Id. Of the ISO 14000 series of standards, only 14001 on environmental management systems is subject to a certification process. Id.


17 See Susan L.K. Briggs, ISO 14000 Hits 10-Year Mark, QUALITY PROGRESS, Aug. 2007, at 67, 67–68 (identifying need to address applicability of ISO 14001 to small- and mid-sized organizations; credibility of certificates; and compatibility with other management systems).

18 Id. at 68.

One salient feature of ISO 14001, often cited, is the effect of elevating environmental issues within an enterprise. Because an EMS is addressed to the entirety of the production process, at least in principle the exercise of preparing and adopting an EMS engages the entire corporation, including top management.

Although EMS is a process-oriented approach that in principle is distinct from substantive, governmentally established regulatory requirements, the two are quite obviously interrelated. That is, an ISO-conforming EMS ought to assist a firm in meeting performance-based standards such as emissions limitations promulgated under the major environmental regulatory statutes. Among other benefits of ISO 14001 are “[r]educed environmental footprint in terms of environmental emissions, discharges and waste; [i]mproved internal communications and external partnerships; [and] [c]ontinual system improvements resulting from EMS objectives, targets, programs, periodic audits and management reviews.”

ISO standards set out uniform expectations from one country to another. To that extent, the meaning of an ISO-conforming environmental management system is similar or identical regardless of location. A corollary benefit of uniformity that is frequently identified is the salutary effect on international trade. Although this attribute is not necessarily immediately obvious in the case of ISO 14001, which adopts a process-oriented approach, other standards in the ISO 14000 series demonstrate the utility of homogeneity. One of the motivations for standards on environmental labeling, for instance, is to assure consistency for environmental claims and to assure that environmental labels do not operate as disguised barriers to trade. ISO standards on reporting greenhouse gas emissions or removals are designed to assure consistency in metrics from one country to another so as to facilitate comparability of data.

Although perhaps easily overlooked from a U.S. perspective, ISO standards are also effective in elevating environmental protection to an international plane. Although voluntary and adopted primarily by in-

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20 Briggs, supra note 17, at 67.
21 See ISO 14001, supra note 6, Introduction.
22 See ISO 14020, supra note 11, § 4.3.1 (“Procedures and requirements for environmental labels and declarations shall not be prepared, adopted, or applied with a view to, or with the effect of, creating unnecessary obstacles to international trade.”).
23 See ISO 14064–1, supra note 14, § 0.2 (“ISO 14064 is expected to benefit organizations, governments, project proponents and stakeholders worldwide by providing clarity and consistency for quantifying, monitoring, reporting and validating or verifying [greenhouse gas] inventories or projects.”).
distry representatives for the benefit of industry, ISO standards none-
theless are, indeed, standards. If nothing else, the mere existence of
ISO standards on the environment signals that this subject matter is an
issue of transnational importance. The process of developing ISO stan-
dards, moreover, encourages an international dialogue that also helps
to lift the topics addressed by the standards above the domestic level.

Some governments, particularly those of developing countries,
may have limited or inadequate regulatory infrastructure. In such a
setting, ISO standards can create a template for national laws and
regulations. Because they are addressed directly to private parties, in-
cluding multinational corporations, ISO standards in such a setting
can also operate as something of a default safety net. In situations
where governments may be less than effective in assuring environ-
mental quality, ISO requirements may serve literally as a standard for
governments and the public to hold private entities accountable.

One of the principal features of ISO 14001 is the availability of
third-party certification. Although firms may utilize ISO standards
without seeking certification, which like the standards themselves is
voluntary, the availability of third-party certification is an additional fac-
tor that tends to encourage consistency. There may be additional bene-
fits to certification in the form of market share and institutional reputa-
tion. Some customers may demand ISO 14000 certification from their
suppliers.

ISO 14001 consequently is written so as to be “auditable” or veri-
ifiable. The third-party certification scheme is designed to increase
public confidence in corporate accountability. In principle, if a cor-
poration is ISO 14001 certified, then consumers and the public can
have a certain level of confidence in purchasing goods or services
from it. Certification is also a way to promote positive relationships
with local communities, which may be concerned about the environ-
mental performance of a nearby facility. Moreover, the prospect of
certification creates incentives for industry to adopt environmental
management systems. More than 21,000 entities in North America
have now received certification under ISO 14001.24

It is also possible for entities to self-declare or self-certify. The
number of facilities that are implementing ISO 14001, as an indicator
of the reach of the Standard, is consequently likely higher than the
number of certifications. Although the obvious value of third-party cer-
tification is credibility, the Standard itself anticipates that this is not

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24 Briggs, supra note 17, at 67.
necessary to obtain the benefits of ISO 14001.\textsuperscript{25} For instance, local governments or utilities may wish to improve their environmental performance by making use of ISO standards, but may feel that other forms of political accountability render certification redundant or unnecessary.

In the United States, ISO 14001 has had particular utility in the public sector, where it has served as a basis for the adoption of EMSs for public buildings and undertakings. The Clinton administration promulgated an executive order which specifically required the implementation of EMSs by federal agencies and facilities by the end of 2005.\textsuperscript{26} While not mentioning ISO 14001 by name, the ISO Standard has been the typical model for implementation of the Executive Order, an important instrument for reducing the federal government’s environmental footprint. Governmental entities at the state and local level have also successfully employed EMSs, including those that conform to ISO 14001.\textsuperscript{27}

III. Concerns About ISO’s Environmental Standards

In utilizing and evaluating ISO standards such as the 14000 series, one must be aware of their origins. ISO is an international consortium of national standardizing bodies, and the ISO process involves harmonization of potentially disparate national standards. ISO standards


are voluntary and addressed directly to private parties—largely industry—and are adopted by a process that involves national delegations composed almost exclusively of industry representatives.

Although environmental organizations and academics have been invited to participate in the ISO process in the United States, it would be difficult to say that ISO as a forum reflects a balanced representation of stakeholders on environmental issues; the prevailing tone is still very much industry-oriented. Because of the voluntary nature of ISO standards, the perception of industry domination of the forum, the lengthy and complicated process for adoption of ISO standards, and the expense of attending frequent overseas meetings, few American non-profit environmental organizations have made a significant commitment to the ISO process.

Moreover, ISO standards are adopted by consensus, which is very carefully defined in the ISO universe.28 Although there are different tests at different stages of the process, “consensus” generally means widespread acceptance after lengthy consultation. It is therefore unlikely that ISO standards will serve as a dynamic driver of improvements in environmental quality. To the contrary, concern about the potential for the ISO process to produce modest, least-common-denominator outputs is frequently expressed.

A. Relationship to Public Regulation in the United States

To the extent that ISO processes are directed at selecting among essentially arbitrary choices of little societal impact but of great practical utility to industry, such as standardizing film speeds, the Organization’s institutional structure has been of little concern from the point of view of public policy. The specifications chosen for film speeds do not really matter so long as they are compatible with all cameras around the world. But by moving into the field of environment, the ISO 14000 standards have entered an arena of public policy which, in the United States and many other countries, is already governed by a complex web of governmentally mandated standards. This feature is not necessarily undesirable from a normative point of view, but it suggests that the relationship between ISO standards and governmental regulatory requirements is, at least potentially, a delicate one.

One relatively obvious distinction is that ISO standards are responsive to a different constituency than is public regulation. Where envi-

28 See ISO Glossary, supra note 6.
Environ mental statutory and regulatory requirements, at least in principle, have an aura of democratic legitimacy, the principal audience for ISO standards can be expected to be motivated primarily by market-driven factors, such as profitability. The consensus requirement creates additional reservations about the potential for downward inertia originating from literally around the globe. In such a setting, objections to excessive stringency can be expected to dominate by comparison with initiatives that might push for greater rigor. The voluntary nature of ISO standards renders them fundamentally different in kind from most governmentally established environmental requirements. Last, unlike public enforcement processes, the principal means of implementation is through a private third-party auditing process, also voluntary in nature.

These sorts of concerns have led to an equivocal relationship between private voluntary processes and federal regulators in the United States. On the one hand, there is potentially some synergy between ISO standards and the goals of public regulation. An ISO-conforming EMS may help a firm meet regulatory requirements, and the third-party auditing process may identify compliance problems at an early stage. Participation of regulatory officials in the normative phase of these voluntary undertakings can be beneficial, and, on occasion, private voluntary standards may be appropriate alternatives to mandatory, governmental regulation. For example, a voluntary consensus standard may generate better data than the regulatory process, may be an efficacious vehicle for educating regulatory officials as to the practical needs of industry, and, if effective, may obviate the need for regulatory intervention altogether.29 For these reasons, a variety of federal authorities encourage federal officials to participate in the

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process of drafting, and to make use of the work product from, voluntary standard-setting efforts.  

On the other hand, it is equally clear that federal agencies must in all cases abide by the statutory standards that govern the agencies’ activities. Whatever their policy merits, ISO standards domestically are private, voluntary undertakings. Consequently, federal agencies may use governmental standards adopted by a non-governmental entity, like ISO, regardless of the respect accorded such a body, only as hortatory guidance which must be reevaluated by reference to appropriate statutory standards. This result is self-evident, as ISO, whose members are representatives of affected industries, does not necessarily represent the public interest more broadly. Indeed, it is not difficult to imagine a setting in which the array of interests that shape an industry-dominated, voluntary standard-setting process is expressly contrary to the well-being of the public in the United States and abroad. Even so, there is frequently a residual concern about a potentially hidden agenda to substitute ISO standards for federal regulation. Presumably for reasons such as these, federal officials tend to play a deferential role, and U.S. governmental input tends to be of limited importance in the process. 

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30 See e.g., National Technology Transfer and Advancement Act of 1995, Pub. L. No. 104-113, § 12(d)(1)–(2), 110 Stat. 775, 783 (1996) (specifying that “all Federal agencies and departments shall use technical standards that are developed or adopted by voluntary consensus standards bodies, using such technical standards as a means to carry out policy objectives or activities determined by the agencies and departments” and that “Federal agencies and departments shall consult with voluntary, private sector, consensus standards bodies and shall . . . participate with such bodies in the development of technical standards”); OMB Circular No. A-119; Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities, 63 Fed. Reg. 8546 (Feb. 19, 1998). Section 6 of the Circular specifies that “[a]ll federal agencies must use voluntary consensus standards in lieu of government-unique standards in their procurement and regulatory activities, except where inconsistent with law or otherwise impractical.” Id. at 8554. Section 7 states that “[a]gencies must consult with voluntary consensus standards bodies, both domestic and international, and must participate with such bodies in the development of voluntary consensus standards when consultation and participation is in the public interest and is compatible with their missions, authorities, priorities, and budget resources.” Id. at 8555–56.

31 See, e.g., OMB Circular No. A-119; Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities, 63 Fed. Reg. at 8555 (“This policy does not preempt or restrict agencies’ authorities and responsibilities to make regulatory decisions authorized by statute. Such regulatory authorities and responsibilities include determining the level of acceptable risk; setting the level of protection; and balancing risk, cost, and availability of technology in establishing regulatory standards.”).

32 At least some knowledgeable observers feel that governmental entities, such as the National Institute of Standards and Technology, should play a more active role in ANSI and, through it, ISO, at least with respect to standard-setting activities like the ISO 14000
ISO 14001, unlike a product standard such as film speed, is fundamentally procedural in nature. With the benefit of hindsight, it is perhaps easy to see why this is so. The process of drafting ISO 14001 involved the reconciliation of competing approaches, including in particular the European Eco-Management and Audit Scheme (EMAS),\(^33\) some of which continue to exist as alternatives or supplements to ISO 14001. To that extent, the utility to industry may be maximized and the overlap with regulatory requirements adopted through governmental processes reduced. In particular, an ISO 14001-conforming EMS is designed to help a company achieve its own environmental goals through an iterative process of “continual improvement.”\(^34\)

Even so, ISO 14001 has been criticized for its failure to engage with substantive regulatory requirements. Consistent with ISO 14001’s systems—as opposed to a substantive approach—a company may receive ISO 14001 certification even with outstanding regulatory violations.\(^35\) Not surprisingly, this attribute of the ISO standards has been the subject of serious criticism.\(^36\) The public, being unfamiliar with the nuances of the standard and the meaning of ISO certification, may very well be misled into thinking that certification is an indication of superior substantive environmental performance.

Another attribute of ISO 14001 that has been the subject of considerable criticism is the lack of transparency in the process. As they are under development, ISO standards are generally not publicly available. Even the standards themselves are copyrighted and proprietary, and at least in principle must be purchased for use.\(^37\)


\(^34\) ISO 14001, supra note 6, § 3.2 (defining “continual improvement” as a “recurring process of enhancing the environmental management system in order to achieve improvements in overall environmental performance consistent with the organization’s environmental policy”).

\(^35\) See, e.g., Feldman & Weinfield, supra note 2, § 6A.04[2].


The process of preparing an ISO 14001-conforming EMS does not necessarily involve any public participation, and the standard specifies little if any provision of environmentally related information to the public. 38 ISO 14001 calls for an enterprise to make its generic environmental policy available to the public. 39 As to the EMS itself, “[t]he organization shall decide whether to communicate externally about its significant environmental aspects.” 40 Otherwise, the only requirement is to “establish, implement and maintain a procedure(s) for . . . receiving, documenting and responding to relevant communication from external interested parties,” 41 presumably including the public. 42

ISO certification is also somewhat less effective than might appear at first blush. The ISO 14001 auditing and certification process is similar in concept to a financial audit. As demonstrated by recent public accounting scandals, there may be good cause for concern about the existence of a multiplicity of auditing and certifying entities competing with each other for business. 43 The disclosure of substantive regulatory violations that might be identified during an audit is a particularly sensitive issue. Such a situation can trigger a race-to-the-bottom dynamic, in which companies seeking certification may engage in “forum shopping” by choosing registrars (certifying bodies or

38 See generally ISO 14063, supra note 13. ISO 14063 addresses the transmittal of environmentally related information, including to the public. Id. at § 1. That standard, however, contains no substantive minimum standard for transparency, but instead describes good practice standards for environmental communication policies and approaches if an entity chooses to undertake such activities. See generally id.

39 ISO 14001, supra note 6, § 4.2(g).

40 Id. § 4.4.3.

41 Id. § 4.4.3, 4.4.3(b).

42 But see supra note 38 and accompanying text (ISO 14063 specifies form of, but not need for, environmental communication).

43 In the United States, registrars are accredited to award ISO 14001 certification by the American National Standards Institute-American Society for Quality (ANSI-ASQ) National Accreditation Board (formerly the American National Standards Institute-Registrar Accreditation Board National Accreditation Program (ANSI-RAB NAP)). See ANAB, http://www.anab.org (last visited Jan. 29, 2009). As of this writing, the ANSI-ASQ National Accreditation Board has accredited about 25 registrars to perform ISO 14001 audits. Id. (follow “Directory” hyperlink; then search for standard “ISO 14001”). Some of those companies are headquartered abroad in countries such as Canada, the United Kingdom, Mexico, Korea and China. Id. The potential for registrars (certification bodies or auditors) to be accredited by counterparts of the ANSI-RAB NAP in foreign countries in turn can trigger “forum shopping” at the next rung up the institutional ladder. Id. (follow “MCAA” hyperlink).
auditors) that are perceived as likely to apply less rather than more rigorous approaches to the certification process.\textsuperscript{44}

The certification process itself may give little reason for confidence, at least to third parties who might rely upon it as an indication of quality control. To facilitate external evaluation, the standards themselves must be “auditable” —meaning capable of unbiased verification.\textsuperscript{45} While ostensibly facilitating objectivity, this feature can encourage a kind of checklist approach to the audit process based on items whose presence or absence can be impartially confirmed in a binary on/off mode.\textsuperscript{46} In the evaluation of training courses provided by registrars to auditors, for instance, this may translate into factors such as whether the instructor spent the required minimum amount of time with students.\textsuperscript{47} Consistent with the basic approach, qualitative criteria such as teaching effectiveness are not taken into account. The emphasis in the certification process consequently tends to be on rote satisfaction of objectively verifiable requirements rather than on exceeding or surpassing minimum standards.

\section*{IV. Swords, Shields, and Trade Agreements}

The motivation for the adoption of ISO standards, even those within the 14000 series, may be quite diverse. The newly released ISO standards on greenhouse gases do not require any particular substantive performance requirements. Instead, these standards address primarily the integrity of data reporting. Consequently, they would appear to be of limited application, primarily in settings such as the calculation of offsets and trading of emissions rights where a standard format for collecting and reporting data is required.

ISO standards on eco-labeling, by contrast, appear to have been motivated by a concern to rein in or discipline a proliferation of diver-

\begin{itemize}
\item \textsuperscript{44} See Briggs, \textit{supra} note 17, at 67–68 (noting that “the underlying competitiveness of the certification industry can drive auditors to cut audit durations,” and noting pressure on auditors to refrain from issuing nonconformances (NCRs)).
\item \textsuperscript{45} See ISO 19011, \textit{supra} note 15 (“Guidelines for Quality and/or Environmental Management Systems Auditing.”).
\item \textsuperscript{46} See Briggs, \textit{supra} note 17, at 67 (“[U]sers want verification that an EMS results in improved performance, not just conformance to requirements during a certification audit. Because there is inconsistency in results, users are questioning the value of accredited certification.”).
\end{itemize}
gent approaches, which among other things could operate as trade barriers. While the biofuels initiative in TC 28 is at an early stage of development and little information is publicly available, the likely scope will include harmonization of standards and test methods.\textsuperscript{48} This effort appears to have been commenced in response to a high current level of interest in public policy for biofuels and a variety of proposals for private voluntary certification and labeling schemes for them.

As demonstrated by these latter initiatives, ISO standards may well be intended to establish not only a floor, but also a ceiling. That is, part of the motivation for their adoption may be to encourage uniformity as a response to a proliferation of divergent approaches. From this point of view, the concern is that the effect of ISO standards may very well operate so as to impede the development of creative new approaches to environmental problems.

\textbf{A. Transformative Effect of Trade Agreements}

In the mid-1990s—probably not entirely by chance coinciding with the development of the ISO 14000 series—the public policy effect of ISO standards received considerable impetus in the form of the adoption of two new international trade agreements: the North American Free Trade Agreement (NAFTA),\textsuperscript{49} and the Uruguay Round of Multilateral Negotiations in GATT,\textsuperscript{50} which created the World Trade Organization (WTO). Chapter Nine of NAFTA addresses “technical barriers to trade,” as does a new WTO Agreement on Technical Barriers to Trade (TBT Agreement).\textsuperscript{51} A wide variety of regulatory requirements that have environmental or public health implications, including specifications for consumer products and children’s toys, appliance efficiency criteria, and vehicle fuel efficiency standards, are potentially covered by these requirements.\textsuperscript{52}

\textsuperscript{48} See \textit{Results on the Proposal to Establish a New ISO/TC 28 Subcommittee on Liquid Biofuels}, \textit{supra} note 19.


\textsuperscript{51} See NAFTA, \textit{supra} note 49, ch. 9; \textit{Agreement on Technical Barriers to Trade}, Apr. 15, 1994, 1868 U.N.T.S. 120 [hereinafter TBT Agreement].

\textsuperscript{52} The TBT Agreement applies to all products in international trade and governs a “technical regulation,” which is defined as an instrument which “lays down product characteristics or their related processes and production methods, including the applicable administrative provisions, with which compliance is mandatory. It may also include or deal
International obligations or “disciplines” on trade are almost exclusively “negative,” in the sense that they establish constraints on governmental action. A partial analogy can be found in the Dormant Commerce Clause of the U.S. Constitution, which places similar limitations on state-level regulation even in the absence of congressional legislation. Trade agreements encourage liberalized or free trade through requirements that limit governmental intrusion into what otherwise would be a free market. From an environmental point of view, this phenomenon is the equivalent of deregulation—in the sense of reducing the level of governmental intervention in the market in the form of tariffs or other prescriptive requirements—and trade agreements by virtue of their negative obligations are inherently deregulatory. This momentum largely explains the phenomenon of globalization, at least as it has been defined for the past decade or so: getting governments out of the business of impeding private interactions and transactions, thereby facilitating their global reach.

Environmental protection by contrast anticipates affirmative governmental intervention in the marketplace to offset market failures. That explains the clash between the two approaches: one operates to disable governmental action, while the other depends on invigorating government. Obligations in trade agreements proscribe certain governmental behaviors that impede trade, while environmental laws prescribe affirmative governmental actions to protect public health and ecosystems. In other words, free trade agreements do not contain any affirmative obligations to protect the environment or public health; rather, they establish constraints on the capacity of member states to implement domestic regulatory standards. Like most international trade agreements, the WTO TBT Agreement is asymmetric, in that it contains no minimum standards of performance in the field of environment or in most other areas of social and regulatory policy.

Consistent with that approach, the WTO TBT Agreement defines “standards,” as that term is used in that text, to include voluntary guidelines adopted by an “international standardizing body,” a term which

exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method.” TBT Agreement, supra note 51, Annex 1, ¶ 1 (“Terms and their Definitions for the Purpose of This Agreement.”).


55 TBT Agreement, supra note 51, at Annex 1, ¶ 2 (“Terms and Their Definitions for the Purpose of This Agreement.”). According to the TBT Agreement, a “standard” is a
was expressly intended to include ISO.\textsuperscript{56} Although standards adopted by ISO are non-binding instruments addressed directly to private entities, the TBT Agreement then goes on to require the utilization of “relevant international standards” where they exist in promulgating governmentally mandated regulatory requirements.\textsuperscript{57} Governmental regulations that conform to the standards adopted by such an international standardizing body are entitled to a rebuttable presumption of validity.\textsuperscript{58} To justify a departure from international standards, presumably because they are insufficiently rigorous, a WTO member would have to demonstrate that a harmonized international standard “would be an ineffective or inappropriate means for the fulfilment of the legitimate objectives pursued.”\textsuperscript{59} The WTO jurisprudence interpreting this provision suggests that the threshold for justifying a departure from international standards is high.\textsuperscript{60}

Thanks to the structure of the TBT Agreement, those national regulatory requirements that are not based on the output, when it exists, of such a body are therefore particularly vulnerable to challenge as unnecessary obstacles to international trade. And the sorts of governmental requirements that are most likely to create impediments to international trade are those that are more rigorous than the international requirements, which may well be the product of a least-common-denominator consensus in an industry-dominated forum. The result is that, through a trade agreement, the expectations of what, at least from the point of view of the United States, is a private standardizing organi-

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\textsuperscript{57} Id. at art. 2.4.

\textsuperscript{58} Id. at art. 2.5.

\textsuperscript{59} Id. at art 2.4. The analogous passage in NAFTA sets out a similar approach. NAFTA, supra note 49, ch. 9, arts. 905 & 915 (defining “standard” as “a document, approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics . . . with which compliance is not mandatory”).

\textsuperscript{60} See, e.g., Appellate Body Report, European Communities—Trade Description of Sardines, WT/DS231/AB/R (Sept. 26, 2002) (requiring application of non-binding standard promulgated by Codex Alimentarius Commission) [hereinafter EC—Sardines].
zation are transformed into an outer limit of rigor—a ceiling—for public regulation to protect health and environment domestically.

Initially, the requirements of the Uruguay Round TBT Agreement and other trade agreements may appear to be similar to those in the United States, such as OMB Circular A-119, which counsel reliance on ISO standards to the extent consistent with statutory mandates. In actuality, however, the two situations are very different. While authorizing consistency where possible with ISO standards as non-binding advisory guidelines, the OMB Circular, as it must, reasserts the primacy of congressionally enacted legislative requirements. By contrast, NAFTA and the WTO TBT Agreement adopt the private standard as a reference point and require public authorities to justify departures, especially those tending in the direction of more rigorous requirements, from those privately agreed expectations. This situation in effect bootstraps a nongovernmental standard into one with binding significance for governmentally established regulatory requirements, at least as a matter of international law.

Departures from the benchmark standard by domestic regulatory authorities can then be challenged by foreign governments through the trade agreement dispute settlement process, among the more efficacious known in the international legal system. In other words, operating through the TBT Agreement, non-binding ISO standards may acquire international legal significance, may be transformed from minimum standards of performance into regulatory ceilings from which governments must justify departure in terms of greater rigor, and, at least from the U.S. point of view, may metamorphose from strictly private, non-governmental instruments to standards with international legal significance.

On the domestic level, the results of WTO and NAFTA dispute settlement processes—the international equivalent of judicial opin-

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62 Id.

ions—do not have the force of law. They do, however, create serious expectations on the international level, and are possibly binding as a matter of international law. A finding by an international trade agreement dispute settlement panel or the WTO’s Appellate Body that the United States is not complying with its international obligations also engages serious separation of powers considerations, and the courts may be reluctant to impede implementation by the Executive Branch, the “sole organ” of the Nation in foreign affairs. The back-impact of international trade agreement dispute settlement proceedings within the United States consequently may be considerable. The limited jurisprudence on the subject suggests that, although WTO panel and Appellate Body reports do not have the force of law, reviewing courts are inclined to give them considerable deference, presumably so as to avoid interference with the Executive’s prerogative in foreign affairs and to avoid the appearance of judicial management of the foreign relations of the United States.

**B. Eco-Labeling**

ISO standards for “eco-labeling” illustrate this phenomenon well. Eco-labeling schemes, by communicating distinctions in similar products based on relative environmental impact, are designed to inform consumers of environmentally preferable product choices. Foreign eco-labels have been the subject of criticism from U.S. industry, which has asserted in particular that a governmentally sponsored, voluntary

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program currently implemented by the European Union discriminates against U.S. exports.\textsuperscript{68}

Eco-labeling is a good example of the interaction between international trade agreements and private voluntary standards. Operating through the WTO TBT Agreement as standards adopted by an international standardizing body, eco-labeling criteria published by ISO may very well require governments to justify departures from those private, hortatory principles adopted primarily by industry.

ISO standards govern unilateral environmental claims made by manufacturers, known as “type II” labels.\textsuperscript{69} They also address governmentally or privately established schemes that include a single mark, such as the U.S. Government-sponsored, voluntary Energy Star logo for identifying energy-efficient personal computers.\textsuperscript{70} These are known as “type I” labels.\textsuperscript{71} “Type III” labels, also governed by an ISO standard,\textsuperscript{72} transmit quantified information in a manner similar to the identification of fat, carbohydrates, and protein on nutrition labels in the United States.\textsuperscript{73} During the drafting process that led to the adoption of ISO’s eco-labeling standards, there was express concern for constraining or “disciplining” the potential abuse of environmental labeling schemes as unjustified barriers to international trade.

As a consequence, according to ISO standards, eco-labels must be “accurate, verifiable, relevant, not misleading,”\textsuperscript{74} and “based on scientific methodology that is sufficiently thorough and comprehensive to support the claim.”\textsuperscript{75} Those requirements all sound more than reasonable in the abstract, but each must be understood as a negative discipline. That is, if a label is not “relevant,” then the label violates the standard and potentially the TBT Agreement as well. These negative tests can be adjudicated by international trade agreement dispute settlement.

\textsuperscript{69} ISO 14021, supra note 11, § 1. Among the claims potentially covered by this Standard are self-declared or self-certified conformance to ISO 14001. See supra text accompanying note 25.
\textsuperscript{71} ISO 14024, supra note 11, § 3.1.
\textsuperscript{72} ISO 14025, supra note 11, § 1.
\textsuperscript{74} ISO 14020, supra note 11, § 4.2.1.
\textsuperscript{75} Id. § 4.4.1.
bodies.\textsuperscript{76} When applied to a situation such as precautionary labeling, among the least intrusive of regulatory interventions, the situation becomes even more complex in areas such as the evaluation of policy-relevant science that by definition involve a measure of judgment.

C. Life Cycle Assessment

In contrast to the situation with eco-labeling, in which ISO standards act as a “sword” with which one state may challenge another’s domestic regulation, this same structure may act as a “shield” in situations in which a state chooses to rely on international standards. A good example of this latter phenomenon is California’s new Low-Carbon Fuel Standard (LCFS),\textsuperscript{77} a requirement designed to reduce the carbon intensity—carbon emitted per unit of fuel consumed—of fuels in California by ten percent by the year 2020.\textsuperscript{78}

Similar to the approach employed with automobile fuel efficiency requirements on the federal level, the LCFS applies an averaging approach, which means that each provider must meet the reduction target as measured against the totality of the fuels it sells on the California market (as opposed to, say, in each gallon). The LCFS specifies application of a life cycle analysis (LCA) so as to take into account emissions not only from combustion, but also production and transport, of fuels.\textsuperscript{79} These factors include emissions associated with extraction, protection of sensitive lands and ecosystems, and a variety of other emissions which, in the case of imported fuels, are physically located in the country of export.\textsuperscript{80}

One of the basic obligations found in international trade agreements is the “national treatment” discipline, specifying non-discrimi-
inatory treatment of imported products by comparison with their domestically produced counterparts.\textsuperscript{81} Similarly, the “most-favored nation” discipline requires states of import to refrain from discriminatory treatment among products on the basis of their national origin, as in preferential treatment for Mexican oil by comparison with Saudi oil.\textsuperscript{82} As demonstrated by a well-known dispute involving the U.S. embargo of shrimp harvested in a manner that harms endangered sea turtles,\textsuperscript{83} so-called “process and production methods” (PPMs)—which regulate how an imported product is produced as opposed to its content—may be suspect from a trade point of view.

ISO standards for life cycle assessment, like those for eco-labeling, are undoubtedly intended to discipline or constrain the potential for abuse. At the same time, the ISO methodology for conducting an LCA is remarkably malleable. In particular, a life cycle assessment that conforms to ISO standards “assesses, in a systematic way, the environmental aspects and impacts of product systems, from raw material acquisition to final disposal, in accordance with the stated goal and scope.”\textsuperscript{84} An ISO-conforming LCA is characterized by “flexibility,”\textsuperscript{85} “addresses potential environmental impacts,”\textsuperscript{86} and includes within its scope the “acquisition of raw materials; . . . distribution/transportation; [and] disposal of process wastes and products.”\textsuperscript{87} If ISO standards meet California’s regulatory needs, and California chooses to rely upon them in performing the LCA called for by the program, then the same WTO TBT Agreement that transforms ISO standards for eco-labeling into a “sword” could very likely tend to shield California’s Low-Carbon Fuel Standard from a trade-based challenge.

**Conclusion**

By adopting the 14000 series of standards on environmental management, the International Organization for Standardization (ISO) has decisively moved into a major public policy arena, not just in the

\textsuperscript{81} General Agreement on Tariffs and Trade art. 3, Oct. 30, 1947, 61 Stat. 18, 55 U.N.T.S. 194, \textit{as incorporated into} Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, \textit{supra} note 50.

\textsuperscript{82} General Agreement on Tariffs and Trade art. I., \textit{supra} note 81.


\textsuperscript{84} ISO 14040, \textit{supra} note 12, § 4.3(a).

\textsuperscript{85} Id. § 4.3(g).

\textsuperscript{86} Id. § 4.3(i).

\textsuperscript{87} Id. § 5.2.3.
United States but in other countries as well. ISO is an important forum for harmonizing private voluntary initiatives from around the world. The benefits of laying down international minimum standards through ISO are substantial, although there are also significant concerns about the potential impacts of non-binding standards of the ISO variety on public regulation.

Simultaneously with the adoption of ISO’s standards on the environment, major new trade agreements that created the World Trade Organization and encouraged the liberalization of trade in North America also addressed measures such as food safety standards and eco-labeling with new international disciplines. By expressly referenc- ing ISO standards, these international trade agreements have created a new category of legal and policy questions. ISO’s private voluntary standards can act as ceilings on the rigor of governmentally estab- lished requirements, as in the case of eco-labeling, which can be used as swords by one state to challenge the national measures of another. Through the same process, as in the case of life cycle analysis, ISO standards may act as a floor, which in turn can shield national meas- ures from attack by reference to trade-based tests.

Private voluntary standards, such as those published by ISO, do not necessarily fall neatly into the categories of “swords” or “shields,” but, indeed, can simultaneously operate as both. For example, ISO standards for life cycle assessment, as they operate through the TBT Agreement, are undoubtedly intended to discipline or constrain the potential for abuse. To that extent, ISO standards operate as a regu- latory ceiling, which can be used as “swords” by one state to challenge the national measures of another. But they can equally well insulate life cycle analyses that conform to international standards from trade- based challenges emanating from abroad.

This phenomenon, not to mention its consequences, is seriously underappreciated by many constituencies, including legislators, regu- lators, agency officials, and the environmental community. As ISO quietly proceeds to move forward with yet another series of standards on social responsibility, we the public may discover only too late that important public policies are affected in a forum that receives little public scrutiny, that is largely inaccessible except to the business community, and that does not necessarily reflect the public interest. There is no doubt but that efforts with significant public policy con- sequences will continue in ISO, and most likely will expand. What those undertakings mean for efforts to promote environmental sus- tainability is, however, indeterminate.
During the debate over NAFTA, George Will praised an agreement designed to “propel a free society into an exhilaratingly unknowable future.” Perhaps nowhere is the effect of international trade agreements more “unknowable” than in the effect of international, private, voluntary standards on domestic, mandatory, governmentally established regulation. Whether, a decade and a half after the entry into force of these agreements, this effect on balance is “exhilarating” or the opposite is still an open question.

— George Will, Judicial Activism Aims at an Impossible Task, Newsday, July 8, 1993, at 102.
THE CLEAN AIR ACT: CITIZEN SUITS, ATTORNEYS’ FEES, AND THE SEPARATE PUBLIC INTEREST REQUIREMENT

Matthew Burrows*

Abstract: The Clean Air Act (CAA) authorizes citizen suits and empowers courts reviewing these suits to award attorneys’ fees whenever appropriate. For some courts, awarding attorneys’ fees to a CAA citizen plaintiff is appropriate whenever a plaintiff achieves some success on the merits. Other courts hold that such awards are appropriate only when the citizen plaintiff has served the public interest by bringing suit. This note argues that a CAA citizen plaintiff seeking attorneys’ fees should not be required to demonstrate that the suit served the public interest. Instead, courts should award attorneys’ fees whenever a plaintiff partially or wholly prevails on the merits of a CAA citizen suit.

Introduction

The Clean Air Act (CAA)—the federal air pollution regulation statute—contains two sections that authorize citizen participation in CAA enforcement and implementation. Section 304 permits citizen suits against CAA violators. Section 307 allows citizen suits challenging Environmental Protection Agency (EPA) actions made pursuant to the CAA. Both sections vest discretion in the reviewing court to award attorneys’ fees to a citizen litigant whenever it determines that such award is “appropriate.” While the scope of the court’s fee-shifting discretion is broad, the Supreme Court has ruled that it is not “appropriate” to award attorneys’ fees to a citizen plaintiff absent some degree of success on the merits.

* Articles Editor, Boston College Environmental Affairs Law Review, 2008–09.
3 42 U.S.C. § 7604(a).
4 Id. § 7607(d).
5 Id. §§ 7404(d), 7607(f).
plaintiff only where that plaintiff demonstrates to the satisfaction of the reviewing court that the citizen suit served the public interest.\(^7\)

This Note discusses the propriety of the separate public interest requirement for citizen plaintiffs who partially or wholly prevail on the merits of a CAA citizen suit. Part I provides an overview of environmental citizen suit statutes and the CAA and examines in detail the distinct features and objectives of the CAA’s citizen-suit provisions. Part II addresses the judicial practice of fee-shifting and explores the reasons that underlie Congress’s decision to authorize awards of attorneys’ fees in CAA citizen suits. Part III summarizes and scrutinizes the judge-made rule that a successful citizen plaintiff is not entitled to attorneys’ fees absent a separate showing that the public interest has been served. Finally, Part IV proposes that the separate public interest requirement be abolished in favor of awarding attorneys’ fees whenever a citizen plaintiff achieves some degree of success on the merits of a CAA citizen suit.

I. CITIZEN SUITS AND THE CLEAN AIR ACT

A. Environmental Citizen Suits

In the 1960s, citizens began seeking legal procedures to give them a role in environmental regulation.\(^8\) Specifically, citizens called for the statutory expansion of standing in environmental lawsuits.\(^9\) As a result of this movement, several states enacted citizen-suit statutes.\(^10\) These state statutes provided a model on which other citizen-suit statutes would be based.\(^11\)

Virtually every major federal environmental statute enacted since 1970 authorizes citizen suits.\(^12\) While there are differences in statutory language, substantive provisions, and the manner of judicial interpretation among the various federal environmental suit provisions, all seek to balance the interests of government, citizens, and regulated

\(^7\) See, e.g., Pound v. Airosol Co., 498 F.3d 1089, 1102 (10th Cir. 2007) [Pound II]; W. States Petroleum Ass’n v. EPA, 87 F.3d 280, 286 (9th Cir. 1996).


\(^9\) Id.

\(^10\) Id.

\(^11\) Id.

parties. Typically, citizen-suit provisions confer broad authority to “any person” to bring suit on his own behalf against a private or government entity alleged to have violated the substantive provisions of the underlying statute, and may also authorize suits against a government agency charged with the implementation of the statute. Citizen-suit provisions also authorize the reviewing court to award attorneys’ fees to citizen plaintiffs, in some cases where they prevail or substantially prevail, and in other cases whenever the court deems it appropriate.

B. The Clean Air Act

Congress’s first attempt at addressing air pollution was a measured one: it sought to encourage and assist state and local governments in combating the problem while still adhering to the notion that the prevention and control of air pollution at its source was not the primary responsibility of the federal government. Accordingly, in 1963, Congress passed the CAA. The Act required the Department of Health, Education, and Welfare (HEW) to provide scientific information to the states on the effects of various air pollutants, but did not require states to implement abatement programs based on these data. The 1963 Act also empowered the Secretary of the HEW to investigate interstate pollution sources, but only state and local governments could undertake any recommended abatement measures. Finally, the 1963 Act vested in the Secretary of the HEW the power to take direct legal action to abate air pollution in instances where pollution endangered public health.

13 Riesel, supra note 8, § 15.02[2].
14 Id.
15 See, e.g., 42 U.S.C. § 7607.
16 See, e.g., Clean Water Act § 1365(d). The Clean Water Act authorizes the reviewing court to award attorneys’ fees in a citizen suit to “any prevailing or substantially prevailing party.” Id.
17 Riesel, supra note 8, § 15.02[2]; see, e.g., 42 U.S.C. §§ 7604(d), 7607(f). The CAA authorizes the reviewing court to award attorneys’ fees whenever it “determines that such award is appropriate.” 42 U.S.C. §§ 7604(d), 7607(f).
20 The HEW is now called the Department of Health and Human Services.
22 Id.
the public health or welfare. These powers so diffused responsibility that no effective enforcement efforts were ever brought.

Thus the 1963 CAA yielded little progress, largely because it relied almost exclusively on voluntary state efforts to control air pollution. Subsequent acts and amendments to the CAA enlarged the federal government’s role in combating air pollution. But these legislative efforts also proved ineffective. Part of their failure was attributable to the difficult scientific and institutional problems that federal and state agencies faced; preparing implementation plans and enforcing air pollution standards were enormous tasks.

In response, Congress drastically overhauled the CAA through the enactment of the CAA Amendments of 1970. These Amendments essentially federalized the field of air pollution prevention. The avowed purpose of the Amendments was to “speed up, expand, and intensify the war against air pollution in the United States with a view to assuring that the air we breathe throughout the Nation is wholesome once again.” The CAA charged the EPA with effectuating this broad legislative mandate, tasking it with the issuance and enforcement of concrete rules and regulations to combat air pollution.

Congress amended the CAA in 1977 and again in 1990. As it now stands, the CAA provides the basic framework for regulation of air pollution in the United States. The Act uses four basic techniques to achieve this end: it creates the broad, basic regulatory system for control of the most commonly-produced and significant air pollutants by stationary (as opposed to mobile) sources; it sets specific, strict congressional standards for across-the-board rollbacks of automobile and

23 Id.
24 Id.
27 Plater et al., supra note 25, at 442.
28 Anderson, Mandelker & Tarlock, supra note 21, at 159.
30 Anderson, Mandelker & Tarlock, supra note 21, at 159.
32 See Semmel, supra note 2, at 418.
34 Anderson, Mandelker & Tarlock, supra note 21, at 162.
truck tailpipe emissions; it establishes a system of “best-technology” emissions requirements; and it implements a technology-based strategy for regulating hazardous air pollutants.\textsuperscript{35}

C. Citizen Suits and the CAA

The CAA represents a vision of administrative law that encourages citizen participation in the enforcement and implementation of public policy.\textsuperscript{36} Congress enacted the CAA Amendments of 1970 in part because it had lost faith in the ability of government to enforce and comply with the substantive provisions of the CAA.\textsuperscript{37} Furthermore, Congress had lost confidence in the EPA’s ability to implement air pollution policy on behalf of the public.\textsuperscript{38} Accordingly, the CAA Amendments of 1970 included two provisions that authorize public involvement in CAA enforcement and implementation.\textsuperscript{39}

Section 304 permits “any person” to “commence a civil action on his own behalf.”\textsuperscript{40} Specifically, a citizen plaintiff can initiate an ac-

\begin{quote}
\textsuperscript{35} Plater et al., supra note 25, at 442.
\textsuperscript{36} Semmel, supra note 2, at 399.
\textsuperscript{38} Semmel, supra note 2, at 399.
\textsuperscript{39} Id. at 399–400.
\textsuperscript{40} 42 U.S.C. § 7604(a) (2000). Section 304 states in pertinent part:

Except as provided in subsection (b) of this section, any person may commence a civil action on his own behalf – (1) against any person (including (i) the United States, and (ii) any other governmental instrumentality or agency to the extent permitted by the Eleventh Amendment to the Constitution) who is alleged to have violated (if there is evidence that the alleged violation has been repeated) or to be in violation of (A) an emission standard or limitation under this chapter or (B) an order issued by the Administrator or a State with respect to such a standard or limitation, (2) against the Administrator where there is alleged a failure of the Administrator to perform any act or duty under this chapter which is not discretionary with the Administrator, or (3) against any person who proposes to construct or constructs any new or modified major emitting facility without a permit required under part C of subchapter I of this chapter (relating to significant deterioration of air quality) or part D of subchapter I of this chapter (relating to nonattainment) or who is alleged to have violated (if there is evidence that the alleged violation has been repeated) or to be in violation of any condition of such permit.

The district courts shall have jurisdiction, without regard to the amount in controversy or the citizenship of the parties, to enforce such an emission standard or limitation, or such an order, or to order the Administrator to perform such act or duty, as the case may be, and to apply any appropriate civil penalties (except for actions under paragraph (2)). The district courts of the United States shall have jurisdiction to compel (consistent with paragraph (2)
tion against any person alleged to be in violation of an emissions standard or limitation, or challenge an order issued by the EPA Administrator or a state with respect to such a standard or limitation.\textsuperscript{41} A suit can also be filed against the EPA Administrator for failure to perform a nondiscretionary act.\textsuperscript{42} Finally, a suit can be brought against a person who builds or purposes to build a “new or modified major emitting facility” without a permit or in violation of the conditions of a permit.\textsuperscript{43}

Section 307 authorizes private citizens to initiate review of certain EPA actions under specifically enumerated provisions of the CAA.\textsuperscript{44}

\begin{itemize}
\item{}(A) the promulgation or revision of any national ambient air quality standard under section 7409 of this title,
\item{}(B) the promulgation or revision of an implementation plan by the Administrator under section 7410(c) of this title,
\item{}(C) the promulgation or revision of any standard of performance under section 7411 of this title, or emission standard or limitation under section 7412(d) of this title, any standard under section 7412(f) of this title, or any regulation under section 7412(g)(1)(D) and (F) of this title, or any regulation under section 7412(m) or (n) of this title, (D) the promulgation or revision of any requirement for solid waste combustion under section 7429 of this title, (E) the promulgation or revision of any regulation pertaining to any fuel or fuel additive under section 7545 of this title, (F) the promulgation or revision of any aircraft emission standard under section 7571 of this title, (G) the promulgation or revision of any regulation under subchapter IV-A of this chapter (relating to control of acid deposition), (H) promulgation or revision of regulations pertaining to primary nonferrous smelter orders under section 7419 of this title (but not including the granting or denying of any such order), (I) promulgation or revision of regulations under subchapter VI of this chapter (relating to stratosphere and ozone protection), (J) promulgation or revision of regulations under part C of subchapter I of this chapter (relating to prevention of significant deterioration of air quality and protection of visibility), (K) promulgation or revision of regulations under section 7521 of this title and test procedures for new motor vehicles or engines under section 7525 of this title, and the revision of a standard under section 7521(a)(3) of this title, (L) promulgation or revision of regulations for noncompliance penalties under section 7420 of this title, (M) promulgation or revision of any regulations promulgated under section 7541 of this title (relating to warran-
\end{itemize}
Additionally, section 307 permits citizen suits challenging “any other nationally applicable regulations promulgated, or final action” taken by the EPA under the CAA.\textsuperscript{45} Finally, citizens can initiate judicial review of certain EPA actions under other specifically enumerated provisions of the Act and of “any other final action . . . which is locally or regionally applicable.”\textsuperscript{46}

D. Authorization of CAA Citizen Suits: Legislative Intent

1. Section 304

Congress authorized section 304 suits to bolster CAA enforcement.\textsuperscript{47} Congress recognized that government necessarily lacks the manpower, techniques, and awareness to combat air pollution on its own in an efficient, effective manner.\textsuperscript{48} Indeed, governmental agencies may fail to act or themselves might be polluters.\textsuperscript{49} Congress viewed citizens as useful instruments in identifying CAA violations and in bringing

\textsuperscript{45} 42 U.S.C. § 7607(b)(1).

\textsuperscript{46} Id.


\textsuperscript{49} Natural Res. Def. Council, Inc. v. EPA, 484 F.2d 1331, 1337 (1st Cir. 1973); S. Rep. No. 91-1196, as reprinted in Train, 510 F.2d app. B at 724.
them to the attention of the courts and enforcement agencies.\textsuperscript{50} Accordingly, citizen suits would motivate governmental agencies to act on their nondiscretionary duties to bring enforcement and abatement proceedings.\textsuperscript{51}

There was, however, significant disagreement in Congress over the degree to which section 304 should broaden standing.\textsuperscript{52} Some advocated a provision that conferred virtually unlimited standing to ensure that private citizens could make meaningful contributions to the enforcement and implementation of air pollution policy.\textsuperscript{53} Congress intended that citizens not be “treated as nuisances or troublemakers but rather as welcome participants in the vindication of the environmental interests,”\textsuperscript{54} and thus broad standing was needed to effectuate this goal.\textsuperscript{55} Others argued for strict limitations to standing in order to prevent a “multiplicity” of frivolous, harassing lawsuits that would frustrate enforcement and implementation of the Act and overburden the courts.\textsuperscript{56} Many in Congress feared that private citizens would challenge virtually every agency decision in executing the numerous complex duties and responsibilities imposed by the CAA.\textsuperscript{57}

In the end, the final version of section 304 effected a compromise between the two sides.\textsuperscript{58} The provision broadens standing by permitting “any person” to bring a citizen suit and by expressly removing jurisdictional barriers to citizens’ suits, such as amount in controversy and diversity of citizenship.\textsuperscript{59} Section 304 circumscribes standing by limiting citizen suits to instances where the government or an alleged polluter has failed or refused to comply with the CAA’s substantive provisions.\textsuperscript{60} Thus, section 304 suits can be brought only for viola-

\begin{footnotesize}
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\item Id., as reprinted in Train, 510 F.2d app. B at 727; Riesel, supra note 8, § 15.02[1].
\item Riesel, supra note 8, § 15.02[1].
\item Friends of the Earth v. Carey, 535 F.2d 165, 172 (2nd Cir. 1976).
\item See id.
\item Id. at 726–27.
\item Riesel, supra note 8, § 15.02[1].
\item 42 U.S.C. § 7604(a) (2000); Carey, 535 F.2d at 172–73.
\item 42 U.S.C. § 7604(b); Carey, 535 F.2d at 173. Absent an environmental emergency, a citizen must provide sixty days’ notice to the Administrator, to the state in which the violation occurs, and to the alleged violator before initiating a suit. 42 U.S.C. § 7604(b). This notice period gives the administrative enforcement office an opportunity to act on the alleged violation.
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\end{footnotesize}
tions of specific provisions of the Act or of specific provisions of the applicable implementation plan.\textsuperscript{61}

Congress believed that CAA enforcement was not a technical matter beyond the competence of the courts.\textsuperscript{62} Section 304 vested in the courts jurisdiction to enforce emission standards, limitations, or orders; to apply appropriate civil penalties; and to compel the EPA Administrator to perform nondiscretionary duties.\textsuperscript{63} In a section 304 suit, then, the court would not be asked to substitute its own definitions and standards for those of the EPA.\textsuperscript{64} Instead, the standards would be the same whether enforcement were sought through administrative or citizen enforcement.\textsuperscript{65} Thus, citizens who bring actions under section 304 must meet established, objective evidentiary standards, thereby eliminating the need for the court to reanalyze technological or other considerations at the enforcement stage.\textsuperscript{66} Furthermore, Congress’s view was that CAA rules and regulations contained sufficiently clear and specific guidelines to enable federal judges to direct compliance, especially since they could obtain necessary expert advice and assistance to help guide them.\textsuperscript{67}

2. Section 307

Congress authorized section 307 suits to aid in CAA implementation.\textsuperscript{68} The CAA tasked the EPA with issuing rules and regulations to effectuate the broad policy goals of the Act.\textsuperscript{69} Congress recognized the cutting a civil action in a court of the United States or a State to require compliance,” the citizen suit cannot be heard. 42 U.S.C. § 7604(b)(1)(B). That said, any person may intervene in such a civil action being prosecuted by the government as a matter of right. 42 U.S.C. § 7604(b)(1)(B).

\textsuperscript{61} Wilder v. Thomas, 854 F.2d 605, 613 (2nd Cir. 1988).


\textsuperscript{63} 42 U.S.C. § 7604(a).


\textsuperscript{65} \textit{Id.} at 724.

\textsuperscript{66} \textit{Id.} at 723.

\textsuperscript{67} Friends of the Earth v. Carey, 535 F.2d 165, 173 (2nd Cir. 1976). Indeed, federal courts are called upon daily to resolve highly technical fields such as antitrust, patent, and admiralty. \textit{Id.} at 174.

\textsuperscript{68} Semmel, \textit{supra} note 2, at 417; \textit{see} Natural Res. Def. Council, Inc. v. EPA, 512 F.2d 1351, 1355 (D.C. Cir. 1975) (noting that, while section 304 permits citizens to file CAA enforcement suits, section 307 was enacted to allow citizens to challenge the wisdom of EPA decisions made pursuant to the CAA).

\textsuperscript{69} See Semmel, \textit{supra} note 2, at 418. For instance, the EPA is required to publish a list of specific air pollutants which, in the Administrator’s judgment, contribute to air pollution and endanger the public health or welfare. 42 U.S.C. § 7408(a)(1)(A) (2000). Addition-
unprecedented scale and complexity of the CAA, but also desired its speedy implementation and administration.\textsuperscript{70} By authorizing suits challenging EPA decisionmaking, Congress sought to enlist citizen participation in the development of identifiable standards of air quality and in the formulation of control measures to implement such standards.\textsuperscript{71} Congress saw citizens as useful mechanisms for educating the court about complex regulatory issues.\textsuperscript{72} Indeed, citizens can bring to light certain factual information that other litigants might be unwilling or unable to raise.\textsuperscript{73} Citizens may also raise arguments that cause the court to examine or reexamine a legal issue.\textsuperscript{74} Finally, citizen suits may reveal inadequacies in existing air pollution policy.\textsuperscript{75}

Like section 304, section 307 embodies a compromise: it confers broad standing while also circumscribing it to prevent undue interference with government action. Section 307 guarantees broad rights of participation at all stages of the regulatory process to virtually any person.\textsuperscript{76} Moreover, through section 307, participants are assured access to a regulatory docket of relevant studies, comments, and agency memos that may affect EPA decisionmaking.\textsuperscript{77}

To limit standing, only final EPA actions are ripe for judicial review.\textsuperscript{78} In so doing, Congress sought to limit section 307 judicial review to situations where the EPA’s deliberative process has been sufficiently final to demand compliance with its announced position.\textsuperscript{79} To intervene where the Agency’s deliberative process is merely tentative may deny the EPA an opportunity to correct its own mistakes or to apply its

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\textsuperscript{70} Natural Res. Def. Council, Inc. v. EPA, 484 F.2d 1331, 1338 (1st Cir. 1973).


\textsuperscript{72} See Semmel, supra note 2, at 418.

\textsuperscript{73} Natural Res. Def. Council, Inc. v. EPA, 512 F.2d at 1358 (noting that, by permitting public interest groups as well as businesses to challenge EPA actions, section 307 opens “the Administrator’s actions to judicial scrutiny from a point of view widely divergent from that represented by the regulated interests”); Semmel, supra note 2, at 416.

\textsuperscript{74} Semmel, supra note 2, at 416.

\textsuperscript{75} Id. at 416–17.

\textsuperscript{76} Anderson, Mandelker & Tarlock, supra note 21, at 171.

\textsuperscript{77} Id.

\textsuperscript{78} See Natural Res. Def. Council, Inc. v. EPA, 512 F.2d at 1356.

\textsuperscript{79} See Her Majesty the Queen in Right of Ontario v. EPA, 912 F.2d 1525, 1531 (D.C. Cir. 1990) (quoting Ciba-Geigy Corp. v. EPA, 801 F.2d 430, 436 (D.C. Cir. 1986)).
expertise.\textsuperscript{80} Moreover, such intervention leads to piecemeal review that is inefficient and may prove unnecessary upon completion of the administrative process.\textsuperscript{81}

Adjudication of a section 307 suit imposes unique burdens on the reviewing court.\textsuperscript{82} In a section 304 suit, the court’s role is limited to determining whether a governmental entity or private party has violated the substantive provisions of the CAA.\textsuperscript{83} In a section 307 suit, however, the court must determine whether the EPA had the proper evidence and reasons for reaching a particular policy decision.\textsuperscript{84} Thus, the court must evaluate the highly technical background information of the case and, in reaching its decision, weigh competing policy factors and conflicting public interests.\textsuperscript{85}

II. Attorneys’ Fees

A. The “American Rule”

Under the traditional “American Rule,” a prevailing litigant ordinarily is not entitled to collect attorneys’ fees from the losing party.\textsuperscript{86} The underlying justification for the “American Rule” is that because the outcome of litigation is uncertain, one should not be penalized merely for defending or prosecuting a lawsuit,\textsuperscript{87} and that many might be unjustly discouraged from initiating legitimate lawsuits if the penalty for losing included the fees of their opponents’ counsel.\textsuperscript{88} Moreover, the time, expense, and difficulties of proof that arise in litigating the reasonableness of attorneys’ fees are too burdensome for judicial administration.\textsuperscript{89}

There are two common law exceptions to the “American Rule.”\textsuperscript{90} One is where the court awards attorneys’ fees to a prevailing party as a punitive measure upon finding that the losing party acted in bad

\textsuperscript{80} See id. (quoting Fed. Trade Comm’n v. Standard Oil Co. of Cal., 449 U.S. 232, 242 (1990)).
\textsuperscript{81} See id.
\textsuperscript{82} See Semmel, supra note 2, at 415.
\textsuperscript{84} Semmel, supra note 2, at 415.
\textsuperscript{85} See id. at 415, 418.
\textsuperscript{87} Fleischmann Distilling Corp. v. Maier Brewing Co., 386 U.S. 714, 718 (1967).
\textsuperscript{88} Id.
\textsuperscript{89} Id.
\textsuperscript{90} Semmel, supra note 2, at 403.
faith. The other is the “common benefit” exception, where the court may spread the cost of litigation to those persons benefiting from it.

More often, however, exceptions to the “American Rule” are found in fee-shifting provisions of federal statutes. These provisions provide express authority for courts to require a party to pay the attorneys’ fees of another party. For most fee-shifting statutes, Congress relies heavily on private efforts to aid in the enforcement and implementation of public policy. Congress thus allows awards of attorneys’ fees to encourage citizen participation in the supervision and regulation of these public-policy areas.

B. Awards of Attorneys’ Fees Under the CAA: Legislative Intent

Although neither section 304 nor section 307 authorizes the court to award damages to citizen plaintiffs, both sections contain provisions that authorize the court to award attorneys’ fees “whenever . . . appropriate.” The CAA Amendments of 1970 address attorneys’ fees in Section 304(d). Section 307(f)—added to the Act as part of the CAA Amendments of 1977—is section 307’s fee-shifting provision.

Congress did not authorize awards of attorneys’ fees to reward plaintiffs for prevailing on the merits of a citizen suit. Rather, Congress included the attorneys’ fees provisions to achieve two important

91 Id.
92 Id.
93 Riesel, supra note 8, § 15.01.
96 See id.
97 See 42 U.S.C. §§ 7604(d), 7607(f). In a section 304 suit the reviewing court may levy civil fines. But any penalties are generally put into a special fund to finance air compliance and enforcement activities. Id. § 7604(g). The CAA also gives the courts limited discretion to direct up to $100,000 in penalties arising from a citizen suit to be spent on beneficial mitigation projects after obtaining the view of the Administrator. Id.
98 Id. §§ 7604(d), 7607(f). Apparently as a result of congressional oversight, the 1970 CAA Amendments authorized awards of attorneys’ fees under section 304 but not under section 307. Semmel, supra note 2, at 404 n.32. The 1977 CAA Amendments corrected this mistake by including section 307(f), which authorizes awards of attorneys’ fees for section 307 citizen suits. 42 U.S.C. § 7607(f).
100 See id. § 7607(f).
101 Semmel, supra note 2, at 418.
goals. First, Congress sought to encourage citizens to bring meritorious suits; second, Congress determined the risk that the court would order a citizen plaintiff to bear a defendant’s costs would discourage the filing of frivolous or harassing suits.

Congress viewed the authorization of attorneys’ fees as critical to ensuring robust citizen participation in CAA enforcement and implementation. Absent the possibility of attorneys’ fees, many legitimate section 304 enforcement suits would not be brought because, for many plaintiffs, the certainty of paying attorneys’ fees would outweigh the gain those plaintiffs would reap if they prevailed. Moreover, many litigants cannot be expected to participate in section 307 suits without the prospect of attorneys’ fees. Such fees offer the promise of mitigating the high costs of suits involving complex statutory questions.

In the 1970 Senate Report, Congress made clear its intent that attorneys’ fees be awarded under section 304 in a manner that both encouraged meritorious enforcement suits and discouraged frivolous ones. The Report states that, because citizens could not be awarded damages, “only in the case where there is a crying need for action will action in fact be likely. In such cases . . . that action must be in the public interest.” The Report further states that citizens who brought “legitimate actions” would be “performing a public service and in such instances courts should award costs of litigation.” At the same time, Congress made clear that the court could award attorneys’ fees to defendants whenever it “determines that such action is in the public interest.” Thus, the court could force a citizen plaintiff to bear the defendant’s attorneys’ fees where “litigation was obviously frivolous or harassing.” Congress’s belief was that awarding fees in

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103 Id. at 1337–38; H.R. Rep. No. 95–294 (1977), as reprinted in 1977 U.S.C.C.A.N. 1077, 1416 (“[T]he purposes of the authority to award fees are . . . not only to discourage frivolous litigation, but also to encourage litigation which will assure proper implementation and administration of the act . . . .”); see Metro. Wash. Coal. for Clean Air v. Dist. of Columbia, 639 F.2d 802, 804 (D.C. Cir. 1981) (“The attorneys’ fee feature was offered as an inducement to citizen-suits, which Congress deemed necessary . . . .”).
104 See Metro. Wash. Coal. for Clean Air, 639 F.2d at 804.
105 See Natural Res. Def. Council, Inc., 484 F.2d at 1337.
107 See id.
109 Id. at 729.
110 Id. 725.
111 Id.
112 Id.
this manner would have the effect of “discouraging abuse of [section 304], while at the same time encouraging the quality of the actions that will be brought.”\textsuperscript{113}

Congress likely intended courts to award fees under section 307(f) in the same manner.\textsuperscript{114} When Congress amended section 307 in 1977 to authorize awards of attorneys’ fees, it adopted the same fee-shifting language as section 304.\textsuperscript{115} Furthermore, the 1977 Senate Report observed that “[t]he purpose of the amendment to section 307 is to carry out the intent of the committee in 1970 that a court may, in its discretion, award costs of litigation to a party bringing a suit under section 307 of the Clean Air Act.”\textsuperscript{116} The 1977 House Report also notes:

In the case of section 307 judicial review litigation, the purposes of the authority to award fees are not only to discourage frivolous litigation, but also to encourage litigation which will assure proper implementation and administration of the act or otherwise serve the public interest. The committee did not intend that the court’s discretion to award fees under this provision should be restricted to cases in which the party seeking fees was the “prevailing party.”\textsuperscript{117}

That section 304(d) and section 307(f) should be given the same effect is intuitive, because Congress’s goal of combating air pollution is no less frustrated by improper implementation of the CAA than it is by lax enforcement.\textsuperscript{118}

\section*{III. Judicial Interpretation of the CAA’s Attorneys’ Fees Provisions}

\subsection*{A. A Plain Language Reading of “Appropriate”}

Both section 304(d) and section 307(f) give the court discretion to award attorneys’ fees “whenever . . . appropriate.”\textsuperscript{119} Courts have had difficulty, however, in drawing any guidance from these sections’ use of

\textsuperscript{113} Id.
\textsuperscript{114} Ala. Power Co. v. Gorsuch, 672 F.2d 1, 14 (D.C. Cir. 1982) (Wilkey, J., dissenting).
\textsuperscript{118} Natural Res. Def. Council, Inc. v. EPA, 484 F.2d 1331, 1337 (1st Cir. 1973).
\textsuperscript{119} 42 U.S.C. §§ 7604(d), 7607(f).
the word “appropriate.” The word “appropriate” is necessarily ambiguous, for its meaning is vague and subjective. As such, the scope of a reviewing court’s fee-shifting discretion is not self-evident by reference to the statutory text of the attorneys’ fees provisions. Consequently, a variety of interpretations have emerged from case law regarding when it is and is not appropriate to award attorneys’ fees.

B. Some Success on the Merits

Soon after the enactment of the CAA Amendments of 1970, several courts adjudicating CAA citizen suits implied that prevailing on the merits was a sufficient condition for an award of attorneys’ fees to be “appropriate.” Some courts went further, however, holding that whether a citizen plaintiff achieved some success on the merits of a citizen suit was not a necessary condition for such an award. In Metropolitan Washington Coalition for Clean Air v. District of Columbia, for example, the Court of Appeals for the District of Columbia interpreted section 304(d) as authorizing awards of attorneys’ fees to a citizen plaintiff where the underlying suit was “of the type that Congress intended to encourage when it enacted the citizen-suit provision.” Similarly, in Sierra Club v. Gorsuch, the Court of Appeals for the District of Columbia interpreted section 307(f) as authorizing awards of at-

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120 See Ruckelshaus, 463 U.S. at 683.
123 Id. at 14; see Natural Res. Def. Council, Inc., 484 F.2d at 1338 (holding that an award of attorneys’ fees was appropriate largely because plaintiffs were successful on the merits in several respects); Del. Citizens for Clean Air, Inc. v. Dist. of Columbia, 62 F.R.D. 353, 355 (D. Del. 1974), aff’d, 510 F.2d 969 (3rd Cir. 1974) (noting that, in determining whether to award attorneys’ fees, “success or failure must be given substantial weight”).
125 639 F.2d 802, 804 (D.C. Cir. 1981). In this case, a citizen suit was brought to enjoin the continued operation of a large solid waste incinerator that was operating in violation of an EPA approved implementation plan. Id. at 803. While the suit was being litigated, the EPA revised its implementation plan so as to permit the continued operation of the incinerator. Id. The case was subsequently dismissed as moot, and the court denied plaintiff’s request for attorneys’ fees because plaintiff had not achieved any success on the merits. Id. On appeal, the D.C. Circuit examined the legislative history of section 304 and found that Congress had authorized section 304 suits to enable citizen participation in CAA enforcement. Id. at 804. The court thus reasoned that an award of attorneys’ fees is appropriate where the underlying suit was “a desirable effort to achieve an unfulfilled objective of the Act.” Id.
torneys’ fees to a citizen plaintiff who, by bringing suit, has contributed substantially to the goals of the CAA.\footnote{672 F.2d 33, 41 (D.C. Cir. 1982), cert. granted, 459 U.S. 942 (1982), rev’d, Ruckelshaus, 463 U.S. 680 (1983), remanded to 716 F.2d 915 (D.C. Cir. 1983). In this case, the Sierra Club and the Environmental Defense Fund unsuccessfully challenged EPA regulations promulgated pursuant to the CAA. \textit{Id.} at 34. Nevertheless, plaintiffs moved for an award of attorneys’ fees. \textit{Id.} The D.C. Circuit made clear that whether an award of attorneys’ fees was “appropriate” turned heavily on whether the citizen plaintiff had achieved some success on the merits. \textit{See id.} at 35. But of equal concern was whether the citizen suit contributed to the goals of the CAA. \textit{Id.} at 38. The court found it appropriate to award fees to the citizen plaintiffs because they had contributed to the goals of the CAA by addressing important, complex, and novel issues of statutory interpretation; by substantially assisting in the resolution of the issues in a way that was not duplicative of the efforts of other parties; and by putting forth written and oral presentations of exceptional caliber. \textit{Id.} at 39.}

In \textit{Ruckelshaus v. Sierra Club}, however, the Supreme Court reversed \textit{Gorsuch}, and held that, absent some degree of success on the merits, it is never “appropriate” to award attorneys’ fees to a CAA citizen plaintiff under either section 304 or section 307.\footnote{463 U.S. 680, 680 (1983).} The Court reasoned that the “American Rule” largely prohibits awarding attorneys’ fees to a party, and thus only a clear showing that Congress intended a departure from the “American Rule” would justify awarding attorneys’ fees to wholly unsuccessful plaintiffs.\footnote{\textit{Id.} at 685.} The Court found that Congress’s decision to reject the “prevailing party” standard in favor of the broader “whenever . . . appropriate” standard showed clear intent to broaden the class of parties eligible for fee awards from prevailing parties to partially prevailing parties.\footnote{\textit{Id.} at 689–90.} That said, the Court found no evidence that Congress intended the class of parties eligible for such awards to be so broad as to include parties who achieved no success whatsoever.\footnote{\textit{See id.} at 690.} While the Court’s holding applied to section 307(f) of the CAA, the Court noted that “the interpretation of ‘appropriate’ in section 307(f) controls construction of the term” in section 304(d) as well as in all other statutes that contain the “whenever . . . appropriate” standard.\footnote{\textit{Id.} at 681 n.1.}
C. The Separate Public Interest Requirement

1. In General

A majority of courts hold that, in addition to achieving some success on the merits, a citizen plaintiff must also make a separate showing of serving the public interest before an award of attorneys' fees is “appropriate.” To be sure, the original version of section 304(d) actually authorized the reviewing court to award attorneys’ fees whenever it determined that such award was “in the public interest.” In fact, it was this version of section 304—and not the final version—that was reported on in the 1970 Senate Report. However, the “public interest” language was expressly struck from section 304(d) in 1970 in favor of the “whenever . . . appropriate” language. The 1977 House Report also mentions the public interest factor. Still, nowhere in the statutory text or legislative history of the CAA is the term “public interest” defined.

2. Judicial Interpretation and Application of the Separate Public Interest Requirement

While the separate public interest requirement has little basis in the statutory text or legislative history of the CAA, courts routinely employ it to determine whether it is “appropriate” to award attorneys’ fees to a partially or wholly successful citizen plaintiff. Not surprisingly, several amorphous standards and methods have emerged from case law for determining whether a partially or wholly successful citizen plaintiff has served the public interest. One such standard focuses on the outcome of the litigation, awarding attorneys’ fees where the citizen suit

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132 See, e.g., Pound II, 498 F.3d 1089, 1102 (10th Cir. 2007); W. States Petroleum Ass’n v. EPA, 87 F.3d 280, 286 (9th Cir. 1996); Sierra Club v. EPA, 769 F.2d 796, 799–800 (D.C. Cir. 1985).
133 Ala. Power Co. v. Gorsuch, 672 F.2d 1, 12 n.25, 18 n.54 (D.C. Cir. 1982) (Wilkey, J., dissenting).
134 Id. at 12 n.25.
135 Id. at 18.
136 See H.R. Rep. No. 95-294, at 337 (1977), reprinted in 1977 U.S.C.C.A.N. 1077, 1416 (“[T]he purposes of the authority to award fees are not only to discourage frivolous litigation, but also to encourage litigation which will assure proper implementation and administration of the act or otherwise serve the public interest.” (emphasis added)).
137 Ala. Power Co., 672 F.2d at 18 (Wilkey, J., dissenting).
138 See, e.g., Pound II, 498 F.3d 1089, 1102 (10th Cir. 2007); W. States Petroleum Ass’n v. EPA, 87 F.3d 280, 286 (9th Cir. 1996); Sierra Club v. EPA, 769 F.2d 796, 799–800 (D.C. Cir. 1985).
assisted in the enforcement or implementation of the CAA.\textsuperscript{139} This standard generally prohibits awarding attorneys’ fees where the benefits conferred in the litigation were limited to the citizen plaintiff in the underlying suit.\textsuperscript{140}

For example, under section 304, litigation compelling a government agency to exercise its nondiscretionary duties and successfully enforcing a provision of the CAA in a way that minimizes the amount of pollution in the atmosphere has been held to meet this standard.\textsuperscript{141} Under section 307, litigation that aided in interpreting important, complex, or novel issues related to the CAA has been held to have served the public interest.\textsuperscript{142}

Another standard for determining whether a partially or wholly successful citizen plaintiff has served the public interest focuses more on whether the citizen suit was the type of suit that Congress sought to encourage by authorizing awards of attorneys’ fees.\textsuperscript{143} This standard focuses less on the effect of the litigation and more on the nature of the suit itself, the type of litigant filing suit, and the ostensible motives for doing so.\textsuperscript{144}

For instance, some courts have held that it is not appropriate to award attorneys’ fees to successful citizen plaintiffs that are not pro-environment, that is, industry, trade association, or corporate citizen plaintiffs.\textsuperscript{145} Neither section 304 nor section 307 explicitly denies awards of attorneys’ fees to such groups.\textsuperscript{146} But courts that limit awards of attorneys’ fees to pro-environment citizen plaintiffs have stated or implied that Congress authorized awards of attorneys’ fees to encourage litigation by “watchdog” or public-interest groups whose involve-

\textsuperscript{139} See, e.g., \textit{Ala. Power Co.}, 672 F.2d at 3 (noting that, in determining whether to award attorneys’ fees, the “dominant consideration” is not whether the party has prevailed but rather whether the litigation “has served the public interest by assisting the interpretation or implementation of the Clean Air Act”).\textsuperscript{140} See id.

\textsuperscript{141} See \textit{Pound II}, 498 F.3d 1089, 1102.

\textsuperscript{142} See generally \textit{Envtl. Def. Fund, Inc. v. EPA}, 672 F.2d 42 (D.C. Cir. 1982) (concerning the citizen suit provision of TSCA, whose fee-shifting language is nearly identical to that of the CAA). The court found that an award of attorneys’ fees was appropriate because the citizen plaintiff, by filing suit, had brought to bear “critically important and difficult issues of first impression, and that the outcome of the litigation greatly served the public interest \ldots.” Id. at 55.

\textsuperscript{143} See \textit{W. States Petroleum Ass’n v. EPA}, 87 F.3d 280, 286 (9th Cir. 1996).

\textsuperscript{144} See id.


\textsuperscript{146} See 42 U.S.C. §§ 7604(d), 7607(f) (2000).
ment in such litigation was motivated by altruism and public spirit.\textsuperscript{147} Awarding attorneys’ fees to pro-environment citizen plaintiffs is needed because, absent the prospect of an award of attorneys’ fees, these plaintiffs may not have sufficient financial resources to file suit.\textsuperscript{148}

A circuit split exists regarding whether it is appropriate to award attorneys’ fees where a citizen plaintiff has brought suit for financial gain rather than to further the goals of the CAA.\textsuperscript{149} In \textit{Western States Petroleum Ass’n v. EPA}, for instance, the Ninth Circuit declined to award attorneys’ fees to a citizen plaintiff who prevailed on the merits of a section 307 suit because plaintiff was a financially able, nongovernmental body who filed suit to advance its own economic interests.\textsuperscript{150} In that case, the court cited the legislative history of the Toxic Substances Control Act (TSCA)\textsuperscript{151}—whose citizen-suit provision uses the same fee-shifting language as the CAA\textsuperscript{152}—as the clearest expression of Congress’s intent in authorizing attorneys’ fees in environmental citizen-suit statutes.\textsuperscript{153} During the debate on TSCA’s fee-shifting provision, Senator Magnuson stated:

\begin{quote}
It is not the intention of these provisions to provide an award for an individual or group if that individual or a group may stand to gain significant economic benefits through participation in the proceeding . . . . It is not intended that the provisions support participation of persons, including corporations or trade associations, that could otherwise afford to participate . . . . Whether or not the person’s resources are sufficient to enable participation would include consideration of . . . the
\end{quote}

\textsuperscript{147} \textit{See} \textit{Fla. Power & Light Co. v. Costle}, 683 F.2d 941, 942 (5th Cir. 1982).
\textsuperscript{148} \textit{See id. at} 942–43.
\textsuperscript{149} \textit{Compare} \textit{W. States Petroleum Ass’n v. EPA}, 87 F.3d 280, 286 (9th Cir. 1996), \textit{and Ala. Power Co. v. Gorsuch}, 672 F.2d 1, 4 (D.C. Cir. 1982), \textit{with} \textit{Pound II}, 498 F.3d at 1102 (10th Cir. 2007), \textit{and} \textit{Fla. Power & Light Co.}, 683 F.2d at 942.
\textsuperscript{150} 87 F.3d at 286.
\textsuperscript{152} \textit{Compare id. §} 2618(d) (“The decision of the court in an action commenced under subsection (a) of this section . . . may include an award of costs of suit and reasonable fees for attorneys and expert witnesses if the court determines that such an award is appropriate.”), \textit{with} 42 U.S.C. § 7607(f) (“In any judicial proceeding under this section, the court may award costs of litigation (including reasonable attorney and expert witness fees) whenever it determines that such award is appropriate.”).
\textsuperscript{153} \textit{W. States Petroleum Ass’n}, 87 F.3d at 286.
likelihood that the person would seek to participate in the proceedings whether or not compensation was available.\textsuperscript{154}

Based on these remarks, the court concluded that Congress neither intended to subsidize all CAA litigation nor contemplated that costs and fees would be awarded to large, solvent corporations or trade associations that, out of their own substantial economic interests, would have litigated anyway.\textsuperscript{155}

Other courts have rejected the notion that financial solvency and economic interest are bases for declining attorneys’ fees to citizen plaintiffs who partially or wholly prevail.\textsuperscript{156} In \textit{Florida Power & Light Co. v. Costle}, for example, the Fifth Circuit reasoned that the statutory text and legislative history of the CAA do not support the notion that financial solvency and economic interest should disqualify a citizen plaintiff from an award of attorneys’ fees.\textsuperscript{157} In that case, a financially solvent corporation filed a section 307 suit challenging an EPA action that required Florida to incorporate a state-imposed two-year limitation on relief into a state implementation plan.\textsuperscript{158} The court ruled in favor of the citizen plaintiff, holding that the EPA action constituted an abuse of discretion, and plaintiff moved for an award of attorneys’ fees.\textsuperscript{159} The court found that the citizen plaintiff had served the public interest by helping to maintain “the balance of state and federal responsibilities that undergird the efficacy of the Clean Air Act.”\textsuperscript{160} The EPA, however, argued that Congress did not intend to award attorneys’ fees to financially solvent citizen plaintiffs who file suit out of an underlying economic motivation.\textsuperscript{161} The court, noting that the EPA’s argument was persuasive as a matter of public policy, nonetheless rejected it on grounds that it was not supported by the CAA’s statutory language or legislative history.\textsuperscript{162}

Furthermore, in \textit{Pound v. Airosol Co. (Pound II)}, the Tenth Circuit rejected using financial solvency and economic motive as bases for declining to award attorneys’ fees—reasoning that doing so would consti-


\textsuperscript{155} \textit{W. States Petroleum Ass’n}, 87 F.3d at 286.

\textsuperscript{156} See, e.g., Fla. Light & Power Co. v. Costle, 683 F.2d 941, 943 (5th Cir. 1982).

\textsuperscript{157} Id.

\textsuperscript{158} Id.

\textsuperscript{159} Id. at 942.

\textsuperscript{160} Id. (quoting Fla. Power & Light v. Costle, 650 F.2d 579, 589 (5th Cir. 1981)).

\textsuperscript{161} Id.

\textsuperscript{162} Fla. Light & Power Co. v. Costle, 683 F.2d 941, 943 (5th Cir. 1982).
tute bad public policy. In that case, a financially solvent company prevailed on the merits of a section 304 citizen suit against a business competitor that was violating the CAA’s ban on certain aerosols. The lower court, applying the public interest requirement, held that the citizen plaintiff was not entitled to attorneys’ fees because plaintiff had brought suit out of a desire to remove a business competitor from the market and not out of concern for the environment. The Tenth Circuit reversed, reasoning that the citizen plaintiff had served the public interest by minimizing the amount of pollution in the atmosphere and argued that the lower court’s interpretation of section 304(d) would weaken CAA enforcement. The court noted that “competitors are most likely to have a substantial financial interest in ensuring that their peers are CAA compliant, and they are the most informed regarding products offered and sold by their peers.” Implicit in the court’s reasoning is the notion that without the prospect of an award of attorneys’ fees, many legitimate citizen suits against ongoing polluters would not be brought.

3. Judicial Resistance to the Separate Public Interest Requirement

Some judges have sought to abandon the separate public interest requirement entirely. In Pound, Judge Hartz, writing in concurrence, argued that the separate public interest requirement was a superfluity that ought to be discarded. Judge Hartz advocated following the rule set out by the Supreme Court in Hensley v. Eckerhart, which is that a prevailing party should ordinarily recover attorneys’ fees unless the citizen suit was vexatious, frivolous, or brought to harass or embarrass the defendant. Hensley involved the Civil Rights Attorney’s Fees Awards Act of 1976, whose citizen-suit fee-shifting language is nearly identical to that of the CAA. Judge Hartz argued that the at-

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163 See 498 F.3d 1089, 1102–03 (10th Cir. 2007).
164 Id. at 1094.
166 See Pound II, 498 F.3d at 1102–03.
167 Id. at 1102.
168 See id. at 1102–03.
169 See id. at 1103 (Hartz, J., concurring).
170 Id.
171 Id. (citing Hensley v. Eckerhart, 461 U.S. 424, 429 & n.2 (1983)).
172 See 461 U.S. at 429. Compare 42 U.S.C. § 1988(b) (2000) (“In any action or proceeding . . . the court, in its discretion, may allow the prevailing party . . . a reasonable attorney’s fee as part of the costs . . . .”), with id. § 7604(d) (“The court, in issuing any final or-
Attorneys’ fees provisions of the CAA and the Civil Rights Attorney’s Fees Awards Act should be interpreted in a similar manner because Congress enacted them for the same reason: to promote citizen enforcement of important federal policies.  

Similarly, in Alabama Power Co. v. Gorsuch, Judge Wilkey—in a dissenting opinion—argued that the legislative history of the CAA requires that a prevailing citizen litigant be awarded attorneys’ fees.  

Citing the 1970 Senate Report, which urged judges to award fees for those who bring “legitimate actions,” Judge Wilkey argued that a party who prevails on the merits of a non-frivolous citizen suit has necessarily brought a legitimate action and thus is entitled to attorneys’ fees.  

Moreover, Congress’s decision to adopt section 304(d)’s language for section 307(f) evidenced its intent to award attorneys’ fees to prevailing plaintiffs.  

Furthermore, the 1977 House Report makes clear that the “committee did not intend that the court’s discretion to award fees . . . should be restricted to cases in which the party seeking fees was the ‘prevailing party.’” He argued that while it is unclear whether wholly non-prevailing citizen plaintiffs can recover attorneys’ fees, it is clear from this language that Congress intended to award attorneys’ fees to partially or wholly successful citizen plaintiffs.

IV. Analysis

No separate public interest showing should be required of a plaintiff who seeks an award of attorneys’ fees after partially or wholly prevailing on the merits of a CAA citizen suit. Such a requirement is unrelated to the statute’s text or to its legislative history. Moreover, there is no judicially cognizable standard for determining whether an underlying citizen suit served the public interest, causing

d in any action brought pursuant to subsection (a) of this section, may award costs of litigation (including reasonable attorney and expert witness fees) to any party, whenever the court determines such award is appropriate.”), and id. § 7607(f) (“In any judicial proceeding under this section, the court may award costs of litigation (including reasonable attorney and expert witness fees) whenever it determines that such award is appropriate.”).  

173 Pound II, 498 F.3d at 1103 (Hartz, J., concurring).
179 See Pound II, 498 F.3d 1089, 1103 (10th Cir. 2007) (Hartz, J., concurring).
180 Fla. Power & Light Co. v. Costle, 683 F.2d 941, 943 (5th Cir. 1982).
courts to create their own standards out of thin air.\textsuperscript{181} Additionally, the separate public interest requirement should be rejected because it has a chilling effect on citizen participation in CAA enforcement and implementation.\textsuperscript{182} In lieu of the separate public interest requirement, courts should simply award attorneys’ fees whenever a citizen plaintiff achieves some degree of success on the merits of a CAA citizen suit.\textsuperscript{183}

A. The Statutory Text and Legislative History of the CAA Do Not Support the Separate Public Interest Requirement

The requirement that a partially or wholly successful citizen plaintiff make a separate public interest showing before an award of attorneys’ fees is “appropriate” has no basis in the statutory text or legislative history of the CAA.\textsuperscript{184} While the original version of section 304(d) did embody the public interest factor, Congress expressly struck this phrase from the final version in favor of the “appropriate” language.\textsuperscript{185} Section 307(f) adopted identical language.\textsuperscript{186} This, of course, does not conclusively evidence that Congress did not intend for a separate public interest requirement, but it certainly does not evidence that it did.\textsuperscript{187} And while the 1970 Senate Report and 1977 House Report do mention serving the “public interest” on a handful of occasions, they do so primarily to highlight the fact that attorneys’ fees can be awarded both to citizen plaintiffs and to citizen defendants.\textsuperscript{188}

Still, Congress’s decision to authorize awards of attorneys’ fees “whenever . . . appropriate” arguably evidences a Congressional endorsement of the separate public interest requirement. After all, this language is unlike the fee-shifting language of other environmental statutes, which authorize the court to award attorneys’ fees to parties who “prevail” or “substantially prevail.”\textsuperscript{189} Had Congress intended prevailing on the merits to be a sufficient condition for an award of attorneys’ fees it plainly would have said so in the statute.

\textsuperscript{181} Ala. Power Co. v. Gorsuch, 672 F.2d 1, 24 (D.C. Cir. 1982).
\textsuperscript{182} See Pound II, 498 F.3d at 1102–03; Riesel, supra note 8, § 15.01.
\textsuperscript{183} See Pound II, 498 F.3d at 1103 (Hartz, J., concurring).
\textsuperscript{184} See Fla. Power & Light Co., 683 F.2d at 943.
\textsuperscript{185} Ala. Power Co., 672 F.2d at 12 n.25, 18 n.54 (Wilkey, J., dissenting).
\textsuperscript{186} Compare 42 U.S.C. § 7607(d) (2000), with id. § 7607(f).
\textsuperscript{187} See Ala. Power Co., 672 F.2d at 12 n.25 (Wilkey, J., dissenting).
\textsuperscript{188} See id. at 18.
\textsuperscript{189} See, e.g., Federal Water Pollution Control Act (Clean Water Act), 33 U.S.C. § 1365(d) (2000).
But the CAA’s unique fee-shifting language reflects Congress’s intent to expand—not limit—the class of parties eligible for attorneys’ fees. As the 1970 Senate Report notes, the CAA’s broad fee-shifting language was intended to give the court discretion to award attorneys’ fees not only to plaintiffs, but also to defendants against whom a citizen suit was brought for frivolous or harassing reasons. Furthermore, the 1977 House Report states, “The committee did not intend that the court’s discretion to award fees under this provision should be restricted to cases in which the party seeking fees” was the prevailing party. At a minimum, then, Congress intended that the class of parties entitled to attorneys’ fees be broad enough to include prevailing or partially prevailing parties.

There is some persuasive evidence indicating that Congress intended for a separate public interest requirement. As the Ninth Circuit noted in Western States Petroleum Ass’n v. EPA, the legislative history of TSCA suggests that, in general, Congress did not intend to award fees to plaintiffs in environmental citizen suits who filed suit only out of their own self-interest. Senator Magnuson remarked that Congress did not intend to subsidize citizen suits commenced by solvent parties who, due to their own substantial economic interest in the underlying suit, would have litigated anyway. He argued that, in determining whether to award attorneys’ fees, the court should look to the “likelihood that the [plaintiff] would seek to participate in the proceeding whether or not compensation was available.”

But TSCA and CAA are different statutes, and what is appropriate under one statute is not necessarily appropriate under another. Indeed, Senator Magnuson was not involved with the enactment of ei-
ther section 304(d) or section 307(f), and thus his comments have little bearing on the proper interpretation of these provisions.\textsuperscript{200}

Moreover, there is no need to reference TSCA or its legislative history because the legislative history of the CAA makes clear that Congress viewed prevailing on the merits of a citizen suit and serving the public interest as one and the same.\textsuperscript{201} In the 1970 Senate Report, Congress noted that, because the CAA does not authorize awards of damages to successful citizen plaintiffs, only where there is a “crying need for action will action in fact be likely.”\textsuperscript{202} In such instances that action “must be in the public interest.”\textsuperscript{203} The Report also stated that a citizen plaintiff who brings a legitimate action necessarily has performed “a public service and in such instances the courts should award costs of litigation.”\textsuperscript{204} Although what constitutes a legitimate action is unclear, it seems logical that a citizen plaintiff who prevails on the merits has brought a suit that is both legitimate and non-frivolous.\textsuperscript{205}

In addition, Congress’s decision to adopt section 304(d)’s fee-shifting language for section 307(f) further evidences that Congress did not intend for a separate public interest showing.\textsuperscript{206} In the years following the CAA Amendments of 1970, several courts deciding cases under section 304 implied that prevailing on the merits was sufficient for an award of attorneys’ fees to be “appropriate.”\textsuperscript{207} When Congress enacted section 307(f) in 1977, it presumably was aware of these cases.\textsuperscript{208} In choosing to adopt section 304(d)’s language for section 307(f), Con-

\textsuperscript{200} Id. at 28.

\textsuperscript{201} Id. at 13–14. Judge Wilkey notes, “A review of the relevant statutes and legislative history, however, makes clear that . . . prevailing is not a necessary condition for the award of attorneys’ fees and costs, though it is sufficient. Congress, that is, generally intended that an award be made when a petitioner prevailed . . . .” Id. at 13. He further states, “[I]f the idea is to encourage ‘legitimate actions,’ ‘proper implementation,’ or suits in the ‘public interest,’ an award to parties who prevail would seem to be required by the legislative history.” Id. at 14.


\textsuperscript{203} Id.

\textsuperscript{204} Id., as reprinted in Train, 510 F.2d app. B at 725.

\textsuperscript{205} Ala. Power Co. v. Gorsuch, 672 F.2d 1, 14 (D.C. Cir. 1982) (Wilkey, J., dissenting).

\textsuperscript{206} Id.


\textsuperscript{208} Ala. Power Co., 672 F.2d at 14 (Wilkey, J., dissenting).
ggress likely approved of that statutory interpretation.\textsuperscript{209} Moreover, it probably intended that section 307(f) be given the same effect.\textsuperscript{210}

\textbf{B. The Separate Public Interest Requirement Lacks a Judicially Cognizable Standard}

Even if Congress intended for—or at least would not have objected to—a separate public interest requirement, the requirement should still be abandoned because there is no judicially cognizable standard for determining whether a citizen plaintiff has served the public interest.\textsuperscript{211} Typically, courts can look to statutory text, legislative history, or some other source to glean a judicially cognizable standard.\textsuperscript{212} But traditional gloss does not make clear what standard—if any—should control.\textsuperscript{213} In determining whether a successful citizen plaintiff has served the public interest, then, courts must define the types of litigants, suits, and motives that are worthy of attorneys’ fees.\textsuperscript{214} This process has yielded a number of amorphous case-law standards as well as a circuit split.\textsuperscript{215} It remains unclear which of these standards should apply, how they should be applied, and the extent to which they relate to one another.\textsuperscript{216}

Additionally, courts contravene the principle of separation of powers by creating their own public interest standards.\textsuperscript{217} Where the separate public interest requirement is imposed, prevailing on the merits of a CAA citizen suit does not necessarily equate to aiding in the enforcement or implementation of public policy.\textsuperscript{218} Thus, in order to determine whether a prevailing citizen plaintiff has served the public interest, a court must craft an independent definition of what consti-

\textsuperscript{209} Id.
\textsuperscript{210} Id. Indeed, the 1977 Senate Report to section 307 observed, “[t]he purpose of the amendment to section 307 is to carry out the intent of the committee in 1970 that a court may, in its discretion, award costs of litigation to a party bringing a suit under section 307 of the Clean Air Act.” S. Rep. No. 95-127, at 99 (1977), quoted in Ruckelshaus v. Sierra Club, 463 U.S. 680, 683 n.2 (1983).
\textsuperscript{211} Ala. Power Co. v. Gorsuch, 672 F.2d 1, 24 (D.C. Cir. 1982) (Wilkey, J., dissenting).
\textsuperscript{212} Id.
\textsuperscript{214} Ala. Power Co., 672 F.2d at 27 (Wilkey, J., dissenting).
\textsuperscript{215} Compare W. States Petroleum Ass’n v. EPA, 87 F.3d 280, 286 (9th Cir. 1996), and Ala. Power Co. v. Gorsuch, 672 F.2d 1, 4 (D.C. Cir. 1982), with Pound II, 498 F.3d at 1102 (10th Cir. 2007), and Fla. Power & Light Co., 683 F.2d at 942.
\textsuperscript{216} Ala. Power Co., 672 F.2d at 16 (Wilkey, J., dissenting).
\textsuperscript{217} Ala. Power Co., 672 F.2d at 19–20 (Wilkey, J., dissenting).
\textsuperscript{218} Id. at 20.
tutes good public policy. It must then create a standard for determining whether the underlying suit was consistent with its definition. But defining good public policy is the role of Congress, not the courts. By creating their own public interest standards, courts unduly encroach on legislative ground.

In practice, the separate public interest requirement leads to inconsistent judicial rulings. Application of any particular public interest standard requires the court to look beyond the suit itself “into the heart of the petitioner,” in deciding whether the petitioner is worthy of an award. Consequently, the scope of the court’s fee-shifting discretion has no clear contours, enabling the court to award or not award attorneys’ fees to successful citizen plaintiffs on myriad bases or on no basis whatsoever.

The circuit split regarding whether it is “appropriate” to award attorneys’ fees to a citizen plaintiff whose decision to litigate a section 304 suit was motivated by a substantial economic interest provides a useful illustration. Where courts use economic motive as the public interest standard, an award of attorneys’ fees is prohibited for “a tenant farmer who seeks to stop a nearby factory from polluting his water supply,” but not for “his amateur fisherman brother-in-law who visits him on weekends.” This standard—like all independent public interest standards—is incoherent, because the citizen plaintiff must have enough interest in the litigation to establish standing but not so much that he becomes ineligible for attorneys’ fees.

It could be that the public interest is served where the underlying citizen suit is consistent with public law. But if this standard controls, it seems that the public interest standard is the same as the prevail/not prevail standard—for, as a matter of valid public law, a non-prevailing party has lost and a prevailing party has won. Furthermore, Congress’s avowed purpose for authorizing citizen suits was to

219 Id.
220 Id. at 19–20.
221 Id. at 20.
222 Id.
223 Compare W. States Petroleum Ass’n v. EPA, 87 F.3d 280, 286 (9th Cir. 1996), and Ala. Power Co., 672 F.2d at 4, with Pound II, 498 F.3d 1089, 1102 (10th Cir. 2007), and Fla. Power & Light Co. v. Costle, 683 F.2d 941, 942 (5th Cir. 1982).
224 Ala. Power Co. v. Gorsuch, 672 F.2d 1, 27 (D.C. Cir. 1982).
225 Id. at 28.
226 Id.
227 Id. at 18.
228 Id.
spur government enforcement and to aid in CAA implementation.\textsuperscript{229} Thus, a completely unsuccessful citizen suit has not advanced these goals, while a partially or wholly successful plaintiff has.\textsuperscript{230}

Another possibility is that the public interest is served where the underlying suit is consistent with valid public policy.\textsuperscript{231} But this standard, too, is tantamount to the prevail/not prevail standard.\textsuperscript{232} In authorizing CAA citizen suits, Congress opted to rely heavily on private participation in the enforcement and implementation of federal air pollution policy.\textsuperscript{233} Congress has given courts jurisdiction to adjudicate citizen suits and has directed them to award attorneys’ fees in a manner that advances the CAA’s goals and purposes.\textsuperscript{234} Where a citizen plaintiff achieves some success on the merits, he has prevailed on public policy determinations that Congress has authorized the courts to make.\textsuperscript{235} The plaintiff, therefore, has aided in the proper enforcement or implementation of public policy as enumerated by Congress by bringing a suit consistent with Congress’s definition of what good public policy is.\textsuperscript{236}

**C. The Separate Public Interest Requirement Is Superfluous**

The separate public interest requirement is wholly superfluous because a citizen plaintiff necessarily serves the public interest by partially or wholly prevailing on the merits of a CAA citizen suit.\textsuperscript{237} Section 304’s limitations to standing, for instance, ensure that a successful citizen plaintiff has served the public interest by aiding in CAA enforcement.\textsuperscript{238} Congress authorized section 304 suits to bolster CAA enforcement, but concerns abounded that authorizing such suits would cause a spate of citizen litigation that would interfere with governmental enforcement of the Act.\textsuperscript{239} Accordingly, section 304 limits standing largely to specific instances where the government has failed or declined to enforce or

\textsuperscript{229} See id.

\textsuperscript{230} Ala. Power Co. v. Gorsuch, 672 F.2d 1, 18 (D.C. Cir. 1982) (Wilkey, J., dissenting).

\textsuperscript{231} Id. at 19.

\textsuperscript{232} Id.


\textsuperscript{234} See id.

\textsuperscript{235} Ala. Power Co., 672 F.2d at 20 (Wilkey, J., dissenting).

\textsuperscript{236} See id.

\textsuperscript{237} See Pound II, 498 F.3d 1089, 1103 (10th Cir. 2007) (Hartz, J., concurring).

\textsuperscript{238} See 42 U.S.C. § 7604(b) (2000).

comply with the CAA. Thus, a citizen plaintiff establishes standing only by identifying and bringing to the reviewing court’s attention an unaddressed or uncorrected CAA violation. Where that plaintiff achieves at least some success on the merits, he or she necessarily serves the public interest by remediing an unfulfilled objective of the Act.

Similarly, a separate public interest requirement is unnecessary under section 307 because that section’s limitations on standing guarantee that a citizen plaintiff who achieves some success on the merits has served the public interest by assisting in CAA implementation. Under section 307, citizens may only challenge EPA actions that constitute final actions, for example, actions that represent the EPA’s definitive position on an area of air pollution policy. Where a citizen plaintiff prevails on the merits of a section 307 suit, he has demonstrated to the satisfaction of the reviewing court that a particular EPA action did not comport with the purposes and goals of the CAA. The plaintiff has thus aided in correcting an EPA action that did not properly implement Congress’s legislative mandate. And because the reviewing court’s decision implicates public law and public policy, the beneficiaries of this correction include the public as well as the citizen plaintiff.

D. The Separate Public Interest Requirement Constitutes Bad Public Policy

There are valid public policy arguments in favor of requiring a separate public interest showing. Principally, the separate public interest requirement gives the court latitude to limit an award of attorneys’ fees to citizen plaintiffs whose decision to litigate was motivated by public spirit. These plaintiffs are more likely to need the financial incentive of fee awards in order to pursue litigation. No additional encouragement is needed, however, for citizen plaintiffs whose decision to litigate was motivated by pure self-interest. The separate public inter-

242 See Metro. Wash. Coal. for Clean Air, 639 F.2d at 804.
244 See Semmel, supra note 2, at 418.
245 See id.
246 See id. at 414.
247 See Fla. Power & Light Co. v. Costle, 683 F.2d 941, 942 (5th Cir. 1982).
248 See id.
249 See id. at 942–43.
est requirement thus enables the court to avoid gratuitous awards of attorneys’ fees.\textsuperscript{250}

But an award of attorneys’ fees to a plaintiff who achieves some success on the merits of a CAA citizen suit is hardly gratuitous. Where the defendant is a private polluter, for instance, an award of attorneys’ fees rightly forces the defendant to internalize a portion of the societal costs caused by the pollution.\textsuperscript{251} Where the defendant is a governmental entity, for example the EPA, an award of attorneys’ fees is also justified. By enacting the CAA, Congress tasked the EPA with implementing and supervising air pollution control.\textsuperscript{252} The EPA—as well as other governmental entities bound by EPA rules and regulations promulgated pursuant to the CAA—handles public funds appropriated for that purpose.\textsuperscript{253} Awarding attorneys’ fees to a successful citizen plaintiff where the defendant is the EPA or some other government body is to spread those costs among the taxpaying public—which receives the benefits of the litigation.\textsuperscript{254}

In addition, a separate public interest requirement constitutes bad public policy because it has a chilling effect on CAA citizen participation.\textsuperscript{255} Admittedly, many citizen plaintiffs who file suit out of pure self-interest would have done so absent the prospect of attorneys’ fees. But this will not always be the case.\textsuperscript{256} If the petitioner already has an incentive to sue, the promise of an award of fees will offer an additional incentive and will “alter the decisionmaker’s calculus of whether to sue or not.”\textsuperscript{257} Indeed, just because some incentive to litigate exists does not mean that enough exists without attorneys’ fees for the suit to be brought.\textsuperscript{258}

A reduction in citizen participation weakens CAA enforcement.\textsuperscript{259} Citizens are often in the best position to identify CAA violations and to

\textsuperscript{250} See id. at 943.
\textsuperscript{251} See Pound II, 498 F.3d 1089, 1102 (10th Cir. 2007).
\textsuperscript{252} See Semmel, supra note 2, at 418.
\textsuperscript{253} See Natural Res. Def. Council, Inc. v. EPA, 484 F.2d 1331, 1334 (1st Cir. 1973).
\textsuperscript{254} Id.
\textsuperscript{255} See Pound II, 498 F.3d at 1102; Natural Res. Def. Council, Inc. v. EPA, 512 F.2d 1351, 1358 (D.C. Cir. 1975) (noting that the prospect of attorneys’ fees under section 307 could have a “strong impact on [citizens’] willingness and ability to pursue section 307 actions”); Riesel, supra note 8, § 15.01.
\textsuperscript{256} See Ala. Power Co. v. Gorsuch, 672 F.2d 1, 28 (D.C. Cir. 1982) (Wilkey, J., dissenting)
\textsuperscript{257} Id.
\textsuperscript{258} Id.
\textsuperscript{259} See Pound II, 498 F.3d 1089, 1102.
bring them to the attention of courts and enforcement agencies. A private polluter, however, likely has a financial incentive to continue polluting and to defend against a citizen suit. Similarly, a governmental entity that fails to bring nondiscretionary enforcement actions likely has an incentive to remain inactive. Absent robust citizen participation, CAA violators who might otherwise be ordered to comply with the CAA will continue polluting, and government entities that might otherwise be found in dereliction of duty and compelled to act will remain inert. By weakening CAA enforcement, the separate public interest requirement undermines the central public policy rationale for authorizing section 304 suits—to persuade regulated parties not to pollute and to motivate government action.

Diminished citizen participation also weakens CAA implementation. Under the CAA, the EPA is required to issue rules and regulations in a manner that effectuates the broad policy goals of the Act. But the development of identifiable standards of air quality and the formulation of control measures to implement such standards are onerous tasks. Citizen participation in section 307 suits is therefore critical to proper implementation of the CAA. Without vigorous citizen participation, important suits, factual information, and legal arguments will not be brought to the attention of the courts. Moreover, section 307 suits implicate public law, and thus the outcome of a section 307 suit affects absentee interests as well as those of the citizen plaintiff. Therefore, when a section 307 suit is brought, diminished citizen participation impairs the reviewing court’s ability to make a balanced, fully-informed ruling.

263 See Semmel, supra note 2, at 418.
264 See id.
265 Anderson, Mandelker & Tarlock, supra note 21, at 159.
266 Semmel, supra note 2, at 415–17.
267 Id.
268 See id. at 414.
269 Id. at 418.
CONCLUSION

The requirement that a successful citizen plaintiff make a separate public interest showing before being awarded attorneys’ fees is erroneous. It is inconsistent with Congress’s intent that citizens who bring meritorious actions be awarded attorneys’ fees. It is also decidedly unnecessary, because a citizen plaintiff who partially or wholly prevails on the merits of a CAA citizen suit necessarily has served the public interest. Moreover, the public policy benefits of the separate public interest requirement do not justify the chilling effect it has on citizen participation in CAA enforcement and implementation.
SAVING FISH TO SAVE THE BAY: PUBLIC TRUST DOCTRINE PROTECTION FOR MENHADEN’S FOUNDATIONAL ECOSYSTEM SERVICES IN THE CHESAPEAKE BAY

PATRICK J. CONNOLLY*

Abstract: The Chesapeake Bay menhaden population provides a number of ecosystem services that help keep the bay’s waters suitable for marine life, and enjoyable and profitable for the bay’s human users. Overfishing of menhaden within the bay may, however, be eroding the ability of the species to provide these services, which are foundational to rights traditionally secured by the public trust doctrine: fishery, commerce, and navigation. The Virginia courts’ failure to protect these foundational ecosystem services threatens the viability and sustainability of these public trust rights. Given the chance, Virginia courts should protect menhaden by expanding the state’s narrow conception of the public trust doctrine to comport with developments in ecology and state constitutional, statutory, and case law.

Introduction

A system of environmental law based on ecology has been evolving in tandem with the public’s growing understanding of the interdependence of nature’s processes over the past fifty years.1 During the same period, the state of Virginia has witnessed the collapse of its once-robust menhaden fishery.2 An individual menhaden—diminutive, oily, and bone-filled—would not excite the interest of a typical angler or seafood connoisseur.3 This unassuming fish, however, might be the most


ecologically essential creature in the Chesapeake Bay waters that make up part of its natural range.\(^4\)

Massive schools of menhaden amount to aquatic dynamos, performing the ecosystem functions of pollution control, nutrient fixation, and food web support.\(^5\) These functions provide human users of the Chesapeake Bay ecosystem with the services of clean water, food production, and recreational opportunities.\(^6\) Although a Chesapeake Bay stripped of these and other essential ecosystem services would be a pale shadow of a historic and bountiful water-body, no clear legal theory has emerged to guard people’s interest in them.\(^7\) This Note argues that the foundational ecosystem services provided by menhaden fall beneath the protective cloak of the public trust doctrine without bursting the utilitarian seams of the doctrine’s traditional protection of the public’s right to access navigable waters to engage in fishing, navigation, and commerce.\(^8\)

I. Ecosystem Services

A. Ecosystem Services in General

Ecosystem services “represent the benefits human populations derive, directly or indirectly,” from “the habitat, biological or system properties or processes of ecosystems.”\(^9\) Benefits derived from ecosystem services are fundamental to the health of the global economy and to the survival of humankind.\(^10\) Severe degradation of certain ecosys-

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\(^5\) See FRANKLIN, supra note 3, at 7–9.


\(^8\) See J.B. Ruhl & James Salzman, Ecosystem Services and the Public Trust Doctrine: Working Change from Within, 15 SOUTHEASTERN ENVTL. L.J. 223, 230 (2006). The authors argue that “[p]rotecting ecosystems . . . is compatible with the [public trust] doctrine even in its sharpest utilitarian projection.” Id.

\(^9\) Costanza et al., supra note 6, at 253.

\(^10\) See id. at 254–55. “It is trivial to ask what is the value of the atmosphere to humankind, or what is the value of rocks and soil infrastructure as support systems. Their value is infinite in total.” Id. at 255.
tem services would prove catastrophic and irreversible. For example, a process present in functional rural ecosystems is the movement of pollen from one flower to another; from this process humans derive the ecosystem service of pollination, which is essential to sustaining life on earth. A less-apparent, but similarly essential ecosystem service is nutrient cycling, that is, the fixation of nitrogen and phosphorus within soils, plants, and animals. Another example is waste treatment, like that provided by filter-feeding marine animals such as menhaden and mollusks, and by water filtration within forests.

Recent natural disasters, including Hurricanes Katrina and Rita and the Asian tsunamis, have brought the essentiality of these services to human survival out of the realm of the theoretical and into stark focus. Had governments in areas struck by the 2004 tsunami or the 2005 Gulf-Coast hurricanes done more to preserve the ecosystem services of storm mitigation and flood control provided by natural geologic formations and vegetation, the loss of life and physical devastation suffered in those areas could have been significantly lessened.

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11 See James Salzman, A Field of Green? The Past and Future of Ecosystem Services, 21 J. LAND USE & ENVTL. L. 133, 133–34 (2006). Technological advances would likely be of little help in this situation. Id. “Biosphere II [failed] to establish biological systems capable of recreating the basic services that support life itself—services such as purification of air and water, pest control, renewal of soil fertility, climate regulation, pollination of crops and vegetation, and waste detoxification and decomposition.” Id. at 133.

12 See Costanza et al., supra note 6, at 254 tbl.1. Other familiar and essential ecosystem services are the production of food—such as fish and crops—and raw materials, like lumber and fuel. See id.

13 See id.

14 William J. Hargis, Jr. & Dexter S. Haven, Chesapeake Oyster Reefs, Their Importance, Destruction and Guidelines for Restoring Them, in OYSTER REEF HABITAT RESTORATION: A SYNOPSIS AND SYNTHESIS OF APPROACHES 329, 348 (M.W. Luckenbach et al. eds., 1999). It has taken around 150 years for over-fishing, pollution, and shell mining to reduce the bay’s oyster population to about one percent of its historical peak, leaving menhaden to shoulder a heavy load in terms of purifying the bay’s water. See id. at 329, 339; Franklin, supra note 3, at 136–37.

15 See Costanza et al., supra note 6, at 256 tbl.2. Constructing an exhaustive list of ecosystem services is beyond the scope of this Note and may be impossible. See id. at 258.


17 See Woodworth, supra note 16, at 39. The author describes how preserving the mangrove forests in Asia and the natural barrier islands in Louisiana could have prevented the most violent harm to infrastructure in those locations. Id.
B. Valuing Ecosystem Services

The value of ecosystem services to human populations is generally unrepresented in financial markets.\(^{18}\) Instead, these essential natural functions are enjoyed as public goods, their value obscured in the economy as positive externalities.\(^{19}\) It is usually not until an ecosystem service is severely degraded or destroyed that economists and policymakers recognize their value, then quantifiable as the cost of lives lost,\(^{20}\) communities disrupted, and infrastructure destroyed.\(^{21}\) The continued effort to repair the social fabric and infrastructure of New Orleans in the wake of the 2005 hurricanes provides a poignant example.\(^{22}\) Much of the estimated $100 billion reconstruction cost and unquantifiable cost of lives and social capital lost could have been avoided by a $14 billion expenditure to restore the barrier islands that serve as a natural buffer to the Gulf Coast during storms.\(^{23}\)

Ecological economists have taken on the daunting task of quantifying the value derived by humans from dozens of ecosystem services whose benefits we do not purchase in a marketplace.\(^{24}\) A controversial initial effort in 1997, led by Robert Costanza, valued these services at $33 trillion, with marine services contributing just under two-thirds of that amount.\(^{25}\)

While the exact value of worldwide ecosystem services is a matter open to debate—Costanza’s conservative estimate assigned a monetary value greater than combined global GDP—there is little doubt that the human race would cease to exist should certain ecosystem

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\(^{18}\) See Salzman, supra note 11, at 134.

\(^{19}\) See id. at 135.


\(^{21}\) See Salzman, supra note 11, at 135.


\(^{24}\) Costanza et al., supra note 6, at 253.

\(^{25}\) See id. at 259. Moreover, Costanza’s study attributed an annual value of about $2.3 trillion to waste treatment, and $17 trillion to nutrient cycling. Id. Menhaden are key providers of both of these services in the Chesapeake Bay. See Franklin, supra note 3, at 8; Gottlieb, Ecological Role of Atlantic Menhaden, supra note 3, at 73–74.
services become unavailable.\textsuperscript{26} To the best of our knowledge, humans are not yet on the brink of extinction, but our depletion of the wealth bestowed upon us by nature has gone far to erode our quality of life and that of future generations.\textsuperscript{27} Some costs of ecosystem service degradation are more subtle than those exemplified by the Asian tsunami or the recent Gulf Coast hurricanes, but each such cost amounts to an incremental degradation in local, regional, and global qualities of life and in the economies and traditions that underpin the same.\textsuperscript{28}

II. THE CHESAPEAKE BAY MENHADEN FISHERY

A. The Fish: A Classic Overachiever

Adult menhaden weigh less than two pounds and grow to a maximum of about nineteen inches in length.\textsuperscript{29} The species is known for plentiful bones and oily flesh, and does not grace the menus of popular seafood restaurants, or even the bun of the plebeian Filet-o-Fish.\textsuperscript{30} Millions-strong schools of these unpalatable fish, however, are essential components of the ecosystems in which they swim.\textsuperscript{31} Generally speaking, menhaden serve two functions in marine ecology: (1) as filter feeders, they serve to clarify and detoxify the water; and (2) they are an essential part of the diets of numerous predators and scavengers within the food web.\textsuperscript{32}

\begin{footnotesize}
\begin{enumerate}
\item See Peter Barnes, \textit{Who Owns the Sky? Our Common Assets and the Future of Capitalism} 39–40 (2001).\end{enumerate}
\end{footnotesize}
1. Menhaden’s Water Purification Role

Historically, a prolific menhaden population along with seemingly endless reefs of filter-feeding oysters on the floor of the Chesapeake served as a dynamic water-purifying tag team. The fish and mollusks combined to keep the Chesapeake’s waters “clear, clean, balanced, and healthy . . . .” Now, with the oyster population of Chesapeake Bay at around one percent of its historic level, menhaden have become the most important filter feeder in the bay.

Filter-feeding serves multiple ecosystem functions. First, menhaden help create suitable conditions for marine life by filtering suspended phytoplankton, zooplankton, and detritus from the water, thereby clarifying the bay and allowing sunlight to nourish aquatic plants which release dissolved oxygen. Second, menhaden consume algae that grow rampantly in the bay, preventing decomposition of dead algae from consuming dissolved oxygen that is essential to marine life. Menhaden further help prevent the spread of oxygen-starved dead zones by consuming nitrogen, which stimulates algae growth after being flushed into the bay from agricultural and municipal non-point sources.

Degradation of the menhaden resource will lead to a decrease in the ecosystem functions of water purification and nitrogen fixation which it provides, leading to more frequent toxic algae blooms and ex-
pansion of creeping dead zones in the bay.\textsuperscript{41} The effect on the humans who exploit the bay’s resources, both in terms of their economic well-being and the stability of their cultures and traditions, could be enormous.\textsuperscript{42} Toxic algae and dead zones are already taking their toll on the culturally and economically important traditions of crab- and shell-fishing in the bay.\textsuperscript{43}

2. Menhaden’s Role in the Chesapeake’s Complex Food Web

In addition to their role as filter feeders, menhaden are perhaps the most essential link in the Chesapeake Bay’s complex food web, serving as “the dominant prey species for many predatory fish and mammals such as striped bass, bluefish, weakfish, Spanish mackerel, seals, and whales; [and as] a favorite target for the common loon, herons, egrets, ospreys, and eagles.”\textsuperscript{44} Sport fishermen and bird watchers point to a dwindling menhaden population in the Chesapeake Bay as a driving factor in the inability of their favorite species to rebound from diminished levels.\textsuperscript{45} Wasting disease in Chesapeake Bay striped bass, a popular target for recreational anglers, may be attributable to malnutrition from a lack of menhaden to feed on.\textsuperscript{46}

Menhaden’s purification of the Chesapeake’s water and their essential role in the bay’s complex food web are foundational services, crucial to the diverse species who inhabit the bay ecosystem and to

\textsuperscript{41} See \textit{Franklin}, \textit{supra} note 3, at 137–40; \textit{NSTC Assessment}, \textit{supra} note 40, at 24–26.

\textsuperscript{42} See \textit{Carroll}, \textit{supra} note 35, at A1.

\textsuperscript{43} See \textit{id.} (noting that, while the sea scallop industry accounted for $289 million in direct and indirect sales in Virginia in 2005, and the blue crab industry for $46 million, the menhaden industry only generated $33 million in such sales); David A. Fahrenthold, \textit{Restoration Push Failing Chesapeake Crabs}, \textit{BOSTON GLOBE}, Nov. 19, 2007, at A2 (citing dead zones as a major obstacle to rebuilding the traditional blue crab fishery throughout the bay); Gottlieb, \textit{Ecological Role of Atlantic Menhaden}, \textit{supra} note 3, at 84–85 (noting that “[f]ishery management in the Chesapeake Bay historically has been more crisis management than anything else” and pointing out the long-suffering oyster, stripper, and blue crab fisheries).

\textsuperscript{44} \textit{Price}, \textit{supra} note 4.

\textsuperscript{45} See \textit{Russell}, \textit{supra} note 38, at 227.

\textsuperscript{46} See \textit{Franklin}, \textit{supra} note 3, at 144–45; \textit{Russell}, \textit{supra} note 38, at 27–30, 230; Gottlieb, \textit{Ecological Role of Atlantic Menhaden}, \textit{supra} note 3, at 83. Fish suffering from wasting disease are severely underweight, have skin lesions, and may display damage to internal organs. See \textit{Russell}, \textit{supra} note 38, at 202–04.
the people who rely on that ecosystem for its commercial, recreational, and aesthetic bounties.47

B. Menhaden’s History: Centuries of Providing Ecosystem Services

1. The Commercial Menhaden Fishery: from Boom to (Almost) Bust

Menhaden have a rich history of facilitating development in North America, dating back to when Native Americans taught the Pilgrims to fertilize their corn with dead fish.48 The menhaden fishery evolved from these low-technology beginnings as the fish’s oil became popular for industrial applications in the early nineteenth century.49 In the years following the Civil War, menhaden oil fully supplanted whale oil in many of its commercial applications,50 and brought riches to the seaside hamlet of Reedville, Virginia, then—as it is today—the hub of the Atlantic coast menhaden fishery.51

The introduction of purse seine nets, used to encircle and scoop entire schools of menhaden out of the water, increased the fishery’s efficiency and had Virginia’s commercial menhaden business booming by the start of the twentieth century.52 Whale oil could not compete with the far cheaper menhaden product, and ground fish carcasses replaced other, more expensive forms of fertilizer.53 High demand for menhaden products, coupled with the ruthless efficiency of steamships, purse seine netting, and integration with on-shore factories created vast wealth for those at the helm of the industry at ports along the eastern seaboard.54

In addition to applications for their oil and as fertilizer, the early twentieth century saw protein-rich menhaden dried, ground, and sold as feed for land-based livestock.55 The Atlantic commercial menhaden

47 See, e.g., Franklin, supra note 3, at 7. “[M]enhaden play dual roles in marine ecology perhaps unmatched anywhere on the planet.” Id.
48 See, e.g., Russell, supra note 38, at 218.
49 See id. at 218–19.
50 See Franklin, supra note 3, at 60–61.
51 See id. at 56–57, 64.
52 See Russell, supra note 38, at 218–21.
53 See Franklin, supra note 3, at 61–62.
54 See id. at 61, 64.
55 See Russell, supra note 38, at 219.
fishery reached its peak in 1956, when 1.6 billion pounds were taken.\textsuperscript{56} Most of this startling amount was used by the “reduction” industry—apparently named without a hint of irony—which extracted the oil from the catch for its industrial applications and sold the carcasses as fertilizer and livestock feed.\textsuperscript{57} The twentieth century saw a remarkable diversification in the uses of the reduction industry’s products.\textsuperscript{58} Dick Russell points out that, “[a]s Rachel Carson once put it, ‘Almost every person in the United States has at some time eaten, used, or worn something made from menhaden.’”\textsuperscript{59}

The most important innovation in the fishery, whose history is marked by technological “improvements,” was the post-World War II implementation of spotter planes to find dense schools of menhaden.\textsuperscript{60} The planes function in largely the same manner today.\textsuperscript{61} Small, agile boats follow a plane’s directions to a viable school and surround it with a high-capacity nylon purse seine net.\textsuperscript{62} A larger boat then vacuums the net’s contents—as many as 300,000 menhaden in one haul—into its hold.\textsuperscript{63}

As a result of the reduction industry’s efficient tactics, the menhaden population along the east coast has fallen to about eighty percent below normal.\textsuperscript{64} Spurred by concerns of over-fishing, most Atlantic states banned the reduction industry’s seining operations from their coastal waters long ago.\textsuperscript{65} Virginia and North Carolina are the only

\footnotesize
\begin{itemize}
  \item \textsuperscript{56} See Franklin, \emph{supra} note 3, at 123.
  \item \textsuperscript{57} Id. at 122–23, 189.
  \item \textsuperscript{58} See Russell, \emph{supra} note 38, at 219.
  \item \textsuperscript{59} Id. Russell highlights the ubiquity of menhaden products in the life of the American consumer:

  It’s in Rustoleum and Friskies Fancy Feast and Pepperidge Farm shortcake cookies and Soothing Seas Aromatherapy body cream. The oil has been used in the manufacturing of soap, linoleum, waterproof fabrics, and certain kinds of paint. With its high percentage of polyunsaturated fats, menhaden oil has also been popular for many years in Europe as a cooking oil, as well as to make margarine and shortenings.

  \textit{Id.}
  \item \textsuperscript{60} See Franklin, \emph{supra} note 3, at 120–21.
  \item \textsuperscript{61} See Russell, \emph{supra} note 38, at 221.
  \item \textsuperscript{62} See The Beating Heart of the Estuary, \emph{supra} note 38, at 32.
  \item \textsuperscript{63} See \textit{id.}
  \item \textsuperscript{65} See The Beating Heart of the Estuary, \emph{supra} note 38, at 32–33.
\end{itemize}
states that allow the reduction fleet to operate in their inshore waters.\textsuperscript{66} Even in the states where it is still allowed, the reduction industry has severely contracted along with the declining menhaden population.\textsuperscript{67}

2. The Present-Day Menhaden Reduction Industry

The present-day menhaden reduction industry is monopolized by a single corporation: Omega Protein, Inc.\textsuperscript{68} The company operates three menhaden processing plants along the Gulf Coast, and one in Reedville, Virginia.\textsuperscript{69} Omega’s annual menhaden landings at the Reedville plant from 2001 through 2003 averaged 415 million pounds.\textsuperscript{70} That amount of fish—caught by Omega’s purse-seine reduction fleet—is “equal to five times the amount of seafood that the entire Maryland commercial fishery is able to land—counting oysters, clams, fish, everything.”\textsuperscript{71}

Most of Omega Protein’s catch is dried and ground into fish meal to be sold “as a protein ingredient in animal feed for swine, cattle, aquaculture and household pets.”\textsuperscript{72} Omega also sells menhaden oil as an industrial component, a food additive, a dietary supplement, and as liquid protein for animal and aquaculture feeds.\textsuperscript{73} Whatever is left after the fish meal and fish oil are produced might end up in livestock feed, or as “organic” fertilizer.\textsuperscript{74} Every menhaden that winds up in a

\textsuperscript{66} Franklin, \textit{supra} note 3, at 189.
\textsuperscript{67} See Carroll, \textit{supra} note 35, at A1.
\textsuperscript{68} Franklin, \textit{supra} note 3, at 190; Carroll, \textit{supra} note 35, at A1. Omega is organized under Nevada law and has its principal executive offices in Houston, Texas. Omega Protein Corp., Quarterly Report (Form 10-Q), at 1 (Nov. 11, 2007) [hereinafter Omega Quarterly Report]. For succinct descriptions of the historical oddities, strokes of luck, and cast of characters—including a former U.S. president and a real estate tycoon—that have been involved with Omega’s rise to monopoly, see Franklin, \textit{supra} note 3, at 126–29 and Russell, \textit{supra} note 38, at 223–25.
\textsuperscript{69} Omega Quarterly Report, \textit{supra} note 68, at 23.
\textsuperscript{70} See Russell, \textit{supra} note 38, at 225.
\textsuperscript{71} Id. (emphasis added).
\textsuperscript{72} Omega Quarterly Report, \textit{supra} note 68, at 23. A perverse positive feedback loop results, in which chickens eat menhaden-based feed, then produce nitrogen-rich manure which runs off into the bay, where it stimulates algae growth that can cause hypoxia in the water and disease outbreaks in menhaden. Russell, \textit{supra} note 38, at 234.
\textsuperscript{73} See Omega Quarterly Report, \textit{supra} note 68, at 23.
\textsuperscript{74} See id.
sack of chicken feed or fertilizer, a vitamin capsule, or a linoleum floor is one less menhaden providing foundational ecosystem services within the Chesapeake Bay, thereby detracting from the bank of natural capital stored in that system.

C. The Reduction Industry Erodes Foundational Ecosystem Services in the Chesapeake Bay

The disappearance of menhaden predators from areas where they were once plentiful, the appearance of sickly striped bass whose stomachs are empty for lack of forage, and biologists who vehemently disagree with the Atlantic States Marine Fisheries Commission (ASMFC) assessment of the menhaden stock as healthy all suggest that menhaden are being over-fished within the Chesapeake Bay. Anecdotal evidence suggests that banning the reduction industry’s boats and planes from the Chesapeake, or at least reducing their operations, could help to restore healthier levels of ecosystem services. New Jersey enjoyed a “remarkable resurgence” of menhaden and associated predators in 2001 following its action to ban Omega’s boats from its waters.

Calls from environmentalists and sport fishermen for a moratorium on purse-seining in Virginia’s Chesapeake waters—in order to allow menhaden to spawn before being vacuumed out of the sea—have met predictably strong opposition from Omega. Omega claims that it is an overabundance of striped bass, not over-fishing, that is

75 Omega has made substantial investment in OmegaPure, the company’s food grade omega-3 fatty acid product line. See id. at 27. While omega-3 fatty acids are unquestionably beneficial to human health, there are a number of alternatives to squeezing them out of menhaden, perhaps most notably extracting them directly from algae like those in the menhaden’s diet which make their flesh rich in omega-3 fatty acids. Franklin, supra note 3, at 211–13.

76 See generally Woodworth, supra note 16 (making the point that preservation of natural ecosystem functions results in enormous long-term economic benefits).

77 See The Beating Heart of the Estuary, supra note 38, at 35.

78 See, e.g., Gottlieb, Ecological Role of Atlantic Menhaden, supra note 3, at 81–83.

79 See Franklin, supra note 3, at 216–18; Russell, supra note 38, at 29–30; Price, supra note 4.

80 See Franklin, supra note 3, at 99, 218–19.

81 Id. at 99. Similarly, in Maine, some have credited a summer-long ban on midwater trawling for herring—a close relative of menhaden—with the recovery of that species in the Gulf of Maine, along with a marked increase in the presence of whales, dolphins, seabirds, and tuna. Tom Bell, Hip-Deep in Herring, PORTLAND PRESS HERALD, Sept. 11, 2007, at C1.

82 See Russell, supra note 38, at 29–30; Carroll, supra note 37, at A1.
reducing the menhaden population in the Chesapeake.\textsuperscript{83} The industry points to their continued ability to catch millions of pounds of fish as evidence that the stock of menhaden is in fact healthy.\textsuperscript{84}

Assessments of the health of the menhaden population based on landings are meaningless, however.\textsuperscript{85} The efficiency of Omega’s operation—which employs spotter planes to find worthwhile schools and purse seines to corral those schools all at once—ensures that catch levels can be temporarily maintained while the actual stock of fish within the bay continues to plummet.\textsuperscript{86} This phenomenon is called “inverse catchability,” and means that each successive haul of the purse seine removes a larger percentage of the remaining menhaden from the Chesapeake.\textsuperscript{87} Continuing to allow spotter planes to hunt down scarcer schools of menhaden—comprised mostly of juvenile fish that have not yet spawned—could lead to “an all-out population crash.”\textsuperscript{88}

D. Menhaden Management: A Sop to a Floundering Industry

Menhaden are the only saltwater fish in Virginia not managed by the Virginia Marine Resources Commission (VMRC).\textsuperscript{89} Rather, menhaden management seems to be a task that is jealously guarded by the Virginia state legislature.\textsuperscript{90} Mounting pressure from a coalition of environmentalists and recreational fishermen—the latter of which “account for about two-thirds of the total sales generated by Virginia’s $1

\textsuperscript{83} See Russell, supra note 38, at 228.
\textsuperscript{84} See id. at 229. Omega acknowledges that its “business is totally dependent on its annual menhaden harvest[,]” and that its “ability to meet its raw material requirements through its annual menhaden harvest fluctuates from year to year and month to month, \textit{due to natural conditions over which the company has no control}.” Omega Quarterly Report, supra note 68, at 42–43 (emphasis added).
\textsuperscript{85} See Russell, supra note 38, at 229.
\textsuperscript{86} See id.
\textsuperscript{87} See id.
\textsuperscript{89} Tolliver, supra note 64, at C11; see Va. Code Ann. §§ 28.2-100 to -103, 28.2-400 to -411 (2007).
\textsuperscript{90} See Va. Code Ann. §§ 28.2-400 to -411; Harper, supra note 88, at A16 (noting that many think “years of political leverage and campaign contributions” from the reduction industry have made meaningful regulation from the legislature very unlikely); Tolliver, supra note 64, at C11.
billion fishing industry”91—finally led the legislature to adopt the first ever catch limit on menhaden in 2006.92

The measure allows the reduction industry to catch 109,000 metric tons annually through 2010, and up to 122,740 metric tons—over four-hundred million fish93—in a year, as long as it shaves the excess off the following year’s cap.94 The cap was supported by the Omega Corporation.95 It is likely that the catch limit was palatable to Omega because it preserved management of the menhaden reduction fishery in the industry-friendly state legislature, as opposed to the VMRC, and because the alternative might have been a complete shutdown of the menhaden fishery by the federal government in response to the legislature’s failure to enact ASMFC limits.96 That the 109,000 metric ton catch limit was determined by averaging the reduction industry’s most recent landing data also may have played a role in winning the company’s support.97

III. The Public Trust Doctrine

A. Hatching the Public Trust Doctrine

A brief discussion of the public trust doctrine’s roots will help ground the remainder of the discussion.98 The public trust doctrine, as understood in the United States, is typically traced back to around 530 A.D. and the Roman civil law’s recognition that the general public had inalienable rights to access and use certain resources, namely the sea and seashore, rivers, and the air.99 These resources were to be held as

93 See Omega Protein Corp., Annual Report (Form 10-K), at 28 (Mar. 13, 2007). The National Marine Fisheries Service fish catch conversion ratio for menhaden is 670 pounds per 1000 fish. Id.
95 Frozen Fishing, supra note 92.
96 See Carroll, supra note 37, at A1; Frozen Fishing, supra note 92.
97 See Tom Pelton, Menhaden Matter, and They’re in Trouble, Balt. Sun, May 6, 2007, at 5F.
common property, invulnerable to private ownership. These ideals made their way into the laws of most European countries during the Middle Ages and, significantly, into the common law of England. During the thirteenth century, England established that “the shores of the sea [were] ‘common to all’ and inalienable.” Navigation and fishing were the primary public benefits sought to be preserved by giving the public inalienable property rights in the sea, seashore, and land underlying the sea.

B. The Public Trust Doctrine Jumps the Pond

The public trust doctrine debuted in the United States in Martin v. Waddell, an 1842 Supreme Court case concerning a disputed New Jersey oyster bed. There, the Court ruled that “the great right of dominion and ownership in the rivers, bays and arms of the sea . . . [and] the right of common fishery for the common people” were “immediately and rightfully vested in the state” after independence. These traditional British rights must have been intended to be held in trust for the common benefit of new settlers, otherwise few British subjects could have been convinced to make the trip to establish the new colonies. Therefore, following independence, title to traditional public trust properties formerly held by the English crown or parliament was vested in the state governments, subject to the restraints on alienation inherent in the trust. The ruling stressed the centuries-old policy of preserving the right to take shell- and finfish, among other “benefits and advantages of the navigable waters” for use by the general public.

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100 Id.
102 Id. at 635.
105 See id. at 416.
107 See Martin, 41 U.S. at 416; Klass, supra note 103, at 703.
108 See Martin, 41 U.S. at 414. In a statement that turned out to be ahead of its time, the Court even alluded to the impropriety of a decision that would prevent a resident from bathing in public trust waters “without becoming a trespasser upon the rights of another.” Id.
Decided fifty years after *Martin v. Waddell*, the guiding case in United States public trust doctrine jurisprudence is *Illinois Central Railroad Co. v. Illinois*.\(^{109}\) There, the Court ruled that a state’s title to lands beneath navigable waters is “held in trust for the people of the state, that they may enjoy the navigation of the waters, carry on commerce over them, and have liberty of fishing therein, freed from the obstruction or interference of private parties.”\(^{110}\) The Court went on to declare that state governments, as trustees of public trust property, cannot relinquish control over such property unless such disposal promotes the interests of the public, and does not “substantial[ly] impair[] . . . the public interest in the lands and waters remaining.”\(^{111}\)

Two years after *Illinois Central*, the Supreme Court ruled in *Shively v. Bowlby* that, as compared to the thirteen original states, “[t]he new states admitted into the Union since the adoption of the constitution have the same rights as the original states in the tide waters, and in the lands under them, within their respective jurisdictions.”\(^{112}\) Strongly endorsing the ruling in *Martin v. Waddell*, the Court recognized the value of these resources to the public for the purposes of “commerce, navigation, and fishery.”\(^{113}\) It followed that new states would hold title and control over public trust resources, “for the benefit of the whole people.”\(^{114}\)

*Illinois Central* and *Shively* do not say whether state or federal law is the source of limitations on what a state can do with its public trust resources.\(^{115}\) Courts and legal scholars have theorized that the decisions rested either solely on state law, solely on federal law of various stripes, or on some interaction of the two.\(^{116}\) While it is unlikely that

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\(^{111}\) *Id.* at 453. In defining its substantial impairment standard, the court in *Illinois Central* stated that, “[C]ontrol of the state for the purposes of the trust can never be lost, except as to such parcels as are used in promoting the interests of the public therein, or can be disposed of without any substantial impairment of the public interest in the lands and waters remaining.” *Id.*

\(^{112}\) *Shively v. Bowlby*, 152 U.S. 1, 57 (1894).

\(^{113}\) *Id.* at 15–18, 57.

\(^{114}\) *Id.* at 57.

\(^{115}\) See Klass, *supra* note 103, at 704–05. The author notes that this ambiguity arose in the context of the continued search for “federal general common law,” which was not abandoned until 1938 in Erie R.R. Co. v. Tompkins, 304 U.S. 64 (1938). *Id.* at 705.

the Illinois Central decision rested solely on Illinois state law, the jurisprudence that has emerged gives deference to state law in defining the precise contours of the public trust doctrine. States can define the details of their public trust doctrine—markedly expanding its protections if so desired—as long as they do not afford less protection than that mandated by Illinois Central and Shively, thereby “abrogating the public trust entirely.”

C. The Doctrine Walks on Land (and Takes to the Sky?) in the United States


In his seminal 1970 article, Joseph L. Sax described his vision for the role of the judiciary in developing the public trust doctrine after tracing the doctrine’s historical roots and evolution within particular states. Sax paid particular attention to the development of the doctrine in Massachusetts, Wisconsin, and California. Sax found that these states’ courts had frequently resorted to public trust principles in the interest of democracy, invalidating actions of state legislatures and agencies which furthered private commercial interests at the expense of public access to resources. Sax saw potential for the doctrine to encourage future democratization of legislative and administrative decisions with a tendency to unduly favor the interests of powerful minorities—such as utilities, developers, or commercial fishing monopolists—at the expense of widely held, though diffuse, public interests in natural resources.

In Gould v. Greylock Reservation Commission, the Supreme Judicial Court of Massachusetts invalidated the grant of 4000 acres of the Greylock State Reservation by the Greylock Reservation Commission for the purpose of building a commercial ski resort. In Gould, the

117 See id. at 460.
118 See id. at 461–62.
119 See Klass, supra note 103, at 705; Wilkinson, supra note 116, at 464.
120 See Sax I, supra note 98, at 551–53.
121 See id. at 491, 509, 524.
122 See id. at 491–92, 513, 540. Sax described the Wisconsin court as having successfully invoked the public trust as a means of “combat[ing] the tendency of the legislature and of administrative agencies to subordinate diffuse public advantages to pressing private interests.” Id. at 513.
123 See id. at 558–59.
court protected the diffuse public interest in continued use of a public park in the face of highly concentrated, well-funded private commercial interests.\textsuperscript{125} By requiring that the grant of park land for a commercial enterprise be subject to explicit legislative authorization, the court ensured that “openness and visibility” in the legislative process would be there to preserve public trust resources from motivated and influential private interests.\textsuperscript{126}

In the late nineteenth and early twentieth centuries, the Supreme Court of Wisconsin invalidated administrative and legislative acts premised on the public utility of draining wetlands in the interest of expanding agriculture.\textsuperscript{127} In \textit{Priewe v. Wisconsin State Land \& Improvement Co.}, the court cited favorably to \textit{Illinois Central} and that case’s mandate that navigable waters be held in trust by the state for the public purposes of navigation and fishing.\textsuperscript{128} The court held that “the legislature had no power, under the guise of legislating for the public health, to authorize the destruction of a lake . . . to the great injury of the plaintiff as such riparian owner, for private purposes, and for the sole benefit of private parties.”\textsuperscript{129}

In a later case, the Supreme Court of Wisconsin invalidated the Railroad Commission’s plan for a levee and drainage system affecting navigable tributaries of the Mississippi River.\textsuperscript{130} The court ruled that the “substantial destruction” of the public rights of trapping, hunting, fishing, and navigation was not outweighed by the largely speculative benefits of agricultural reclamation urged by the Railroad Commission.\textsuperscript{131} In these Wisconsin cases, the court refused to defer to the legislative or administrative agencies in situations where diffuse interests in access to public trust resources had been subordinated to concentrated, influential private interests.\textsuperscript{132}

\textsuperscript{125} See Sax I, \textit{supra} note 98, at 494–95.
\textsuperscript{126} See \textit{id.} at 495–96.
\textsuperscript{127} \textit{Id.} at 509–10.
\textsuperscript{128} \textit{Priewe v. Wis. State Land \& Improvement Co.}, 67 N.W. 918, 922 (Wis. 1896).
\textsuperscript{129} \textit{Id.}
\textsuperscript{130} \textit{In re Crawford County Levee \& Drainage Dist. No. 1}, 196 N.W. 874, 878 (Wis. 1924).
\textsuperscript{131} See \textit{id.}
\textsuperscript{132} See Sax I, \textit{supra} note 98, at 514.

The history of the public trust doctrine in the United States subsequent to Sax’s groundbreaking article has generally been one of expansion with respect to resources and purposes encompassed within the public trust doctrine. The doctrine’s evolution in several states seems to have corresponded with Sax’s contention that “protections which the courts have applied in conventional public trust cases would be equally applicable and equally appropriate in controversies involving air pollution, . . . pesticides, the location of rights of way for utilities, and strip mining . . . .” Sax’s progressive vision of the public trust doctrine converged with a growing awareness of problems posed by environmental degradation to foster the doctrine’s evolution in the decades following 1970.

Several state courts in the 1970s, led by the California Supreme Court’s decision in Marks v. Whitney, began acting in accordance with the theory that the public trust doctrine’s protections encompassed more than the public’s interest in the ultimate ends of navigation, commerce, and fishery. The court in Marks v. Whitney asserted the flexibility of the doctrine’s purposes and recognized “the preservation of [tidelands] in their natural state, so that they may serve as ecological units for scientific study, as open space, and as environments which provide food and habitat for birds and marine life, and which favorably affect the scenery and climate of an area” as an essential public trust use.

133 See Smith & Sweeney, supra note 99, at 332 (noting that the public trust doctrine has been used to protect interests in “boating, swimming, fishing, hunting, preserving wildlife habitat, . . . aesthetic beauty, maintaining ecological integrity, and retaining open spaces, which are all seen today as part of ‘legitimate public expectations.’”); see also Lazarus, supra note 101, at 649.

134 Sax I, supra note 98, at 556–57; see Klass, supra note 103, at 706–07. For an explanation of Sax’s idea that the public trust doctrine should evolve to encompass diffuse interests in maintenance of stable ecosystems, see Joseph L. Sax, Liberating the Public Trust Doctrine from Its Historical Shackles, 14 U.C. Davis L. Rev. 185 (1980) [hereinafter Sax II]. Sax later argued that the public trust doctrine’s fundamental purpose is the protection of “expectations held in common but without formal recognition such as title.” Id. at 188. Rapid, destabilizing changes in such expectations have the potential to “provoke crises—social, biological and . . . economic.” Id.

135 See Klass, supra note 103, at 707–08.

136 See id. Many of the interests protected by state courts invoking the public trust doctrine are what ecological economists today would call ecosystem services. See Costanza et al., supra note 6, at 254 tbl.1.

The Wisconsin Supreme Court struck an equally enlightened chord in *Just v. Marinette County* when it announced that, “under the trust doctrine [the state] has a duty to eradicate the present pollution and to prevent further pollution in its navigable waters.”\(^{138}\) The court recognized that healthy ecosystems are foundational to traditional public trust values when it stated of the unremarkable wetlands in question:

Swamps and wetlands were once considered wasteland, undesirable, and not picturesque. But as the people became more sophisticated, an appreciation was acquired that swamps and wetlands serve a vital role in nature, are part of the balance of nature and are essential to the purity of the water in our lakes and streams. Swamps and wetlands are a necessary part of the ecological creation and now, even to the uninitiated, possess their own beauty in nature.\(^ {139}\)

In the same year that the Wisconsin Supreme Court decided *Just*, a New York state court declared a number of wetlands-related ecosystem services to be logically protected by the public trust doctrine.\(^ {140}\) The court reasoned that “[t]he entire ecological system supporting the waterways is an integral part of them . . . and must necessarily be included within the purview of the trust.”\(^ {141}\)

3. Common Law Public Trust Doctrine from 1980 to the Present

Even after the environmental fervor of the 1970s ebbed, California courts continued to lead state efforts to protect diffuse public interests in natural resources through the public trust doctrine.\(^ {142}\) The California Supreme Court protected a number of ecosystem services via the public trust doctrine when it decided *National Audubon Society v. Superior Court of Alpine County (Mono Lake)* in 1983.\(^ {143}\) The court out-

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138 Just v. Marinette County, 201 N.W.2d 761, 768 (Wis. 1972).
139 Id.
141 Id. at 532. The court recognized that if wetlands were not preserved so as to perform the ecosystem services of acting “as a buffer against the ravages of the sea, cleanser of the incoming tide, a base for the marine food chain, nesting grounds for birds and particularly endangered species and sanctuary to a variety of animals[,]” then efforts to protect more traditional public trust interests like fishing and navigation would be built upon shifting sands. See id. at 533.
142 See Klass, supra note 103, at 710.
lined the ecological and aesthetic harms caused by the drop in water level and rise in salinity of Mono Lake resulting from diversions of fresh water to the city of Los Angeles: disruption of the food chain; extreme stresses on the migratory bird population; and harm to humans’ ability to enjoy the lake’s economic, scenic, and recreational values. The court in Mono Lake required the state to reexamine Los Angeles’ rights to divert fresh water from Mono Lake in light of the damage that practice was causing to the public interest in the ecological and recreational integrity of that unique resource.

More recently, the Supreme Court of Hawaii recognized that, as public values and needs have evolved, so too have the rights preserved in the public by the public trust doctrine. The Hawaii court ruled in In re Water Use Permit Applications (Waiahole Ditch) that a statute regulating diversions of fresh water did not properly account for the public trust purpose of “the exercise of Native Hawaiian and traditional and customary rights[,]” and rejected the idea that preservation of waters in their natural state constitutes waste. The court went on to expressly reject “private commercial use as among the public purposes protected by the trust.”

Sax’s expansive vision for the public trust doctrine, as developed by the courts of California and Hawaii, would most likely protect the public’s interest in the foundational ecosystem services provided by menhaden. As discussed below, however, the foundational ecosystem services provided by menhaden may be protected by even the most conservative reading of the public trust doctrine.

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144 See id. at 715–16.
145 See id. at 732.
146 In re Water Use Permit Applications (Waiahole Ditch), 9 P.3d 409, 448 (Haw. 2000).
147 Id. at 449.
148 Id. at 450. Mono Lake’s consideration of ecological value and scenic beauty echoed throughout the court’s decision, as they required diversions of fresh water from Waiahole Ditch to be allocated with the long-term health of the estuary in mind. See id. at 470–71. Furthermore, the court rejected scientific uncertainty as to the effects of diversions on the ecosystem as a valid excuse for failure to exercise “reasonable precautionary presumptions or allowances in the public interest.” See id. at 471. “[T]he Commission must . . . incorporate[] elements of uncertainty and risk as part of its analysis. Such a methodology, by its nature, must rely as much on policy considerations as on hard scientific ‘facts.’” Id.
149 See Sax I, supra note 98, at 556–57.
150 See Ruhl & Salzman, supra note 8, at 236–37.
D. Spawning of the Public Trust Doctrine in Virginia

1. Virginia’s Common Law Public Trust Doctrine

a. Virginia Public Trust Cases From 1900–1932

The common law public trust doctrine was statutorily adopted in Virginia pursuant to section 1-200 of the Code of Virginia, which provides: “The common law of England, insofar as it is not repugnant to the principles of the Bill of Rights and Constitution of this Commonwealth, shall continue in full force within the same, and be the rule of decision, except as altered by the General Assembly.”

During the early part of the twentieth century, Virginia courts addressed the scope of England’s common law public trust doctrine in a number of conflicts involving rights to use traditional public trust resources, often oyster beds and the waters covering them. In Taylor v. Commonwealth, the Supreme Court of Appeals of Virginia drew on language from Illinois Central and other federal and state precedents to determine that “the navigable waters and the soil under them . . . are the property of the state, to be controlled by the state, in its own discretion, for the benefit of the people of the state . . . .” Taylor established that a Virginia statute stating:

All the beds of the bays, rivers, creeks, and the shores of the sea within the jurisdiction of this commonwealth . . . shall continue and remain the property of the commonwealth of Virginia, and may be used as a common by all the people of the state for the purpose of fishing and fowling, and of taking or catching oysters and other shellfish, subject to . . . any future laws that may be passed by the General Assembly

had its proper foundation in the common law and merely restated preexisting Virginia common law. While Taylor restricted the legislature’s use of public trust resources to uses benefitting the public, the

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152 See Taylor v. Commonwealth, 47 S.E. 875, 878 (Va. 1904).
153 Id. at 879.
154 Id. at 877, 879; see also Meredith v. Triple Island Gunning Club, 73 S.E. 721, 723 (Va. 1912) (citing Taylor, 47 S.E. at 875, and noting that county laws governing the taking of game were designed with the good of all state citizens in mind).
Virginia courts were far from consistent in their application of this restriction during the following three decades.\textsuperscript{155} In 1932 the Supreme Court of Appeals of Virginia decided \textit{Commonwealth v. City of Newport News}, ruling that the Supreme Court of the United States erred in \textit{Martin v. Waddell} and \textit{Illinois Central}, hobbling the public trust doctrine in Virginia.\textsuperscript{156} In \textit{Newport News}, the court narrowed the powers of the public trust doctrine by holding that the State does not act as trustee for the public with respect to fishery resources.\textsuperscript{157} Rather, the court determined that—unlike navigation and commerce—references in \textit{Illinois Central} and forgoing state precedent to fishery as a right held in trust for the people were merely casual dicta.\textsuperscript{158} The court thereby unburdened the Virginia legislature of the need to comply with the \textit{Illinois Central} mandate that states not dispose of public trust resources in such a way as to substantially impair the public interest in the lands and waters remaining.\textsuperscript{159}

The \textit{Newport News} court ruled that, following the American Revolution, the people of each original state came to possess "full and complete dominion for governmental purposes over all the lands and waters within its territorial limits, and the full and complete proprietary right in all [those] lands and waters . . . ."\textsuperscript{160} This interpretation eviscerated the concept of preserving waterways in trust for public use that dates back millennia and is recognized all over the globe.\textsuperscript{161} The court found no limitations within the state or federal constitutions on the rights of the state legislature to allow tidal waters and their bottoms to be used for purposes leading inevitably to the destruction of their usefulness as fish-


\textsuperscript{156} \textit{See Commonwealth v. City of Newport News}, 164 S.E. 689, 694–96 (Va. 1932); Kelly, \textit{supra} note 155, at 905–06.

\textsuperscript{157} 164 S.E. at 699; \textit{see} Kelly, \textit{supra} note 155, at 908. Kelly discusses \textit{Newport}'s classification of navigation and commerce as incidents of the \textit{jus publicum} and fishery as an incident of the \textit{jus privatum}. \textit{Id.}. The \textit{jus publicum} encompasses those rights which cannot be surrendered to private interests or substantially impaired, while the \textit{jus privatum} refers simply to typical rights of private property. \textit{Id.}

\textsuperscript{158} \textit{Newport News}, 164 S.E. at 698 n.5.

\textsuperscript{159} Ill. Cent. R.R. Co. v. Illinois, 146 U.S. 387, 453 (1892).

\textsuperscript{160} 164 S.E. at 695.

\textsuperscript{161} \textit{See Wilkinson}, \textit{supra} note 116, at 429–431 (identifying the preservation of waterways for communal use as a thread running not just from the common law of England to the United States, but through societies as diverse and far-flung as medieval Europe; pre-Christian Asia, Africa, and the Middle-East; and most Native American cultures).
eries. The city of Newport News was allowed to continue putting its coastal waters and underlying oyster beds to use as raw sewage dumps. Even judged by the standards of 1932, the court in Newport News could be considered disingenuous in pleading ignorance as to the havoc their ruling would wreak on affected ecosystems. Today, however, we know that harms to individual species resonate throughout ecosystems and erode foundational ecosystem services which underpin not just the ability to fish for depleted species, but also the other traditional public trust interests of commerce and navigation.

b. Modern Virginia Public Trust Cases

Modern Virginia courts have declined to explicitly expand the narrow public trust duty imposed on the state in Newport News. Paradoxically, however, some cases cite favorably to pre-Newport News cases which construed the trust more broadly, and to treatises describing the doctrine in similar broad terms. These cases have held that the state, bolstered by constitutional and statutory law, discussed below, has power under the public trust doctrine to govern the construction of wharves and docks over subaqueous lands held in trust for the benefit of the people.

In Evelyn v. Commonwealth Marine Resources Commission, the Virginia Court of Appeals dedicated a footnote to the evolution of state constitutional and statutory law after 1932, and an interpretation of the public trust doctrine that seemed critical of the perverse result of Newport

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162 164 S.E. at 698–99. “The common rights in a public fishery are at all times subject to the disposal of the legislature, and it may deprive the public of the right at its pleasure. This may be done by . . . dealing with the water in such a way that the fishery is destroyed.” Id. at 699 (quoting Farnham on Waters § 407).

163 Id. Discussion of the role of sewage pollution in the collapse of the Chesapeake Bay’s tradition-rich oyster fishery is beyond the scope of this Note. See Hargis & Haven, supra note 14, at 329; see also McCay, supra note 106, at 155–57 (outlining the tragic collapse of oyster fisheries in New York and New Jersey, in large part a result of reckless contamination of the fishery).

164 See Brooks, Jones & Virginia, supra note 1, at 55–56 (discussing the conservationist movement of the early twentieth century).

165 See id. at 377; Gottlieb, Ecological Role of Atlantic Menhaden, supra note 3, at 15–16.


167 Evelyn, 621 S.E.2d at 134 (citing Taylor v. Commonwealth, 47 S.E. 875, 877–79 (Va. 1904)).

168 See Palmer, 628 S.E.2d at 89.
News. Stopping short of defining the precise parameters of Virginia’s public trust doctrine, the court in *Evelyn* determined that the VMRC had acted properly in considering “a form of the public trust doctrine” in denying a permit application for a roofed structure built over public water.  

Similarly, in *Palmer v. Commonwealth Marine Resources Commission*, the Virginia Court of Appeals declared that the state’s definition of the public trust provides:

> [T]he state holds the land lying beneath public waters as trustee for the benefit of all citizens. As trustee, the state is responsible for proper management of the resource to ensure the preservation and protection of all appropriate current and potential future uses, including potentially conflicting uses, by the public.

The VMRC properly considered this formulation of the public trust doctrine in its decision to deny a permit to construct a storage shed over public waters. These modern cases cast a ray of hope into the morass of menhaden management, hinting that interaction of common, constitutional, and statutory law might provide public trust protection for the foundational ecosystem services menhaden provide.

### 2. The Public Trust Doctrine in Virginia’s Constitution

Article XI, section 1 of the 1970 Virginia State Constitution provides:

To the end that the people have clean air, pure water, and the use and enjoyment for recreation of adequate public lands, waters, and other natural resources, it shall be the pol-

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169See *Evelyn*, 621 S.E.2d at 137 n.3. “Since . . . 1932, Virginia’s Constitution has been amended to require, *inter alia*, protection of the Commonwealth’s ‘waters from pollution, impairment, or destruction, for the benefit, enjoyment, and general welfare of the people . . . .’” Id. The court went on to determine that consideration of the public trust doctrine was appropriate “when interpreting and applying all legislative enactments” in light of this constitutional amendment’s interaction with a statute requiring the legislature to consider the public’s interest in the subaqueous lands held in trust by it for the benefit of the public. Id.

170See id.

171628 S.E.2d at 89 (emphasis added) (alteration in original).

172See id.

173See Klass, *supra* note 103, at 728–29 (noting that, “as the modern common law public trust doctrine has developed since the 1970s, courts can now rely on that body of law to inform their interpretations of state constitutional law and statutory law”); Kelly, *supra* note 155, at 916–17.
ic of the Commonwealth to conserve, develop, and utilize its natural resources, its public lands, and its historical sites and buildings. Further, it shall be the Commonwealth’s policy to protect its atmosphere, lands, and waters from pollution, impairment, or destruction, for the benefit, enjoyment, and general welfare of the people of the Commonwealth.\textsuperscript{174}

Although courts have used this provision as guidance in determining the scope of the public’s rights to exploit resources and to affirm agency decisions to limit these rights,\textsuperscript{175} the Supreme Court of Virginia has determined that article XI, section 1 is not self-executing.\textsuperscript{176} The General Assembly may enact legislation to bring about the public policy declared in the provision, but absent such legislation courts are powerless to affect the mandate.\textsuperscript{177} It is clear that any legislation enacted to protect the menhaden population of the Chesapeake Bay would be within the authority granted to the General Assembly to bring Article XI’s policy mandate to life.\textsuperscript{178}

3. The Public Trust Doctrine in Virginia Statutory Law

The Virginia legislature adopted the common law of England by statute, subject to alteration by the General Assembly.\textsuperscript{179} Arguably, then, unless explicitly altered by the General Assembly, the public trust doctrine as it existed within the English common law lives on in the laws of Virginia.\textsuperscript{180}

Beyond the general implication that adoption of the common law of England encompassed adoption of the traditional English public trust doctrine, recognizable public trust values do appear in Virginia

\begin{footnotes}
\item[174] Va. Const. art. XI, § 1.
\item[175] See Evelyn, 621 S.E.2d at 137 n.3.
\item[177] Shockoe, 324 S.E.2d at 677; Adams et al., supra note 176, at 233 (describing the types of constitutional provisions deemed to be self-executing by Virginia courts); Kelly, supra note 155, at 913.
\item[178] Va. Const. art. XI, § 2; see Shockoe, 324 S.E.2d at 677.
\item[179] Va. Code Ann. § 1-200 (2007). This code section is often cited as § 1-10, its former location. Id.
\item[180] See Evelyn, 621 S.E.2d at 135.
\end{footnotes}
Most notably, title 28.2, section 1200 of the Virginia Code provides:

All the beds of the bays, rivers, creeks and the shores of the sea within the jurisdiction of the Commonwealth, not conveyed by special grant or compact according to law, shall remain the property of the Commonwealth and may be used as a common by all the people of the Commonwealth for the purpose of fishing, fowling, hunting, and taking and catching oysters and other shellfish.\(^{181}\)

Also, as the court in *Evelyn* pointed out, title 28.2, section 1205(A) of the Virginia Code requires Virginia Marine Resources Commission deliberations regarding permits for the use of state-owned bottomlands to be guided by article XI, section 1 of the constitution, as well as in a manner

\[\text{[C]onsistent with the public trust doctrine as defined by the common law of the Commonwealth adopted pursuant to § 1-200 in order to protect and safeguard the public right to the use and enjoyment of the subaqueous lands of the Commonwealth held in trust by it for the benefit of the people as conferred by the public trust doctrine and the Constitution of Virginia.}\(^{183}\)

Thus, a nascent conception of the public trust doctrine exists in Virginia’s statutes and constitution, which, if brought to life through judicial action, could protect menhaden-related foundational ecosystem services.\(^{184}\)


\(^{182}\) Id.

\(^{183}\) Va. Code Ann. § 28.2-1205 (2007); see *Evelyn*, 621 S.E.2d at 135, 137 n.3. Public trust values are also recognizable in the Chesapeake Bay Preservation Act, which aims to protect the public interest in keeping the waters of the bay healthy, thereby promoting the general welfare of the people. See Va. Code Ann. § 10.1-2100 (2007). “Healthy state and local economies and a healthy Chesapeake Bay are integrally related; balanced economic development and water quality protection are not mutually exclusive.” Id; see also Robert E. Baute, Jr., Note, *Adrift Without a Paddle: The Present and Future of the Chesapeake Bay Preservation Act*, 26 WM. & MARY ENVTL. L. & POL’Y REV. 441, 475–76 (2001) (cautioning that although its aim of correcting harms to the Chesapeake Bay caused by prolonged environmental abuses were noble, lack of funding and lax, inconsistent enforcement could de-claw the Act).

\(^{184}\) See Klass, *supra* note 103, at 744 (arguing that “[the public trust doctrine] has developed with changing societal needs, and, like other common law doctrines, can look to
IV. Establishing Public Trust Protection for Menhaden’s Foundational Ecosystem Services

A. Historical Public Trust Protection for Ecosystem Services

1. Pre-1970 Case Law

In a sense, the public trust doctrine has always protected ecosystem services. Before the modern concept of the doctrine—and indeed before a scientifically precise understanding of the interrelatedness of ecosystem components—had crystallized, societies recognized public uses of waterways for thousands of years. Even the private property-minded British, from whom we inherited our common law, recognized that a private right to the ecosystem service of food production could not be granted via exclusive fishing rights in navigable waters.

Although the seminal federal public trust cases had the utilitarian purposes of commerce, navigation, and fishing in mind, these purposes are either ecosystem services themselves, or are facilitated by underlying, foundational ecosystem services. The traditional public trust purpose of fishery—which today is inextricably bound up with the traditional public trust purpose of commerce—is the ecosystem service of food production. Fishery also finds essential foundational support in the ecosystem services of refugia, waste treatment, and biological control, among others. The traditional public trust purposes of commerce and navigation—which today are driven partly by recreational users—are built upon a foundation of ecosystem services including pollution control, nutrient cycling, and habitat provi-
Recreational and commercial navigation and fishing are unlikely to be popular uses of murky, lifeless waters. Therefore, failure to sustain the provision of foundational ecosystem services like those mentioned above erodes the general public’s interest in the traditional public trust purposes of navigation, commerce, and fishery. People’s motivations to navigate, as well as modes of water-based commerce, have evolved and expanded since early settlers used the country’s waterways for exploration, transport, and trade. The formulation of the public trust doctrine laid down in *Illinois Central Railroad v. Illinois* does not, however, discriminate against increasingly recreation- and culture-driven modes and objectives of navigation and commerce in prohibiting substantial impairment of the public’s use and enjoyment of them.

Pre-1970 state court cases added flesh to the *Illinois Central* and *Shively v. Bowlby* public trust doctrine skeleton and protected diffuse public interests in ecosystem services. In *Gould v. Greylock Reservation Commission*, the Supreme Judicial Court of Massachusetts overrode an agency’s grant of land for the purpose of building a ski resort in part because the clearing of land would “[have] ‘a definite effect upon the ecology for some distance back from the edge of the clearing’.” The Massachusetts court did not point to specific forest-related ecosystem services—nutrient cycling, waste treatment, recreation—but it did explicitly mention protection of the forest ecology as a factor in their decision to invalidate the ski resort lease.

Early Wisconsin cases, too, recognized that destruction of ecosystem services by filling or draining wetlands would violate the public

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194 See id.
195 See Franklin, supra note 3, at 43 (describing the swamp ecology that can result when a marine ecosystem is subjected to the most extreme deprivation of ecosystem services); NSTC Assessment, supra note 40, at 2 (outlining the “wide range of potential negative effects resulting from eutrophication”).
196 See Russell, supra note 38, at 226–27; Costanza et al., supra note 6, at 254 tbl.1.
197 See Wilkinson, supra note 116, at 431–34; see also Costanza et al., supra note 6, at 254 tbl.1. Costanza lists “[e]co-tourism, sport fishing, and other outdoor recreational activities” such as, say, whale- or bird-watching, and “[a]esthetic, artistic, educational, spiritual, and/or scientific values of ecosystems” among recreational and cultural ecosystem services, which help support some modern applications of commerce and navigation. Id.
198 See Ill. Cent. R.R. Co. v. Illinois, 146 U.S. 387, 453 (1892); Wilkinson, supra note 116, at 461; see also Nat’l Audubon Soc’y v. Super. Ct. of Alpine County (Mono Lake), 658 P.2d 709, 719 (Cal. 1983) (recognizing that certain services provided by the Mono Lake ecosystem amounted to important public uses, protected by the public trust).
199 Sax I, supra note 98, at 557–58.
201 Id.
trust. In 1924 the Supreme Court of Wisconsin reaffirmed its stance that navigable waters “should be free to all for commerce, for travel, for recreation, and also for hunting and fishing, which are now mainly certain forms of recreation.”

2. 1970s Case Law

Against the backdrop of the environmentalist movement of the 1970s, state courts broadened the scope of public trust protection. This charge, taken up by several states with California and Wisconsin in the lead, engendered a broadening of resources protected by the public trust doctrine, and reflected a realization that protection of traditional public trust rights would be hollow without protection of the foundational ecosystem services underpinning those rights.

The simple logic of People of the Town of Smithtown v. Poveromo is seen again in the famous California public trust case, Marks v. Whitney. The court there implicitly recognized the value of ecosystem services provided by tidelands preserved in their natural state. The tideland ecosystem service of providing food and habitat for birds and marine life is foundational with respect to the traditional public trust purpose of fishery, and is also the impetus for several types of modern commerce and navigation. Ecosystem services that enhance the scenery and climate of an area are foundational with respect to the traditional public right to navigation in public waters. Failure to protect such foundational ecosystem services could result in there being no useful traditional public trust purposes left to enjoy.

202 See supra notes 131–36 and accompanying text.

203 In re Crawford County Levee & Drainage Dist. No. 1, 196 N.W. 874, 876 (Wis. 1924) (quoting Diana Shooting Club v. Hustig, 145 N.W. 816, 820 (Wis. 1914)). Costanza et al. consider “[e]co-tourism, sport fishing, and other outdoor recreational activities” to be part of the ecosystem service of recreation, and hunting and fishing to be part of the ecosystem service of food production. See Costanza et al., supra note 6, at 254 tbl.1.

204 E.g., Klass, supra note 103, at 707–08. The 1970s saw the celebration of the first Earth Day and the development of an increasingly confident community of ecosystem ecologists. See Brooks, Jones & Virginia, supra note 1, at 9.

205 See supra notes 144–45 and accompanying text.


207 See supra notes 140–41 and accompanying text.

208 See Costanza et al., supra note 6, at 254 tbl.1.

209 See id.

210 See McCay, supra note 106, at 155–56 (discussing the collapse of New Jersey’s oyster fishery in the early part of the twentieth century).
The Wisconsin Supreme Court came to a similar conclusion regarding the value of wetlands in *Just v. Marinette County*. The court’s forceful ruling in favor of protection of ecosystem services via the public trust doctrine is another example of judicial recognition of those services’ foundational position with respect to traditional public trust resources. The court implied that water-purifying wetlands should be protected under the public trust doctrine because without pure water, few people would want to exercise their traditional public rights to fishery and navigation—all the fish being dead or elsewhere, and the water being too foul to enjoy recreational navigation over.

3. Mono Lake and Beyond

The Supreme Court of California examined Mono Lake’s ability to continue to provide certain ecosystem services in ruling that diversions of water from the lake to Los Angeles had to be reexamined in light of the public trust doctrine. Continued depletion of the lake’s fresh water had to be weighed against degradation of the lake’s ability to provide public trust resources as a fishery and source of great scenic, recreational, and ecological value. The court flatly rejected the contention that the state could use the trust resource of the lake as it wished, and to the extent that the ecosystem services that gave it much of its value would inevitably be destroyed.

The Supreme Court of Hawaii built on the *National Audubon Society v. Superior Court of Alpine County (Mono Lake)* decision when they prohibited harmful water allocations from being made under the banner of scientific uncertainty. By encouraging use of the precautionary principle to govern off-stream water uses, the court recognized the importance of the services provided by the estuary ecosystem.

\[\text{211} \text{ Just v. Marinette County, 201 N.W.2d 761, 768 (Wis. 1972).} \]
\[\text{212} \text{ See id. The court focused on the ecosystem service of water purification as provided by swamps and other wetlands. Id.} \]
\[\text{213} \text{ See id.} \]
\[\text{214} \text{ See supra Part III.C.3.} \]
\[\text{216} \text{ Id. at 723–24.} \]
\[\text{217} \text{ See In re Water Use Permit Applications (Waiahole Ditch), 9 P.3d 409, 470–71 (Haw. 2000).} \]
\[\text{218} \text{ See id.} \]
B. Bringing Menhaden’s Services Beneath the Public Trust Umbrella

1. Being Eaten

Menhaden have a rich history of contributing foundational ecosystem services in support of public trust resources along the Atlantic coast of the United States.\(^{219}\) Menhaden were first recognized for their ability to provide a food source for vast numbers of predators, including fish, birds, and marine mammals.\(^{220}\) The species is an essential part of the diets of popular game fish such as striped bass.\(^{221}\)

Provision of food to predators is a foundational ecosystem service that supports the traditional public trust purposes of fishing, navigation, and commerce.\(^{222}\) That a healthy menhaden population supports fisheries through its role in the food web is obvious. Menhaden are the preferred meal of many favorite seafood species in the wild, as well as being one of the favorite baits of lobster and crab fishermen all along the east coast.\(^{223}\) Unsustainable exploitation of the menhaden population in the Chesapeake Bay will result in scarcity of these desirable food fish.\(^{224}\)

Beyond supporting healthy fisheries, a population of menhaden capable of providing the ecosystem service of feeding predators contributes to the viability of the traditional public trust resources of commerce and navigation.\(^{225}\) Recreational anglers exercise their public trust right to navigation when they fish from boats.\(^{226}\) Commercial enterprises, including private fishing charters, communal fishing boats, whale-watching vessels, and certain eco-tourism vessels would have little reason to ply their trades over the navigable waters of the Chesapeake if it weren’t for the foundational ecosystem services pro-

\(^{219}\) See Franklin, supra note 3, at 7–8.
\(^{220}\) See supra Part II.A.2.
\(^{221}\) See Russell, supra note 38, at 226–27.
\(^{222}\) See id. at 29–34.
\(^{223}\) Id. at 29.
\(^{224}\) See Russell, supra note 38, at 213–14; Gottlieb, Ecological Role of Atlantic Menhaden, supra note 3, at 83–84.
\(^{225}\) See Franklin, supra note 3, at 218–19. The author describes the “stunning resurgence” of menhaden and the commercially exploitable species which rely on them in New Jersey waters following a ban on Omega’s operations there. Id.; see also Bell, supra note 81, at C1 (discussing a ban on coastal trawling for herring in Maine that may be responsible for a rebound in the abundance and diversity of sea life in those waters, much to the delight of the coalition of “conservationists, tuna fishermen, lobstermen, charter fishing boats, sport fishermen and whale-watching companies” who supported the ban).
\(^{226}\) See Diana Shooting Club v. Husting, 145 N.W. 816, 820 (Wis. 1914).
vided by menhaden. Thus, menhaden’s provision of the essential foundational ecosystem service of food web support allows the traditional public trust rights of fishery, navigation, and commerce to be enjoyed by the public on the Chesapeake Bay.

2. Eating

The other foundational ecosystem services menhaden provide stem from their voracious appetites. Filter feeding by menhaden helps to mitigate factors that have led to the expansion of areas where dissolved oxygen has become too scarce to support life—dead zones—within the Chesapeake Bay. Expansion of these dead zones lessens public access to traditional public trust purposes whose value is derived from the presence of abundant marine life in those areas.

Thus, menhaden’s ecosystem services are far from being of interest only to environmental “protectionists.” Rather, they represent bricks in the growing edifice of public awareness as to the interrelatedness of healthy natural systems and the economic, social, and cultural well-being of the human population. Indeed, the ability of the general public to enjoy their rights to fish, navigate, and conduct commerce over the waters of the Chesapeake Bay are contracting along with the expansion of hypoxic and anoxic zones. Protection of menhaden is not a panacea for the complex and daunting stresses the Chesapeake Bay faces. That does not mean, however, that the foundational ecosystem services provided by menhaden in support of

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227 See Franklin, supra note 3, at 29, 218–19.
228 See Russell, supra note 38, at 215.
229 Supra Part II.A.1. The average adult menhaden can filter around fifteen liters of water every minute. Sara J. Gottlieb, Nutrient Removal by Age-0 Atlantic Menhaden (Brevoortia Tyrannus) in Chesapeake Bay and Implications for Seasonal Management of the Fishery, 112 Ecological Modeling 111, 112 (1998). Gottlieb’s study addresses the concern that the reduction fishery is removing too many pre-spawning age fish from the population, thereby compromising the stock’s long-term viability. See id. at 112–13.
231 Russell, supra note 38, at 239. “During the two summer weeks [in 2003] when the ‘dead zone’ was at its greatest extent, watermen spoke of blue crabs dying in their pots, of red tides wiping out oyster beds, of striped bass disappearing from their customary habitats.” Id. See Nat’l Audubon Soc’y v. Super. Ct. of Alpine County (Mono Lake), 658 P.2d 709, 724 (Cal. 1983) (recognizing the public’s interest in its “common heritage of streams, lakes, marshlands and tidelands” as being protected by the public trust).
232 See Russell, supra note 38, at 224.
233 See Brooks, Jones & Virginia, supra note 1, at 5–6.
traditional public trust rights should be co-opted by a corporate monopolist for its short-term benefit.\textsuperscript{236}

**C. Capturing Menhaden’s Ecosystem Services With Virginia’s Ragged Public Trust Net**

Virginia courts have largely declined to heed Professor Sax’s suggestion that judicial intervention using the public trust doctrine be used as an instrument of democratization in a broad range of natural resource cases.\textsuperscript{237} It would be a mistake, however, to claim that case law in Virginia has not evolved along with the public’s environmental ethos since the Supreme Court of Virginia ruled that using oyster beds “for discharge into them of sewage is a public use.”\textsuperscript{238} An understanding of the role that healthy ecosystems play in maintaining human quality of life—including components of quality of life derived from traditional public trust purposes—has developed since the early days of the environmental movement.\textsuperscript{239}

The 1932 ruling in *Commonwealth v. City of Newport News* does not foreclose the possibility of protecting menhaden through use of Virginia’s public trust doctrine.\textsuperscript{240} The court in *Newport News* ruled that the legislature, “in the absence of any constitutional provision on the subject, has the right to . . . authorize, permit, or suffer its tidal waters or their bottoms to be used for purposes which impair or even destroy their use for purposes of fishery[.]”\textsuperscript{241} The court did not consider a factor that we are in a much better position to evaluate today with respect to the Chesapeake Bay menhaden population: the extent to which a ruling sanctioning the destruction of the Chesapeake Bay oyster population also undermined the foundational ecosystem services provided by that resource.\textsuperscript{242} The court would stand on solid ground today were it to overrule *Newport News*. Such action would be proper

\begin{itemize}
  \item \textsuperscript{236} See *Russell*, supra note 38, at 230–32.
  \item \textsuperscript{237} See *Kelly*, supra note 155, at 916–17.
  \item \textsuperscript{238} See *Commonwealth v. City of Newport News*, 164 S.E. 689, 699 (Va. 1932); *Brooks, Jones & Virginia*, supra note 1, at 6.
  \item \textsuperscript{239} See *Brooks, Jones & Virginia*, supra note 1, at 5–6; Gottlieb, Ecological Role of Atlantic Menhaden, supra note 3, at 13–16.
  \item \textsuperscript{240} See *Kelly*, supra note 155, at 916–17.
  \item \textsuperscript{241} *Newport News*, 164 S.E. at 699.
  \item \textsuperscript{242} See id. at 700. “[T]he General Assembly has the power to authorize, permit, or suffer sewage to be discharged into Hampton Roads and its estuaries, and to subject the discharge . . . to no restrictions relative to its injury to fishery therein . . . .” Id.
\end{itemize}
because destruction of fisheries—like those for oysters and menhaden—have resonant effects within ecosystems.\(^\text{243}\) Given the evolution of the science of ecology since Newport News, the result in that case is offensive to even the narrowest reading of the public trust doctrine.\(^\text{244}\) Newport News sanctions the destruction of foundational ecosystem services by the legislature, in derogation of its duty to protect the public’s diffuse interest in traditional public trust purposes—including commerce, navigation, and fishing—supported by those services.\(^\text{245}\)

Should the court refuse to take the bold step of overruling Newport News, remanding the legislature’s illusory cap on the Chesapeake Bay menhaden “harvest” would still be proper.\(^\text{246}\) The court could require reconsideration of the cap based on a finding that, given our understanding of ecology in 2008, the public trust purposes of commerce and navigation—both incidents of the jus publicum in Virginia according to Newport News—are substantially impaired by allowing their foundation of ecosystem services to crumble.\(^\text{247}\)

Finally, the current prevailing legal assumption in Virginia concerning the public trust doctrine seems to be that evolutions in constitutional and statutory law since 1932 have allowed for application of a doctrine broader than that laid down in Newport News.\(^\text{248}\) In 2005, the Court of Appeals of Virginia noted in Evelyn v. Commonwealth that Newport News dictated that “except as is otherwise expressly or impliedly provided by the Constitution, what is for the benefit of the people is committed to [the legislature’s] discretion free from the control or dictation of the executive or judicial department of the government.”\(^\text{249}\) The court in Evelyn recognized that what Virginia’s constitution provides changed between 1932 and 2005.\(^\text{250}\) They examined Article XI, adopted in 1970, and found that it “require[s], inter alia, protection of

\(^{243}\) See Brooks, Jones & Virginia, supra note 1, at 7.

\(^{244}\) See Ruhl & Salzman, supra note 8, at 230.

\(^{245}\) See Ruhl & Salzman, supra note 8, at 236–37; Kelly, supra note 155, at 917.

\(^{246}\) See Kelly, supra note 155, at 911–12 (discussing resource uses that may have become part of the jus publicum since 1932, and which would therefore be protected under the Newport News standard).

\(^{247}\) See id.; Ruhl & Salzman, supra note 8, at 232–33, 236–37.


\(^{249}\) Evelyn, 621 S.E.2d at 137 n.3 (quoting Commonwealth v. City of Newport News, 164 S.E. 689, 697 (Va. 1932)) (alteration in original).

\(^{250}\) Id.
the Commonwealth’s ‘waters from pollution, impairment, or destruction, for the benefit, enjoyment, and general welfare of the people of the Commonwealth.’" The court went on to find vested in the legislature an “express duty to ‘safeguard the public right to the use and enjoyment of the subaqueous lands of the Commonwealth held in trust by it for the benefit of the public as conferred by the public trust doctrine and the Constitution of Virginia[.]’” The court held that it is appropriate for the judiciary to consider that express duty in its interpretation of all legislative enactments.

The result in Evelyn suggests that—insofar as the reduction industry threatens the ability of menhaden to continue providing foundational ecosystem services essential to the public’s use and enjoyment of public trust resources—the court should remand the illusory cap on the industry’s catch to the legislature for reconsideration in light of the public trust doctrine.

**Conclusion**

The ecosystem services of nutrient cycling, waste treatment, and food web support provided by menhaden help form the foundation for the traditional public trust interests of commerce, navigation, and fishery across the waters of Chesapeake Bay. Allowing a monopolistic commercial venture to vacuum vast schools of menhaden from the bay impairs the public’s interest in its waters by eroding this foundation.

Scientific understanding of ecology and the interconnectedness of natural systems has grown since 1932, as has the realization that ecosystem services provide humans with irreplaceable social and economic value. Based on this expansion of knowledge, and upon the evolution of Virginia’s public trust jurisprudence, a court would be justified in remanding the non-functioning cap on the menhaden harvest to the legislature for re-examination. Protecting modern iterations of traditional public trust interests requires protection of the ecosystem services upon which those interests are based. The stakes are too high for the legislature to continue hiding behind a dubious cloak of scientific uncertainty.

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251 *Id.* (quoting Va. Const. art. XI, § 1).
252 See *id.* (quoting Va. Code Ann. § 28.2-1205(A) (2007)).
253 *Id.*
BETTING THE RANCHERIA: ENVIRONMENTAL PROTECTIONS AS BARGAINING CHIPS UNDER THE INDIAN GAMING REGULATORY ACT

MATTHEW MURPHY*

Abstract: In 2005, the State of California and the Big Lagoon Rancheria American Indian Tribe reached an agreement whereby the tribe agreed to forego development plans for a casino on environmentally sensitive lands in exchange for the right to build a casino in Barstow, California. In January 2008, the Department of the Interior denied the Rancheria’s land-into-trust application for land in Barstow based on the Department’s newly issued “commutable distance” memorandum. This denial represents a missed opportunity to allow California and the tribe to cooperate in fashioning a workable tribal-state compact. The Department should abandon the guidance memorandum and allow tribes to pursue off-reservation gaming in appropriate instances where the proposed development enjoys political support at the local level. In exchange, states should be afforded greater deference under the Indian Gaming Regulatory Act to achieve some level of regulatory control to address the off-reservation impacts of casino development.

Introduction

The Big Lagoon in Northern California—one of the state’s few remaining naturally functioning coastal lagoons—borders three state parks and supports diverse populations of animals and plants. The Big Lagoon Rancheria American Indian Tribe occupies lands adjacent to

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this “environmentally sensitive” ecosystem. The state resisted tribal attempts to build a casino on the lagoon, arguing that the proposed casino would have dire consequences on the lagoon ecosystem.

In 2005, the tribe and state reached a compromise where the tribe agreed to waive all gaming rights on its ancestral lands in exchange for the right to construct a casino over 500 miles away in Barstow, California (the “Barstow proposal”). The Indian Gaming Regulatory Act (IGRA) generally prohibits off-reservation gaming except in limited circumstances. The tribe applied under IGRA’s “two-part determination” exception, which permits gaming on newly acquired lands when the proposed off-reservation gaming establishment would be “in the best interest of the Indian tribe and its members and would not be detrimental to the surrounding community.”

In January 2008, the Department of the Interior effectively killed the proposal when it denied the tribe’s trust application. It based this denial on its own guidance memorandum—released the same day it denied the Barstow proposal—in which the Department intended to clarify when it would apply the two-part determination exception to take off-reservation lands into trust for gaming purposes.

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2 Joshua L. Sohn, Comment, The Double-Edged Sword of Indian Gaming, 42 TULSA L. REV. 139, 152 (2006) (citing California Coastal Act, CAL. PUB. RES. CODE § 30240(a) (West 1996)).
3 Id.
6 Id.; see, e.g., Erik M. Jensen, Indian Gaming on Newly Acquired Lands, 47 WASHBURN L.J. 675, 688–89 (2008). IGRA does not authorize the Secretary to take land into trust; it creates a separate requirement that a tribe must meet in addition to the requirements under the Indian Reorganization Act. See, e.g., Kathryn R.L. Rand, Alan P. Meister & Stephen Andrew Light, Questionable Federal “Guidance” on Off-Reservation Indian Gaming: Legal and Economic Issues, 12 GAMING L. REV. & Econ. 194, 195–96 (2008).
8 Memorandum from Carl Artman, Assistant Sec’y of Indian Affairs, U.S. Dep’t of Interior, to Bureau of Indian Affairs Reg’l Dirs. and the Office of Indian Gaming (Jan. 3, 2008), available at http://www.indianz.com/docs/bia/artman010308.pdf [hereinafter Guidance Memorandum]; see Jenson, supra note 6, at 694–95; Rand, Meister & Light, supra note 6, at 198.
The rise and fall of the Barstow proposal highlights the complex tension among federal, tribal, state, and local interests brought about by the rise in American Indian casino gambling. Although some states welcome the economic boost that Indian gaming provides, there has also been a considerable backlash to its development. States overwhelmingly attempt to mitigate this backlash by demanding large revenue-sharing agreements in the tribal-state compacting process. The Barstow proposal highlights a move beyond this pecuniary tunnel vision towards a creative compact process that better addresses the myriad concerns often associated with casino projects. This new model of compact negotiations contemplates appropriate off-reservation development in exchange for an increased role for state environmental regulatory control.

This Note proposes that the Barstow proposal should serve as a model for future tribal-state compacts. Part I frames the discussion with a brief history of the Barstow proposal. Part II examines the evolution of Indian gaming. Part III examines environmental regulatory control in the context of Indian lands. Part IV discusses the compacting process. Part V concludes that the Department’s guidance memorandum unduly restricts the ability of states and tribes to utilize off-reservation gaming to alleviate economic, environmental, and social concerns. To wit, states should enjoy a broad interpretation of the compacting provisions permitted under IGRA to achieve greater environmental regulatory control. In exchange, tribes should enjoy greater leeway in developing off-reservation gaming operations when the local municipality supports the project and the site offers environmental and social advantages over on-reservation development. This compacting regime represents the best opportunity for states to negotiate with tribes in order to alleviate citizen concerns, mitigate environmental impacts, and respect tribal sovereignty in the casino development process.


10 Matthew L.M. Fletcher, Bringing Balance to Indian Gaming, 44 Harv. J. on Legis. 39, 40 (2007); see discussion infra Part II.E.

11 See Fletcher, supra note 10, at 69. Although IGRA prohibits states from taxing Indian casinos, courts and the Secretary of the Interior generally permit revenue-sharing schemes so long as the tribe receives separate consideration—often an exclusive license that prohibits non-Indian gaming competition. Rand, supra note 9, at 985–86.

12 See Governor’s Press Release, supra note 4 (“These agreements are a creative solution for avoiding the construction of a casino on California’s coast and alongside a State ecological preserve, while respecting the tribes’ federal right to engage in gaming.”).

13 Id.
I. THE BIG LAGOON RANCHERIA’S BARSTOW PROPOSAL

The California Department of Fish and Game manages an ecological preserve around the Big Lagoon—“an environmentally sensitive habitat area within the meaning of the California Coastal Act.”14 This fragile coastal ecosystem supports three species listed under the Federal Endangered Species Act.15 Although the California Coastal Commission severely limited development around the lagoon on non-tribal lands, the tribe planned to build a casino on its land.16 Environmentalists and state officials recognized the environmental concerns associated with the tribe’s on-reservation casino development proposal.17 California, intent on preserving the Big Lagoon ecosystem, objected to any casino that would have violated the California Coastal Commission’s land-use restrictions.18

The 2005 compromise between the tribe and the state had the potential to resolve the impasse because the tribe agreed to forego development at the lagoon and instead construct a casino in Barstow.19 Governor Arnold Schwarzenegger lauded the agreement, believing the state had averted an environmental crisis, and had guaranteed much-needed economic stimulus for the tribe and the city.20 The city of Barstow overwhelmingly supported the proposal.21 State environmental agencies—happy to avoid threats to water quality, endangered species, and scenery at the Big Lagoon—also joined in sup-

14 Big Lagoon Compact, supra note 1, at 1; Sohn, supra note 2, at 152 n.112.
15 Big Lagoon Compact, supra note 1, at 1.
16 See Sohn, supra note 2, at 152 (citing California Coastal Act, CAL. PUB. RES. CODE § 30240(a) (West 1996) (“Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.”)).
17 Id.; Russo, supra note 1 (“[T]he Big Lagoon Rancheria is . . . home to old-growth redwoods, bald eagles, black bears, Roosevelt elk, Coho salmon, peregrine falcons, and other rare plant and animal species.”).
18 Sohn, supra note 2, at 152; see Big Lagoon Compact, supra note 1, at 1. Activities exclusively within and directly affecting a coastal zone are subject to state review under the Coastal Zone Management Act. See Sec’y of the Interior v. California, 464 U.S. 312, 330 (1984).
19 Sohn, supra note 2, at 152; Governor’s Press Release, supra note 4.
20 See Governor’s Press Release, supra note 4. The governor hailed the compact as a “creative solution for avoiding the construction of a casino on California’s coast and alongside a State ecological preserve, while respecting the tribes’ federal right to engage in gaming.” Id.
21 Id. (noting the “City of Barstow’s active efforts to bring to that city the economic activity associated with an Indian gaming facility”).
port. Others echoed that the deal represented a “legitimate example of appropriately relocating a casino out of environmentally-sensitive lands and one that uph[eld] the state’s responsibility to protect . . . invaluable natural resources.” The California Legislature, however, was less receptive to the proposal, and failed to endorse it in 2007. Although lawmakers pointed to the large distance between the reservation and the city of Barstow as the reason for their reluctance, critics of the legislature felt that the political clout of powerful southern California gaming tribes opposed to any incursion into their market fueled legislative antipathy.

On January 4, 2008, the Department of the Interior declined to take the Barstow land into trust based on a new “commutable distance” guidance memorandum issued the same day. In a letter to the tribe, Assistant Secretary for Indian Affairs Carl Artman stated that the distance between the proposed acquisition and the reservation would not allow tribal members to remain on the reservation and enjoy any “meaningful employment benefits” at a facility located 550 miles away from the reservation. Tribal members expressed dismay at this decision, complaining that federal officials believed “tribal members would be better off poor and unemployed and living on the reservation rather than living off the reservation near the casino with [jobs].” Following this denial, the tribe

23 Russo, supra note 1.
25 Myers, supra note 24. Indeed, even the governor’s support for the proposal cooled after the Agua Caliente tribe voiced opposition to the Barstow proposal. Russo, supra note 1. The Agua Caliente claimed that the Barstow casino would compete with their existing casino and embolden union organizers. Id. In an effort to keep the compact alive, however, the governor did extend the time by which the compact must take effect in order to give the federal government more time to take the land into trust. Press Release, Office of the Governor for the State of California, Gov. Schwarzenegger Announces Extension for Big Lagoon and Los Coyotes Gaming Compacts (May 31, 2007), http://gov.ca.gov/index.php?/press-release/6514/.
26 See discussion infra Part IV.
27 Artman Letter, supra note 7, at 3.
began to resurrect its efforts to construct a casino at Big Lagoon—an idea opposed by environmental groups and the governor.29

II. EVOLUTION OF THE INDIAN AMERICAN GAMING INDUSTRY

A. Historical Context: Tribal Sovereign Power and Federal Preemption

The purpose of Indian reservations is to provide a “homeland for the survival and growth of the Indians and their way of life.”30 Indians on their reservations have the sovereign right “to make their own laws and be ruled by them.”31 This retention of tribal sovereign power constrains the power of the states to interact with Native American tribes.32 Although the Supreme Court recognizes Indian tribes as sovereign nations, it does not accord the tribes the “full attributes of sovereignty.”33 As the Court in Washington v. Confederated Tribes of Colville noted, “[t]ribal sovereignty is dependent on, and subordinate to, only the Federal Government, not the States.”34 The Constitution vests Congress with plenary power over Indian affairs.35 Therefore, tribes retain sover-

29 Jessie Faulkner, Big Lagoon Takes Steps to Expand Tribal Lands, TIMES-STANDARD (Eureka, CA), Feb. 5, 2008, at A3, available at http://www.times-standard.com/local/ci_8172078. Prior to the Secretary’s decision, the Rancheria asked the Bureau of Indian Affairs to take a five-acre parcel into trust near the reservation for housing. Id. Fearing casino development on this new trust land, the California Coastal Commission sought development restrictions. Id. After the Secretary denied the Barstow Proposal, the Rancheria chairman objected to any land-use restrictions, hinting that the tribe may pursue casino development on the land. Id.


eign power where it has not been: “(1) given up in a treaty; (2) divested by an act of Congress; or (3) divested by implication as a result of their status as, to use the term adopted by the U.S. Supreme Court, ‘domestic dependent nations.’”

Although tribal sovereignty “is not subject to diminution by the States,” in 1953, Congress enacted Public Law 280 to give California and a handful of other states “a broad grant of criminal jurisdiction and a limited grant of civil jurisdiction over tribes within their borders.” Public Law 280 restricted these grants of jurisdiction to causes of action in which Indians are a party; it did not, however, grant jurisdiction over the tribe itself.

It is worth noting that since 1981 there has been a presumption that tribes cannot exert jurisdiction over non-Indians “beyond what is necessary to protect tribal self-government.” In Montana v. United States, the Supreme Court carved out two exceptions in which a tribe may exert sovereign control over non-Indians: regulating the activities of non-Indians who enter into consensual relationships with the tribes, and civil authority over conduct that “threatens or has some direct effect on the political integrity, the economic security, or the health or welfare of the tribe.” The consent exception has been construed narrowly, where there must be a “tight nexus between the relationship and the regulation or tax at issue.” In Brendale v. Yakima, the court construed the health and welfare exception narrowly, holding that the effect must be “demonstrably serious” to endanger the health and welfare of the tribe.

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38 Rand, supra note 9, at 975–76; see 28 U.S.C. § 1360 (2000).

39 28 U.S.C. § 1360. The purpose of this law was to encourage states to assert limited jurisdiction over Indian lands. Three Affiliated Tribes of Fort Berthold Reservation v. Wold Eng’g, 476 U.S. 877, 887 (1986).


41 Levy, supra note 40, at 349 (citing Montana, 450 U.S. at 566).

42 Id. at 355 (citing Atkinson Trading Co. v. Shirley, 532 U.S. 645, 656 (2001)).


Beginning in the late 1970s, several American Indian tribes opened small casino and bingo halls on reservations in an attempt to stimulate tribal economic development.\(^44\) The tribes reasoned that state criminal laws barring gambling did not apply on Indian land.\(^45\) Several of these bingo halls became highly profitable, so tribes began offering larger cash prizes.\(^46\) As their bingo halls expanded, tribes such as the Cabazon and Morongo Band of Mission Indians in California began to offer high-stakes bingo on their reservations.\(^47\) The state sued to stop the gaming, claiming that the operations violated state regulations limiting jackpot amounts.\(^48\) California asserted that Public Law 280 granted it the power to regulate American Indian bingo halls.\(^49\)

In *California v. Cabazon Band of Mission Indians*, the United States Supreme Court denied California’s attempts to regulate Indian casino gambling, holding that “[s]tate jurisdiction is pre-empted . . . if it interferes or is incompatible with federal and tribal interests reflected in federal law, unless the state interests at stake are sufficient to justify the assertion of state authority.”\(^50\) Underlying the Court’s decision was a distinction between “criminal/prohibitory” and “civil/regulatory” laws.\(^51\) The Court applied this shorthand test to determine whether the gaming violated the state’s public policy.\(^52\) The Court concluded that California regulated gaming but did not prohibit it.\(^53\) This distinction proved crucial, as the Court ruled that Indian tribes could operate gaming facilities on Indian land without state regulatory in-

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\(^45\) See Fletcher, supra note 10, at 45; Rand, supra note 44, at 50–51.

\(^46\) Levin, supra note 34, at 136; Rand, supra note 44, at 51. For its part, the federal government recognized that revenue from bingo enterprises could be used to promote Indian economic independence. Fletcher, supra note 10, at 45.

\(^47\) Rand, supra note 44, at 51.

\(^48\) See id.

\(^49\) California v. Cabazon Band of Mission Indians, 480 U.S. 202, 209 (1987); see Fletcher, supra note 10, at 47.

\(^50\) 480 U.S. at 216 (quoting New Mexico v. Mescalero Apache Tribe, 462 U.S. 324, 334 (1983)).

\(^51\) Id. at 210; see Levin, supra note 34, at 127.

\(^52\) Levin, supra note 34, at 127; Rand, supra note 9, at 976 (quoting Cabazon, 480 U.S. at 209).

\(^53\) Cabazon, 480 U.S. at 211. “In light of the fact that California permits a substantial amount of gambling activity, including bingo, and actually promotes gambling through its state lottery, we must conclude that California regulates rather than prohibits gambling in general and bingo in particular.” Id.
terference, so long as the state regulated rather than prohibited gam-
ing.\textsuperscript{54} \textit{Cabazon} therefore stands for the proposition that a state could prevent tribes from engaging in gambling development only by adopting a complete prohibition on all gambling.\textsuperscript{55} The \textit{Cabazon} decision “gave tribes the green light to initiate their own gambling enterprises on their reservations—irrespective of state civil regulatory laws.”\textsuperscript{56}

C. Post-\textit{Cabazon} Federal Regulation: IGRA and a Balance of Interests

Fearing that \textit{Cabazon} meant unchecked and unregulated gam-
bling, states quickly lobbied Congress to enact federal legislation to 
regulate Indian casino development.\textsuperscript{57} Congress faced a balancing act in which states “sought to protect their sovereign interest in safeguarding the public health, safety and welfare” while tribes sought freedom to pursue economic development commensurate with their status as domestic dependent sovereigns.\textsuperscript{58} Congress responded by passing IGRA, which increased the states’ role in regulating American Indian gaming beyond what the Court contemplated in \textit{Cabazon}.\textsuperscript{59} IGRA divides Indian gaming operations into three categories.\textsuperscript{60} Class III gaming, which covers non-bingo casino activities, is permitted on Indian lands in states that permit “such gaming for any purpose by any person, organization, or entity . . . .”\textsuperscript{61}

In enacting IGRA, Congress sought “to provide a statutory basis for the operation of gaming by Indian tribes as a means of promoting tribal economic development, self-sufficiency, and strong tribal gov-

\textsuperscript{54} \textit{Id.}, at 210, 211 n.10; Levin, \textit{supra} note 34, at 127; \textit{see} Dewberry v. Kulongoski, 406 F. Supp. 2d 1136, 1140 (D. Or. 2005); Fletcher, \textit{supra} note 10, at 48.


\textsuperscript{56} \textit{See} Levin, \textit{supra} note 34, at 127.


\textsuperscript{59} Rand, \textit{supra} note 44, at 52. Congress sought to strike a balance between state and tribal authority, while ensuring that tribes could open and operate casinos “in accord with federal interests in tribal self-sufficiency and economic development.” Rand & Light, \textit{supra} note 57, at 408.


\textsuperscript{61} \textit{Id.} § 2710(d)(1)(B).
ernments . . . ”. Recognizing these fundamental principles, the Senate Committee Report stated: “Congress will not unilaterally impose or allow State jurisdiction on Indian lands for the regulation of Indian gaming activities.” To assuage state concerns about lack of input, Congress required that the tribe and the state negotiate and enter into a tribal-state compact for each Class III gaming facility. By delegating this negotiating power to the states, Congress provided the states a mechanism to regulate activities directly associated with gaming. This delegation of authority made the legality of tribal gaming development dependent on state gaming policy and the tribal-state compacting process. Many tribes viewed IGRA as an incursion into tribal sovereign power. As a concession, Congress provided the tribes an enforcement mechanism by allowing them to sue states in federal court if a state refused to negotiate in “good faith.” To determine whether a state has negotiated in good faith, the court may consider the “public interest and public safety, criminality and financial integrity, and adverse economic impacts on existing gambling interests.” This good faith duty represented the necessary counterbalance to ensure that states opposed to American Indian casinos would not scuttle the negotiation process.

62 Id. § 2702(1); see, e.g., Fletcher, supra note 10, at 51, Rand, Meister & Light, supra note 6, at 204.
65 See, e.g., Rand, supra note 9, at 977.
66 See id.
67 Levin, supra note 34, at 130.
68 25 U.S.C. § 2710(d)(7)(B)(iii); Rand, supra note 9, at 977.
70 See Rand, supra note 9, at 979; Chris Rausch, The Problem with Good Faith: The Indian Gaming Regulatory Act a Decade After Seminole, 11 Gaming L. Rev. 423, 423–24 (2007). IGRA is seen by some as “an example of ‘cooperative federalism’ in that it seeks to balance competing sovereign interests of the federal government, state governments, and Indian tribes, by giving each a role in the regulatory scheme.” Artichoke Joe’s v. Norton, 216 F. Supp. 2d 1084, 1092 (E.D. Cal. 2002).
D. Upsetting the Balance of IGRA: Seminole Tribe of Florida v. Florida and the Rise of Revenue Sharing

In 1996, the Supreme Court issued a ruling that destroyed the balance struck by IGRA.\(^71\) In *Seminole Tribe of Florida v. Florida*, the Court held that Congress could not subject the states to suit in federal court for failing the “good faith” duty because the Eleventh Amendment granted the states sovereign immunity protection.\(^72\) This decision came as a shock to the tribes because they lost the enforcement mechanism contemplated by Congress to compel states to negotiate in good faith.\(^73\) Consequently, this “right without a remedy” allowed states to dictate the terms of the compact beyond what Congress intended.\(^74\) As a practical result, state politics now have “greater power” in the compacting process.\(^75\) Some critics of *Seminole* feel that “good faith may equate simply to the state’s posture toward Indian gaming: what the governor is willing to negotiate, the state legislature to approve, or the state courts to uphold.”\(^76\)

After *Seminole* thwarted tribal bargaining power, some states adopted more aggressive negotiation strategies.\(^77\) For example, states have capitalized on this imbalance by requiring that tribes accept “revenue sharing” as a required compact term.\(^78\) IGRA explicitly prohibits states from demanding taxation provisions in compact negotiations—stating that a demand for a taxation provision is “evidence that the State has not negotiated in good faith.”\(^79\) Revenue sharing enables states to siphon off a cut of tribal profits but avoid the prohibition against taxation so long as they offer the tribe separate consideration—often a grant of “substantial exclusivity” granting the tribe a monopoly against non-Indian competition in the local market.\(^80\)

\(^71\) See generally *Seminole Tribe of Fla. v. Florida*, 517 U.S. 44 (1996); see, e.g., *Fletcher*, *supra* note 10, at 57; *Rand*, *supra* note 9, at 981.

\(^72\) *Seminole*, 517 U.S. at 72; *Rand*, *supra* note 9, at 981.

\(^73\) *Rand*, *supra* note 9, at 981.

\(^74\) Kevin K. Washburn, *Recurring Problems in Indian Gaming*, 1 Wyo. L. Rev. 427, 441 (2001); see *Rausch*, *supra* note 70, at 426 (discussing Pennsylvania’s efforts to include hunting rights and cigarette taxes as IGRA compact terms).

\(^75\) *Rand*, *supra* note 9, at 981; *Rausch*, *supra* note 70, at 426 (noting that the “caselaw is rife with examples of conduct deemed to be not in bad faith”).

\(^76\) Id. at 983.

\(^77\) See *Fletcher*, *supra* note 10, at 58–59.

\(^78\) See, e.g., *id.* at 57–59; *Rausch*, *supra* note 70, at 426–27 (noting that courts have generally allowed revenue sharing compact provisions).


Revenue-sharing plans come in many varieties, such as “percentage payments, fixed compact payments, fees and taxes, contributions to community funds, and redistribution to nongaming tribes.”

Critics of the *Seminole* decision complain that revenue sharing contravenes congressional intent that tribes be the “primary beneficiaries” of gaming operations. Some claim revenue-sharing provisions go so far as to amount to extortion on the part of the states. One critic noted, “[t]he validity of [revenue-sharing] agreements is dubious in light of the plain meaning of IGRA, its legislative history, and relevant case law addressing similar issues.” Nevertheless, tribes feel compelled to accept revenue sharing, which the courts and the Secretary of the Interior generally approve so long as the revenue shared does not inappropriately exceed the benefit enjoyed by the tribes.

After *Seminole*, the Secretary promulgated rules to create a secretarial procedure similar to IGRA’s good faith enforcement mechanism. The Secretary did so in order to restore some semblance of the balance intended by Congress. In *Spokane Tribe of Indians v. Washington*, the State argued that this rule constituted an invalid exercise of agency power because IGRA does not grant the Secretary the authority to sidestep a judicial determination that states have failed to negotiate in good faith. The Secretary responded that the rule restored a crucial part of IGRA and thus fulfilled congressional intent. The Ninth Circuit hinted that, although the rule would have been invalid if adopted before *Seminole*, the rule might represent a valid exercise of secretarial discretion to promote the congressional intent underlying IGRA.

### E. The Current Political and Economic Environment

States and local communities have the potential to receive “extensive economic and social benefits from tribal gaming operations, ranging from increased tax revenues to decreased public entitlement pay-

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81 Rausch, *supra* note 70, at 426.
82 Rand & Light, *supra* note 57, at 463.
83 Fletcher, *supra* note 10, at 59.
85 See Rand, *supra* note 9, at 986 n.74; Rausch, *supra* note 70, at 427.
86 Fletcher, *supra* note 10, at 65.
87 *Id.* at 65–66.
88 *Id.* at 66 (citing Spokane Tribe of Indians v. Washington, 28 F.3d 991, 997 (9th Cir. 1994)).
89 See *id.* at 65–66.
90 *Id.*
ments to the disadvantaged.”

Revenue-sharing provisions have become commonplace, amounting to more than $1 billion in direct payments to states in 2005.

Despite these benefits, there is considerable and growing backlash to Indian gaming. Compacting occurs at the tribal-state level, so IGRA does not provide local city and county governments a voice in negotiating compacts. This leaves local officials feeling left out of the loop. Many government officials complain that any benefits are vastly outweighed by the strain on municipal services. Citizens groups are concerned that local authorities have no recourse where Indian casinos threaten to decimate local resources or pollute the environment.

There is also widespread sentiment that casinos bring with them a host of social ills, including noise pollution, traffic, gambling addiction, and crime. Municipalities fear sovereignty precludes tax collection, land use management, and regulation of environmentally hazardous activities on tribal land—even when the effects spill outside Indian country.

This apprehension over casino development has been exacerbated by tribal efforts to develop off-reservation casinos in closer proximity to urban areas in order to maximize profits and offset the

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91 Rand, supra note 9, at 973.
92 Id. at 986. For example, in 2003 tribes provided $759 million to state and local governments. Steven Andrew Light & Kathryn R.L. Rand, Indian Gaming & Tribal Sovereignty: The Casino Compromise 87 (2005). Another study found that in the same year, “state and local governments collected approximately $1.5 billion in tax revenue generated by Indian gaming.” Id.
93 E.g., Fletcher, supra note 10, at 68–69. “The backlash has resulted from the misconceptions that Indian tribes, their ‘attack-dog’ lobbyists, and their ‘shady’ gaming management and development companies could impose Vegas-style casino operations in Middle American communities that do not want them.” Id. at 34–40. (citations omitted).
95Ellen Perlman, Tribes and Tribulations, Governing Mag., Aug. 2007, at 53; California Performance Review, supra note 94.
96 See California Performance Review, supra note 94.
97 See Donald L. Bartlett & James B. Steele, Playing the Political Slots, Time, Dec. 23, 2003, at 52, 58; Perlman, supra note 95, at 53.
costs of revenue-sharing agreements.\textsuperscript{100} Because revenue sharing often occurs at the state level, municipalities can only hope that the state compacts with the tribe to funnel a portion of the revenue sharing to the municipality.\textsuperscript{101} As a result of this opposition, off-reservation agreements remain a rarity, as state and local governments have been slow to recognize the benefits of tribal gaming.\textsuperscript{102}

The backlash has led to considerable lobbying efforts and litigation to stop off-reservation casino development.\textsuperscript{103} It has also resulted in proposed amendments to IGRA that would curtail off-reservation gaming.\textsuperscript{104} Some argue for legislative reform to fix the problems in bargaining power created by \textit{Seminole}, others seek to prevent tribes from pursuing off-reservation development.\textsuperscript{105} Congress has responded to these suggestions with a spate of proposed amendments to IGRA.\textsuperscript{106} For example, the 109th Congress contemplated bills that would: require the Secretary of the Interior to consider the results of an economic impact study; eliminate the two-part secretarial determination to take land into trust; limit tribes to gaming at one parcel state where the tribe has historical ties; eliminate the exceptions to the prohibition on gaming on newly acquired lands; and require that a tribe declare its intent to engage in gaming when it submits its application for trust status.\textsuperscript{107} None of these bills became law, demonstrating the intensity of tribal lobbying efforts and congressional unwillingness to significantly amend IGRA.\textsuperscript{108}

\textsuperscript{100} See Fletcher, \textit{supra} note 10, at 40.
\textsuperscript{101} California Performance Review, \textit{supra} note 94. The Secretary consults local officials during the two-part determination to take lands into trust for the benefit of tribes. 25 U.S.C. § 2719(b)(1)(A) (2000).
\textsuperscript{103} See Fletcher, \textit{supra} note 10, at 67–69.
\textsuperscript{105} \textit{Compare} Fletcher, \textit{supra} note 10, at 71–72 (arguing for legislative reform to restore balance destroyed by \textit{Seminole}), with Brian P. McClatchey, Note, \textit{A Whole New Game: Recognizing the Changing Complexion of Indian Gaming by Removing the “Governor’s Veto” for Gaming on “After-Acquired Lands”}, 37 U. Mich. J.L. Reform 1227, 1272 (2004) (arguing that “the ‘governor’s veto’ should be abandoned in favor of a framework for off-reservation gaming which is solely addressed by the Tribal-State gaming compact’s terms”).
\textsuperscript{106} See Murphy, \textit{supra} note 104, at 5–6.
\textsuperscript{107} Id.
\textsuperscript{108} See Fletcher, \textit{supra} note 10, at 70.
III. ENVIRONMENTAL AND LAND-USE REGULATION OF AMERICAN INDIAN LANDS

For projects on Indian lands, federal environmental laws are “comprehensive in scope.”\(^{109}\) Within this framework of subordination to Congress’s plenary power, “tribes possess the right ‘to make their own laws and be ruled by them’ without interference from the states.”\(^{110}\) Federal environmental laws require that developers of Indian gaming projects obtain federal licenses and comply with federal procedures.\(^{111}\) They must also assess environmental impacts of the project and comply with applicable environmental laws.\(^{112}\) The “EPA retains [environmental] regulatory and enforcement authority to the extent it has not been delegated to states or tribes.”\(^{113}\)

A. Environmental Protection Under IGRA: The National Indian Gaming Commission

To oversee the regulation of Indian gambling, IGRA established the National Indian Gaming Commission (NIGC).\(^{114}\) The National Environmental Policy Act (NEPA) mandates that federal agencies identify and consider environmental impact of any agency action “significantly affecting the quality of human environment.”\(^{115}\) It appears that the NIGC has interpreted NEPA to apply to “major construction of a casino.”\(^{116}\) If the NIGC concludes that a proposed gaming facility will lead to significant environmental impacts, it must either require an Environ-

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110 Martella, supra note 99, at 1873 (citing New Mexico v. Mescalero Apache Tribe, 462 U.S. 324, 332 (1983)).


112 See generally O’Connell, supra note 109, at 34–61 (discussing the federal laws that govern casino development).


115 Washburn, supra note 111, at 343 (citing National Environmental Policy Act, 42 U.S.C. § 4321 (2000)).

116 Id. (noting NIGC’s informal interpretation of its responsibilities under NEPA).
mental Impact Statement (EIS) to catalogue those impacts or else advise the requesting parties of the steps necessary to avoid the impacts.  

Furthermore, IGRA requires the NIGC to ensure that each tribal gaming compact contains a series of mandatory provisions. Among these is the requirement that all proposed contracts contain a provision ensuring that “the construction and maintenance of the gaming facility, and the operation of that gaming is conducted in a manner which adequately protects the environment and the public health and safety . . . .” Seeking to balance its reluctance to encroach upon tribal sovereignty with this Congressional mandate, the NIGC established and sought the assistance of a tribal advisory commission. With the help of the advisory committee, the NIGC published a proposed regulation that required tribes proposing a gaming facility to submit an environmental management plan that addressed: “(1) Emergency preparedness; (2) food & water; (3) construction & maintenance; (4) hazardous and other materials; and (5) sanitation.” These plans would then form the basis of NIGC oversight of the gaming facility.

Facing strong opposition to the proposed rule, the NIGC opted for a “simpler, less programmatic approach” when it adopted its final rule. Noting that its regulatory oversight burden under IGRA is one of “limited and discrete responsibility,” the NIGC’s final rule gave tribes discretion as to how to adequately address environment, public

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117 Id.
119 Id. § 2710(b)(2)(E). Class III gaming facilities meet the requirements of class II gaming facilities. Id. § 2710(d)(1)(A)(ii).
120 Compare Environment, Public Health, and Safety, 67 Fed. Reg. 46,109, 46,111 (Jul. 12, 2002) (to be codified at 25 U.S.C. § 580) (“[A]s a fundamental principle of federal law and policy, tribal governments have the right and authority to make their own choices in exercising their governmental powers”), with 67 Fed. Reg. at 46,110 (“[I]t is clear that Congress intended the Commission to exercise at least some degree of general oversight authority with respect to whether or not a gaming facility is being operated in compliance with the Congressionally mandated provisions in tribal gaming ordinances.”).
122 Id.
123 Id.
124 Id. at 46,110–11. Some critics argued that the regulations placed an undue burden on tribes. Id. at 46,110. Other argued that the plan exceeded the authority granted to NIGC by Congress and that other governmental agencies were better equipped to address environmental, public health, and safety concerns. Id. Furthermore, states and local governments argued that they should have some role in the development of the gaming facility plans. Id.
125 Id. at 46,111.
126 Id.
health, and safety concerns.\textsuperscript{127} Under this hands-off approach, tribes may develop oversight and enforcement procedures on their own, or they may contract with state, local, or federal governments and even private entities to provide these services.\textsuperscript{128}

Some fear that this philosophy leads to lax enforcement.\textsuperscript{129} To be sure, the NIGC’s own guidelines state the Commission will “proceed [with] enforcement only where no corrective action has been undertaken within a reasonable time and such inaction results in a condition of imminent jeopardy to the environment, public health and safety.”\textsuperscript{130} The past practice of NIGC lends credence to this fear: as of 2004, NIGC had yet to deny a “management contract because of significant impacts on the environment” and had “never even determined that a casino construction project caused significant environmental impacts requiring the preparation of an environmental impact statement.”\textsuperscript{131}

B. State Attempts at Environmental Enforcement on Indian Reservations

Although the distinction articulated in \textit{Cabazon} between civil/regulatory and criminal/prohibitory may at times be unclear, environmental regulations are most likely civil/regulatory and thus do not extend onto Indian lands without the consent of the tribe.\textsuperscript{132} States often seek to overcome this jurisdictional hurdle to assert some form of regulatory control.\textsuperscript{133} In order to do so, a state must either seek tribal consent or else the need for regulation must qualify as an “exceptional cir-

\textsuperscript{127} See 67 Fed. Reg. at 46,111–12.

\textsuperscript{128} \textit{Id.} The NIGC believes that its “key objective is to confirm that standards and enforcement systems are in place” and places less emphasis on “the particular manner in which compliance with tribal environment, public health, and safety standards is enforced.” \textit{Id.}

\textsuperscript{129} See Washburn, \textit{supra} note 111, at 343–44. There is concern that NIGC feels NEPA compliance places Indian casinos at a comparative disadvantage over non-Indian ones because non-Indian casinos are not subjected to NEPA requirements. \textit{Id.}


\textsuperscript{131} See Washburn, \textit{supra} note 111, at 343. Professor Washburn notes that in every instance in which the NEPA applied, the NIGC Chairman has issued a “finding of no significant impact.” \textit{Id.} at 344. To be fair, though, these FONSIs have often come after the tribes have taken steps to ameliorate environmental impacts. \textit{Id.} Professor Washburn wisely notes that the tribes may be well served by preparing an EIS “to avoid litigation that will further slow approval.” \textit{Id.}

\textsuperscript{132} See, e.g., Kiel, \textit{supra} note 36, at P-11.

\textsuperscript{133} See Justin Neel Baucom, Comment, \textit{Bringing Down the House: As States Attempt to Curtail Indian Gaming, Have We Forgotten the Foundational Principles of Tribal Sovereignty?}, 30 Am. INDIAN L. REV. 423, 424 (2006); see Martella, \textit{supra} note 99, at 1885–86 (discussing the jurisdictional hurdles states face in asserting environmental regulatory control on reservations).
cumstance,” thereby allowing a state to “assert jurisdiction over the on-reservation activities of tribal members.”\textsuperscript{134}

\textit{Cabazon}—illustrating this “exceptional circumstances” test—holds that “[s]tate jurisdiction is pre-empted if it interferes or is incompatible with federal and tribal interests reflected in federal law, \textit{unless the state interests at stake are sufficient to justify the assertion of state authority.}\textsuperscript{135} This change in attitude towards tribal sovereignty on tribal land is articulated in \textit{Nevada v. Hicks}, where the Court noted “that the Indians’ right to make their own laws and be governed by them does not exclude all state regulatory authority on the reservation.”\textsuperscript{136}

Thus, public policy may dictate that state and local laws reach on-reservation activities so long as the law represents a compelling state interest and it does not interfere with reservation self-government or “impair a right granted or reserved by federal law.”\textsuperscript{137} For example, the Supreme Court’s decision in \textit{City of Sherrill v. Oneida Indian Nation of N.Y.} placed a limit on tribal sovereignty when it prevented tribes from asserting sovereign rights in order to avoid paying property taxes for recently purchased land parcels.\textsuperscript{138} The Court concluded that allowing the tribe to assert sovereignty—and thus removing the lands from municipal tax rolls—would “‘seriously burde[n] the administration of state and local governments’ and would adversely affect [neighboring] landowners.”\textsuperscript{139} In a few other cases, states have successfully met the exceptional circumstances test to preserve threatened species and provide injunctive relief to mandate an environmental impact statement.\textsuperscript{140}

\textsuperscript{134} New Mexico v. Mescalero Apache Tribe, 462 U.S. 324, 332 (1983); see Fletcher, \textit{supra} note 10, at 48; Martella, \textit{supra} note 99, at 1878–79, 1884 (noting that the exceptional circumstances test is likely insurmountable with respect to environmental regulation).


\textsuperscript{136} 533 U.S. 353, 361 (2001).


\textsuperscript{139} \textit{Id.} at 200 (quoting Hagen v. Utah, 510 U.S. 399, 421 (1994)) (first alteration in original) (citation omitted); \textit{see} McClanathan, \textit{supra} note 98, at 113. \textit{City of Sherrill} may have last negative effects on tribal sovereignty and may hinder tribal efforts to repurchase “illegally taken land and assert[] sovereign rights over the newly acquired land parcels.” Sohn, \textit{supra} note 2, at 161.

\textsuperscript{140} \textit{See}, e.g., Puyallup Tribe, Inc. v. Dep’t of Game, 433 U.S. 165, 175–76 (1977) (holding that species preservation justified state regulation of steelhead trout as a conservation measure); New York v. Shinnecock Indian Nation, 280 F. Supp. 2d 1, 6 (E.D.N.Y. 2003) (holding state and town provided sufficient evidence to grant an injunctive order to stop construction of a large facility on the reservation); Concern, Inc. v. Pataki, 801 N.Y.S.2d 232, 232 (N.Y. App. Div. 2005) (prohibiting further planning and construction of an off-
IV. THE COMPACTING PROCESS

A. Procedural Ambiguity: IGRA’s Silence on State Procedures for Negotiating and Ratifying Compacts

IGRA created a new relationship between states and tribes, but Congress left several key issues unresolved.\textsuperscript{141} For instance, Congress did not articulate the procedural requirements for state governments to enter into compacts.\textsuperscript{142} As a result, state courts have developed new bodies of state constitutional law to develop procedures states should follow to enter into compacts.\textsuperscript{143} Many states—including California—require that the governor negotiate tribal compacts, which must then be ratified by the legislature.\textsuperscript{144} For example, the Florida Supreme Court recently held that “the Governor does not have the constitutional authority to bind the State to a gaming compact that clearly departs from the State’s public policy by legalizing types of gaming that are illegal everywhere else in the state.”\textsuperscript{145} In contrast, the Arizona legislature enacted a statute stating that if a tribe that does not have a compact cannot successfully negotiate a compact with the governor, then the governor is required to execute a standard compact with the tribe.\textsuperscript{146} In other states, courts have held that the governor retains the right to negotiate and enter into compacts because the governor retains the right to “transact business on behalf of the state.”\textsuperscript{147} As state constitutional law slowly develops, tribes must wait until the state’s procedure for entering into a compact is resolved, risk operating an illegal casino, or forego development.\textsuperscript{148}

\begin{footnotesize}
\begin{enumerate}
\item See Kiel, supra note 36, at P-13; Washburn, supra note 141, at 6 (citing New Mexico ex rel. Clark v. Johnson, 904 P.2d 11 (N.M. 1995)).
\item Washburn, supra note 141, at 6 (citing Clark, 904 P.2d at 18).
\item Cal. Const. art. 4, § 19. See, e.g., State ex rel. Stephan v. Finney, 836 P.2d 1169, 1185 (1992) (holding that the governor had the power to negotiate the terms of a gaming compact, but did not have the “power to bind the State to the terms thereof”).
\item Fla. House of Representatives v. Crist, 990 So.2d 1035, 1038 (Fla. 2008).
\item Washburn, supra note 141, at 6 (citing Salt River Pima-Maricopa Indian Cmty. v. Hull, 945 P.2d 818, 826 (Ariz. 1997)).
\item Id. at 6–7 (citing Willis v. Fordice, 850 F. Supp. 523, 532–33 (S.D. Miss. 1994)).
\item Id. at 7.
\end{enumerate}
\end{footnotesize}
B. Scope of Compact Provisions

IGRA “forbids the assertion of state civil or criminal jurisdiction over class III gaming except when the tribe and the state have negotiated a compact that permits state intervention.”¹⁴⁹ In enacting IGRA, Congress placed a rough boundary over the scope of permissible provisions.¹⁵⁰ IGRA permits gaming compact provisions that directly apply to the regulation of Indian gaming.¹⁵¹ It does not, however, address regulation of environmental impacts.¹⁵² Of the enumerated list of permitted provisions, the last offers the most leeway to parties to negotiate for environmental regulatory control.¹⁵³ These address the “standards for the operation of such activity and maintenance of the gaming facility” and “any other subjects that are directly related to the operation of gaming activities.”¹⁵⁴ The issue thus becomes how broadly courts interpret the scope of permitted provisions. For example, IGRA “does not specifically authorize application of state labor laws, building codes, or other general regulations.”¹⁵⁵ That said, in In re Gaming Related Cases, the Ninth Circuit concluded that labor provisions are “directly related to the operation of gaming activities” as contemplated by the catch-all provision of IGRA section 2710(d)(3)(C)(vii).¹⁵⁶ Following In re Gaming, some compacts have utilized this catchall provision to include environmental regulation.¹⁵⁷

C. Off-Reservation Land Acquisition: New “Guidance”

IGRA permits gaming on Indian lands where “the gaming activity is not specifically prohibited by Federal law and is conducted within a State which does not, as a matter of criminal law and public policy,

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¹⁴⁹ Rhode Island v. Narragansett Indian Tribe, 19 F.3d 685, 690 (1st Cir. 1994) (“[A] state ordinarily may regulate casino gambling on Indian lands only in pursuance of a consensual compact.”).


¹⁵¹ Id.

¹⁵² O’Connell, supra note 109, at 31; see Sohn, supra note 2, at 151–52.

¹⁵³ 25 U.S.C. § 2710(d)(3)(C)(vii); see, e.g., Sohn, supra note 2, at 151–52 (citing In re Gaming Related Cases, 331 F.3d 1094, 1115–17 (9th Cir. 2003)).


¹⁵⁵ See Sohn, supra note 2, at 151.

¹⁵⁶ In re Gaming Related Cases, 331 F.3d at 1115–16; see Sohn, supra note 2, at 151–52.

prohibit such gaming activity.” 158 Section 2703 of IGRA defines Indian lands as lands within a reservation or lands held in trust by the federal government for the benefit of Indians “over which an Indian tribe exercises governmental power.” 159

IGRA prohibits gaming on lands acquired in trust after October 17, 1988 unless the tribe can demonstrate an enumerated exception. 160 Tribes often seek to establish gaming on “newly acquired lands” under the “two-part determination” exception. 161 The two-part determination exception was intended to give the Secretary and local communities a voice in whether to allow off-reservation casinos. 162 Under this exception, IGRA directs the Secretary to decide whether to take off-reservation land into federal trust for purposes of casino development. 163 This exception requires the Secretary to consider whether the acquisition: (1) is in the “best interest” of the tribe; and (2) is not detrimental to the surrounding community. 164 To make an informed decision, the Secretary must first consult with “appropriate State and local officials, including officials of other nearby Indian tribes” before seeking the gubernatorial concurrence of the state in which the gaming activity is to be conducted. 165

There has been considerable controversy over the two-part determination exception. 166 Some argue that gubernatorial concurrence should be abandoned and that off-reservation development should be part of the negotiating process between tribes and states. 167 Removal of

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159 Id. § 2703(4)(A)–(B).
160 Id. § 2719(a)–(b).
161 Id. § 2719(b)(1)(A); see, e.g., All, supra note 102, at 302–03; Rand, Meister & Light, supra note 6, at 195.
162 Rand, Meister & Light, supra note 6, at 195; Indian Gaming Paper, supra note 58, at 5.
163 25 U.S.C § 2719(b)(1)(A); see, e.g., Rand, Meister & Light, supra note 6, at 195–96.
164 25 U.S.C § 2719(b)(1)(A); see, e.g., Rand, Meister & Light, supra note 6, at 195.
165 25 U.S.C § 2719(b)(1)(A); see, e.g., Jensen, supra note 6, at 688–89.
166 See Department of the Interior’s Recently Released Guidance on Taking Land into Trust for Indian Tribes and Its Ramifications: Oversight Hearing Before the H. Comm. on Natural Resources, 110th Cong. 1 (2008) [hereinafter Washburn testimony] (statement of Kevin K. Washburn, Professor, Harvard Law School). Rand, Meister & Light, supra note 6, at 197. Many see gubernatorial concurrence as an “extraordinary grant of power” by Congress that grants governors an absolute power to determine the scope of off-reservation gaming in the state. All, supra note 102, at 296. That said, in Confederated Tribes of Siletz Indians of Oregon vs. United States, the Ninth Circuit held that this requirement of gubernatorial concurrence did not violate the Appointments and Property Clauses of the Constitution. Carter W. Hick, The Indian Gaming Regulatory Act: Why Tribes Can Build Casinos Off the Reservation, 10 GAMING L. REV. 110, 117–18 (2006) (citing 110 F.3d 688, 697–98 (9th Cir. 1997)).
167 See, e.g., All, supra note 102, at 306–08 (discussing a Senate bill that proposed to remove the gubernatorial concurrence requirement).
gubernatorial concurrence lies at the heart of amendments proposed by Senator John McCain aimed at preventing a “backlash against Indian gaming generally.” Others argue that the two-part determination is essential because it provides states the ability to walk away from negotiations involving unwanted off-reservation development and “allows states and tribes to think creatively about how to situate off-reservation gaming so that it maximizes its success and minimizes [the negative] impact on the local community.” Application of the two-part determination remains a rarity in part because of this contention. As of early 2008, only four times has a tribe successfully acquired land in trust under this exception.

The two-part determination informs agency action for land-into-trust acquisitions for the purpose of off-reservation casino development. It does not, however, grant the Secretary the authority to take land into trust. That power is derived from the Indian Reorganization Act of 1934 (IRA), which vests the Secretary with the discretion and authority to acquire an interest in lands for Indian use. Legislative history suggests that Congress intended the IRA to foster off-reservation land acquisitions to promote economic independence for tribes.

In 1980, the Secretary issued guidelines—codified at 25 C.F.R. Part 151—to direct the process of taking land into trust for the benefit of tribes. Under this rule, as the distance from the reservation increases, the Secretary applies “greater scrutiny” to the purported tribal benefits of the proposed acquisition and gives “greater weight”

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169 All, supra note 102, at 309 (noting that the “best location” for a casino is not necessarily on-reservation).
170 See Washburn testimony, supra note 166, at 2 (noting that the high political costs associated with off-reservation casino development may lead the Secretary of the Interior to deny trust applications).
172 See 25 U.S.C. § 2719(b)(1)(A) (2000); see, e.g., Jensen, supra note 6, at 688–89; Rand, Meister & Light, supra note 6, at 196.
173 25 U.S.C. § 2719(c) (“Nothing in this section shall affect or diminish the authority and responsibility of the Secretary to take land into trust.”); Artman testimony, supra note 171, at 1; Indian Gaming Paper, supra note 58, at 7.
175 See Indian Gaming Paper, supra note 58, at 8.
176 Land Acquisitions, 25 C.F.R. § 151 (2007); see Artman testimony, supra note 171, at 1–2; Indian Gaming Paper, supra note 58, at 8–9.
to the concerns of affected state and local governments. The rule
does not specify how the Secretary must approach these inquiries.

On January 4, 2008, the Department of the Interior released a
memorandum to provide guidance on the application of Part 151.
In order to apply “greater scrutiny” to the tribe’s justification of the
anticipated benefits as the distance increases between the proposed
acquisition and the existing reservation, the guidance focuses inquiry
on the “commutable distance” between the two. The Secretary rea-
soned that if the proposed land acquisition is not within a commut-
able distance to the reservation, then tribal residents on the reserva-
tion must either move away from the reservation to take advantage of
employment opportunities or forego job opportunities if they decide
to remain on the reservation. The Secretary reasoned that either
course of action risks negative impacts to reservation life.

In order to apply “greater weight” to the concerns of state and lo-
cal governments, the memorandum recommends that the Secretary
consider state and local concerns of: “1) jurisdictional problems and
potential conflicts of land use; and 2) the removal of the land from the
tax rolls.” The memorandum further recommends that applications
under Part 151 should include “intergovernmental agreements” nego-
tiated between the tribe and state and local governments. A lack of
agreement should “weigh heavily” against the application. Although
reviewers must evaluate the “greater weight” requirement regardless of
the distance between the proposed acquisition and the reservation,
both of the reasons supplied in the memorandum reference increased
distances. First, the Secretary reasons that as the distance between
the reservation and the proposed land acquisition increases, there is an
increased likelihood that transfer to Indian jurisdiction will disrupt “es-

177 25 C.F.R. § 151.11(b); see, e.g., Hick, supra note 166, at 115–16; Jessen, supra note 6, at 693–94.
178 Guidance Memorandum, supra note 8, at 1.
179 Id. at 2–3.
180 Id. at 3 ("A commutable distance is considered to be the distance a reservation resident could reasonably commute on a regular basis to work at a tribal gaming facility located off-reservation.").
181 Id. at 4.
182 Id.
183 Id. at 5; see Jensen, supra note 6, at 690 (noting that the Department now seeks de-
tailed information about the “detrimental impacts to the surrounding community,” such as environmental damage . . . ”).
184 Guidance Memorandum, supra note 8, at 5.
185 Id.
186 See id. at 3, 5.
established governmental patterns” of the municipality surrounding the proposed land acquisition.187 Second, increased distances make it more difficult for tribal governments “to efficiently project and exercise its governmental and regulatory powers.”188

The guidance memorandum also suggests that the application contain a comprehensive analysis of the effects of the proposed gaming facility on state and local zoning and land use requirements.189 The study should include whether the proposed gaming facility would cause negative impacts such as traffic, noise, and development issues.190 The memorandum suggests that gaming adjacent to “National Parks, National Monuments, [or] Federally designated conservation areas” may constitute an “incompatible use.”191

On February 27, 2008, the House Committee on Natural Resources held a hearing on the new guidance memorandum.192 At the hearing, Assistant Secretary for Indian Affairs Carl Artman testified that the new guidance is needed because the Bureau of Indian Affairs is “not accustomed to assessing applications for land 100, 200, or 1500 miles away from a tribe’s reservation.”193

Tribes testifying at the hearing objected to the memorandum, claiming it was a paternalistic rule that violated the Administrative Procedures Act and the congressional intent of IGRA.194 Hazel Hindsley, Chairwoman for the St. Croix Chippewa Indians of Wisconsin, argued that the memorandum signified the Department’s aversion to off-reservation applications because it used the broader language in Part

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187 Id. at 5. This concern echoes the Supreme Court’s holding in City of Sherrill v. Oneida Indian Nation of N.Y., where the Court found that recent land acquisitions by the Oneida Nation were subject to local taxation because exemption would subject state and local governments to undue burden. 544 U.S. 197, 20 (2005).

188 Guidance Memorandum, supra note 8, at 5.

189 Id.

190 Id.

191 Id. at 5–6.


193 Artman testimony, supra note 171, at 2. Assistant Secretary Artman testified that the Bureau of Indian Affairs “is used to dealing with requests for land 20, 30, or 50 miles away from a tribe’s reservation.” Id.

194 See, e.g., Department of the Interior’s Recently Released Guidance on Taking Land into Trust for Indian Tribes and Its Ramifications: Oversight Hearing Before the H. Comm. on Natural Resources, 110th Cong. (2008) [hereinafter Skibine testimony] (statement of Alex Skibine, Professor, University of Utah College of Law).
151 to deny applications before evaluating the “best interest” of the tribes under the two-part determination.\textsuperscript{195}

Preeminent Indian Law scholars have echoed these concerns.\textsuperscript{196} For example, Harvard Law School professor Kevin Washburn testified that the memorandum “misunderstands” the benefits of gaming because gaming is about “revenue, not jobs.”\textsuperscript{197} Professor Washburn further argued that off-reservation gaming may be better than on-reservation gaming—especially when supported by state and local governments—because it places casinos in communities that are willing to “put up with the inevitable negative externalities” of gaming in exchange for economic development.\textsuperscript{198} Professor Washburn also argues that noncontroversial off-reservation development should be approved, and that the “Secretary should not become an obstacle to joint efforts at economic development when tribes and states agree on the value of an off-reservation Indian gaming operation.”\textsuperscript{199}

Similarly, scholars Kathryn Rand, Steven Andrew Light, and Alan Meister have rightly criticized the “memo’s procedural genesis and substantive ‘guidance.’”\textsuperscript{200} Their article persuasively raises several legal questions on whether the memorandum: (1) constitutes an administrative legislative ruling subject to the Administrative Procedure Act; (2) meets the \textit{Chevron}\textsuperscript{201} test for judicial deference to agency decisions or is

\begin{footnotes}

\textsuperscript{196} See, e.g., Washburn testimony, supra note 166; Jensen, supra note 6, at 694–95; Rand, Meister & Light, supra note 6, at 198–206.

\textsuperscript{197} Washburn testimony, supra note 166. Washburn argues that “[r]evenues from off-reservation gaming operations pay for tribal jobs on the reservation in a variety of areas, including healthcare, elderly services, social services, education, [and] law enforcement . . . many of which provide direct services to reservation residents.” Id.

\textsuperscript{198} Id.

\textsuperscript{199} Id. (arguing that “no federal interest justifies the Secretary’s refusal to take land into trust when tribes, local communities and the state’s governor agree”).

\textsuperscript{200} Rand, Meister & Light, supra note 6, at 194.

\textsuperscript{201} Under the \textit{Chevron} test, which courts apply to review final agency decisions:

The first step is to ask whether Congress has spoken to the precise question at issue; if so, then the agency (and the court) must give effect to the unambiguous intent of Congress. If the statute is silent or ambiguous, then courts must employ Chevron’s second step and ask whether the agency’s decision on the issue is a reasonable construction of the statute. Agency regulations and actions should be given deference by the courts “\textit{unless they are arbitrary, capricious, or manifestly contrary to}” the enabling statute, and “considerable weight” is given to an agency’s reconciliation of conflicting policies or exercise of particular expertise.
\end{footnotes}
instead arbitrary and capricious; and (3) undermines congressional intent.  

V. A NEW MODEL OF COOPERATION IN THE TRIBAL-STATE COMPACTING PROCESS

The Big Lagoon Rancheria’s Barstow proposal enjoyed the support of the tribe, the city of Barstow, and the governor’s office, yet the proposal failed because of the “commutable distance” guidance memorandum, which was possibly fueled by the Department of the Interior’s “negative attitude towards off-reservation casinos.” Despite this failure, the proposal encompasses a creative new way to approach the compacting process—one that addresses federal, state, tribal, and local concerns. The Barstow proposal highlights the ability to devise creative compacts to address pressing environmental and social concerns. States should emulate this broad interpretation of the provisions permitted by IGRA and actively seek tribal consent for state environmental regulation over activities that adversely affect the off-reservation environment. In exchange, tribes should be afforded greater deference beyond the “commutable distance” guidance memorandum to include off-reservation casino development that is more in tune with the legislative intent of both IRA and IGRA.

A. Expand the Scope of Compact Provisions Permitted Under IGRA

IGRA provides little direct support for the contention that environmental regulatory control is a permitted compact provision. A broad interpretation of section 2710 would mitigate state concerns regarding the loss of environmental regulatory control over casino con-
struction and operation. Some members of Congress cautioned against a broad interpretation. Nevertheless, states have begun to take advantage of the “unprecedented degree of freedom” to seek such regulations in the compacting process. Recent court decisions reinforce this broad interpretation. The compacts negotiated since Seminole Tribe of Florida v. Florida suggest that states enjoy a bargaining power beyond the scope contemplated by Congress in IGRA. Although most states see revenue sharing as a primary goal, a few have begun to adopt a more holistic approach to seek tribal consent for greater state environmental oversight.

The most effective vehicle to achieve this tribal-state cooperation is for the tribe to consent. A tribal-state compact is essentially “a contract, subject to the ordinary rules of contract construction.” Framing compacts as a contractual issue, parties should have flexibility beyond the limiting terms of IGRA, provided the tribe voluntarily agrees to waive sovereign power. This waiver must be express and constitute

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208 See id. at 151–52 (citing In re Gaming Related Cases, 331 F.3d 1094, 1115–17 (9th Cir. 2003)) (discussing the broad interpretation of IGRA’s “catch-all” provision—an interpretation that would deem acceptable a “wide array of state regulatory laws”).

209 See id., at 151 n.109 (citing 134 Cong. Rec. 12,651 (1988) (quoting Senator Inouye, 134 Cong. Rec. S24024–25 (daily ed. Sept. 15, 1988)) (“There is no intent on the part of Congress that the compacting methodology be used in such areas as taxation, water rights, environmental regulation, and land use . . . .”)).

210 Id. at 151–52 (citing Gaming Related Cases, 331 F.3d at 1115–17); see Big Lagoon Compact, supra note 1, at 66–67 (requiring intergovernmental agreements between the tribe and the City of Barstow).


212 Fletcher, supra note 10, at 59 (noting that states demanded a “cut of the profits from class III gaming”); see Seminole Tribe of Fla. v. Florida, 517 U.S. 44, 72 (1996) (noting that tribes could no longer sue states for refusing to negotiate in good faith). In short, the compacting process has given states an “unprecedented degree of freedom” to apply civil regulations against tribal casinos. Sohn, supra note 2, at 151 (citation omitted).

213 See Schwarzenegger, 53 Cal. Rptr. 3d at 650; see Fletcher, supra note 10, at 57; Perlman, supra note 95, at 53; Sohn, supra note 2, at 150–51; Legislative Analyst’s Office, California Tribal Casinos: Questions and Answers, http://www.lao.ca.gov/2007/tribal_casinos/trial_casinos_020207.aspx (Feb. 2007).


216 See Ariz. Pub. Serv. Co. v. Aspaas, 77 F.3d 1128, 1135 (9th Cir. 1995) (discussing unmistakable waivers of sovereign power); All, supra note 102, at 312–13.
an “unmistakable waiver.” Absent such a waiver, tribes retain civil regulatory authority. To illustrate, in Allen v. Gold Country Casino, the Ninth Circuit held that waiver of tribal sovereign immunity may not be implied. Similarly, in New York v. Oneida Indian Nation of New York, the court held that a tribal-state compact provision waiving sovereign immunity constituted an express waiver. Indeed, the NIGC’s own regulations contemplate that tribes have the option to enter into contracts with state, local, and federal governments as well as private entities for services to meet the NIGC’s environment, public health, and safety standards.

Tribes may feel compelled to cooperate, especially when they seek off-reservation gaming opportunities under the two-part determination. Since the decision in Seminole Tribe of Florida v. Florida, courts and the Department often acquiesce when states seek goals beyond the scope of IGRA. Furthermore, despite the guidance memorandum’s faulty reasoning, Department regulations do contemplate that as the distance between the tribe’s reservation and the land to be acquired increases, the Secretary shall give greater weight to the concerns of state and local governments. Factors for consideration include “the impact of removing the land from state and local tax rolls, any jurisdictional problems, and potential conflicts of land use.”

For what it is worth, the guidance memorandum does warn that tribes that are located away from the land acquisition may find it more difficult to “efficiently project and exercise . . . governmental and regulatory powers.” Without commenting on the dubious accuracy of this assertion, it is possible that apprehensive municipalities will bring concerns such as this to state governors, who hold veto power to kill politi-
cally unpopular land acquisitions. To illustrate, in 2005 Governor Schwarzenegger issued a proclamation opposing reservation shopping in urban areas and has “made local support . . . an essential requirement” for any gaming projects in the state.

The focus on political support has led to gaming compacts that include provisions that address the environmental affects of gaming development. For example, California has leveraged local support for gaming to successfully negotiate for environmental regulatory oversight. The 1999 California Model Compact includes a section regarding off-reservation environmental impacts. The model included a tribal pledge to “[m]ake good faith efforts to mitigate any and all such significant adverse off-reservation environmental impacts.” In 2004, California negotiated amendments to five gaming compacts to require “enhanced environmental protection and employee rights.” The 2004 amendment cannot affect the federal NEPA requirement that tribes prepare an Environmental Impact Statement prior to breaking ground, but it goes beyond this requirement by including new language in the compacts to promote discussion with local governments and arbitration clauses to solve impasses. The 2004 compacts require that tribes negotiate with local governments to address environmental, public safety, infrastructure, and other demands related to casinos.

NIGC rules anticipate this cooperation and even contemplate intergovernmental contracts under which the tribes receive regulatory

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230 Big Lagoon Compact, supra note 1, at 66–67 (requiring an enforceable agreement between the tribe and City of Barstow to address impact on the off-reservation environment).
231 See id. Based on the model compact, tribes will: determine any significant adverse impacts on the off-reservation environment; submit environmental impact reports to the state for distribution to the public; discuss environmental mitigation action with city and county officials; and provide an opportunity for public comment. During casino operation, the tribe shall inform the public of the project and make good faith efforts to mitigate any and all such significant adverse off-reservation environmental impacts. Id.
232 See CALIFORNIA MODEL TRIBAL-STATE COMPACT § 10.8.2(5)(b)(2).
235 See, e.g., Perlman, supra note 95, at 54.
236 Legislative Analyst’s Office, supra note 213.
and enforcement services to protect the environment, public health, and safety. NIGC regulations permit that tribes form these intergovernmental contracts with state, local and federal governments, and even private entities. Because NIGC grants tribes such wide latitude to implement standards, tribes have the opportunity to work with local communities to overcome regulatory stumbling blocks in the compacting process. Big Rancheria’s willingness to swap development right at its reservation for the opportunity to conduct a casino 500 miles off-reservation demonstrates this willingness. The Rancheria is not alone. For example, Wisconsin’s gaming compacts now require that tribal gaming facilities comply with state codes regulating electrical wiring, fire prevention, and sanitation. California’s United Auburn Indian Community agreed to “follow all local land use ordinances, create an environmental review document, pay for enhanced law enforcement and fire protection, improve local roads, compensate the county for lost taxes and establish a Tribal-County Advisory Council to resolve local issues.” California’s Rumsey Band of Wintun Indians agreed to comply with local environmental requirements, pay annual road maintenance fees, and to fund traffic mitigation efforts.

B. Allow Tribes Greater Deference in Off-Reservation Land Acquisitions

Beyond that Demonstrated by the “Guidance Memorandum”

The commutable distance guidance memorandum misconstrues the legislative intent of the IRA, and in the context of Indian gaming, ignores both the rationale for the two-part determination and previous findings by the Department. Without commenting in detail on the

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238 Id.
239 See Governor’s Press Release, supra note 4.
242 Id. (citing Intergovernmental Agreement Between the County of Yolo and the Rumsey Bank of Wintun Indians Concerning Mitigation for Off-Reservation Impacts Resulting from the Tribe’s Casino Expansion and Hotel Project (2002)).
dubious legal basis of the guidance, the rule should be scrapped because its determination as to what constitutes “negative consequences of reservation life” is paternalistic, may violate the Administrative Procedures Act (APA), and unduly minimizes the economic benefits of off-reservation gambling.

1. Misplaced Reliance on Distance from the Reservation

When a tribe proposes an off-reservation casino, the Secretary is usually presented with the decision under IRA to take the land into trust at the same time it makes the two-part determination under IGRA. IGRA clearly bases this determination on whether acquisition of the land “would be in the best interest of the Indian tribe and its members, and would not be detrimental to the surrounding community . . . .” The Department’s “greater scrutiny/greater weight” evaluation criteria effectively provide the Department with more discretion to decline a trust application under its own regulations than Congress intended by IGRA or IRA. The 2004 Indian Gaming Paper—an internal policy paper created within the Department of the Interior—found that in enacting IGRA, Congress did not intend for the distance of a proposed casino from an established reservation to be a limiting factor. The paper concluded that “[n]owhere in the IRA or its legislative history was there ever a discussion of mileage limits to lands that tribes could acquire to engage in economic enterprises.” Instead, off-reservation trust acquisitions should be encouraged under the IRA because “most current tribal lands will not readily support economic development” as intended by IRA.

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244 See Rand, Meister & Light, supra note 6, at 200–06; Washburn testimony, supra note 166, at 6–7. Both Washburn and Rand provide excellent critiques of the dubious legal standing of the guidance memorandum.

245 See, e.g., Skibine testimony, supra note 194 (arguing guidance memorandum is paternalistic); Washburn testimony, supra note 166 (violation of APA); Rand, Meister & Light, supra note 6, at 200–01 (possible violation of APA); Rand, Meister & Light, supra note 6, at 203–04 (minimizing positive economic impacts).


247 25 C.F.R. § 151.11; see Rand, Meister & Light, supra note 6, at 197–98.

248 Indian Gaming Paper, supra note 58, at 12–13; see Jensen, supra note 6, at 694; Rand, Meister & Light, supra note 6, at 197.

249 Indian Gaming Paper, supra note 58, at 8; see Rand, Meister & Light, supra note 6, at 197.

250 See Department of the Interior’s Recently Released Guidance on Taking Land into Trust for Indian Tribes and Its Ramifications: Oversight Hearing Before the H. Comm. on Natural Resources,
2. “Best Interest” Means More Than Employment

The Department’s own “Checklist for Gaming Acquisitions, Gaming-Related Acquisitions, and IGRA Section 20 [§ 2719] Determinations” provides an informal and nonexhaustive list of criteria for determining whether a land acquisition is in the best interest of a tribe.252 Criteria include: “economic benefit to the tribe and its members, including the impact on tribal employment, job training, and career development, as well as benefits related to tourism, increased tribal income, and the relationship between the tribe and the surrounding community.”253 IGRA—designed to promote tribal economic development, self-sufficiency, and strong tribal governments—contemplates that gaming revenues will fund tribal government and the general welfare of the tribe, charitable organizations, and local government agencies.254 The memorandum misconstrues this holistic inquiry—reducing it to a question of employment—and thereby ignores IGRA’s overriding goals.255

3. “Greater Weight” Should Include Benefits to the Surrounding Community

The denial of the Barstow proposal discounts the interests of the city of Barstow.256 The guidance advises that tribes provide evidence of “intergovernmental agreements” negotiated between the tribe and state and local governments.257 Unfortunately, when the Secretary denied the Barstow proposal, it made no reference to the town’s support, thereby ignoring its own guidance to consider the existence of intergovernmental agreements when applying “greater weight” to the concerns raised by state and local governments.258 This guidance therefore ignores the congressional intent of IGRA to encourage land acquisition, especially where state and local communities support the acquisition.259 In doing so, the guidance creates an obstacle to joint efforts at economic devel-


252 Rand, Meister & Light, supra note 6, at 198.
253 Id.
254 25 U.S.C. § 2710 (2000); Rand, Meister & Light, supra note 6, at 204.
255 Hindsley testimony, supra note 195; Washburn testimony, supra note 166.
256 Id.; see Governor’s Press Release, supra note 4.
257 See Guidance Memorandum, supra note 8, at 5 (recommending that “greater weight” be afforded to the interests of local governments).
258 See Artman letter, supra note 7.
259 Id.
opment and chills IGRA’s goal of cooperative federalism.\textsuperscript{260} It also ignores the state’s interest in averting the environmental disaster that would come from having a casino at the Big Lagoon.\textsuperscript{261} Furthermore, the guidance rebukes the Department’s own earlier finding that where the local community supports an off-reservation project, successful two-part determinations are more likely both as a legal and a practical matter.\textsuperscript{262}

4. “Commutable Distance” Misconstrues IGRA’s Intent

The “commutable distance” guidance creates a de facto mileage cap to deny off-reservation land acquisitions that are more than a “commutable distance” from the tribe’s reservation.\textsuperscript{263} Department of Interior guidelines reference “greater scrutiny” and “greater weight” as the distance from the reservation increases, neither the guidelines nor the IRA contemplate a mileage requirement.\textsuperscript{264} It is clear from its application and from agency comments, however, that mileage informs agency action.\textsuperscript{265}

On the same day the Department denied the Rancheria’s proposal, it also applied the commutable distance guidance to deny ten trust applications of other tribes.\textsuperscript{266} Although the guidance memorandum did not specify a bright-line mileage requirement, the rejected applications ranged from seventy to 550 miles.\textsuperscript{267} In denying these pro-

\textsuperscript{260} Id. at 4–5; see Artichoke Joe’s v. Norton, 216 F. Supp. 2d 1084, 1092 (E.D. Cal. 2002).

\textsuperscript{261} Governor’s Press Release, \textit{supra} note 4; see All, \textit{supra} note 102, at 309 (noting that off-reservation development be more appropriate).

\textsuperscript{262} See Indian Gaming Paper, \textit{supra} note 58, at 12; Rand, Meister & Light, \textit{supra} note 6, at 198.

\textsuperscript{263} See Washburn testimony, \textit{supra} note 166, at 6 (arguing that the Indian Gaming Paper reached a sensible conclusion in finding that “distance limits should not be grafted onto IGRA”).

\textsuperscript{264} See Hindley testimony, \textit{supra} note 195, at 4–5; Indian Gaming Paper, \textit{supra} note 58, at 6, 8.

\textsuperscript{265} See, e.g., Artman Letter, \textit{supra} note 7, at 3. Of the eleven proposals denied on January 4, 2008, all were for trust applications for land at least seventy miles from the tribe’s reservation and all were denied based on the “commutable distance” guidance. Indianz.com, BIA Starts New Year With Off-Reservation Gaming Policy, http://www.indianz.com/News/2008/006500.asp (last visited Jan. 23, 2009). On February 27, 2008, Assistant Secretary Artman testified that most of the lands taken into trust were less than forty miles from the reservation of the tribe requesting the land. Indianz.com, Artman Suggests Mileage Limit for Off-Reservation Land, http://www.indianz.com/News/2008/007378.asp (last visited Jan. 23, 2009).

\textsuperscript{266} Rahall Statement, \textit{supra} note 192, at 29.

posals, the Secretary focused primarily on the distance between the proposed trust acquisition and the reservation.\textsuperscript{268} The Secretary approved the trust application of the Confederated Tribes of Chehalis Reservation for a casino in Thurston County, Washington for a parcel that was located seven miles from that tribe’s reservation.\textsuperscript{269} In contrast, the St. Croix Chippewa Indians of Wisconsin—who also enjoyed gubernatorial and local support—believe their application for land 330 miles from their reservation would have been denied if not for a pending lawsuit against the Department.\textsuperscript{270} Surprisingly, the Department approved the application of the Miami Tribe of Oklahoma, whose reservation was located 609 miles from its proposed acquisition.\textsuperscript{271}

This “ill-defined” mileage cap frustrates both IGRA—which is intended to guide Secretary decisions when contemplating off-reservation trust acquisitions for gaming purposes—and the IRA, which grants the Secretary the power to make land trust acquisitions for the benefit of Indians.\textsuperscript{272}

C. Moving Forward: Learning from the Barstow Proposal

In April 2008, Governor Schwarzenegger announced a deal with North Fork Rancheria of Mono Indians to build a casino near the city of Fresno, forty miles from the tribe’s reservation.\textsuperscript{273} The tribe’s reservation is located south of Yosemite in an area the tribe believes is too remote for a casino.\textsuperscript{274} Echoing the Barstow proposal, Tribal Chairwoman Elaine Bethel Fink argued that moving the proposed gaming facility also makes sense because it protects the Yosemite environment.\textsuperscript{275}

Heeding the stumbling block cause by the guidance memorandum, the governor indicated that he would not submit the proposal to the legislature until the Secretary of the Interior approves the off-

\textsuperscript{268} Artman Letter, \textit{supra} note 7, at 3 (noting the negative consequences to the tribe presented by the large distance between Big Lagoon and Barstow).

\textsuperscript{269} See \textit{Department of the Interior’s Recently Released Guidance on Taking Land into Trust for Indian Tribes and Its Ramifications: Oversight Hearing Before the H. Comm. on Natural Resources, 110th Cong. 1–2 (2008)} (statement of David Burnett, Chairman, Confederated Tribes of Chehalis Reservation). Like the Barstow proposal, the Chehalis proposal enjoyed the support of the governor of the state and local officials. \textit{Id.} at 3.

\textsuperscript{270} See Hindley testimony, \textit{supra} note 195, at 2.

\textsuperscript{271} See Hindley testimony, \textit{supra} note 195, at 4–5; Rand, Meister & Light, \textit{supra} note 6, at 205 (calling the commutable distance standard “ill-defined”); Indian Gaming Paper, \textit{supra} note 58, at 13.


\textsuperscript{273} \textit{Id.}

\textsuperscript{274} \textit{Id.}
reservation land acquisition. The governor and other proponents of the develop need to work with the Secretary to ensure that the proposed land acquisition is approved, even if it must do so under the constraints of the faulty guidance memorandum. The close distance between the tribal reservation and the proposed acquisition—a mere forty miles—is well within the distance contemplated by the guidance memorandum. Approval is not a foregone conclusion, though, because the governor must also overcome continued state legislative opposition to off-reservation Indian gaming in close proximity to urban centers.

**Conclusion**

In negotiating the proposed compact with the Rancheria, California adopted novel and creative environmental provisions in an attempt to save the Big Lagoon ecosystem. The State also took a forward stance in exploring off-reservation options in an attempt to avoid environmental deterioration of a fragile ecosystem. Tribes and states should be allowed to emulate the creativity exhibited between the city of Barstow and the State of California. This freedom to define the terms of tribal-state compacts goes a long way towards improving regulatory accord over environmental protection, identifying and developing sites that minimize adverse environmental impacts, and involving local municipalities as willing partners.

To achieve this new model of compact negotiation, the Secretary should abandon its new guidance memorandum and solicit public comment to develop a new rule that achieves the intent behind the IRA and IGRA. This rule should enable tribes to work with local municipalities to identify appropriate off-reservation sites that serve the goals of tribal economic development. In exchange for this deferential stance on off-reservation development, tribes should be more willing to allow states and local municipalities to seek greater environmental regulatory control to address the off-reservation effects of gaming.

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276 *Id.*
277 *See discussion infra* Part V.B.
278 *Id.*
279 Vogel, *supra* note 272, at B1. In the North Fork deal, the governor himself has apparently reversed his own opposition to negotiating for off-reservation gaming in close proximity to urban centers. *See id.*
LOCAL PREFERENCES IN AFFORDABLE HOUSING: SPECIAL TREATMENT FOR THOSE WHO LIVE OR WORK IN A MUNICIPALITY?

Keaton Norquist*

Abstract: Local governments are increasingly granting preference to local residents and employees when selecting occupants for affordable housing set-asides. These preferences risk being invalidated for three reasons. First, courts could view the preferences as a penalty on non-residents’ fundamental right to travel and migration. Second, preferences implemented with the intention of excluding protected classes of persons could violate the Equal Protection Clause. Finally, preferences could violate the Federal Fair Housing Act by creating or perpetuating discriminatory racial impacts. In order to avoid these legal risks, this Note proposes that local governments should structure their affordable housing selection programs as broadly and inclusively as possible. Specifically, local governments should: (1) offer multiple ways for an applicant to receive preference; (2) base the preferences on an expanded geographic area beyond the local government’s particular jurisdictional boundaries; and (3) limit the scope and duration of the preferences.

Introduction

A shortage and uneven distribution of affordable housing has plagued local governments for decades.1 It is a problem that threatens the economic, environmental, and general quality of life in cities and counties across the nation.2 Local governments have reacted to the prob-

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2 See David Dillon, Earning an A for Affordable, Planning, Dec. 2006, at 6, 6–9; see, e.g., Carol J. Williams, Leaving Key West to the Wealthy, L.A. Times, Feb. 10, 2008, at A17.
lem in a variety of ways. One of the most popular and effective solutions has been the enactment of inclusionary zoning ordinances requiring residential developers to set aside a specified percentage of new units—often ten to fifteen percent—which must be sold or rented at prices deemed affordable to low- and moderate-income households. Another solution is voluntary density bonus incentives, which permit residential developers to build at higher densities than zoning would normally allow in exchange for creating a specified percentage of affordable units. In addition, local governments often team with nonprofit developers to create housing that is set aside for low- and moderate-income households by leveraging local, state, and federal grants through public-private partnerships. Such programs have produced tens of thousands of affordable housing units. These units have historically been available to income-qualified applicants regardless of their residency or occupation.

Local governments are increasingly restricting eligibility for some or all of their affordable housing set-asides. For reasons this Note will explore, many local governments now stipulate—either through explicit ordinances or through unpublished housing program policies—that preference for affordable units shall be given to applicants who currently reside within the government’s jurisdiction. Other programs grant preference to individuals who work within a local government’s boundaries or are employed in various civic occupations, such as police officers, firefighters, teachers, or nurses.

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3 See John Emmeus Davis, Between Devolution and the Deep Blue Sea: What’s a City or State to Do?, in A Right to Housing 364, 364 (Rachel G. Bratt et al. eds., 2006).
6 See, e.g., Goodno, supra note 1, at 7; Tim Sullivan, Putting the Force in Workforce Housing, Planning, Nov. 2004, at 26, 29.
7 See, e.g., Calavita & Grimes, supra note 1, at 150.
8 See Cecily T. Talbert, California’s Response to the Affordable Housing Crisis, (ALI-ABA Course of Study, Aug. 16–18, 2007), WL SN005 ALI-ABA 1491, 1523.
9 See id.
This Note examines the legal implications of a local government’s decision to operate its affordable housing program in a manner that gives preference to local residents and/or persons employed within its boundaries. Such preferences raise constitutional concerns regarding both infringement upon the fundamental right to travel and violation of equal protection guarantees because of racially discriminatory impacts. In addition, local resident and employee preferences implicate a variety of state and federal statutes.

Part I outlines the powerful modern trends that influence local governments to grant preferences. Part II explores the fundamental right to travel. Part III discusses discriminatory racial impacts under the Equal Protection Clause. Part IV investigates how the Federal Fair Housing Act is implicated by housing preferences. Part V analyzes how these legal issues affect local resident and employee preferences.

I. THE RATIONALE FOR GRANTING PREFERENCES

A. Local Resident Preferences

Local resident preferences are motivated by one of the most basic realities of representative democracy: an elected official’s desire to favor her own constituents over those to whom she is not politically accountable. Elected officials simply cannot ignore the dearth of affordable housing in many metropolitan areas. In Washington, D.C., for example, the waitlist for affordable housing currently includes over 57,000 income-qualified families, and it takes several years before an applicant actually receives any form of assistance. Nationwide, several studies suggest that there is a shortage of affordable housing by at least five mil-


13 This Note will focus specifically on the Federal Fair Housing Act. However, there are a variety of analogous state statutes that could be implicated. Many state fair housing acts include language that expressly prohibits housing decision makers from considering an applicant’s lawful “source of income.” See, e.g., Cal. Gov’t Code § 12955(a) (West 2008); Conn. Gen. Stat. Ann. § 46a-64c(a)(1) (West 2008); D.C. Code Ann. § 2-1402.21(a) (LexisNexis 2008); Or. Rev. Stat. § 659A.421(1) (2007); Utah Code Ann. § 57-21-5(1) (2000); Wis. Stat. Ann. § 106.50(nn) (West 2007). These statutes ostensibly forbid any type of local employee or civic occupational preference.


16 See Talbert, supra note 8, at 1495–96.

lion units.\textsuperscript{18} Given such a disheartening scenario, it is not surprising that locally elected representatives now seek to favor their own constituents over nonvoting outsiders.\textsuperscript{19}

There is a perceived problem that desirable communities attract a disproportionate share of nonresident applicants, thereby unfairly burdening low-income applicants who reside in desirable areas because they have to compete for a limited number of affordable housing units against a limitless horde of nonresidents.\textsuperscript{20} For instance, in Santa Monica, California, a local newspaper article decried the city’s lack of preference for current residents because the affordable housing waitlist was inundated by nonresident applicants.\textsuperscript{21} The City of Santa Monica had recently contributed $2.3 million toward an affordable housing development for elderly persons.\textsuperscript{22} Of the sixty-five affordable units created, only twelve went to previous Santa Monica residents.\textsuperscript{23} Affordable housing units in desirable communities clearly act as magnets, attracting disproportionately large numbers of outsiders.\textsuperscript{24} Likely for this reason, the majority of local resident preferences have been implemented by desirable communities, where the perceived ills of being an affordable housing magnet are felt most keenly.\textsuperscript{25}

Finally, local governments have an interest in preserving their citizens’ residency because continued ties to a community can foster a more stable and involved community over time.\textsuperscript{26} Long-term local residents

\textsuperscript{18} Dillon, \textit{supra} note 2, at 6.
\textsuperscript{19} See Hartnett, \textit{supra} note 15, at 133.
\textsuperscript{21} Id.
\textsuperscript{22} Id.
\textsuperscript{23} Id.
\textsuperscript{24} See, \textit{e.g.}, id.
are arguably more likely to invest in a community’s continued prosperity and livability than are transitory residents. Some studies suggest that long-term residents take better care of their property, commit less crime, and demonstrate higher levels of civic involvement than do transitory residents.

B. Local Employee Preferences

Local employee preferences are supported by a range of urban planning, environmental justice, and even public safety principles. Planners have long extolled the virtues of having “jobs-housing balance” in a community. Indeed, one of the tenets of “smart growth” development is locating people near their places of employment. However, residents of many communities not only have to contend with swelling traffic congestion and commute times, but also find it increasingly difficult to obtain affordable housing close to their places of employment. A balance between housing and jobs in a city confers many benefits, “including reduced driving and congestion, fewer air emissions, lower costs to businesses and commuters, lower public expenditures on facilities and services, greater family stability, and higher quality of life.”

It is not just urban planners that advocate jobs-housing balance; the private sector is also a strong supporter. A recent survey of large employers reported that the affordable housing shortage has been problematic for the hiring and retention of entry- and mid-level workers. The survey also reported that entry- and mid-level workers expressed keen interest in moving closer to work if affordable housing were to be made available. Even middle-class jobs no longer guarantee that an employees

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27 See Sampson et al., supra note 26, at 919.
28 See id.
33 Armstrong & Sears, supra note 32, at 7; see also Handy, supra note 29, at 276.
35 Id.
will be able to find affordable housing reasonably close to work.\textsuperscript{36} Economists note that the shared public and private need for workforce housing was “born of the economic boom of the 1990s,” during which time “salaries for the top American earners increased dramatically,” while the bottom sixty percent barely kept pace with inflation and home prices doubled.\textsuperscript{37}

The burdens of traffic congestion and long commute times do not fall equally on all members of society.\textsuperscript{38} Research indicates that both commute times and distances for low-income and minority workers tend to be significantly longer than for other workers.\textsuperscript{39} This trend particularly impacts low-wage service workers in desirable communities.\textsuperscript{40} Janitorial staff, restaurant workers, and grocery clerks are just a few of the many service workers who are greatly needed to accommodate higher income clientele.\textsuperscript{41} However, the lack of affordable housing in desirable communities forces service workers to live in distant locations that are more affordable.\textsuperscript{42} “After housing, transportation is now the second [largest] expense for America’s families.”\textsuperscript{43} In addition, the need to own multiple automobiles “is placing homeownership out of reach for many low-income families.”\textsuperscript{44}

Preferences for vital civic employees also have strong justifications.\textsuperscript{45} There are many benefits to having persons employed in certain critical occupations—such as police officers, firefighters, paramedics, and nurses—reside in the locality for which they work.\textsuperscript{46} Their continued presence provides models of public service to their neighborhoods, and

\textsuperscript{36} See Sullivan, supra note 6, at 26–27.
\textsuperscript{37} Id. at 26.
\textsuperscript{39} See id.
\textsuperscript{41} See Williams, supra note 2, at A17.
\textsuperscript{42} See Sullivan, supra note 6, at 27.
\textsuperscript{43} Anne Canby, Fannie Mae Found., \textit{Affordable Housing and Transportation: Creating New Linkages Benefiting Low-Income Families} 1 (2003).
\textsuperscript{44} Id.
\textsuperscript{45} See, e.g., HUD Good Neighbor Next Door Program, http://www.hud.gov/offices/hsg/sfh/reo/goodn/gndabot.cfm (last visited Jan. 23, 2009). For instance, the Department of Housing and Urban Development, as well as many state housing finance authorities, grant preferences for teachers, firefighters, EMTs, police officers, etc. Id.
they can more readily respond to emergencies than if they had to commute from distant locations and risk delays due to traffic congestion.\textsuperscript{47} Local governments across the nation are experiencing great difficulty in filling vital civic positions, due largely to the lack of affordable housing.\textsuperscript{48} Some local governments have become so desperate that they provide, at considerable expense, low-interest loans and other fiscal inducements to vital civic employees in exchange for their commitment to reside within the jurisdiction.\textsuperscript{49}

Recent downturns in real estate markets are not alleviating the affordable housing crisis for the people who need it the most.\textsuperscript{50} It is a sad irony that, despite stagnating and falling home prices, affordable housing is not becoming more available.\textsuperscript{51} In fact, the downturn, which has largely been caused by predatory lending practices to minority and low-income populations, has resulted in skyrocketing default and foreclosure rates in many working-class and low-income neighborhoods.\textsuperscript{52} Presently, nearly one-quarter of subprime mortgages are in default.\textsuperscript{53}

\section*{II. Right to Travel & Interstate Migration}

Local resident and employee preferences have been frequently challenged, and occasionally invalidated, for violating constitutional principles.\textsuperscript{54} Though not specifically enumerated in the Constitution, the Supreme Court has long recognized the fundamental right to travel and interstate migration.\textsuperscript{55} Specifically, the Court has interpreted

\begin{itemize}
\item \textsuperscript{47} See Thale, \textit{supra} note 46; Polakovic, \textit{supra} note 46. Courts have recognized a compelling governmental interest in cases involving municipal requirements that police and firefighters reside within city limits. \textit{See} Krzewinski v. Kugler, 338 F. Supp. 492, 501 (D.N.J. 1972).
\item \textsuperscript{50} See Joint Ctr. for Hous. Studies of Harv. Univ., \textit{supra} note 40, at 3.
\item \textsuperscript{51} See \textit{id}.
\item \textsuperscript{53} Goodman & Bajaj, \textit{supra} note 52, at C1, C6.
\item \textsuperscript{55} See, e.g., Saenz v. Roe, 526 U.S. 489, 489–90 (1999) (invalidating a state law that limited new residents’ welfare benefits to the level of the state from which the person moved); United States v. Guest, 383 U.S. 745, 746, 757 (1966) (stating that the right to travel and migrate “occupies a position fundamental to the concept of our Federal Union”); Crandall v. Nevada, 73 U.S. (6 Wall.) 35, 36 (1867) (invalidating a state tax on railroads for the trans-
the Privileges and Immunities Clause of Article IV to protect individuals from unreasonable restrictions on basic rights—including conducting commercial activity and exercising constitutionally protected liberties—when traveling to state or local jurisdictions in which they do not reside.\(^5^6\) In addition, the Court has most recently interpreted the Fourteenth Amendment to protect the right of individuals to establish residency wherever they choose without being treated differently than longer-tenured residents.\(^5^7\)

The manner in which a law burdens the fundamental right to travel and migration ultimately determines the level of judicial scrutiny that law will receive.\(^5^8\) Courts draw an important distinction between portation of people out of state); The Passenger Cases, 48 U.S. (7 How.) 283 (1849) (invalidating a state law imposing a tax on aliens arriving from foreign ports).

There is some dispute about whether the Federal Constitution protects an individual’s right to intrastate travel. Compare Wardwell v. Bd. of Educ., 529 F.2d 625, 625 (6th Cir. 1976) (holding that a right to intrastate travel is not protected by the Federal Constitution) with Johnson v. City of Cincinnati, 310 F.3d 484, 498 (6th Cir. 2002) (holding that the Federal Constitution protects the right to intrastate travel through public spaces and roadways). See generally Andrew C. Porter, Comment, Toward a Constitutional Analysis of the Right to Intrastate Travel, 86 Nw. U. L. Rev. 820 (1992) (discussing the right to intrastate travel). Though the Supreme Court has declined to decide the issue, many lower courts have held that intrastate travel is a logical extension of the right of interstate travel, and thus merits the same degree of constitutional protection. See, e.g., King v. New Rochelle Mun. Hous. Auth., 442 F.2d 646, 648–49 (2d Cir. 1971), cert. denied, 404 U.S. 863 (1971); Hawk v. Fenner, 396 F. Supp. 1, 4 (D.S.D. 1975); Wellford v. Battaglia, 343 F. Supp. 143, 147 (D. Del. 1972), aff’d, 485 F.2d 1151 (3d Cir. 1973). In King v. New Rochelle Municipal Housing Authority, the U.S. Court of Appeals for the Second Circuit invalidated a five-year durational residency requirement for admission to public housing. 442 F.2d at 649. The Housing Authority argued that there was no fundamental right to intrastate travel for the plaintiffs, who had moved from one city in New York State to another. Id. at 648–49. However, the court disagreed, concluding that “[i]t would be meaningless to describe the right to travel between states as a fundamental precept of personal liberty and not to acknowledge a correlative constitutional right to travel within a state.” Id. at 648.

A small minority of lower court decisions reject the existence of a right to intrastate travel. See Wardwell, 529 F.2d at 625; Ector v. City of Torrance, 514 P.2d 433, 436–37 (Cal. 1973). However, these cases are distinguishable from local resident and employee preferences because they involve requirements for municipal employees to be residents of the city for which they work. See Wardwell, 529 F.2d at 626; Ector, 514 P.2d at 433. Additionally, a plaintiff who was not a resident of the state in which he was challenging a local affordable housing preference would be able to invoke interstate travel protections and potentially overturn the policy. See Shapiro v. Thompson, 394 U.S. 618, 619 (1969). The existence of a federally protected right to intrastate travel therefore appears of little consequence for the purposes of this Note.

\(^{56}\) U.S. Const. art. IV, § 2; Sup. Ct. of N.H. v. Piper, 470 U.S. 274, 274 (1985) (invalidating New Hampshire law requiring residence in state prior to being admitted to the bar).

\(^{57}\) See Saenz, 526 U.S. at 490, 502–03.

laws that grant preferences to residents based upon the length of their residency—durational residency requirements—and laws that merely grant preferences to residents over nonresidents—bona fide residency requirements.\textsuperscript{59} Durational residency requirements generally receive strict judicial scrutiny, and therefore will be upheld only upon a showing of a compelling governmental purpose.\textsuperscript{60} Bona fide residency requirements, however, are treated with more deference and are upheld if they are rationally related to a legitimate governmental interest.\textsuperscript{61}

A. Durational Residency Requirements

Some durational residency requirements stipulate that before receiving a certain public benefit a resident must have lived in the jurisdiction for a particular length of time.\textsuperscript{62} Previously litigated examples include waiting periods for welfare benefits, voting, divorces, in-state tuition rates, and state-funded nonemergency hospital services.\textsuperscript{63} As will be discussed below, courts often apply strict scrutiny to these durational residency requirements because they risk deterring interstate travel and migration.\textsuperscript{64}

In \textit{Shapiro v. Thompson}, the leading case invalidating a durational residency requirement, the Supreme Court held a one-year residency requirement for receipt of welfare payments unconstitutional.\textsuperscript{65} Following strict equal protection scrutiny, the Court determined that governmental discrimination between newer and longer-tenured residents imposed an unjustified “penalt[y]” on the rights of those who had recently migrated to the state.\textsuperscript{66} The Court reasoned that the law discouraged people from moving to the state because “[a]n indigent . . . will doubt-

\textsuperscript{59} See id.
\textsuperscript{60} See Mem’l Hosp. v. Maricopa County, 415 U.S. 250, 250 (1974).
\textsuperscript{63} See id. (upholding law that required one year of residence for citizens to be eligible to divorce); Mem’l Hosp., 415 U.S. at 250 (invalidating law that required one year of residency in the county prior to receipt of non-emergency medical services at the county’s expense); Dunn v. Blumstein, 405 U.S. 330, 353 (1972) (invalidating law that required one year of residency to establish voter eligibility); Shapiro v. Thompson, 394 U.S. 618, 618 (1969) (invalidating law that required one year of residency in the state prior to receipt of welfare payments); Starns v. Malkerson, 326 F. Supp. 234, 234 (D. Minn. 1970), aff’d mem., 401 U.S. 985 (1971) (upholding law that required new residents to pay higher tuition rates during their first year of residency).
\textsuperscript{65} 394 U.S. at 618.
\textsuperscript{66} Id. at 638 n.21.
less hesitate [to move] if he knows that he must risk making the move without the possibility of falling back on state welfare assistance during his first year of residence, when his need may be most acute.” Because the law deterred migration, it was found to be a “penalt[y]” on nonresidents’ right to travel and migration. The government was unable to provide a compelling purpose for the durational residency requirement; budgetary planning and the encouragement of new residents to enter the workforce were found to be insufficient purposes.

The Supreme Court affirmed Shapiro five years later in Memorial Hospital v. Maricopa County. In that case, the Court applied strict scrutiny to a law that denied government-funded nonemergency hospital services to persons who had not resided in the state for at least one year. Relying more on the basic necessity of medical services than the deterrent effect of the law, the Court held that the law “penalize[d]” migration. The Court found the county’s justification for the law—preserving fiscal integrity—insufficient to excuse the penalty it placed on newly arrived residents.

Determining whether strict scrutiny is the appropriate form of analysis ultimately turns on whether the durational residency requirement “penalizes” the exercise of the right to travel and migration. This penalty inquiry is derived from a footnote in Shapiro in which the Court limited the scope of its holding:

We imply no view of the validity of waiting-period or residence requirements determining eligibility to vote, eligibility for tuition-free education, to obtain a license to practice a profession, to hunt or fish, and so forth. Such requirements may promote compelling state interests on the one hand, or, on the other, may not be penalties upon the exercise of the constitutional right of interstate travel.

In Attorney General v. Soto-Lopez, a four-vote plurality led by Justice Brennan appeared to adopt this view when it affirmed that a law “implicates the right to travel when it actually deters such travel, when impeding
travel is its primary objective, or when it uses any classification which serves to penalize the exercise of that right." 76 However, the Soto-Lopez test has never been accepted by a majority of the Supreme Court, making its precedential significance unclear. 77 Furthermore, the Court has not explained precisely what constitutes a “penalty” on the right to travel. 78 Apart from stating that “not all durational residency requirements are penalties,” the Court has provided little guidance. 79

The only durational residency requirements the Supreme Court has reviewed that have not “penalized” the right to travel, and thus received deferential rational basis review, have been limited to the contexts of divorce and in-state tuition benefits. 80 Unlike welfare and free medical aid, the Court inferred that divorce and in-state tuition benefits are not of

77 Westenfelder, 998 F. Supp. at 151 n.7.
78 See Mem’l Hosp. 415 U.S. at 256–57; Westenfelder, 998 F. Supp. at 152.
80 Sosna, 419 U.S. at 393; Starns v. Malkerson, 326 F. Supp. 234, 234 (D. Minn. 1970), aff’d mem., 401 U.S. 985 (1971). The Court upheld a durational residency requirement for divorce in Sosna, 419 U.S. at 393–94. The law in question, which prevented newly arrived residents from obtaining a divorce during their first year of residency, was upheld in part because it was “of a different stripe.” Id. at 406. In his dissent, Justice Marshall inferred that, unlike welfare benefits, free medical aid, and voting, divorce was not of such fundamental importance that it would be unconstitutional for the State to “condition its receipt upon long-term residence.” See id. at 419 (Marshall, J., dissenting). It was doubtful that a waiting period for divorce would actually deter any migration. See id. at 406. Thus, Justice Marshall’s dissent implied that the durational residency requirement did not penalize the right to travel. Id. at 418–19 (Marshall, J., dissenting).

The Court summarily upheld a lower court decision that employed similar analysis to Sosna in allowing a durational residency requirement for in-state tuition benefits. Starns, 326 F. Supp. at 234. In Starns, the court found the state law to be distinguishable from Shapiro in two important respects. Id. at 237. First, the law did not have the specific objective of penalizing migration or travel. Id. Second, the law did not deter interstate movement by denying basic necessities to needy residents. Id. at 238. As with waiting periods for divorce, it is unlikely that a person would hesitate to migrate due to eligibility requirements for in-state tuition. Id. at 237–38. Thus, the court implicitly found that a waiting period for in-state tuition benefits did not penalize the right to travel. See id.

In the unique context of voting, the Court has both invalidated and upheld durational residency requirements. For instance, in Dunn v. Blumstein, the Court overturned a state law requiring one year of residence in the state, or three months of residence in the county, prior to gaining eligibility to vote. 405 U.S. 330, 330 (1972). However, in Marston v. Lewis, it upheld a fifty day requirement. 410 U.S. 679, 681–82 (1973). In both cases, the Court noted that “fixing a constitutionally acceptable [waiting] period is surely a matter of degree.” Marston, 410 U.S. at 681; see Dunn, 405 U.S. at 348. The Court had to balance the state’s compelling interest in preventing voter fraud against the risk that too long of a waiting period would penalize migration. See Marston, 410 U.S. at 680. Ostensibly, it decided that 50 days was an appropriate threshold. See id. at 679.
such fundamental importance that it would be unconstitutional for the State to “condition [their] receipt upon long-term residence.”81 Because the divorce and in-state tuition residency requirements did not deny basic necessities to needy residents, the Court surmised that they were unlikely to actually deter any migration.82 Thus, the Court implicitly found that a waiting period for these public benefits did not penalize the right to travel and migration.83

In addition to invaliding durational residency requirements that completely deny benefits to newly arrived residents, the Court has also invalidated laws that provide less public benefits to new arrivals.84 For example, in Zobel v. Williams, the Court invalidated an Alaska law that distributed state oil revenues through a formula that preferred older residents to newer ones.85 The Court found Alaska’s goal of rewarding older residents for their past contributions insufficient to justify its penalty on the right to travel and migration.86

Two other cases are especially helpful in understanding that courts will protect an individual’s right to travel and migration even when durational residency requirements do not completely deny benefits to newly arrived residents. In Soto-Lopez, the Supreme Court overturned a New York law that gave hiring preference to veterans who were residents of the state when they entered the military; the law gave no preference to veterans who resided in other states immediately prior to their military service.87 Writing for the plurality, Justice Brennan stated:

> Once veterans establish bona fide residenc[y] . . . they . . . “may not be discriminated against solely on the basis of the date of their arrival in the State.” For as long as New York chooses to offer its resident veterans a civil service employment preference, the Constitution requires that it do so without regard to residence at the time of entry into the services.88

In Saenz v. Roe, the Court invalidated a law that limited for one year the welfare benefits of new residents to the level of the state from which they

82 See Sosna, 419 U.S. at 419 (Marshall, J., dissenting); Starns, 326 F. Supp. at 238.
83 See Sosna, 419 U.S. at 406; Starns, 326 F. Supp. at 238.
84 Chemerinsky, supra note 54, at 864–66.
86 See id. at 65. Similarly, in Hooper v. Bernalillo County Assessor, the Court held that a state law providing property tax exemptions to Vietnam veterans who had become residents of the state prior to a certain date failed simple rational basis review. 472 U.S. 612, 612 (1985).
88 Id. at 911–12 (quoting Hooper, 472 U.S. at 613).
had moved.\textsuperscript{89} Writing for the majority, Justice Stevens made it clear that the Court was not persuaded by arguments that the law only partially denied welfare benefits to new residents.\textsuperscript{90} The fact that the law penalized their right to travel less than an outright denial of welfare benefits was not dispositive.\textsuperscript{91} Rather, because “the right to travel embraces the citizen’s right to be treated equally in her new State of residence, the discriminatory classification is itself a penalty.”\textsuperscript{92}

Following \textit{Shapiro}, courts apply strict scrutiny to laws that penalize interstate travel and migration.\textsuperscript{93} Because courts often determine whether a law imposes a penalty based on the likelihood that the law will discourage residents from migrating to a jurisdiction, courts are likely to find a penalty when the law restricts basic necessities, such as welfare and medical care, from newly arrived residents.\textsuperscript{94} However, the Supreme Court has also recognized penalties in laws that only partially deny non-essential benefits to new residents despite such laws’ seemingly decreased likelihood of deterring travel and migration.\textsuperscript{95}

\textbf{B. Bona Fide Residency Requirements}

Courts show much more deference to bona fide residency requirements than durational residency requirements.\textsuperscript{96} Whereas durational residency requirements “treat established residents differently based on the time they migrated into the State,” bona fide residency requirements simply provide residents with a public benefit that is not available to nonresidents.\textsuperscript{97} Under a bona fide residency requirement, all current residents are eligible for the public benefit and no distinctions are made based on length of residency.\textsuperscript{98} Such laws are not generally viewed as penalizing the right to travel and migration.\textsuperscript{99}

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    \item \textsuperscript{89} 526 U.S. 489, 489 (1999).
    \item \textsuperscript{90} \textit{Id.} at 504–05.
    \item \textsuperscript{91} \textit{Id.}
    \item \textsuperscript{92} \textit{Id.} at 505. The Court was also unpersuaded by a federal law that expressly allowed states to distinguish welfare benefits between new residents and longer-tenured residents. \textit{Id.} at 508. Congress cannot empower states to violate the Fourteenth Amendment. \textit{Id.}
    \item \textsuperscript{93} 394 U.S. 618, 638 n.21 (1969).
    \item \textsuperscript{95} See \textit{Starns}, 326 F. Supp. at 234.
    \item \textsuperscript{96} See Attorney Gen. v. Soto-Lopez, 476 U.S. 898, 903 n.3 (1986).
    \item \textsuperscript{97} See \textit{id.}
    \item \textsuperscript{99} See \textit{id.}
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The Supreme Court has repeatedly upheld bona fide residency requirements. In McCarthy v. Philadelphia Civil Service Commission, the Court used simple rational basis review when it found constitutional a requirement that municipal employees must reside within city limits as a condition of employment. Likewise, in Martinez v. Bynum, the Court upheld a law that denied free public education to nonresident children who lived apart from their parents and were in the school district solely to attend school. The majority in both cases stated that a government can constitutionally restrict eligibility for a public benefit to its bona fide residents. In fact, the Martinez court explained that governments have a “substantial . . . interest in assuring that services provided for its residents are enjoyed only by residents.” Unlike durational residency requirements that risk penalizing interstate travel and migration, bona fide residency requirements do “not burden or penalize the constitutional right of interstate travel, for any person is free to move to a [governmental jurisdiction] and to establish residence there.”

Bona fide resident and employee preferences in affordable housing have been upheld as not violative of the right to travel and migration. In Fayerweather v. Town of Narragansett Housing Authority, the U.S. District Court of Rhode Island reviewed a policy that gave preference to both local residents and local employees in the allocation of Section 8 housing vouchers. Citing to McCarthy and Martinez, the court reviewed the

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100 E.g., id. at 331. Bona fide residency requirements risk being invalidated when they employ irrebuttable presumptions—governmental classifications which are made without determining the individual merits of a person’s residency. See, e.g., Vlandis v. Kline, 412 U.S. 441, 441 (1973). For instance, in Vlandis v. Kline, the Supreme Court overturned a state law requiring students who were not residents when applying for college admission to pay nonresident tuition throughout their education. Id. Residents of the state who had established residency after applying for college were barred from receiving in-state tuition benefits, while residents who had been in the state since the time of their application received such benefits. Id. In Vlandis, the Court pointed to its Starns decision, in which it upheld a durational residency requirement allowing students to be eligible for in-state tuition benefits after one year of residency. Id. at 452–53 n.9 (citing Starns, 326 F. Supp. at 234). Because the law in Starns did not perpetually classify students as non-residents, as the law in Vlandis did, it did not offend the irrebuttable presumption doctrine. Id. at 452–53 n.9.


102 461 U.S. at 321.

103 Id. at 328; McCarthy, 424 U.S. at 647.

104 461 U.S. at 328.

105 Id. at 328–29.


107 Id. at 20, 22 n.3.
preferences under rational basis review. The court concluded that the government had a legitimate interest in providing housing for its own residents and employees before aiding residents and employees of other communities; it implied that the preferences did not penalize travel and migration under Shapiro.

### III. Equal Protection Clause: Facially Neutral Laws with Racially Discriminatory Impacts

The Equal Protection Clause of the Fourteenth Amendment guarantees that no person or class of persons will be denied the same protections of the law that are enjoyed by other persons or classes in similar circumstances. Though challenges to governmental classifications based on equal protection grounds are generally treated with deferential rational basis review, governmental classifications that affect suspect classes or infringe upon fundamental rights are subjected to heightened judicial scrutiny. For instance, a classification that is drawn based on race—a suspect class—or a classification that burdens migration—a fundamental right—will be invalidated unless it is necessary to promote a compelling governmental purpose. However, nonresidents and nonemployees have never been recognized as suspect classes. Likewise, courts have never recognized a fundamental right to affordable housing. Thus, the Equal Protection Clause appears to be an inappropriate vehicle to overturn the facial classifications used for affordable housing allocation.

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108 [Id.](#) at 22.

109 See [Id.](#) at 22. In another case that cited *Fayerweather*, the court found that a bona fide residency requirement for a homeless shelter did not violate the right to travel or migration. *Family Life Church v. City of Elgin*, No. 07 CV 0217, 2007 WL 2790752, at *3 (N.D. Ill. Sept. 24, 2007).

110 See U.S. Const. amend. XIV, § 1.

111 See *City of Cleburne v. Cleburne Living Ctr., Inc.*, 473 U.S. 432, 439–40 (1985). Race, alienage, and national origin are generally held to be suspect classes. *Id.* at 440. The Court has recognized an individual’s fundamental right to travel, privacy, marriage, and procreation, though these rights are not specifically enumerated in the Constitution. See generally *Chemerinsky*, supra note 54, ch. 10 (describing fundamental rights under the Due Process and Equal Protection Clauses).


113 See *Chemerinsky*, supra note 54, ch. 10 (describing fundamental rights under due process and equal protection).


115 See *id.*
Though the Equal Protection Clause probably cannot facially invalidate local resident and employee classifications, the discriminatory effects of such policies could theoretically sustain an as applied challenge under the Equal Protection Clause.\textsuperscript{116} Many laws that do not overtly mention race are nonetheless implemented in a manner that either discriminates against minorities or has a disproportionate impact upon them.\textsuperscript{117} However, the Supreme Court has consistently held that discriminatory racial impacts alone are insufficient to sustain an equal protection claim; there must also be proof of purposeful discrimination.\textsuperscript{118}

Proving the existence of purposeful discrimination has been an exceedingly difficult undertaking for plaintiffs.\textsuperscript{119} Only the most brazen of legislators would state bigoted purposes for their policies.\textsuperscript{120} In addition, benevolent motives can be espoused for most laws.\textsuperscript{121} “Not only might it be impossible for a court to determine the motivation behind the choices of a group of legislators, but, even if a court could do so, the legislature could presumably lawfully reenact the challenged policy by passing it for different reasons.”\textsuperscript{122} Thus, the intrinsic difficulties of proving intent can persuade courts to uphold laws despite actual discriminatory intent and impacts.\textsuperscript{123}

The Supreme Court articulated three ways through which purposeful discrimination can be proved in its landmark decision \textit{Village of Arlington Heights v. Metropolitan Housing Development Corp} (\textit{Arlington Heights I}).\textsuperscript{124} First, a law’s impact may be so plainly discriminatory that no nondiscriminatory justification would be possible.\textsuperscript{125} Second, the context and

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  \item \textsuperscript{116} See \textit{Chemerinsky}, supra note 54, at 710.
  \item \textsuperscript{117} Id.
  \item \textsuperscript{119} \textit{Chemerinsky}, supra note 54, at 712. When proving purposeful discrimination, a plaintiff must demonstrate that the government acted from a desire to discriminate; legislators’ mere knowledge that a policy will have discriminatory consequences is not enough. \textit{Pers. Adm’r v. Feeney}, 442 U.S. 256, 279 (1979) (explaining that purposeful discrimination implies that the government “selected or reaffirmed a particular course of action at least in part ‘because of,’ not merely ‘in spite of,’ its adverse effects upon an identifiable group”).
  \item \textsuperscript{120} See Daniel R. Ortiz, \textit{The Myth of Intent in Equal Protection}, 41 STAN. L. REV. 1105, 1108 (1989).
  \item \textsuperscript{121} See id.
  \item \textsuperscript{122} Id.
  \item \textsuperscript{123} \textit{Chemerinsky}, supra note 54, at 712.
  \item \textsuperscript{124} 429 U.S. 252, 266–68 (1977) [\textit{Arlington Heights I}].
  \item \textsuperscript{125} Id. at 266. In \textit{Yick Wo v. Hopkins}, the plaintiff challenged a city ordinance requiring that laundries be located in brick or stone buildings unless a waiver was obtained. 118 U.S.
sequence of events leading up to the challenged policy can indicate purposeful discrimination.\textsuperscript{126} Third, the legislative and/or administrative history of a law can reveal explicit discriminatory purposes.\textsuperscript{127} Absent purposeful discrimination that can be proved by inexplicably disproportionate effects, obvious contextual circumstances, or barefaced statements, however, the Equal Protection Clause is not suited to overturn a facially neutral law merely because it has discriminatory impacts.\textsuperscript{128}

Though discriminatory racial impacts alone are insufficient to establish an equal protection claim, Section Five of the Fourteenth Amendment empowered Congress to legislate against discrimination.\textsuperscript{129} It is through such legislation that Congress has enacted a wide range of civil rights laws—including Title VII of the 1964 Civil Rights Act, the 1982 Amendments to the Voting Rights Act of 1965, and the Fair Housing

356, 356 (1886). Upon producing evidence that over 200 waiver applications were denied to persons of Chinese ancestry whereas all waiver applications filed by non-Chinese persons were approved, the plaintiff convinced the Court of the city’s discriminatory intent. See id. at 359. Similarly, in Gomillion v. Lightfoot, the plaintiff challenged a government’s redrawing of municipal boundaries that excluded virtually all of the city’s black voters while excluding not a single white voter. 364 U.S. 339, 339 (1960). The Court was once again persuaded that legislators had acted for no other purpose than racial discrimination. Id. Statistical evidence, therefore, can be a powerful tool in demonstrating discriminatory intent. See CHEMERINSKY, supra note 54, at 716. However, cases such as Yick Wo and Gomillion are quite rare. Arlington Heights I, 429 U.S. at 266 (“Absent a [statistical] pattern [this] stark . . . impact alone is not determinative, and the Court must look to other evidence.”).

\textsuperscript{126} Arlington Heights I, 429 U.S. at 267. For example, in Guinn v. United States, the Court invalidated a state law requiring a literacy test for voting that effectively exempted white citizens through a grandfather clause for descendants of those who where eligible to vote in 1866. 238 U.S. 347, 347–48 (1915). Though the law was facially neutral, its historical context made the legislature’s discriminatory purpose perfectly clear. See id. at 357–58. The Court in Griffin v. County School Board of Prince Edward County invalidated a policy that closed public schools in response to desegregation orders, effectively forcing residents to pay for children to attend segregated private schools. 377 U.S. 218, 219 (1964). The facially neutral law’s discriminatory purpose was once again ascertained by looking at its historical context. See id. at 220–25.

\textsuperscript{127} Arlington Heights I, 429 U.S. at 268. By examining statements made by lawmakers in the transcripts of their meetings or reports, courts are able to ascertain publicly stated motivations. See id. However, the real-world usefulness of this method is most limited because it would take an unusually shameless legislator to openly state a racially discriminatory motive. See Ortiz, supra note 120, at 1108.

\textsuperscript{128} Arlington Heights I, 429 U.S. at 266–68. Even if a plaintiff is able to prove the existence of purposeful discrimination through one of the three methods mentioned in Arlington Heights I, the law is not immediately invalidated. Id. at 270 n.21. Rather, the burden would then shift to the government to prove that it would have taken the same action even if it did not have discriminatory motivation. Id. Thus, the government is given an opportunity to articulate a non-discriminatory rationale for its law. Id. This burden shifting poses yet another obstacle for potential plaintiffs in a judicial system that appears extremely hesitant to overturn facially neutral laws for violating the Equal Protection Clause. See id.

\textsuperscript{129} U.S. CONST. amend. XIV, § 5.
Act—which do allow statutory violations to be proved by discriminatory impact apart from discriminatory intent. Thus, a plaintiff who is foreclosed from bringing suit under the Equal Protection Clause for failing to establish purposeful discrimination may still be able to bring suit under a civil rights statute.

IV. The Fair Housing Act

A. Overview of the Fair Housing Act

The Fair Housing Act (FHA), which was enacted as Title VIII of the Civil Rights Act of 1968, has been successfully used by plaintiffs seeking to invalidate policies or practices shown to have a discriminatory impact on the basis of race—or another criterion barred by the FHA—without evidence of purposeful discrimination. The FHA prohibits the refusal to rent or sell, or to “otherwise make unavailable or deny,” a dwelling to any person “because of” race, religion, sex, familial status, national origin, or disability. In addition to protecting against specific discriminatory actions—such as inequitable advertising practices—the FHA also features relaxed standing requirements for plaintiffs.

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131 See Chemerinsky, supra note 54, at 711–12.  
133 42 U.S.C. §§ 3604(a), (c). It is important to note that Congress only intended the FHA to protect the classes that it specifically enumerated in the text. See Zimmerman & Cohen, supra note 112, at 53–54. Indigent individuals were not mentioned as such a group. See id. Thus, FHA litigation attacking local land use and zoning decisions has had to demonstrate disproportionate impacts on one of the classes protected by the FHA. See id.  
134 42 U.S.C. §§ 3604(c), 3610(a), 3612; Ronald S. Javor & Michael Allen, Federal, State, and Local Building and Housing Codes Affecting Affordable Housing, in The Legal Guide to Affordable Housing Development 162, 197 (Tim Iglesias & Rochelle E. Lento eds., 2005). The text of the FHA states that an “aggrieved person” may initiate an action in order to attain relief from a discriminatory housing practice. 42 U.S.C. § 3610(a)(1)(A)(i). Congress defined “aggrieved person” to include anyone who “(1) claims to have been injured by a discriminatory housing practice; or (2) believes that such person will be injured by a dis-
B. The Fair Housing Act as a Litigation Tool

The FHA picks up where courts are reluctant to extend equal protection guarantees because plaintiffs are able to base their challenges solely on a policy’s discriminatory impacts. After concluding that equal protection claims require evidence of purposeful discrimination, the Court in Village of Arlington Heights v. Metropolitan Housing Development Corp. (Arlington Heights I) remanded the case to a federal court of appeals for a finding of FHA violations. Other courts have interpreted this decision to imply that discriminatory impacts alone are sufficient for FHA claims. In Resident Advisory Board v. Rizzo, the U.S. Court of Appeals for the Third Circuit explained that although the FHA’s “because of race” language might seem to suggest that a plaintiff must show some measure of purposeful discrimination, such a statutory interpretation would raise the plaintiff’s burden to the nearly impossible level of equal protection analysis. The Rizzo court also noted that, on remand, the court in Metropolitan Housing Development Corp. v. Village of Arlington Heights (Arlington Heights II) found the “because of race” language not to be unique to Section 3604(a) of the FHA; the same language appears in Title VII of the Civil Rights Act of 1964, which allows a prima facie case to be made by discriminatory effects alone.

The legislative history of the FHA also suggests that Congress intended for discriminatory impacts to suffice in an FHA claim apart from purposeful discrimination. The Rizzo court noted that during the Senate floor debate prior to passage of the FHA, several Congressmen spoke of the FHA’s importance in eliminating the adverse discriminatory effects of past and present prejudice in housing. In addition, Senator Baker introduced a doomed amendment that would have required proof of discriminatory intent akin to the equal protection

criminatory housing practice that is about to occur.” Id. § 3602(i). This broad definition ostensibly overrides the traditional prudential limitations on standing, which prevent plaintiffs from resting their claims on third parties without asserting their own legal rights or interests. See id. While an “aggrieved person does not necessarily have to be the person discriminated against,” an FHA plaintiff must always satisfy constitutional standing requirements under Article III of the Constitution. See Kyles v. J.K. Guardian Sec. Servs., Inc., 222 F.3d 289, 294 (7th Cir. 2000); Growth Horizons, Inc. v. Del. City, 983 F.2d 1277, 1282 n.6 (3rd Cir. 1993).

135 See Zimmerman & Cohen, supra note 112, at 56.
137 Rizzo, 564 F.2d at 147; Schmidt, 505 F. Supp. at 994.
138 See 564 F.2d at 146–47.
139 Id. at 147; see 42 U.S.C. § 2000e-2(h) (2000).
140 Rizzo, 564 F.2d at 147.
141 Id.; see 114 Cong. Rec. 3421 (1968) (statement of Sen. Mondale).
standard in all FHA claims.\textsuperscript{142} This amendment was rejected, as Senator Percy voiced the opposition’s concern about the virtually insurmountable burden it would impose on plaintiffs.\textsuperscript{143}

\section*{C. Discriminatory Effects Under the Fair Housing Act}

The Supreme Court has not decided how courts should analyze whether a particular discriminatory impact constitutes a violation of the FHA.\textsuperscript{144} Lower courts have taken varied approaches.\textsuperscript{145} In \textit{Arlington Heights II}, the U.S. Court of Appeals for the Seventh Circuit stated that not “every action which produces discriminatory effects is illegal [under the FHA].”\textsuperscript{146} In a move that was later followed by the Fourth Circuit, the \textit{Arlington Heights II} court created a test to examine the following factors: (1) how strong the plaintiff’s showing of discriminatory effect is; (2) whether there is some evidence of discriminatory intent; (3) what the defendant’s interest is in taking the action complained of; and (4) whether the plaintiff seeks to either compel the defendant to affirmatively provide housing for minorities, or merely to restrain the defendant from interfering with individual property owners who wish to provide such housing.\textsuperscript{147} It seems counterintuitive that a test designed to measure discriminatory impact alone would include the second factor, which examines evidence of discriminatory intent.\textsuperscript{148} However, the court noted that the controversial second factor was the least important and that “too much reliance on this evidence would be unfounded.”\textsuperscript{149} The Sixth Circuit has adopted a modified \textit{Arlington Heights II} approach that completely abandons the second factor.\textsuperscript{150}

The majority of the remaining circuits do not follow the multifactor approach of \textit{Arlington Heights II}. Instead, they follow a prima facie approach, meaning that “proof of discriminatory effect alone is always sufficient to establish a violation of the [FHA].”\textsuperscript{151} In \textit{Huntington Branch, NAACP v. Town of Huntington}, the U.S. Court of Appeals for the Second Circuit criticized the \textit{Arlington Heights II} factors because they

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  \item\textsuperscript{142} 114 Cong. Rec. 5221–22 (1968).
  \item\textsuperscript{143} Id.; see Rizzo, 564 F.2d at 147.
  \item\textsuperscript{144} See Zimmerman & Cohen, supra note 112, at 56.
  \item\textsuperscript{145} See id.
  \item\textsuperscript{147} Id.
  \item\textsuperscript{148} See id. at 1292.
  \item\textsuperscript{149} Id.
  \item\textsuperscript{150} See Arthur v. City of Toledo, 782 F.2d 565, 575 (6th Cir. 1986).
  \item\textsuperscript{151} Keith v. Volpe, 858 F.2d 467, 482 (9th Cir. 1988).
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“place[d] too onerous a burden on [plaintiffs].”152 It then noted that the legislative history of the FHA argues against such a “daunting . . . standard.”153 The chief difference between the multifactor and prima facie approaches involves the government’s burden of proof in justifying its actions.154 In multifactor jurisdictions, plaintiffs bear the burden of demonstrating that the government can achieve its objectives through a less discriminatory alternative.155 In more lenient prima facie jurisdictions, the plaintiff establishes an FHA claim once proof of discriminatory effect is shown; the burden then shifts to the government to prove first that its actions furthered, in theory and in practice, a legitimate, bona fide governmental interest, and second, that no alternative would serve that interest with less discriminatory impact.156

All courts recognize two basic types of discriminatory effects.157 First, a decision can have a greater adverse impact on one protected group than another.158 This type of discriminatory effect can be demonstrated by statistical demographic information.159 The court in Huntington Branch, NAACP suggested that plaintiffs should focus on “proportional statistics” instead of “absolute numbers.”160 In that case, although a greater number of whites were below the poverty line, nonwhites were proportionately poorer.161 The second type of discriminatory effect occurs when a government policy perpetuates segregation.162 In United States v. City of Black Jack, the U.S. Court of Appeals for the Eighth Circuit invalidated a city ordinance prohibiting the construction of any new multifamily dwellings.163 The court found that the plaintiff’s prima facie case was satisfied upon showing that exclusion of townhouses would “contribute to the perpetuation of segregation in [the city].”164

152 844 F.2d 926, 935–36 (2nd Cir. 1988).
153 Id. at 936.
154 See Duane J. Desiderio et al., Fair Housing Act Primer, (ALI-ABA Course of Study, Aug. 16–18, 2007), WL SN005 ALI-ABA 61, 82.
155 See id.
156 Resident Advisory Bd. v. Rizzo, 564 F.2d 126, 149 (3d Cir. 1977).
157 Zimmerman & Cohen, supra note 112, at 56.
158 See id.
159 See Huntington Branch, NAACP v. Town of Huntington, 844 F.2d 926, 938 (2nd Cir. 1988).
160 Id.
161 See id.
162 United States v. City of Black Jack, 508 F.2d 1179, 1186 (8th Cir. 1974).
163 Id. at 1188.
164 Id. at 1186.
D. Local Resident Preferences Under the Fair Housing Act

Even in jurisdictions that follow the more onerous multifactor test, plaintiffs have successfully used the FHA to invalidate bona fide residency requirements for affordable housing. In *United States v. Housing Authority of Chickasaw*, the U.S. Department of Justice (DOJ) brought suit against the city of Chickasaw, Alabama for using a bona fide residency requirement in its public housing program. The DOJ provided statistical evidence that the residency requirement resulted in a public housing facility that never housed any African American tenants despite being located in Mobile County, which had a large African American population. The district court found both types of discriminatory impact: the residency requirement had a greater adverse impact on African Americans than whites since it had the effect of excluding all nonwhites, and the requirement perpetuated the segregation of the community because it discouraged neighboring African Americans from integrating into Chickasaw.

Upon balancing the four *Arlington Heights II* factors, the Chickasaw court concluded that the city’s bona fide resident requirement violated the FHA due to its discriminatory effects. The court stated that it is required to “decide close cases in favor of integrated housing.” However, the court was careful to note that not all affordable housing resi-

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166 *Id.* at 726.
167 *Id.* at 717–18.
168 *Id.* at 730. The Chickasaw court next employed the second *Arlington Heights II* factor in determining whether there was some evidence of purposeful discrimination. *Id.* at 731. Though it noted there was no evidence of discriminatory intent, the court repeated a Seventh Circuit opinion which stated that discriminatory intent need not be shown in order to prove a violation of the FHA. *Id.* In examining the city of Chickasaw’s governmental interest, the court did not mention whether there were less discriminatory alternatives available. See *id.* at 731–32. Instead, it merely stated that the city “was acting within the ambit of its [state-derived] authority when it adopted the residency requirement” as it found the third factor to weigh heavily in favor of the city. *Id.* Under the fourth factor, the court credited the DOJ for not seeking to require Chickasaw to affirmatively house minorities. *Id.* at 732. Rather, it was merely seeking to invalidate Chickasaw’s residency requirement. *Id.*
169 *Chickasaw*, 504 F. Supp. at 733. Interestingly, the DOJ also attacked the bona fide residency requirement as violative of the fundamental right to travel and migration. *Id.* at 732–33. However, because the case was decided on statutory grounds, there was no need for the court to go into Constitutional analysis. *Id.* at 733.
170 *Id.* at 732 (quoting *Arlington Heights II*, 558 F.2d 1283, 1294 (7th Cir. 1977)).
dency requirements are per se violations of the FHA; such policies may serve a valid public purpose.  

V. THE LEGALITY OF LOCAL RESIDENT AND EMPLOYEE PREFERENCES IN AFFORDABLE HOUSING

A local government that operates its affordable housing program in a manner that gives preference to local residents and/or persons employed within its boundaries risks offending the fundamental right to travel and migration, the Equal Protection Clause, and the Fair Housing Act. The potential legal problems associated with both types of prefer-

171 Id. at 731. Another case is helpful in understanding why a court would overturn a local resident or employee preference for violating the FHA. As in Fayerweather v. Town of Narragansett Housing Authority—see discussion supra Part II.B—Langlois v. Abington Housing Authority involved a challenge to Section 8 voucher preferences for those who lived in the jurisdiction. See Langlois v. Abington Hous. Auth., 234 F. Supp. 2d 33, 33 (D. Mass. 2002). Unlike Fayerweather, in which the plaintiff unsuccessfully challenged the preferences as violative of the right to travel and migration, the Langlois complaint focused on a statutory FHA challenge. See id.; see also Fayerweather v. Town of Narragansett Hous. Auth., 848 F. Supp. 19, 19 (D.R.I. 1994).

Despite no evidence of purposeful discrimination, the district court inferred that the combination of a local preference and severe ethnic and racial differences between Abington, Massachusetts and nearby Boston created discriminatory racial impacts. See Langlois, 234 F. Supp. 2d at 43, 66. Under Huntington Branch, NAACP, this evidence shifted the burden to the town of Abington to prove that there were no less discriminatory alternatives available. 844 F.2d 926, 936 (2nd Cir. 1988). Noting the similarities to Huntington Branch, NAACP, the district court then concluded that Abington failed to demonstrate that no less discriminatory alternatives were available. Langlois, 234 F. Supp. 2d at 70. Thus, the preferential policies were invalidated under the FHA. Id. at 78.

Prior to Langlois, which was at the district court level on remand, the First Circuit Court of Appeals had upheld the local resident requirements due largely to a federal statute permitting such preferences in Section 8 vouchers. Langlois v. Abington Hous. Auth., 207 F.3d 43, 51 (1st Cir. 2000); see 42 U.S.C. § 1437f(o)(6) (2000). The court concluded that “[i]t is hard not to treat Congress’s own [permission] as justification enough to satisfy a statutory impact discrimination claim of the kind before us.” Langlois v. Abington Hous. Auth., 207 F.3d at 51. Absent express congressional permission, the district court’s invalidation of the resident preferences would presumably have been affirmed. See Chickasaw, 504 F. Supp. at 732. Thus, because there is no congressional authorization for local resident preferences in non-Section 8 and other municipal housing programs, the FHA appears fully capable of invalidating local resident preferences in local affordable housing programs. See id.; Langlois, 234 F. Supp. 2d at 78.

The FHA has also been used to invalidate employee preferences in affordable housing. In Davis v. New York City Housing Authority, the Second Circuit upheld a district court injunction against a working family preference due to its disparate racial impacts. 278 F.3d 64, 76, 88 (2nd Cir. 2002). However, the preference was for working families in general, and did not favor local employees. See id. at 68–69.

172 See supra text accompanying notes 93–96, 125–29, 166–71. A variety of state laws that could be implicated by local resident and employee preferences lie beyond the scope of this Note. See supra note 13. In addition, when funds from the U.S. Department of Housing and
ence, as well as suggestions for structuring lawful programs, are discussed below.

A. Local Resident Preferences in Affordable Housing

1. Right to Travel and Migration

a. Durational Resident Preferences

Because courts apply strict scrutiny to durational residency requirements, an affordable housing policy that grants preference to local residents based on the length of their residency would almost certainly be challenged and overturned as violative of the fundamental right to travel and migration. It is true that a durational preference would be less onerous than an absolute requirement; depending on how the preference was implemented, such a policy would not completely deny the public benefit to outsiders or newly arrived residents. However, a durational resident preference would probably be invalidated for two reasons. First, following Saenz v. Roe, courts are not receptive to the argument that a policy only partially denies benefits to new residents and should thus be treated with more deference. Second, in the spectrum of durational residency requirements that have been challenged, a reviewing court would probably determine that affordable housing is a basic necessity, more similar to welfare and hospital care than divorce or in-state tuition benefits. Thus, under Shapiro v. Thompson and its progeny, a durational preference for local residents would be seen as a penalty on the fundamental right of outsiders to migrate to the challenged jurisdiction.

Urban Development (HUD) or similar state agencies are used in an affordable housing development, preferences may conflict with agency policies. See generally Henry Korman, Citizens’ House and Planning Ass’n, Meeting Local Housing Needs: A Practice Guide for Implementing Selection Preferences and Civil Rights Requirements in Affordable Housing Programs (2004), available at http://www.chapa.org/files/f_1220549146LocalHousingNeedsReport.pdf (outlining various agency policies that both approve and prohibit local resident and employee preferences in affordable housing).

174 See id.
175 See id.
177 See Sosna, 419 U.S. at 419 (Marshall, J., dissenting); Mem’l Hosp., 415 U.S. at 256–57; Shapiro, 394 U.S. at 638 n.20; Starns, 326 F. Supp. at 238.
likely follow strict scrutiny and invalidate the durational preference upon determining that less restrictive means—such as local recruitment and advertising schemes—are able to accomplish the governmental purposes behind the preference.  

b. Bona Fide Resident Preferences

Though courts have consistently upheld bona fide residency requirements against challenges based on the right to travel and migration, a bona fide resident preference unaccompanied by some other broadening qualification could be invalidated.  

The chief reason that courts give deference to bona fide residency requirements is that “any person is free to move” to a locality and “establish residence” in order to receive a public benefit. Because all residents are eligible for the public benefit without regard to length of residency, there is no penalty on nonresident travel or migration. However, affordable housing is unlike other public benefits. It is logically infeasible for a person to move to a locality unless they can first afford to live there. Bona fide residency preferences in affordable housing consequently pose an immense risk of deterring indigent nonresidents from migrating and establishing residency. Upon challenge, a reviewing court could determine that such preferences are prohibitively burdensome on low-income nonresidents’ fundamental right to travel and migration.

Bona fide resident preferences should be structured as broadly and inclusively as possible in order to avoid potential challenges based on the right to travel and migration. In particular, resident preferences should be accompanied by local employee preferences and/or other broadening qualifications. In giving indigent nonresidents a legitimate opportunity to receive affordable housing benefits through alternative processes, not merely residency alone, local governments would reduce the risk of deterring or penalizing migration.

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178 In Langlois v. Abington Housing Authority, the court mentioned that a local recruitment and advertising scheme would be a less restrictive alternative to residency requirements. See 234 F. Supp. 2d 33, 70 (D. Mass. 2002).


180 Martinez, 461 U.S. at 328–29.

181 See id.

182 See id.

183 See id.

184 See Gould, supra note 12, at 9.

185 See id.

186 See id.
Town of Narragansett Housing Authority, the court credited the breadth of the city’s affordable housing policy, which gave preference to both local residents and local employees. In addition to having a local employee preference complement its local resident preference, a local government might also broaden its preferred applicant pool by extending affordable housing preferences to a geographic area beyond its jurisdiction. For instance, a city could grant preference to all persons who live or work in the surrounding county. Expanded geographic preferences increase the likelihood that indigent nonresidents can become residents in order to qualify for the public benefit, thereby reducing the risk of deterring or penalizing nonresident travel and migration.

2. Equal Protection Clause

It is extremely unlikely that a local resident preference would be overturned for violating the Equal Protection Clause on the basis of discriminatory effects. Indeed, it has never happened. While local resident preferences can clearly cause or perpetuate disparate racial impacts, particularly in localities surrounded by greater racial diversity, equal protection jurisprudence requires a challenger to prove that the government was motivated by a desire to discriminate. In practical terms, the test expressed in Village of Arlington Heights v. Metropolitan Housing Development Corp. (Arlington Heights I) demands that a plaintiff demonstrate purposeful discrimination through unexplainable and egregious disproportionate effects, obvious contextual circumstances, or statements of legislators. Only in the most exceptional of scenarios would this be possible. Courts are consequently hesitant to overturn

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188 Id. at 22.
189 Korman, supra note 172, at 80; Gould, supra note 12, at 9.
190 Korman, supra note 172, at 80; Gould, supra note 12, at 9. It is worth noting that if federal funds are involved in an affordable housing development, some federal regulations prohibit geographic preference areas smaller than the local government itself. See, e.g., 24 C.F.R. § 5.655(c)(1) (2007) (Section 8 housing); 24 C.F.R. § 960.206(b)(1)–(3) (2007) (public housing); 24 C.F.R. § 982.207(b)(1)–(3) (2007) (multifamily housing); see also Korman, supra note 172, at 39 n.29.
191 See Korman, supra note 172, at 80; Gould, supra note 12, at 9.
192 See supra notes 116–28 and accompanying text.
195 See supra notes 120–24 and accompanying text.
facially neutral laws, such as local resident preferences, on the grounds that they violate the Equal Protection Clause.\footnote{See id.} 

3. Fair Housing Act

The FHA and other civil rights laws were originally enacted in order to prevent discrimination against protected classes of people.\footnote{Fair Housing Act of 1968, 42 U.S.C. §§ 3601–3631 (2000).} These same laws apply to local governments seeking to serve their own residents in affordable housing programs.\footnote{See, e.g., Fayerweather v. Town of Narragansett Hous. Auth., 848 F. Supp. 19, 20 (D.R.I. 1994).} Congress deliberately removed from the FHA a plaintiff’s difficult burden of proving purposeful discrimination that is present in equal protection claims.\footnote{See supra notes 141–44 and accompanying text.} Instead, a plaintiff must only demonstrate that a local resident preference creates or perpetuates a discriminatory impact.\footnote{See United States v. City of Black Jack, 508 F.2d 1179, 1186 (8th Cir. 1974).} Thus, of all the legal risks to local resident preferences discussed in this Note, an FHA claim is perhaps the easiest for plaintiffs to bring and the most difficult for local governments to defend.\footnote{See Gould, supra note 12, at 9.}

It is regrettable that residential segregation still characterizes many of America’s metropolitan regions.\footnote{See Nancy A. Denton, Segregation and Discrimination in Housing, in A Right to Housing 61, 62 (Rachel G. Bratt et al. eds., 2006).} Discrimination takes numerous forms and comes from a variety of institutions.\footnote{See generally id. (describing many of the causes of racial segregation in housing).} Overt harassment and violence, income inequality, exclusionary zoning, prejudiced mortgage lending, and bigoted home sales and rentals are just a few of the many practices that have contributed to modern residential segregation.\footnote{See id. at 69.} However, even the most blameless of local governments cannot ignore regional racial imbalances.\footnote{See Gould, supra note 12, at 9.} When racial imbalances exist, the resulting discriminatory effects of a local resident preference can be obvious. In a predominantly white municipality, for example, a local resident preference would disproportionately benefit whites while excluding other races from affordable housing.\footnote{See id.} The preference would also perpetuate
existing segregation by discouraging neighboring nonwhites from integrating into the municipality.\textsuperscript{207}

An FHA claim against a local government’s resident preference is likely to succeed when the locality is significantly more homogenous than its surrounding region.\textsuperscript{208} In considering whether a local resident preference has a disparate impact, courts compare the demographics of the locality to the demographics of the surrounding region.\textsuperscript{209} In the FHA claim presented in \textit{Langlois v. Abington Housing Authority}, the court borrowed a statistical test known as the “four-fifths rule,” which is used by the Federal Equal Employment Opportunity Commission (EEOC), to measure disparate impact in employment practices.\textsuperscript{210} According to the four-fifths rule, “[a] selection rate for any race . . . which is less than four-fifths . . . (or eighty percent) of the rate for the group with the highest rate will generally be regarded by the Federal enforcement agencies as evidence of adverse impact.”\textsuperscript{211} This test can be a useful guideline for local governments as they monitor their affordable housing programs; however, there is ultimately no bright-line statistical test for determining disparate impact.\textsuperscript{212} Other courts have used somewhat different tests.\textsuperscript{213}

Once a plaintiff has demonstrated that a local resident preference causes or perpetuates a disparate racial impact, courts take varying approaches in determining whether the disparate impact violates the FHA.\textsuperscript{214} The minority of courts adhere to the multifactor test outlined in \textit{Metropolitan Housing Development Corp. v. Village of Arlington Heights (Arlington Heights II)}.\textsuperscript{215} Under this test, the plaintiff bears the burden of demonstrating that the government can achieve its objective through a less discriminatory alternative.\textsuperscript{216} Most courts follow a prima facie approach, meaning that the local government must justify disparate im-

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\item \textsuperscript{207} See United States v. City of Black Jack, 508 F.2d 1179, 1186 (8th Cir. 1974); United States v. Hous. Auth. of Chickasaw, 504 F. Supp. 716, 730 (S.D. Ala. 1980).
\item \textsuperscript{208} See Chickasaw, 504 F. Supp. at 730.
\item \textsuperscript{209} See Gould, supra note 12, at 9.
\item \textsuperscript{210} 234 F. Supp. 2d 33, 57 (D. Mass. 2002); see Korman, supra note 172, at 74–75 (“The rule is intended to gauge the discriminatory effect of selection from within an existing pool of qualified candidates.”).
\item \textsuperscript{211} Langlois, 234 F. Supp. 2d at 57 (quoting 29 C.F.R. § 1607.4(D) (2002)).
\item \textsuperscript{212} See Korman, supra note 172, at 74.
\item \textsuperscript{213} See, e.g., Summerchase Ltd. P’ship v. City of Gonzales, 970 F. Supp. 522, 528–30 (M.D. La. 1997) (comparing the absolute number of minorities receiving the benefit to the absolute number of minorities who were eligible).
\item \textsuperscript{214} See supra notes 144–55 and accompanying text.
\item \textsuperscript{215} See id.
\item \textsuperscript{216} See id.
\end{itemize}
pacts by demonstrating that it has a compelling purpose and that no less discriminatory alternatives are available.\textsuperscript{217} Regardless of which party bears the burden, a plaintiff would likely be successful in arguing that local zoning and planning policies contribute to the unaffordability of housing; simply removing the zoning and planning policies would be a less discriminatory alternative and would allow unregulated growth to create affordable housing opportunities for residents and nonresidents alike.\textsuperscript{218} Such laissez-faire development would be highly undesirable for most local governments.\textsuperscript{219}

The risk that local resident preferences will create or perpetuate a disparate impact, coupled with the difficulty of defending such an occurrence, should convince local governments that it is necessary to extend preferences beyond only current residents.\textsuperscript{220} As with right-to-travel concerns, local governments would be wise to extend preferences to households that have a member who works in the jurisdiction.\textsuperscript{221} Additionally, a locality could reduce the risk of a disparate impact by extending preferences to residents of a more diverse surrounding geographic area, such as a county.\textsuperscript{222} Expanded preferences increase the ethnic diversity of the preferred applicant pool, thereby reducing the risk of creating or perpetuating a disparate racial impact.\textsuperscript{223}

Finally, it may be possible to mitigate a discriminatory impact through the use of partial preferences. For example, a local government could require developers to grant preference to local residents in fifty percent of their affordable housing set-asides, rather than the entire stock.\textsuperscript{224} Additionally, developers could be required to grant local resident preferences only when filling initial vacancies.\textsuperscript{225} Selection of subsequent occupants could be based on income alone, without regard to residency.\textsuperscript{226} Both of these partial preferences would reduce the risk of creating or perpetuating discriminatory racial impacts.\textsuperscript{227}

\textsuperscript{217} See \textit{id}.
\textsuperscript{218} See Lerman, supra note 4, at 386–88.
\textsuperscript{219} See \textit{id} at 387.
\textsuperscript{220} See Korman, supra note 172, at 77; Gould, supra note 12, at 9.
\textsuperscript{221} See Gould, supra note 12, at 9.
\textsuperscript{222} Korman, supra note 172, at 80; Gould, supra note 12, at 9.
\textsuperscript{223} See Gould, supra note 12, at 9.
\textsuperscript{224} Korman, supra note 172, at 79.
\textsuperscript{225} \textit{Id}.
\textsuperscript{226} See \textit{id}.
\textsuperscript{227} See \textit{id}.
B. Local Employee Preferences in Affordable Housing

1. Right to Travel and Migration

   Local employee preferences in affordable housing, by themselves, do not resemble any preferences that have ever been challenged as violating the right to travel and migration. Unlike residency preferences that risk preventing indigent nonresidents from migrating because they cannot afford to live in the jurisdiction—and consequently cannot receive preference in affordable housing—employee preferences are unlikely to offend the right to travel because employment is more easily attainable. Nonetheless, local employee preferences should be extended not just to persons currently employed in the jurisdiction, but also to persons who have offers of employment in the jurisdiction. The inclusiveness of such a preference would reduce the risk of deterring or penalizing nonresident migration, and would most likely receive deferential rational basis review if challenged. A local government would have a variety of reasonable justifications for local employee preferences in affordable housing, including the desire to reduce traffic congestion, long commute times, noise, poor air quality, and other negative environmental impacts. Preferences for employees in vital occupations could be justified by compelling public safety interests.

2. Equal Protection Clause

   It is extremely unlikely that a local employee preference would be overturned for violating the Equal Protection Clause on the basis of discriminatory effects. Not only would the discriminatory impact of employee preferences be less direct than resident preferences—which themselves probably could not sustain an equal protection claim—but the indirect racial impacts of employee preferences would make them an unlikely tool for bigoted legislators to use with the intention of exclud-
ing a protected class. A court would be much more willing to find a violation of a civil rights statute, such as the FHA.

3. Fair Housing Act

Though less direct than local resident preferences in segregated regions, local employee preferences also risk creating and perpetuating disparate racial impacts in violation of the FHA. Even if local employers have hiring practices that are nondiscriminatory, a jurisdiction’s local employees can still be characterized by homogenous races or genders. Likewise, vital civic occupations, such as teachers, police officers, and firefighters, frequently have a racial or gender makeup that is not wholly representative of the area’s demographics. In such cases, one or more groups may be able to challenge a local employee preference based on its disparate impacts. A challenger would have a persuasive argument that less discriminatory means are available to achieve the government’s purpose. Rather than giving preference to local employees in affordable housing, a government could provide low-interest loans and other fiscal inducements in exchange for employees’ commitments to live in the jurisdiction, a practice that is already common in many cities. Both multifactor and prima facie jurisdiction courts would have a difficult time ignoring such a less-discriminatory alternative.

It is again imperative that local employee preferences be structured as broadly and inclusively as possible in order to avoid an FHA violation. In addition to expanding the preferred geographic employment area, a locality should also ensure that a broad swath of local employees is given preference. For instance, a preference for local teachers should be expanded to include all employees of the school district, in-

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235 See id.
236 See United States v. City of Black Jack, 508 F.2d 1179, 1185 (8th Cir. 1974).
237 See Davis v. N.Y. City Hous. Auth., 278 F.3d 64, 88 (2d Cir. 2002).
240 See Davis, 278 F.3d at 88; Huntington Branch, NAACP v. Town of Huntington, 844 F.2d 926, 936 (2nd Cir. 1988).
241 See Huntington Branch, NAACP, 844 F.2d at 936.
242 See Korman, supra notes 48–49 and accompanying text.
243 See Huntington Branch, NAACP, 844 F.2d at 936; Arlington Heights II, 558 F.2d 1283, 1290 (7th Cir. 1977).
244 See Korman, supra note 172, at 79–80; Gould, supra note 12, at 9.
245 See Korman, supra note 172, at 79–80.
including janitorial staff and other lower-wage earners. By increasing the diversity of preferred applicants, expanded employment preferences decrease the likelihood of creating or perpetuating disparate racial impacts.

**Conclusion**

There is a growing trend of local governments allocating affordable housing set-asides in a manner that favors local residents and/or local employees. Such preferences are threatened by three chief legal principles. First, courts may view the preferences as a penalty on nonresidents’ fundamental right to interstate travel and migration. Second, if the preferences are motivated by legislators’ desire to exclude a protected class of persons, courts may conclude that the preferences violate the Equal Protection Clause. Finally, local resident and employee preferences can violate the Federal Fair Housing Act by creating or perpetuating discriminatory racial impacts. Such violations require no proof of discriminatory intent on behalf of legislators.

In order to avoid these legal risks, local governments should structure their affordable housing programs as broadly and inclusively as possible. By offering multiple methods for an applicant to receive preference—such as preferences based on bona fide residency, employment, and expanded geographic areas—and by limiting the scope and duration of the preferences, a local government would decrease the likelihood of penalizing nonresident migration while simultaneously decreasing the likelihood of creating or perpetuating discriminatory racial impacts.

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246 See id.

247 See id. It is also possible that local employment preferences could be challenged for creating a disparate impact upon disabled persons, who are another class of persons protected by the FHA. 42 U.S.C. § 3605 (2000). A disabled person may not be physically able to work in any occupation, or may not meet the high standards for a vital civic occupation. Under such a challenge, it would be difficult for the local government to maintain that it was not a plaintiff’s disability that disqualified her for the preference, but, rather, her employment status. A local government would probably be wiser to simply create a policy exemption for disabled persons under its local employee preference. See Korman, supra note 172, at 73–74. By also granting preference to disabled persons, a local government would avoid disparate disability impacts without significantly departing from the original intent of the preference. See id.
I WISH THEY ALL COULD BE CALIFORNIA ENVIRONMENTAL QUALITY ACTS:  
RETHINKING NEPA IN LIGHT OF CLIMATE CHANGE

CONOR O’BRIEN*

Abstract: Scientific evidence indicates that the repercussions of climate change are numerous, severe, and result from human activity. One possible method of curbing climate change may lie with the National Environmental Policy Act (NEPA), which requires that federal agencies gather and disclose information about the environmental impacts of their activities. Shortly after NEPA’s passage, California enacted the California Environmental Quality Act (CEQA), a statute similar to NEPA addressing the environmental impacts of state and local agencies’ activities. One significant departure from NEPA was that CEQA not only required that agencies disclose the environmental impacts of their activities, but that they avoid significant impacts in many circumstances. This Note discusses why omitting this requirement from NEPA makes it less useful in addressing climate change than its California counterpart, compares NEPA to CEQA, and suggests changes which could make NEPA a more useful tool for regulating climate change.

Introduction

In 2006, California Attorney General Bill Lockyer advised leaders of Orange County that construction of a massive freeway would not comply with the California Environmental Quality Act (CEQA) unless the county adequately considered the effects of the freeway on global warming.¹ It was the first significant attempt to address the issue of global warming under CEQA.² The practice gained statewide notoriety the following year when Lockyer’s successor, Jerry Brown, sued San Bernardino County for failing to mitigate the impacts of climate change in the county’s plans to expand the region.³ In November 2007, the attorney general reached an agreement with the county wherein

* Symposium Editor, Boston College Environmental Affairs Law Review, 2008–09.
2 Id.
3 Id.
the county would estimate greenhouse emissions as far back as 1990, and take steps to mitigate current emissions.\textsuperscript{4} Since then, climate change has become a staple of regulation in California, particularly as it affects CEQA compliance.\textsuperscript{5} Prior to the San Bernardino action, California’s Office of the Attorney General had experimented with novel tactics to address climate change, including an argument that vehicles’ greenhouse gas emissions constitute a public nuisance.\textsuperscript{6}

California is not the only state to address climate change.\textsuperscript{7} In 2007, Washington’s largest county passed legislation requiring county officials to consider climate change impacts during environmental reviews under its State Environmental Policy Act (SEPA).\textsuperscript{8} Numerous states have passed legislation similar to SEPA and CEQA.\textsuperscript{9} These laws are modeled largely on the National Environmental Policy Act (NEPA), which requires that federal agencies consider the environmental impacts of their activities before implementing proposals.\textsuperscript{10}

Creative tactics to address climate change are necessary on the state level due to a vacuum in federal enforcement.\textsuperscript{11} Although the impact of climate change is becoming a concern for CEQA compliance, NEPA compliance has not required similar consideration.\textsuperscript{12}

\textsuperscript{5} See Miller, supra note 1, at 6.
\textsuperscript{6} See id.
\textsuperscript{7} See, e.g., Bill McAuliffe & Paul Walsh, Midwest Leaders Agree on Plan to Reduce CO2: A Regional, Market-Based Pollution Strategy for Carbon Dioxide Mirrors an Earlier Effort to Reduce Acid Rain, Star Trib. (Minneapolis, MN), Nov. 16, 2007, at 10A. Nine governors of various Midwestern States, and the Canadian province of Manitoba, signed an accord vowing to reduce greenhouse gasses by implementing the first-ever state caps on emissions from power plants and factories. Id.
\textsuperscript{11} See Miller, supra note 1, at 6. The Office of Attorney General Jerry Brown office petitioned the Federal Environmental Protection Agency (EPA) to enact new agency rules on the impact ships and planes have on climate change. Id. Brown’s office is also suing the EPA in response to the agency’s decision to preclude California from curbing tailpipe emissions. Id. Massachusetts, along with a consortium of states, sued the EPA for taking the position that it had no authority to regulate certain greenhouse gas emissions under section 202(a)(1) of the Clean Air Act. See generally Massachusetts v. EPA, 549 U.S. 497 (2007).
\textsuperscript{12} See infra Part III.B.
compares and contrasts the language of NEPA and CEQA to show how each can or cannot be used to regulate climate change. It demonstrates that NEPA, on its own terms, requires consideration of the impacts of climate change when planning federal activities. Merely requiring such consideration under NEPA, however does not mean a federal project necessarily will contribute less to climate change. In contrast, CEQA provides guidance as to how NEPA can be amended and reinterpreted to become an effective tool for combating climate change.

Part I discusses the scientific evidence supporting the existence of climate change and the role humans play in hastening it. Part II details NEPA, paying particular attention to its procedural requirements, and the extent to which interpretations of it have limited its effectiveness. Part III explains CEQA and highlights the substantive requirements it imposes on state and local agencies in California. Part IV compares NEPA to CEQA and identifies the changes necessary for NEPA to become a useful tool for regulating climate change.

I. Climate Change: An Overview

Mounting evidence bolsters the hypothesis that an increase in the average surface temperature of Earth is adversely affecting its ability to sustain life. The negative effects of this warming pattern are numerous. In addition to glacier recession and a substantial rise in sea levels, another likely effect of this phenomenon is an increase in tropical cyclone activity. Climate change is also the cause of longer and more intense droughts which affect increasingly large areas. According to the Intergovernmental Panel on Climate Change (IPCC), it is more likely than not that human activity has exacerbated these trends.

The IPCC further concluded that eleven of the last twelve years were the warmest in global temperatures since 1850—the year data became available. Based on this data, IPCC stated that, “Warming of the climate system is unequivocal, as is now evident from observations of

13 See Kevin T. Haroff & Katherine Kirwan Moore, Global Climate Change and the National Environmental Policy Act, 42 U.S.F. L. Rev. 155, 166 (2007).
14 See infra Part IV.
16 See id. at 5–9.
17 Id. at 5, 9.
18 Id. at 8.
19 Id. at 3.
20 See id. at 5.
increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level." Human activity—in particular the emission of greenhouse gasses into the atmosphere—is primarily responsible for this warming pattern. According to the IPCC, atmospheric concentrations of these greenhouse gasses—particularly carbon dioxide, methane, and nitrous oxide—increased significantly due to industrial and agricultural activities since 1750. Carbon dioxide, the most common greenhouse gas in the atmosphere, has increased primarily due to fossil fuel use and land-use change, while increases in methane and nitrous oxide are attributable primarily to widespread farming. Climate change is unique compared to other air pollution problems because the location of greenhouse gas emissions is unimportant. While smog, for instance, tends to settle near its source, greenhouse gasses disperse throughout the atmosphere, and its effect is worldwide.

Both private and state activity may contribute to climate change. A private actor may contribute by constructing a coal-burning power plant, which produces carbon dioxide. On a smaller scale, a private actor may contribute to climate change by clearing a forest to build a farm. Since trees play an important role in absorbing carbon dioxide, fewer trees means more unabsorbed carbon dioxide entering the atmosphere. The same actor may further contribute by breeding methane-emitting livestock on the recently cleared area.

Of course, the state may indirectly contribute to greenhouse gas emissions in these regards by granting permits to a coal-burning power plant, thus allowing it to operate. The government also impacts cli-

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21 See IPCC, supra note 15, at 5.
22 See id. at 2.
23 Id.
24 See id. at 2–3.
26 See id.
28 See id.
29 See Confirmed: Deforestation Plays Critical Climate Change Role, SCIENCE DAILY, May 11, 2007, http://www.sciencedaily.com/releases/2007/05/070511100918.htm. Unfortunately, forests accumulate less carbon at higher temperatures. Id. Therefore, as climate change becomes more pernicious, existing forests will offset the warming pattern less effectively. See id.
30 See WORLD METEOROLOGICAL ORGANIZATION, supra note 27.
31 See id.
mate change when it allows a developer to clear a forest, or permits an agricultural corporation to raise livestock where a forest once stood. The activity that directly contributes to climate change exists only insofar as the government allows it.

Government activity may have a more direct impact on climate change as well. Instead of merely licensing a coal-burning power plant, the government may fund its construction. The National Highway Administration could add lanes to a highway, thereby permitting it to accommodate more cars. The result might be an easing of traffic congestion, providing an incentive for more commuters to drive, thus generating an overall increase in carbon from fuel-burning vehicles. In addition, the actual process of widening highways requires transporting materials and using heavy equipment, which generate greenhouse gasses and contributes to climate change. These are only a few examples of ways in which government actions can contribute to climate change.

II. The National Environmental Policy Act

The passage of the National Environmental Policy Act (NEPA) in 1970 introduced a distinct new model of statutory regulation which required federal agencies to consider the environmental consequences of their actions, and to disclose those consequences to the public. In drafting NEPA, Congress attempted to articulate the perception held by numerous Americans. Many believed the quality of the environ-

32 See Davis v. Morton, 469 F.2d 593, 597 (10th Cir. 1972) (holding that approving or licensing a project is a federal action).
33 See id.
35 See Audubon Naturalist Soc’y v. U.S. Dep’t of Transp., 524 F. Supp. 2d 642, 657, 708 (S.D. Md. 2007) (noting that the Federal Highway Administration considered the effects of climate change in its decision to construct the Inter-County Connector as part of a larger part of Washington D.C.’s outer beltway).
ment was deteriorating, and that federal legislation was needed to slow its decline.40 NEPA’s framers were concerned the “quality” of the environment was both detrimental to people’s physical well-being, and damaging to the country’s ability to sustain natural resource exploitation.41

NEPA’s drafters identified the failure of government agencies to consider the environmental repercussions of their activities as a significant source of environmental degradation.42 Prior to NEPA, government agencies had little reason to consider these repercussions.43 Moreover, depending on an agency’s function, indulging in environmental sensitivity could be either inefficient or downright untenable.44 In fact, the Atomic Energy Commission—now the Nuclear Regulatory Commission—considered its mandate of regulating nuclear energy to be irreconcilable with the environmental ideals of NEPA, and thus contended it lacked the statutory authority to consider non-radiological environmental issues.45 However, NEPA’s drafters believed this negligence was wreaking havoc on the environment.46

A. Overview of NEPA

NEPA contains two primary sections—sections 101 and 102—which differ in the extent to which they impose duties on federal agencies.47 Section 101, which itself is separated into section 101(a) and sec-

41 See 42 U.S.C. § 4321 (2000) (including among its purposes the promotion of “efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man”). According to Senator Henry Jackson, former Chairman of the Senate Committee on Interior and Insular Affairs and primary drafter of NEPA, this environmental degradation included “haphazard urban growth, the loss of open spaces, strip-mining, air and water pollution, soil erosion, deforestation, faltering transportation systems, a proliferation of pesticides and chemicals, and a landscape cluttered with billboards, powerlines, and junkyards.” See CALDWELL, supra note 39, at 1.
42 See CALDWELL, supra note 39, at 1–2.
43 See id.
46 See CALDWELL, supra note 39, at 1.
tion 101(b), sets forth the Act’s basic substantive policies, but imposes no duties on agencies bound to comply with NEPA.\textsuperscript{48} Section 101 enunciates vague policies, such as a requirement that the government “use all practicable means and measures” to protect environmental values.\textsuperscript{49} Courts have interpreted section 101 to impose no enforceable requirements on federal agencies.\textsuperscript{50}

In contrast, section 102 \textit{does} impose legally enforceable requirements on agencies and contains the procedural apparatus through which the goals are to be attained.\textsuperscript{51} Most notably, section 102 introduces the Environmental Impact Statement (EIS).\textsuperscript{52} Whenever a proposed major federal action would have a significant impact on the environment, the responsible federal agency must prepare a statement that details the anticipated impacts, as well as any alternatives that may avoid them.\textsuperscript{53} Once prepared, the EIS must be made available to the public.\textsuperscript{54}

Interpretations of sections 101 and 102 come from two sources—the judiciary and the Council on Environmental Quality (CEQ).\textsuperscript{55} As this Note will show, the judiciary was largely responsible for breathing several other sections as well. See, \textit{e.g.}, 42 U.S.C. § 4342. For instance, section 201 establishes the Council on Environmental Quality. \textit{Id.}\textsuperscript{48}


\textsuperscript{49} See 42 U.S.C. § 4331(a). Likewise, section 101(a) acknowledges “the profound impact of man’s activity on . . . the environment” but does not require that man actually alter his activity. 42 U.S.C. § 4331; \textit{see} Strycker’s Bay, 444 U.S. at 227; Vt. Yankee, 435 U.S. at 558. Similarly, section 101(b) declares a variety of environmental goals and a mandate that the federal government do what it can to achieve them. \textit{See} 42 U.S.C. § 4331.

\textsuperscript{50} See Houck, \textit{supra} note 40, at 179. Nor does the preface to section 101 impose any burdens on agencies, stating, “The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment . . . .” \textit{See} 42 U.S.C. § 4321.

\textsuperscript{51} See 42 U.S.C. § 4332; Houck, \textit{supra} note 40, at 178; \textit{see also} Calvert Cliffs’ Coordinating Comm. v. U.S. Atomic Energy Comm’n, 449 F.2d 1109, 1115 (D.C. Cir. 1971) (holding that the duties of section 102 are “not inherently flexible” and “must be complied with to the fullest extent”).

\textsuperscript{52} See 42 U.S.C. § 4332(C).

\textsuperscript{53} \textit{See id.}\textsuperscript{48}

\textsuperscript{54} \textit{Id.}\textsuperscript{48}

\textsuperscript{55} See 42 U.S.C. §§ 4342–4344; \textit{see, e.g.}, Strycker’s Bay Neighborhood Council, Inc. v. Karlen, 444 U.S. 223, 227 (1980) (“\textit{O}nce an agency has made a decision subject to NEPA’s procedural requirements, the only role for a court is to ensure that the agency has considered the environmental consequences.”).
life into—and subsequently eviscerating the significance of—section 101, while leaving section 102 procedural requirements largely intact. The CEQ, established by section 201, is responsible for promulgating regulations that explain federal agencies’ obligations under NEPA.

1. Section 101—Unenforceable, Lofty Ideals

Section 101 is entitled “Congressional Declaration of National Environmental Policy,” and it contains NEPA’s general substantive principles. Whether section 101 imposes any affirmative duties on federal agencies is a question nearly as old as NEPA itself, and to date, the answer appears to be an unequivocal no. For those who believe it does, however, NEPA grants courts the authority to review agencies’ decisions in order to make sure they comply with this substantive mandate. The problem with this interpretation is that it has been unclear precisely what substantive requirements NEPA imposes.

56 See Calvert Cliffs’, 449 F.2d at 1115.
60 See 42 U.S.C. § 4332. For instance, section 101 of NEPA imposes on the federal government a responsibility to “use all practicable means . . . to the end that the Nation may . . . fulfill the responsibilities of each generation as a trustee of the environment for succeeding generations.” Id. This principle of stewardship for future generations inheriting the Earth and her resources is one of several principles section 101 of NEPA enunciates. Id. Others include: (1) assuring for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings; (2) attaining the widest range of beneficial uses of the environment without degradation (3) preserving important aspects of our national heritage, and maintaining an environment which supports diversity and variety of individual choice (4) achieving a balance between population and resource use which will permit high standards of living and a wide sharing of life’s amenities; and (4) enhancing the quality of renewable resources and approaching the maximum attainable recycling of depletable resources. Id. However precisely these principles enunciated the attitudes Americans held toward their environment, these statements have become nothing more than mere principles. See Houck, supra note 40, at 179–80.
61 See The Least Adverse Alternative Approach, supra note 47, at 735 (discussing whether NEPA imposes substantive requirements in light of differing judicial interpretations a mere four years after NEPA’s passage).
63 See The Least Adverse Alternative Approach, supra note 47, at 742–43.
64 See Houck, supra note 40, at 179.
Before the Supreme Court had the chance to weigh in on the matter, one court proposed an answer. In 1971, just a little over a year after NEPA was passed, the D.C. Circuit Court held in Calvert Cliffs’ Coordinating Committee v. U.S. Atomic Energy Commission that the substantive language of section 101 required that a project be rejected where its environmental costs outweighed its benefits. According to Judge Wright’s majority opinion, NEPA establishes environmental protection as an integral part of an agency’s mandate. Not only did NEPA require an agency to include environmental impacts in its EIS, but it also required the agency to accord them proper weight in its decision-making. Courts, meanwhile, had a “duty” to “see that the important legislative purposes [of section 101], heralded in the halls of Congress, [were] not lost or misdirected in the vast hallways of the Federal bureaucracy.” This meant reviewing agency decisions to assure that they were not ignoring the environment. This interpretation breathed life into the substantive language of section 101.

Although the Calvert Cliffs’ interpretation was later rejected by the Supreme Court, it was bolstered by the language of NEPA itself, which points out that laws and regulations “shall be interpreted and administered in accordance with the policies set forth in this chapter.” Indeed, one stated purpose of NEPA is to establish substantive standards for resolving conflicts between environmental interests and other values. Moreover, the Calvert Cliffs’ opinion cited to language explicitly within the statute in support of its holding—that the substantive requirements of section 101 be “administered to the fullest extent possible.”

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66 See id. at 1115 (“[I]f the decision was reached procedurally without individualized consideration and balancing of environmental factors—conducted fully and in good faith—it is the responsibility of the courts to reverse.”); The Least Adverse Alternative Approach, supra note 47, at 742–43.
67 See Calvert Cliffs’, 449 F.2d at 1112.
68 See id.
69 See id. at 1111.
70 See id. at 1115.
71 See Houck, supra note 40, at 182–83.
73 See 42 U.S.C. § 4331(a)(5); The Least Adverse Alternative Approach, supra note 47, at 739.
74 See 449 F.2d at 1114 (“[T]o the fullest extent possible’ sets a high standard for the agencies, a standard which must be rigorously enforced by the reviewing courts.” (quoting 42 U.S.C. § 4332)); Houck, supra note 40, at 182–83.
However, the interpretation of *Calvert Cliffs’* was imperfect. Commentators argued that a cost-benefit analysis was not justified by NEPA’s text. On the other hand, the alternative school of thought—agencies must only comply with NEPA’s procedural requirements—was thought by environmentalists to undermine NEPA’s intent. Unfortunately for environmentalists, the Supreme Court was soon to oppose *Calvert Cliffs’* interpretation of NEPA’s substantive burdens. A short series of decisions subsequently succeeded in whittling NEPA to its barest procedural mechanisms. In *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council*, the Supreme Court stated NEPA only “insure[s] a fully informed and well-considered decision [to proceed with the proposed action], not necessarily a decision the judges of the Court of Appeals or of this Court would have reached had they been members of the decisionmaking unit of the agency.” Although *Vermont Yankee* did not preclude judicial review of compliance with NEPA’s substantive goals absolutely, in *Strycker’s Bay Neighborhood Council, Inc. v. Karlen*, the Court declared:

> Once an agency has made a decision subject to NEPA’s procedural requirements, the only role for a court is to insure that the agency has considered the environmental consequences; it cannot “‘interject itself within the area of discretion of the executive as to the choice of the action to be taken.’”

In so holding, the Court barred the possibility of judicial review as a mechanism for implementing NEPA’s substantive goals. The grand legislative purposes expounded in section 101 were replaced by two humbler purposes described by the Supreme Court: “[NEPA assures] the agency . . . will have available . . . information concerning significant environmental impacts; it also guarantees that the relevant information will be made available to the larger [public] audience . . . .”

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75 See *The Least Adverse Alternative Approach*, supra note 47, at 746.
76 See id.
77 See id. at 739–40.
81 *Strycker’s Bay*, 444 U.S. at 227–28 (quoting Kleppe v. Sierra Club, 427 U.S. 390, 410 n.21 (1976)).
82 See id.; Weiland, *supra* note 48, at 290.
2. Section 102—NEPA’s Action-Forcing Provision

In spite of this substantive amputation, NEPA’s procedural mechanisms remained largely intact.\(^\text{84}\) As the *Calvert Cliffs*’ opinion stated, “the Section 102 [procedural] duties are not inherently flexible” and absent “a clear conflict of statutory authority,” they must be complied with to the fullest extent.\(^\text{85}\) In disagreeing with the reading expounded by *Calvert Cliffs*—that NEPA imposes additional substantive requirements—the *Strycker’s Bay* Court reaffirmed NEPA’s procedural requirements.\(^\text{86}\) This being so, NEPA—insofar as it has been enforced at all—has been enforced through its procedural requirements, which have been refined by the judiciary and by the CEQ.\(^\text{87}\)

a. The Requirements of Section 102 Are Apparent

The most important procedure established by section 102 is the requirement that an agency prepare an EIS wherever a major federal action will have a significant impact on the human environment.\(^\text{88}\) The statement must identify anticipated environmental impacts, as well as alternatives to the proposed action.\(^\text{89}\) Once prepared, the EIS must be made available to the public.\(^\text{90}\)

The judiciary found less trouble interpreting and applying the procedures of section 102 than it had interpreting and applying sec-

\(^{84}\) See Houck, *supra* note 40, at 188.


\(^{86}\) See *Strycker’s Bay*, 444 U.S. at 227 (“NEPA, while establishing ‘significant substantive goals for the nation,’ imposes upon agencies duties that are ‘essentially procedural.’” (quoting *Vt. Yankee*, 435 U.S. at 558)); *Robertson*, 490 U.S. at 350; *Weiland*, supra note 48, at 290.


\(^{89}\) 42 U.S.C. § 4332(C). Furthermore, the statement must discuss “the relationship between local short-term uses of man’s environment and the maintenance and enhancement of long-term productivity” and “any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.” Id.

\(^{90}\) Id. In addition to the public, a completed EIS must be made available to “the appropriate Federal, State, and local agencies[,] . . . the President, [and] the Council on Environmental Quality.” Id.
tion 101. Whereas section 102’s procedural mandates are straightforward, section 101’s policy language is vaguely drafted and more difficult to apply. Unlike the so-called “requirement” of section 101 that the federal government “attain the widest range of beneficial uses of the environment,” the requirement that a federal agency complete an EIS is straightforward and certain. A court may determine whether an agency complied with the procedural requirements of section 102, but it cannot overturn an agency’s decision for failing to comport with section 101. As a result, agencies could comply with NEPA without choosing an environmentally prudent course of action, as long as they follow the statute’s procedures.

b. The Criteria for Compliance with Section 102

NEPA’s requirement that an agency prepare an EIS whenever “proposals for legislation and other major Federal action significantly affect[] the quality of the human environment” does not mean that the government must prepare an EIS every time it slightly alters the American landscape. NEPA requires an agency to prepare an EIS only where its proposed action constitutes a “major Federal action” that would have a “significant” effect on the “human environment.”

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91 See Ferester, supra note 9, at 208.
93 See 42 U.S.C. § 4331; Houck, supra note 40, at 179. Professor Houck draws a useful distinction between “principles” in this case, and “laws.” See Houck, supra note 40, at 179. According to him, laws—unlike principles—draw a clear line between “that which may be done and that which may not be done.” Id. Thus, while a declaration that highways shall not go through public parks is adequately precise to be law, a declaration that agencies shall “attain the widest range of beneficial uses of the environment” could either support or preclude the same behavior depending on its interpretation. See id. As another illustration, although one could argue whether a proposed action “preserv[es] important aspects of our national heritage” in accordance with section 101, there is less room for debate over whether a federal agency has included an EIS along with a proposal for a federal action. The agency either did or did not submit such a statement. See 42 U.S.C. § 4331; Houck, supra note 40, at 179–80.
94 See Houck, supra note 40, at 181.
96 See 42 U.S.C. § 4332(C). In addition, there are numerous categorical exclusions where an agency may determine a particular activity is exempt from the EIS requirements. See 40 C.F.R. § 1508.4 (2007). In other cases there are categorical inclusions where an agency determines that a particular activity automatically requires the preparation of an EIS. E.g. Deep Seabed Hard Mineral Resources Act, 30 U.S.C. § 1419(d) (1980) (requiring an EIS be prepared when a permit is issued for certain underwater mining enterprises).
97 See 42 U.S.C. § 4332(C).
If an agency can demonstrate that its proposal would not qualify as such an action, it need not prepare an EIS.\textsuperscript{98}

The circumstances under which an EIS is necessary, as well as the standards by which a court determines its adequacy, are determined by the courts\textsuperscript{99} and by the CEQ.\textsuperscript{100} The CEQ was created by section 201 of NEPA.\textsuperscript{101} It promulgates regulations which are incorporated in the Code of Federal Regulations.\textsuperscript{102} Compliance with NEPA means complying with these regulations.\textsuperscript{103}

i. Major Federal Action

The language of NEPA itself does not define a “major Federal action.”\textsuperscript{104} The CEQ provided a broad definition which includes “actions with effects that \textit{may} be major and which are \textit{potentially} subject to Federal control and responsibility.”\textsuperscript{105} The CEQ’s definition includes both an agency’s decision to act, as well as its decision not to act.\textsuperscript{106} Major federal action includes projects “approved” by an agency as well as projects that are “entirely or partly financed, assisted, conducted, [or] regulated” by a federal agency.\textsuperscript{107}

However, the definition is not all-encompassing. For instance, neither an agency’s decision to bring civil or criminal enforcement action, nor mere funding assistance are considered actions subject to NEPA.\textsuperscript{108}

\begin{itemize}
\item \textsuperscript{98} See \textit{id}.
\item \textsuperscript{99} See, \textit{e.g.}, Andrus v. Sierra Club, 442 U.S. 347, 348–49 (1979) (holding that agencies are not required to prepare an EIS to accompany appropriation requests); Sugarloaf Citizens Ass’n v. Fed. Energy Regulatory Comm’n, 959 F.2d 508, 512 (4th Cir. 1992) (holding that purely ministerial acts do not fall under NEPA regulation).
\item \textsuperscript{100} See Houck, \textit{supra} note 40, at 184. NEPA created the CEQ and defined its role. See \textit{id}. Initially, the CEQ was limited to conducting studies and advising the President on environmental matters. See \textit{id}. In time, it was empowered to issue “guidelines”—without the force of law—on points of NEPA interpretation. See \textit{id}. In 1978, however, an executive order empowered the agency to issue NEPA regulations with which agencies were bound to comply. See \textit{id}. These regulations had the force of law. See \textit{id}. Some criticized the members of the CEQ as being too friendly with certain industries, and promulgating regulations that were hostile toward environmentalism. See Houck, \textit{supra} note 40, at 184. Regardless, the CEQ’s expanded role in promulgating rules for NEPA compliance has turned it into a formidable fixture of the NEPA landscape. See \textit{id}.
\item \textsuperscript{101} 42 U.S.C. § 4342.
\item \textsuperscript{102} See Houck, \textit{supra} note 40, at 184.
\item \textsuperscript{103} See \textit{id}.
\item \textsuperscript{104} See \textsuperscript{101}.
\item \textsuperscript{105} 40 C.F.R. § 1508.18 (2007) (emphasis added).
\item \textsuperscript{106} \textit{Id}.
\item \textsuperscript{107} See \textit{id}. § 1508.18(a).
\item \textsuperscript{108} See \textit{id}.
\end{itemize}
Additionally, case law suggests that nondiscretionary actions are beyond NEPA’s scope.\textsuperscript{109} An agency may succeed in demonstrating that an action is not “Federal” if the agency cannot control the outcome of the project in material respects or if it has no discretion to exercise judgment regarding the outcome.\textsuperscript{110} This is particularly relevant where federal agencies are not the primary actors.\textsuperscript{111} For example, the federal government can fund a project in its entirety, but if state or local agencies make all the decisions, then it is not a federal action.\textsuperscript{112}

ii. Significant Effect on the Human Environment

In addition, NEPA requires that an EIS be prepared only where the proposed activity implicates “a significant effect on the human environment.”\textsuperscript{113} “Effect” is broadly defined to include those which are “aesthetic, historic, cultural, economic, [or] social.”\textsuperscript{114} Determining whether an effect is “significant” is more challenging. An effect can be either singularly significant in itself, or individually minor but collectively significant.\textsuperscript{115} The regulations also define “effects” to include both direct and indirect effects, though the effects must be reasonably foreseeable.\textsuperscript{116} However, whether an effect is too remote to be ripe for NEPA consideration is left largely to the discretion of the agency.\textsuperscript{117} NEPA only requires that an agency act in good faith when it determines that

\begin{footnotesize}
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  \item \textsuperscript{109} See South Dakota v. Andrus, 614 F.2d 1190, 1194 (8th Cir. 1980).
  \item \textsuperscript{110} See Save Barton Creek Ass’n v. Fed. Highway Admin., 950 F.2d 1129, 1134 (5th Cir. 1992).
  \item \textsuperscript{111} See id.
  \item \textsuperscript{112} See id. at 1135.
  \item \textsuperscript{113} 42 U.S.C. § 4332 (2000). CEQ regulations define “human environment” in particularly expansive terms. See 40 C.F.R. § 1508.14 (2007). In fact, the definition begins by stating that, “Human environment shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment.” Id. (emphasis added). Still, this definition has limits. See id. The regulations explicitly state that proposals whose impacts are solely economic, social, or psychological do not need to be considered in an EIS unless the effects on natural and physical environment would otherwise necessitate preparation of an EIS. See id.; Metro. Edison v. People Against Nuclear Energy, 460 U.S. 766, 774 (1983) (holding the Nuclear Regulatory Commission complied with NEPA although it didn’t contemplate psychological health damage).
  \item \textsuperscript{114} See 40 C.F.R. § 1508.8 (2007).
  \item \textsuperscript{115} See id. § 1508.7.
  \item \textsuperscript{116} Id. § 1508.8. Direct effects are defined as those “which are caused by the action and occur at the same time and place.” Id. Indirect effects are “caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.” Id.
  \item \textsuperscript{117} See Custer County Action Ass’n v. Garvey, 256 F.3d 1024, 1039–40 (10th Cir. 2001).
\end{itemize}
\end{footnotesize}
an effect on the environment is too remote or speculative to qualify as significant.\textsuperscript{118}

In \textit{Hanly v. Kleindienst} (\textit{Hanly II}), the Second Circuit held that two factors determine whether an effect will be significant.\textsuperscript{119} The first factor is context, and requires an agency or a reviewing court to compare the adverse environmental effects of a proposed action to activities existing in the affected area.\textsuperscript{120} The second factor is the intensity of the action’s adverse environmental effects.\textsuperscript{121} These factors are considered in concert with one another so that, “[w]here conduct conforms to existing uses, its adverse consequences will usually be less significant than when it represents a radical change.”\textsuperscript{122} The CEQ regulations adopt the standard articulated in \textit{Hanly II}, and explicitly divide the inquiry into the “context” of the proposed action, and its “intensity.”\textsuperscript{123}

iii. EIS or FONSI?

In the absence of categorical inclusion or exclusion from the EIS requirement, an agency must complete an Environmental Assessment (EA) to evaluate the above criteria and determine whether an EIS is necessary.\textsuperscript{124} If not, an agency then prepares a Finding of No Significant Impact (FONSI), in which case compliance with NEPA requires no further action.\textsuperscript{125} If there is a finding of significant impact, the agency can still prepare a FONSI, but it must state mitigation measures the agency will undertake that will reduce the impact to below the thresh-

\textsuperscript{118} See id.
\textsuperscript{119} See 471 F.2d 823, 830–31 (2d Cir. 1972) [\textit{Hanly II}].
\textsuperscript{120} See id.
\textsuperscript{121} See id.
\textsuperscript{122} See id. at 831. \textit{Hanly II} gives an illuminating example of this two-part analysis: “one more highway in an area honeycombed with roads usually has less of an adverse impact than if it were constructed through a roadless public park.” Id.
\textsuperscript{123} See 40 C.F.R. § 1508.27 (2007).
\textsuperscript{124} See id. § 1508.9. Preparing an EA is a less formidable task than preparing an EIS. See id. The regulations define an EA as a concise public document that serves three functions. Id. It briefly provides evidence and analysis for determining whether to prepare an EIS, aids an agency’s compliance with NEPA when no EIS is necessary, and facilitates preparation of an EIS when one is necessary. Id. Furthermore, an EA includes brief discussions of the need for the proposal, alternatives, environmental impacts, and a list of agencies and persons consulted. Id.
\textsuperscript{125} Id. § 1508.13. A FONSI is “a document by a Federal agency briefly presenting the reasons why an action . . . will not have a significant effect on the human environment and for which an environmental impact statement therefore will not be prepared.” Id.
old of “significance,” and it must implement these measures. Otherwise, the agency must prepare an EIS. If the agency chooses to file an EIS instead of a FONSI subject to mitigation, the agency need not mitigate adverse environmental effects, or pursue a more environmentally sound alternative. Any EA, EIS, or FONSI prepared becomes a part of the public record.

An agency’s decision to file a FONSI instead of an EIS may be challenged, but a court may require the agency to file an EIS only if it finds the agency’s initial decision “arbitrary and capricious.” Where an EIS has been prepared, courts require only that an agency take a “hard look” at the alternatives included in the statement, including the “no action” alternative, or status quo. To hold that an EIS is inadequate for failing to include an alternate course of action, a court must conclude the failure was arbitrary or capricious. Beyond that, courts have no authority to implement the substantive principles of NEPA.

B. Courts Require Agencies to Consider Climate Change

Litigants have attempted to force agencies to address the impacts of their activities on climate change by hauling them into court for failing to comply with NEPA. In so doing, some cases imply that a

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126 See Nat’l Parks & Conservation Ass’n v. Babbitt, 241 F.3d 722, 733–34 (9th Cir. 2001) (“An agency’s decision to forego issuing an EIS may be justified in some circumstances by the adoption of [mitigation] measures.”).
127 See id.
130 See Greater Yellowstone Coal. v. Flowers, 359 F.3d 1257, 1274 (10th Cir. 2004); Pla-ter, supra note 38, at 487.
131 See Greater Yellowstone Coal., 359 F.3d at 1274.
133 See Dubois v. U.S. Dep’t of Agric., 102 F.3d 1273, 1284–85 (1st Cir. 1996) (holding that the Forest Service’s failure to sufficiently explore all reasonable alternatives for proposed expansion of a ski facility was arbitrary and capricious).
thorough EA must include a discussion of climate change. If the EA reveals the impacts on climate change to be “significant,” the agency must file an EIS. In this regard, these actions have been increasingly successful. Although these successes may lead agencies to disclose climate change impacts, they have not led agencies to pursue alternative courses of action in order to avoid intensifying climate change.

The first decision to address whether compliance with NEPA requires an agency to discuss climate change impact was City of Los Angeles v. National Highway Traffic Safety Administration. This case addressed the National Highway Traffic Safety Administration’s (NHTSA) proposal to lower corporate average fuel economy (CAFE) standards. Although the court held that the one-mile-per-gallon change in the CAFE standards was not significant enough to require an EIS, the court accepted that examining the effects of climate change was appropriate for a NEPA analysis.

In another case dealing with CAFE standards, the Ninth Circuit explicitly endorsed the position that a proposed project’s impact on climate change must be considered in order to comply with NEPA. Center for Biological Diversity v. National Highway Traffic Safety Administration involved the reformulation of CAFE standards for light trucks. The NHTSA concluded that its proposed change in standards would have no significant impact on the environment. This conclusion was made in spite of contrary evidence provided by the petitioners of

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136 See Ctr. for Biological Diversity, 508 F.3d at 513; City of Los Angeles, 912 F.2d at 493; Border Power, 260 F. Supp. 2d at 1028.
137 See Ctr. for Biological Diversity, 508 F.3d at 552–53.
138 See id. at 554; Border Power, 260 F. Supp. 2d at 1029.
139 Haroff & Moore, supra note 13, at 166.
140 See generally 912 F.2d 478 (D.C. Cir. 1990); Gerrard, supra note 88, at 20.
141 See Gerrard, supra note 88, at 20.
142 See id. This case is also important because the court found the plaintiffs had standing to bring the lawsuit. See id. The ease with which courts have found that citizens have had standing to sue agencies under NEPA for failing to consider climate change has surprised some commentators. See id. NEPA does not include a citizen suit provision, so claims must be brought under the Administrative Procedure Act (APA). Haroff & Moore, supra note 13, at 161. Citizen standing under NEPA is beyond the scope of this Note, as are the mechanics of the APA, but by way of cursory introduction, the plaintiff must show the following in order to have standing: (1) injury in fact; (2) the injury is fairly traceable to the challenged action of the defendants; and (3) it is likely that the injury will be redressed by a favorable decision. Id. at 163–64. For a discussion of citizen standing in the context of NEPA and climate change, see Haroff & Moore, supra note 13, at 172–77.
144 See id. at 520, 554.
145 See id. at 554.
numerous scientific studies regarding the relationship between climate change and greenhouse gas emissions from light trucks. The court noted that light trucks accounted for about eight percent of greenhouse emissions in the United States, and that CAFE standards set by NHTSA would directly affect the net volume emitted.

The court rejected the agency’s finding that the proposed standards would have no significant impact on the environment, and ruled that the agency’s decision to file a FONSI was arbitrary and capricious. The court focused on NEPA’s “cumulative impacts” requirement—that individually minor but collectively significant impacts must be considered along with singularly significant impacts. Specifically, the court held “[t]he impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct.” In light of this analysis, the court required the NHTSA to complete an EIS.

If a litigant succeeds in persuading a court that an agency’s failure to consider climate change constitutes a failure to comply with NEPA, the agency is not required to actually mitigate its impact on climate change. For instance, in Border Power Working Group v. Department of Energy the District Court held that the Department of Energy failed to comply with NEPA because it did not consider the impacts of carbon dioxide emissions, among a number of other considerations. Once the Department prepared an EIS in which it discussed the impacts of carbon emissions, however, compliance with NEPA was satisfied. The agency was not required to, nor did it, reduce its carbon dioxide emissions.

Though a court may require that an agency consider climate change, the depth of its consideration is left largely to the agency’s discretion. A good illustration of this is Mayo Foundation v. Surface Transportation Board, when the Surface Transportation Board filed an EIS pursuant to its approval of a 280-mile rail line from South Dakota to the Wyoming Powder River Basin, a group of environmentalists challenged it as inadequately addressing environmental impacts. See Mayo Foundation, 472 F.3d at 548–49; Gerrard, supra note 88, at 21. The Eighth Circuit agreed and directed the Board to consider increased greenhouse gas emissions that would result. See Haroff & Moore,
III. The California Environmental Quality Act

Because NEPA applies only to the federal government, numerous states have enacted similar statutes, aimed at curbing the environmental impact of agency activity on the state and local level. Some of these were drafted more ambitiously than their parent statute NEPA. The California Environmental Quality Act (CEQA)—enacted shortly after NEPA—is among these. Both NEPA and CEQA were designed in order to require public agencies to consider and disclose the environmental impacts of their actions. Their procedural mechanisms are also similar. CEQA, however, imposes substantive requirements on state and local agencies in addition to the procedural burdens. In particular, compliance with CEQA requires that an agency mitigate the environmental impacts of its activities whenever doing so is feasible.

A. Overview of CEQA

Like NEPA, CEQA was drafted as a response to the perception that legislation was needed in order to curb the deterioration of the environment. And like NEPA, it begins by declaring its underlying policies. Whereas the inspiring policy language of NEPA is given

supra note 13, at 167–69. The Board filed a supplementary EIS where it paid cursory attention to the project’s impact on global warming, but the court concluded “the Board more than adequately considered the reasonably foreseeable significant adverse effects on the human environment.” See Gerrard, supra note 88, at 32; Haroff & Moore, supra note 13, at 167–69 (internal citations omitted).

166 See Gerrard, supra note 88, at 20. These “Mini-NEPAs” require their respective state and local agencies to consider the environmental impacts of their activities. See id.


168 See Ferester, supra note 9, at 231.

169 See id. at 209.

170 See id.

171 See id. at 233.

172 See id.; Owen, supra note 25, at 76.

173 See Owen, supra note 25, at 84.

174 Compare 42 U.S.C. § 4331(a) (2000) (“The Congress, recognizing the profound impact of man’s activity on the interrelations of all components of the natural environment . . . declares that it is the continuing policy of the Federal Government . . . to create . . . conditions under which man and nature can exist in productive harmony.”), with Cal. Pub. Res. Code § 21000(a) (West 2007) (“The maintenance of a quality environment for the people of this state now and in the future is a matter of statewide concern.”).

little effect, CEQA contains unique procedural requirements that ensure courts enforce its substantive mandates. These requirements are notably absent from NEPA.

1. CEQA’s Substantive Mandate

The policies underlying CEQA are established by chapter one of the statute. The chapter begins with section 21000, which “finds and declares” a litany of seven promising but abstract legislative intentions. In this regard, CEQA begins in a way similar to NEPA. CEQA distinguishes itself, however, in the section that follows. Section 21001, “Additional Legislative Intent,” provides more specific guidance regarding compliance with CEQA. For instance, section 21001(f) states that it is the policy of the state to “[r]equire governmental agencies at all levels to develop standards and procedures necessary to protect environmental quality.” Although this section might lack certainty sufficient to be useful in the context of judicial review, it indicates in no uncertain terms what is expected of California state and local agencies.

As the statute progresses, its language continues to build the framework upon which CEQA’s procedural mechanisms are able to

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167 See Cal. Pub. Res. Code § 21002 (“[P]ublic agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects.”).
170 See id. § 21000.
171 Compare 42 U.S.C. § 4331(b)(2) (2000) (“[I]t is the continuing responsibility of the Federal Government to . . . assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings.”), with Cal. Pub. Res. Code § 21000(b) (“It is necessary to provide a high-quality environment that at all times is healthful and pleasing to the senses and intellect of man.”).
175 See Houck, supra note 40, at 179.
176 See Cal. Pub. Res. Code § 21001(f); Ferester, supra note 9, at 232. Another illustration of this is in section 21001(c). This declares a state policy to, “[p]revent the elimination of fish or wildlife species due to man’s activities, [and] insure that fish and wildlife populations do not drop below self-perpetuating levels.” Cal. Pub. Res. Code § 21001(c) (internal footnotes omitted). Although this does not forbid specific activities, if an agency is responsible for the reckless depletion of wildlife populations, it would appear to violate this provision. See id.
enforce its substantive mandate. The legislature explicitly stated that, in enacting CEQA, it intended agencies to implement either feasible alternatives to projects that would significantly impact the environment, or feasible mitigation measures to lessen the impact of projects. In 1976, amendments to the statute made clear that if an agency could feasibly avoid significantly impacting the environment, the legislature expected it to do so.

2. CEQA’s Procedural Mechanisms

The specific legislative purpose behind enacting CEQA set the stage for uniquely effective procedural mechanisms. These procedures practically guarantee that an agency will fail to comply with CEQA if its project significantly and unnecessarily impacts the environment. In addition, CEQA retains the procedural requirements it inherited from NEPA; namely, that an agency must gather information and disclose it to the public.

a. The Agency’s Duty to Disclose

CEQA requires that state and local agencies disclose to the public the adverse environmental impacts of their activities. The required disclosure mechanisms are similar to those of NEPA. When an

177 See id. § 21002.
178 Id.
179 See id. § 21002.1(b) (“Each public agency shall mitigate or avoid the significant effects on the environment of projects that it carries out or approves whenever it is feasible to do so.”) (emphasis added). This is an amendment to CEQA’s policy chapter, enacted in 1976, that codifies early judicial decisions interpreting the policy language as imposing substantive requirements on agencies. See Ferester, supra note 9, at 237–38. In Friends of Mammoth v. Board of Supervisors, the court relied on existing policy language to conclude that “if the adverse consequences to the environment can be mitigated, or if feasible alternatives are available, the proposed activity . . . should not be approved.” See 502 P.2d 1049, 1059 (Cal. 1972); Ferester, supra note 9, at 237–38.
181 See id.
182 See Ferester, supra note 9, at 231–32.
183 See Owen, supra note 25, at 76.
184 Compare 42 U.S.C. § 4332 (C)(i) (2000) (requiring that an EIS accompany "every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment"), with Cal. Pub. Res. Code § 21080(d) (requiring that an EIR be prepared “[i]f there is substantial evidence . . . that the project may have a significant effect on the environment”).

Like NEPA, certain projects are statutorily exempt from CEQA analysis. Cal. Pub. Res. Code § 21080(b). Also like NEPA, non-discretionary actions are excluded. See id. In addition, section 21080(b) provides a litany of fifteen categorical exemptions. See id. These
agency proposes a project, it first performs an initial study to determine whether the project will have a significant impact on the environment. Agencies prepare an Environmental Impact Report (EIR) where there is “substantial evidence” that the project it intends to approve or carry out may have a significant effect on the environment. In addition to the impacts of the proposed project, it must identify alternatives to the proposal and measures capable of mitigating the adverse impacts.

An agency may file a Negative Declaration where the initial study indicates an EIR is unnecessary. The threshold determination is whether a proposed project will have a significant effect on the environment. A Negative Declaration shall include a description of the project and disclose the findings of the initial study as well as the agency’s grounds for determining that no EIR is necessary. A Negative Declaration may also include mitigation measures the agency will implement in order to avoid potentially significant effects. This option allows an agency to comply with CEQA without filing an EIR, even where an initial study suggests the project may have a significant effect on the environment. Whether an agency prepares an EIR or a Negative Declaration, the prepared document becomes a part of the public record.

CEQA does not require an agency to complete an EIR if the effect of its proposal is not “significant.” Likewise, an agency will not need to identify alternatives or mitigation measures absent a showing include “[e]mergency repairs to public service facilities” and “[a]ctivities or approvals necessary to the bidding for, hosting or staging of . . . an Olympic games.”

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186 See CAL. PUB. RES. CODE § 21080(d).
188 See CAL. PUB. RES. CODE § 21080(c). “A public agency shall prepare . . . [a] negative declaration . . . for a project subject to CEQA when . . . [t]he initial study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment.” CAL. CODE REGS. tit. 14, § 15070(a).
189 See CAL. CODE REGS. tit. 14, § 15063.
190 See id. § 15071.
191 See CAL. PUB. RES. CODE § 21080(c)(2).
192 See id.
193 See CAL. CODE REGS. tit. 14, § 15201.
194 See CAL. PUB. RES. CODE § 21080(c).
of significance in its Negative Declaration. Nor will it need to implement any mitigation measures. In other words, the proposal may proceed without the burden of preparing an EIR or altering its proposal. Such an outcome will often be unlikely, however, because the definition of “significant” is highly inclusive of speculative impacts. Significant impacts may be either “substantial,” or “potentially substantial, adverse changes.”

Furthermore, an environmental effect need not be direct to be considered “significant”; indirect physical changes in the environment may be significant as well. An agency must therefore consider those impacts that are not “immediately related to the project” as long as the impacts are “reasonably foreseeable.” Similarly, individually limited but “cumulatively considerable” effects are not exempt from a CEQA analysis either. These cumulative impacts can trigger the obligation to prepare an EIR or a Negative Declaration subject to mitigation measures. If the agency prepares an EIR, it must disclose the

195 See id.; CAL. CODE REGS. tit. 14, § 15071.
196 See CAL. CODE REGS. tit. 14, § 15071.
197 See CAL. PUB. RES. CODE § 21080(c).
198 See id. § 21068.
199 See id. (emphasis added). The regulations are equally inclusive of effects that are uncertain. “If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, the agency shall prepare a draft EIR.” CAL. CODE REGS. tit. 14, § 15064.
200 See CAL. CODE REGS. tit. 14, § 15358. The regulations provide an illustration of indirect physical changes to be considered. See id. § 15064(c).

If a direct physical change in the environment in turn causes another change in the environment, then the other change is an indirect physical change in the environment. For example, the construction of a new sewage treatment plant may facilitate population growth in the service area due to the increase in sewage treatment capacity and may lead to an increase in air pollution.

Id.

201 See id.
202 See CAL. PUB. RES. CODE § 21083(b)(2); Owen, supra note 25, at 77–78. A project will have a “significant” effect even if:

[the possible effects of a project are individually limited but cumulatively considerable. As used in this paragraph, “cumulatively considerable” means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

CAL. PUB. RES. CODE § 21083(b)(2).
203 See Owen, supra note 25, at 77–78.
cumulative effects.\textsuperscript{204} If it opts to prepare a Negative Declaration, it must mitigate those effects.\textsuperscript{205}

b. The Duty to Pursue Alternatives or Mitigate Where Feasible

As section 21001.1 makes clear, the legislature intended compliance with CEQA to require that an agency do more than merely acknowledge the environmental impacts of its projects and disclose them to the public.\textsuperscript{206} Instead, the legislature intended that agencies “mitigate or avoid the significant effects on the environment of projects . . . whenever it is feasible to do so.”\textsuperscript{207} Where an initial study indicates that a project will significantly impact the environment, an agency may choose to prepare a Negative Declaration subject to mitigation measures.\textsuperscript{208} If it does not, CEQA’s procedures constrain the agency’s ability to proceed with the project as is.\textsuperscript{209}

An EIR must identify and discuss all reasonable alternatives and mitigation measures which will avoid the project’s significant environmental impact.\textsuperscript{210} This discussion is indispensable to CEQA compliance, and according to the California Supreme Court, it forms the “core” of an EIR.\textsuperscript{211} Only if these alternatives and mitigation measures are not “feasible” can an agency proceed with the project as is.\textsuperscript{212} “[E]conomic, environmental, social, and technological factors” determine the feasibility of a project.\textsuperscript{213}

If an agency has determined that an alternative or mitigation measure is not feasible, CEQA requires the agency to issue a finding statement in which the agency enunciates why it decided to proceed

\textsuperscript{204} See id.
\textsuperscript{206} See id. § 21002.1.
\textsuperscript{207} See id.
\textsuperscript{208} See id. § 21080(c)(2).
\textsuperscript{209} See id. § 21081.
\textsuperscript{210} See id. § 21002; Owen, \textit{supra} note 25, at 80.
\textsuperscript{211} See \textit{Citizens of Goleta Valley v. Bd. of Supervisors}, 801 P.2d 1161, 1167 (Cal. 1990); Owen, \textit{supra} note 25, at 80.
\textsuperscript{212} See \textit{Cal. Pub. Res. Code} at § 21081(a)(3). In addition, CEQA allows an agency to carry out a project that identifies significant environmental effects if it also finds “[c]hanges or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects . . . [or] those changes or alterations are within the responsibility and jurisdiction of another public agency . . .” \textit{Id.} at § 21081(a)(1)–(2).
\textsuperscript{213} \textit{Id.} § 21061.1 (“‘Feasible’ means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.”).
with an unmitigated project in spite of the harm to the environment.\textsuperscript{214} The agency must provide justification for the project that outweighs the resulting environmental damage.\textsuperscript{215} California courts often overrule agency decisions to implement actions where the responsible agency did not avoid significant environmental effects.\textsuperscript{216} Thus, agencies frequently mitigate the significant impact of their activities, or implement environmentally sound alternatives in order to comply with CEQA.\textsuperscript{217}

B. CEQA and Climate Change

The procedures and policies above appear adequate to require agencies to adopt feasible alternatives or mitigation measures in order to avoid climate change.\textsuperscript{218} Indirect and cumulative environmental impacts must be considered in the initial study, and disclosed in either a negative report or an EIR.\textsuperscript{219} In \textit{Center for Biological Diversity v. National Highway Traffic Safety Administration}, the Ninth Circuit commented that “[t]he impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct.”\textsuperscript{220} Although this was not a comment on CEQA’s cumulative impact requirement, NEPA’s corollary is similar.\textsuperscript{221} CEQA requires, however, that significant cumulative impacts be mitigated wherever doing so is feasible.\textsuperscript{222}

\textsuperscript{216} See Owen, \textit{supra} note 25, at 83.
\textsuperscript{217} See id.
\textsuperscript{218} See Owen, \textit{supra} note 25, at 84. But see Gerrard, \textit{supra} note 88, at 21–22 (noting that the only two challenges to projects’ exclusion of climate change impacts were rejected by the court, but also noting that the “court took pains to explain the narrowness of its ruling”).
\textsuperscript{219} See Cal. Pub. Res. Code § 21083(b)(2)–(3); Cal. Code Regs. tit. 14, § 15064(d) (2007); Owen, \textit{supra} note 25, at 84. In addition, CEQA requires, “If there is . . . evidence . . . that the project may have a significant effect on the environment, an environmental impact report shall be prepared.” See Cal. Pub. Res. Code § 21080(d). This should dissuade courts from rejecting a CEQA argument on the grounds that global warming might not be real, or might not have anthropocentric causes. See id.
\textsuperscript{220} See 508 F.3d 508, 550 (9th Cir. 2007).
\textsuperscript{221} Compare 40 C.F.R § 1508.7 (2007) (“Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.”) (emphasis added), with Cal. Pub. Res. Code § 21083 (“[C]umulatively considerable’ means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.”).
\textsuperscript{222} See Owen, \textit{supra} note 25, at 83.
There are promising signs that the California courts would echo the stance taken in *Center for Biological Diversity.*\(^{223}\) The Global Warming Solutions Act of 2006, passed in September of that year, is among the most ambitious legislative efforts to address climate change in the country.\(^{224}\) It requires that the state reduce its greenhouse gas emissions to 1990 levels by 2020.\(^{225}\) Emissions in 1990 were approximately twenty-five percent less than they were in 2006.\(^{226}\) Even more ambitiously, the governor stated in the Global Warming Solutions Act’s press release that he expected greenhouse gas emissions to be reduced to levels eighty percent below those of 1990 by the year 2050.\(^{227}\)

To achieve this goal, the legislature subsequently passed Senate Bill 97 (S.B. 97), which confirms that climate change is a subject for CEQA analysis.\(^{228}\) In addition, S.B. 97 requires the Governor’s Office of Planning and Research (OPR) to prepare “guidelines for the feasible mitigation of greenhouse gas emissions . . . .”\(^{229}\) These guidelines will provide agencies with clarity as to what CEQA requires when their proposals impact climate change.\(^{230}\) Failure to consider climate change in a CEQA analysis will create a cause of action for violating the statute.\(^{231}\)

Passage of S.B. 97 was well timed.\(^{232}\) In 2007, California courts

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\(^{223}\) See S. 97, 2007 Leg., 2007–08 Sess. (Cal. 2007).


\(^{226}\) See id.


\(^{228}\) See 2008 *Could Be the Year, supra* note 225, at 8.

\(^{229}\) S. 97, 2007 Leg., 2007–08 Sess. (Cal. 2007); *see* 2008 *Could Be the Year, supra* note 225, at 8. Additionally, S.B. 97 requires the OPR to periodically update the guidelines to incorporate new information as it becomes available. S. 97, 2007 Leg., 2007–08 Sess. (Cal. 2007). This is relevant as scientists’ understanding of climate change continues to develop.


\(^{231}\) See S. 97, 2007 Leg., 2007–08 Sess. (Cal. 2007). The bill includes two exceptions where failure to consider climate change in a CEQA analysis will not create a cause of action for violating the statute. *See id.* These are: (1) transportation projects funded under the Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006; and (2) projects funded under the Disaster Preparedness and Flood Prevention Bond Act of 2006. *Id.*

rejected two challenges to proposals where the responsible agencies neglected to consider the projected effects of climate change.233

Because these regulations will not go into effect until January 1, 2010, the practical effect of S.B. 97 remains to be seen.234 A key question for these standards will be determining the point at which a project’s contribution to climate change becomes “significant” under CEQA.235 Nonetheless, by passing S.B. 97, the California Legislature signaled that CEQA can effectively be used to address climate change.236

IV. CEQA AND GUIDELINES FOR AMENDING NEPA

CEQA, by way of legislative mandate, imposes two important obligations on agencies: (1) they must not ignore climate change when considering the environmental impacts of their activities;237 and (2) they must avoid activities with significant environmental impacts if doing so is feasible.238 Therefore, CEQA can be used to effectively address climate change.239 NEPA, because it lacks similar requirements, is limited in its ability to do so.240 By comparing the two statutes, it is possible to identify possible modifications to NEPA that may allow it to effectively address climate change.241 Part A, below, advocates for an explicit legislative mandate that NEPA compliance requires consideration of the impacts of climate change. Part B argues that NEPA will not effectively address climate change until agencies heed the substantive policy language of section 101. This will require amending either NEPA itself, or the CEQ regulations, so that agencies are required to pursue feasible alternatives or mitigation measures where a proposed project contributes significantly to climate change.242

233 See id.
234 See 2008 Could Be the Year, supra note 225, at 8; Greenhouse Gas Guidelines, supra note 230, at 3; Kahn, supra note 4.
235 2008 Could Be the Year, supra note 225, at 8; Greenhouse Gas Guidelines, supra note 230, at 3.
237 See supra Parts III.A.2.a, III.B.
238 See supra Part III.A.2.b.
239 See Owen, supra note 25, at 84.
240 See Haroff & Moore, supra note 13, at 182.
241 See infra Part IV.A–B.
242 See infra Part IV.B.
A. Precisely the Kind of Analysis NEPA Requires Agencies to Conduct

Without legislation insisting otherwise, the impacts of climate change may elude NEPA analysis altogether. Efforts to use NEPA to litigate the causes of climate change are rising, but remain relatively untested.\textsuperscript{243} Neither Congress nor the CEQ has explicitly mandated that NEPA compliance requires agencies to consider the extent to which a proposed project will contribute to climate change.\textsuperscript{244}

This may not be a problem, for climate change may be appropriate for NEPA as the statute stands now.\textsuperscript{245} Currently, its procedures require that an agency prepare an EIS wherever a major federal action would have a significant effect on the human environment.\textsuperscript{246} Particularly relevant is the language that the Ninth Circuit seized on in \textit{Center for Biological Diversity v. National Highway Traffic Safety Administration}—that agencies not ignore “individually minor but collectively significant actions taking place over a period of time.”\textsuperscript{247}

Nonetheless, this interpretation should be codified, either by amending NEPA itself, or by amending CEQ regulations. It is true that the Ninth Circuit sounded unequivocal in its statement that “[t]he impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct.”\textsuperscript{248} In \textit{Calvert Cliffs’ Coordinating Committee v. Atomic Energy Commission}, however, another appellate court spoke in similarly certain terms about the need for courts to enforce the substantive language of section 101.\textsuperscript{249} There, Judge Wright declared courts had a “duty” to “see that important legislative purposes, heralded in the halls of Congress, are not lost or misdirected in the vast hallways of the Federal bureaucracy.”\textsuperscript{250} Without clear legislative language insisting otherwise, the Supreme Court disagreed with this interpretation and effectively stripped NEPA down to its barest procedural mechanisms.\textsuperscript{251} What is to stop \textit{Center for Biological Diversity} from suffering the same fate?

\textsuperscript{243}See Haroff & Moore, supra note 13, at 160.
\textsuperscript{245}See Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin., 508 F.3d 508, 550 (9th Cir. 2007).
\textsuperscript{246}42 U.S.C. § 4332(C).
\textsuperscript{247}40 C.F.R § 1508.7; see 508 F.3d at 550.
\textsuperscript{248}See Ctr. for Biological Diversity, 508 F.3d at 550.
\textsuperscript{249}See 449 F.2d 1109, 1111, 1115 (D.C. Cir. 1971); Houck, supra note 40, at 182–83.
\textsuperscript{250}Calvert Cliffs’, 449 F.2d at 1111; see Houck, supra note 40, at 182–83.
\textsuperscript{251}See Strycker’s Bay Neighborhood Council, Inc. v. Karlen, 444 U.S. 223, 227 (1980) (“[O]nce an agency has made a decision subject to NEPA’s procedural requirements, the
By enacting S.B. 97, the California Legislature, on the other hand, left no doubt as to whether the effects of climate change should be considered in a CEQA analysis.\textsuperscript{252} This amendment to CEQA assures both agencies and courts that, in most circumstances, failure to consider climate change will create a cause of action for violating the statute.\textsuperscript{253} S.B. 97 also shows the timeliness of enacting such a mandate: 2007 saw California courts reject two challenges to proposals where the responsible agencies neglected to consider the projected effects of climate change.\textsuperscript{254} The fact that this occurred under a statute that is considered more ambitious than its federal counterpart underscores the importance of enacting a similar mandate applicable to NEPA.\textsuperscript{255}

In sum, whereas CEQA offers guidance as to what is expected of those forced to comply with it, NEPA fails to state explicitly that compliance requires analyzing the impact of an agency’s activities on climate change.\textsuperscript{256} Likewise, CEQ regulations do not currently address the matter.\textsuperscript{257} The Ninth Circuit spoke forcefully in favor of applying NEPA to climate change,\textsuperscript{258} but in the absence of a legislative mandate, the Supreme Court could decide otherwise.\textsuperscript{259} By explicitly declaring that NEPA will not permit agencies to ignore climate change, it can begin to effectively address the problem.

B. Requiring Agencies to Avoid Climate Change

Unlike CEQA, a federal agency may comply with NEPA without avoiding the significant environmental impacts of its activity.\textsuperscript{260} If NEPA is to effectively address global warming, this must change. Where an EA indicates that a major federal action will significantly impact the environment, there is only one circumstance under which NEPA would require an agency to avoid the impact: if an agency chooses to prepare a FONSI subject to mitigation measures in lieu of completing

\textsuperscript{252} See S. 97, 2007 Leg., 2007–08 Sess. (Cal. 2007); Greenhouse Gas Guidelines, supra note 230, at 3.
\textsuperscript{253} See S. 97, 2007 Leg., 2007–08 Sess. (Cal. 2007).
\textsuperscript{254} See Gerrard, supra note 88, at 21–22.
\textsuperscript{255} See Ferester, supra note 9, at 209–10.
\textsuperscript{257} See generally 40 C.F.R. §§ 1500–1518 (2007).
\textsuperscript{258} See Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin., 508 F.3d 508, 550 (9th Cir. 2007).
\textsuperscript{260} See supra Part II.A.2.b.iii.
an EIS, it must implement these measures.\footnote{See \textit{40 C.F.R.} \S 1508.13; Nat’l Parks 
& Conservation Ass’n v. Babbitt, 241 F.3d 722, 733–34 (9th Cir. 2001) (“An agency’s 
decision to forego issuing an EIS may be justified in some 
circumstances by the adoption of [mitigation] measures.”).} Otherwise, if the agency, 
after completing an EA, determines the project will result in a 
significant impact, NEPA requires it to complete an EIS.\footnote{See \textit{42 U.S.C.} \S 4332(C) 
(2000).} The EIS must 
identify and discuss alternatives to the proposed action, but the agency 
is under no obligation to pursue an alternative, even if it is more 
environmentally sound.\footnote{See \textit{supra} Part II.A.2.b.iii.}

This is a far cry from CEQA, which requires agencies to avoid sig-
nificant environmental impacts if doing so is feasible.\footnote{See \textit{supra} Part II.A.2.b.iii.} If an initial 
study indicates to an agency that its project will have a significant effect 
on the environment, the agency can either prepare an EIR, or a Nega-
Cod}e \S 21080(c)–(d).} If it chooses the former, it 
must identify and implement feasible alternatives or mitigation meas-
ures.\footnote{See \textit{Ferester, supra} note 9, at 234.} Either way, CEQA makes it extremely difficult for an agency to 
implement a project that will significantly impact the environment.\footnote{See \textit{id.}} It 
must demonstrate that there are specific economic, social, technologi-
cal, or environmental factors that make avoiding the significant impact 
inaeasible, and that the project is justified in spite of the environmental 
costs.\footnote{See \textit{Cal. Pub. Res. Cod}e \S 21061.1; \textit{Ferester, supra} note 9, at 234.}

For NEPA to effectively address climate change, it would need to 
adopt a similar approach to feasible alternatives and mitigation meas-
ures. As NEPA stands now, a federal agency could, subsequent to finding 
that its project significantly impacted climate change, avoid miti-
gating the impact simply by opting to prepare an EIS instead of a 
FONSI subject to mitigation.\footnote{See \textit{supra} Part II.A.2.b.iii.} CEQA’s approach, on the other hand, 
limits the ability of an agency to significantly impact climate change 
wherever it is feasible to avoid doing so.\footnote{See \textit{Ferester, supra} note 9, at 234; \textit{Owen, supra} note 25, at 84.}

With NEPA there is another twist, because an agency is under no 
obligation to even \textit{consider} alternatives that would avoid climate 
change unless it prepares an EIS.\footnote{See \textit{42 U.S.C.} \S 4332(C) 
(2000).} The decision of whether to com-
plete an EIS lies with the responsible agency, the threshold determi-
nation being whether the project is a major federal action that will significantly impact the environment. It has wide discretion to choose to file a FONSI instead. If the agency chooses not to file an EIS, a reviewing court may overturn the agency’s decision to prepare a FONSI only if it determines it was arbitrary and capricious.

An agency could avoid preparing an EIS by demonstrating that no “significant effect” would result from the project. This may be particularly tempting in the context of greenhouse gas emissions because, as the regulations make clear, determining whether environmental impacts are significant is a question of both “context” and “intensity.” As the court in Hanly v. Kleindienst stated “one more highway in an area honeycombed with roads usually has less of an adverse impact than if it were constructed through a roadless public park.” Highways, however, contribute to climate change wherever they are located. Unlike other types of pollution, the location of greenhouse gas emissions matters little. The “roadless public park” will not be spared the consequences of climate change simply because it is not the source of greenhouse gas emissions. Imagine the impact on climate change if a location were deemed to be the appropriate “context” in which to operate several coal-burning power plants.

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272 See Greater Yellowstone Coal. v. Flowers, 359 F.3d 1257, 1274 (10th Cir. 2004); Dubois v. U.S. Dep’t of Agric., 102 F.3d 1273, 1284 (1st Cir. 1996).
273 See Greater Yellowstone Coal., 359 F.3d at 1274; Dubois, 102 F.3d at 1284.
274 See Dubois, 102 F.3d at 1284.
275 See supra Part II.A.2.b.ii. Another way an agency may be able to avoid preparing an EIS is by demonstrating that the proposal prompting the NEPA inquiry would not constitute a “Major Federal action.” See Save Barton Creek Ass’n v. Fed. Highway Admin., 950 F.2d 1129, 1136 (5th Cir. 1992); 40 C.F.R. § 1508.18 (2007). In terms of climate change, an agency may finance the construction of a coal-burning power plant or a highway without filing an EIS simply by showing that it has subsequently no control over the funds. See Save Barton Creek, 950, F.2d at 1136. Likewise, nondiscretionary actions are not considered federal actions. See South Dakota v. Andrus, 614 F.2d 1190, 1194 (8th Cir. 1980). If the agency cannot control the outcome of the project in material respects or has no discretion to exercise judgment regarding the outcome, the project is not a federal action, and no EIS is required. See id.
276 See 40 C.F.R. § 1508.27.
277 See 471 F.2d 823, 831 (2d Cir. 1972).
280 See id.
Again, S.B. 97 may provide an answer. Pursuant to this legislation, the OPR must prepare “guidelines for the feasible mitigation of greenhouse gas emissions.” When these go into effect in 2010, this will create certainty for agencies required to comply with CEQA, and for courts reviewing their decisions. Time will tell just how effectively these guidelines address climate change, and how successfully the OPR determines the line between a “significant effect” on climate change and an “insignificant” one. Regardless, some indication of the point where greenhouse gas emissions become intolerable would provide better guidance to agencies than none.

Congress should follow California’s lead and require the CEQ to promulgate similar guidelines. In so doing, it will ensure that—at some point decided on by Congress and the CEQ—an agency’s contribution to climate change will require an EIS. By further amending the statute to require agencies to avoid contributing to climate change where doing so is feasible, the country will have an effective weapon at its disposal to fight the human causes of global warming.

Conclusion

As research continues to confirm the severe, detrimental effects of climate change, as well as the human causes of this phenomenon, the need for regulation is increasingly being accepted as a foregone conclusion. Such regulation is relatively new, and the consensus among many appears to be that it is lacking on the federal level. As a result, numerous states have attempted to fill in this regulatory vacuum. California is among these states, and has been a leader in enacting progressive policies that can be utilized effectively to combat climate change. The proposal of Assembly Bill 32 to reduce greenhouse gas emissions to below 1990 levels is among the most ambitious in the country.

However, climate change is a unique environmental predicament that may be more effectively addressed on the federal level than on the state level. NEPA has the potential to be one statutory tool in the fight against global warming. Unfortunately, as it now stands, a federal agency can comply with NEPA while at the same time contributing adversely to climate change. Though an agency’s impact on climate change appears to be ripe for NEPA analysis, there is no confirming this. As such, the appropriateness of climate change as a subject for

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282 See Greenhouse Gas Guidelines, supra note 230, at 3.
283 See id.
NEPA analysis may be left to the very agencies whose environmental impacts NEPA was intended to curb. Furthermore, NEPA requires only that an agency be fully informed about, and disclose, the environmental impacts of its actions. NEPA leaves unchecked the ability of agencies to disregard climate change impacts, even where an agency is aware of them.

CEQA, on the other hand, may prove to be an effective tool in regulating human contributions to climate change. It is bolstered by both a clear legislative mandate to mitigate whenever doing so is feasible, and by legislative confirmation that compliance with CEQA requires consideration of a project’s impact on climate change. In order for NEPA to effectively address climate change, legislators should examine one of the statute’s most ambitious protégés—CEQA. By insisting that NEPA compliance requires agencies to consider climate change, and by requiring them to avoid activities which significantly contribute to it, NEPA will bear a striking resemblance to CEQA and will be a more effective tool in combating this critical environmental crisis.
TAking the pit bull off the leash: siccing the endangered species act on climate change

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Abstract: Environmentalists have been warning of catastrophic climate change for years, often getting only minimal attention from lawmakers and, until recently, the public. With the political climate still moving only incrementally, citizen groups and states may have a tactic in the Endangered Species Act to jumpstart the reduction of CO2 emissions. This Note examines the implications of a citizen suit to reduce emissions based on the section 9 “take” provisions of the Endangered Species Act. It examines Article III standing requirements alongside the citizen-suit provisions of the Endangered Species Act, and the possible existence of a nonjustici-able political question. The Note takes the position that such a suit could move forward successfully, given the right judicial circumstances.

Introduction

The last several years yielded an ongoing, passionate debate between those who “believe” in anthropogenic climate change,¹ and those who remain skeptical of its science, its purported threats, and its political uses.² The debate is lively in the United States Congress, with

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¹ Throughout this Note, the terms “climate change,” “global climate change,” and “global warming” are used interchangeably. Unless otherwise noted, the climate change referred to is at least partially anthropogenic.

² Compare Wildlife and Oceans in a Changing Climate: Oversight Hearing Before the Subcomm. on Fisheries, Wildlife and Oceans of the H. Comm. on Natural Resources, 110th Cong. 75 (2007) [hereinafter Oversight Hearing] (statement of Rep. Dale E. Kildee, Member, H. Comm. on Natural Resources) (recognizing the moral and political responsibility of combating climate change) and Intergovernmental Panel on Climate Change [IPCC], Climate Change 2007: Synthesis Report, Summary for Policymakers, at 1–6, AR4-SYR (2007) [hereinafter IPCC Report] (presenting substantial evidence of the threats and causes of climate change) with Oversight Hearing, supra, at 116–18 (testimony of Dr. Gary Sharp, Scientific Director, Center for Climate/Ocean Resources Study) (focusing dissent on the idea that human contribution to greenhouse gases is only a small percentage of total greenhouse gas concentrations) and Maura Reynolds & James Gerstenzang, Updating His Spin on Climate Change, L.A.
members taking swipes at dissenters and heel-draggers in committee hearings\(^3\) and in the news.\(^4\) Scientists trade barbs in testimony,\(^5\) some seeming at times to be quoting copy from a bottle of Dr. Bronner’s Magic Soap.\(^6\) Congress—with the signature of President George W. Bush—finally passed a previously unimaginable bill,\(^7\) the Energy Independence and Security Act of 2007, which purports to “improve our environment” by “reduc[ing] projected CO\(_2\) emissions by billions of metric tons.”\(^8\) The bill increases fuel economy to thirty-five miles per gallon by the year 2020, an “increase [in] fuel economy standards by 40 percent . . . .”\(^9\)

With the May, 2008 listing of the Polar Bear as a threatened species, the Bush Administration seized the opportunity to try to limit the oversight of the courts in climate change matters.\(^10\) In a statement

Times, Feb. 11, 2007, at A30 (citing the Bush Administration’s attempt to polish its climate change bona fides).

\(^3\) Oversight Hearing, supra note 2, at 75 (statement of Rep. Kildee) (“To my mind, those who question global warming are living in an unreal world. It is there, and we actually sponsor it.”).


\(^5\) See Oversight Hearing, supra note 2, at 77 (statement of Dr. Terry L. Root, Senior Fellow, Stanford University) (“There has been a lot of misinformation that has been going out to all of America, and the scientists, we have been sitting here saying this is not right. Here are the facts. This is not right. Here are the facts.”).


accompanying the Polar Bear announcement, Secretary of the Interior Dirk Kempthorne claimed that the listing “should not open the door to use of the [Endangered Species Act] to regulate greenhouse gas emissions from automobiles, power plants, and other sources.”  

The Secretary argued that such regulation and policy decisions should instead come from open debate and lawmaking in Congress, as President Bush stated in April 2008.

As the political process finally forces politicians and policymakers to act on the issue of climate change, however, the courts have already handled suits related to climate change for a number of years—particularly in reference to endangered and threatened animals. Various courts have acknowledged anthropogenic climate change as a problem in a series of suits throughout the country. Amid concerns


12 See id.

13 See Anne E. Kornblut & Alec MacGillis, Warning of Threats, Clinton Sells Clinton: Ex-President Emphasizes Wife’s Experience, WASH. POST, Dec. 30, 2007, at A1 (reporting that President Clinton lists climate change as one of the “challenges” that Senator Clinton would be best able to handle out of the Democratic field); Andrew C. Revkin, Agency Affirms Human Influence on Climate, N.Y. TIMES, Jan. 10, 2007, at A16 (noting the National Oceanic and Atmospheric Administration’s acknowledgment of a long-term warming trend spurred in part by human activity); see also Peter Gelling & Andrew C. Revkin, Climate Talks Take on Added Urgency After Report, N.Y. TIMES, Dec. 3, 2007, at A3 (“President Bush recently proposed that the world’s biggest countries work toward a common, long-term goal set decades in the future, without specific targets or limits, and more immediate goals set by individual nations using whatever means they choose.”); Editorial: In Office, The One Environmental Issue, N.Y. TIMES, Jan. 1, 2008, at A16 (“There is . . . a growing appetite for decisive action—everywhere, it seems, except the White House.”).


that the comparatively liberal Ninth Circuit Court of Appeals would
have to blaze a vulnerable path in environmental activism within the
courts, the Supreme Court, in its landmark Massachusetts v. EPA de-
cision, opened the door for increased use of the scourgis of climate
change as concrete harms to be redressed.

There are, of course, still plenty of obstacles to overcome to re-
verse or at least mitigate the harms of climate change, both from the
administration, and in the courts. Scientists believe that humans
need to take two different kinds of action immediately—mitigation
and adaptation. “Mitigation” refers to actions to “reduce causes of
climate change . . . [by] support[ing] . . . measures to reduce the
levels of greenhouse gas emissions.” In terms of wildlife protection,
“adaptation” refers to “steps to assist wildlife in navigating effects of
climate change . . . .” Concerned private citizens, seeing the need
to spur mitigation measures while also working through adaptive re-
sponses, could take to the courts to try to effect positive change.
Indeed, that pit bull of an environmental statute, the Endangered
Species Act, could provide at least one such opportunity to begin
the necessary mitigation.

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16 See SCOTUSBlog Stats, Circuit Scorecard—OT06, http://www.scotusblog.com/mov-
able type/archives/ScorecardOT06.pdf (last visited Jan. 23, 2009).
17 See 549 U.S. at 522–23.
18 See Young, supra note 4 (“[T]he [EPA] denied California permission to impose what
would have been the country’s toughest greenhouse gas standards on cars, trucks and
sports utility vehicles.”).
19 See, e.g., Am. Elec. Power Co., 406 F. Supp. 2d at 274 (“Because resolution of the issues
presented here requires identification and balancing of economic, environmental, foreign
policy, and national security interests, ‘an initial policy determination of a kind clearly for
non-judicial discretion’ is required.”) (quoting Vieth v. Jubelirer, 541 U.S. 267, 278 (2004)).
20 See Oversight Hearing, supra note 2, at 51–52 (statement of Dr. J. Christopher Haney,
Chief Scientist, Defenders of Wildlife); id. at 163–66 (statement of The Nature Conserv-
vancy).
21 See id. at 52 (statement of Dr. J. Christopher Haney).
22 See id.
24 See Paul Boudreaux, Understanding “Take” in the Endangered Species Act, 34 ARIZ. ST.
L.J. 733, 733 n.2 (2002); George Cameron Coggins, An Ivory Tower Perspective on Endangered
Species Law, NAT. RESOURCES & ENV’T, Summer 1993 at 3, 3 (noting that early outcomes in
ESA cases led to this “sobriquet”); Holly Doremus, The Purposes, Effects, and Future of the
Endangered Species Act’s Best Available Science Mandate, 34 ENVTL. L. 397, 399 n.2 (2004) (tent-
atively attributing the “pit bull” moniker to Donald Barry, former majority counsel to the
House Committee on Merchant Marine and Fisheries).
26 See id. § 1538(a)(1)(B)–(C) (prohibited acts, take provisions). See generally Sarah
Jane Morath, The Endangered Species Act: A New Avenue for Climate Change Litigation?, 29 PUB.
This Note examines one way to harness the Endangered Species Act to reduce CO₂ emissions. Specifically, it argues that climate change—and those causing it—harm threatened shore birds on both coasts of the United States. Part I of this Note examines the causes and effects of anthropogenic climate change on oceans and coastal habitat. Part II discusses provisions of the Endangered Species Act that could be harnessed to force such an injunction. It also presents the concept of standing and other constitutional issues implicated in litigating such a suit. Part III analyzes one possible suit under the Endangered Species Act’s take provisions and concludes that an injunction ought to be attainable.

I. Anthropogenic Climate Change: Causes and Effects

The science of anthropogenic climate change is constantly evolving.²⁷ New experimental and observational techniques, data, and models provide more and more certain information about the warming planet, as well as the likelihood that such warming results from human contribution to atmospheric greenhouse gases.²⁸ Through this study, scientists and policy-makers have learned much about the causes and effects of climate change, and have begun to understand how to mitigate those causes and adapt to those effects.²⁹

A. Human Causes of Climate Change

Human contribution to climate change is acknowledged and accepted in many well-respected venues, and is widely considered to be scientific consensus.³⁰ In accepting the Nobel Peace Prize on behalf of the Intergovernmental Panel on Climate Change (IPCC)—shared with former vice president Al Gore—chairman Rajendra Pachauri explained that “thousands of scientists had spent two decades documenting global

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²⁷ See Oversight Hearing, supra note 2, at 14 (statement of Dr. Joshua J. Lawler, Assistant Professor, College of Forest Resources, University of Washington) (describing ongoing research techniques and findings).

²⁸ See id.; IPCC Report, supra note 2, at 1–2.

²⁹ See generally Oversight Hearing, supra note 2 (providing substantial testimony and discussion regarding causes and effects of climate change).

warming.”  

The discussion and negotiation is now moving to ameliorating—through mitigation of and adaptation to—the harms caused by climate change.  

Pachauri, speaking at the December 2007 meeting of government leaders in Bali, demanded, “[w]ill those responsible for decisions in the field of climate change at the global level listen to the voice of science and knowledge, which is now loud and clear?”

Humans contribute to climate change through the release of greenhouse gases at a rate and scale that overwhelms the natural balance of atmospheric gases. Particularly, humans emit CO₂ through the burning of fossil fuels; methane as a result of agriculture, waste, and energy production; and nitrous oxide from agriculture. Power plants and automobiles are major sources of CO₂ emissions. Before the Industrial Revolution, the natural world was “fairly well balanced” in terms of the ambient presence of greenhouse gases, with injections of additional atmospheric CO₂ coming from volcanic activity and similar natural processes. By contrast, current concentrations of CO₂ and methane in the atmosphere “exceed by far the natural range over the last 650,000 years.” Indeed, the current human contribution to atmospheric CO₂ is believed to be fifty times that of natural processes over a given period. As Dr. Ken Caldeira noted in his testimony to Congress, assuming “we cut [ninety-eight] percent of our emissions, we would be doubling . . . natural geologic source[s] of CO₂ to our atmosphere.”

That said, scientists posit that only approximately three percent of all atmospheric CO₂ is due to human activity, whether through fos-

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31 See Jordan, supra note 30, at A14.  
32 See id.  
33 Id.  
34 See, e.g., Green Mountain Chrysler Plymouth Dodge Jeep v. Crombie, 508 F. Supp. 2d 295, 309 (D. Vt. 2007) (“EPA does not dispute the existence of a causal connection between man-made greenhouse gas emissions and global warming . . . .”) (quoting Massachusetts v. EPA, 549 U.S. at 523); Oversight Hearing, supra note 2, at 64 (testimony of Bill McKibben, Author and Scholar in Residence, Middlebury College) (discussing imbalance caused by anthropogenic greenhouse gas emissions).  
36 See Green Mountain Chrysler, 508 F. Supp. 2d at 308–09; IPCC Report, supra note 2, at 4–5.  
37 Oversight Hearing, supra note 2, at 64 (testimony of Bill McKibben). Mr. McKibben adroitly acknowledged that not even Congress could legislate against volcanoes. See id.  
38 IPCC Report, supra note 2, at 4.  
39 See Oversight Hearing, supra note 2, at 90 (statement of Dr. Ken Caldeira, Department of Global Ecology, Carnegie Institute of Washington).  
40 See id.
sil-fuel use, or deforestation and other land-use changes.\textsuperscript{41} Dissenting members of Congress have pounced on this fact to suggest that human contribution is, in fact, minimal.\textsuperscript{42} Congressman Wayne T. Gilchrest, Democrat from Maryland, responded to these skeptics: “If you have a scale with 1,000 pounds on each side and it is balanced, you add one pound to one side, which is extraordinarily tiny, and it goes off balance. To some extent, that is what we are doing.”\textsuperscript{43} As such, burning fossil fuels and otherwise contributing to the greenhouse effect over-saturates the atmosphere in such a way that natural processes cannot counterbalance this anthropogenic influence.\textsuperscript{44}

B. The Effects of Climate Change on Wildlife

Warming resulting from anthropogenic climate change affects wildlife and their habitats on an increasingly alarming scale.\textsuperscript{45} The only slight increase in temperature on land is largely thanks to the oceans, which absorb approximately eighty percent of the heat added to the climate system.\textsuperscript{46} The oceans, an integral part of the carbon balance, act both as a depository for excess carbon from CO\textsubscript{2} and as a sink for excess heat, but have been overwhelmed by continuous CO\textsubscript{2} output.\textsuperscript{47} Thus, anthropogenic climate change is harming our oceans and shorelines in addition to having effects on ambient temperature on land.\textsuperscript{48} This warming through the increased introduction of CO\textsubscript{2} into the atmosphere alters the “physical and biogeochemical characteristics” of the oceans.\textsuperscript{49} Such CO\textsubscript{2} imbalance and the resulting warming leads to actual heating of the oceans and a rise in sea levels.\textsuperscript{50} Additionally, the general warming of the planet by a mere one-and-a-half

\textsuperscript{41} See id. at 64 (examination of Bill McKibben by Rep. Henry E. Brown, Jr.); IPCC Report, supra note 2, at 4.
\textsuperscript{42} See, e.g., Oversight Hearing, supra note 2, at 63–64 (examination of Bill McKibben by Rep. Henry E. Brown, Jr.).
\textsuperscript{43} See id. at 66 (statement of Rep. Wayne T. Gilchrest).
\textsuperscript{44} See id. at 50 (statement of Dr. J. Christopher Haney); id. at 160–61 (statement of The Nature Conservancy).
\textsuperscript{46} See Oversight Hearing, supra note 2, at 160–61 (statement of The Nature Conservancy); IPCC Report, supra note 2, at 1.
\textsuperscript{47} See Oversight Hearing, supra note 2, at 161–62.
\textsuperscript{48} See id.
\textsuperscript{49} Id. at 161.
\textsuperscript{50} See id. at 89–91 (testimony of Dr. Ken Caldeira); id. at 161 (statement of The Nature Conservancy). Warming will also lead to increased ocean acidification. Id. at 90–91.
to two degrees Celsius over end-of-century levels could cause up to thirty percent of species studied by the IPCC—and up to eighty percent in regional biota—to be at a higher risk of extinction.\textsuperscript{51}

1. Heating the Oceans, Heating the Planet, and Effects on Wildlife

Actual ocean heating is problematic because it decreases solubility of oxygen into water and harms the ability of deep, cool, nutrient-rich water to mix with and feed the upper, warmer ocean strata.\textsuperscript{52} Oxygen dissolves more easily in cold water; many fisheries are dependent on highly active cold-water fish such as tuna.\textsuperscript{53} As the waters warm, oxygen-loving fish will follow the cooler waters poleward, leaving behind traditional feeding grounds and the fishermen who frequent them.\textsuperscript{54} While many individual species will be so affected, scientists do not believe that entire ecosystems will be able to migrate as one unit.\textsuperscript{55} Thus, seabirds, not realizing that their quarry has moved to cooler waters poleward, may continue to hunt in traditional feeding grounds only to find them barren or markedly diminished.\textsuperscript{56} Seabird deaths in California and Oregon have already been linked to such changes in the availability of food.\textsuperscript{57}

In addition to the oxygen provided to fish and other marine creatures by cool, deep water, such water also provides nutrients to much smaller photosynthetic organisms in the surface waters.\textsuperscript{58} Decreased mixing of deep wells with surface waters due to a more-marked temperature difference, and the resulting nutrient deprivation to surface strata, could cause widespread harm throughout the oceanic food chain, including harm to great whales and other wildlife dependent on photosynthetic organisms as a food source.\textsuperscript{59}

\textsuperscript{51} See id. at 29, 32–33 (statement of Dr. Terry L. Root); IPCC Report, supra note 2, at 9; J.B. Ruhl, *Climate Change and the Endangered Species Act: Building Bridges to the No-Analog Future*, 88 B.U. L. Rev. 1, 26 (2008).

\textsuperscript{52} Oversight Hearing, supra note 2, at 92 (statement of Dr. Ken Caldeira).

\textsuperscript{53} See id.

\textsuperscript{54} See id.

\textsuperscript{55} Id.

\textsuperscript{56} See id.

\textsuperscript{57} Id.

\textsuperscript{58} See Oversight Hearing, supra note 2, at 92 (statement of Dr. Ken Caldeira).

\textsuperscript{59} See id. This same “cap” has potentially catastrophic effects on the meridional overturning circulation of the Atlantic Ocean—the oceanic “conveyor” that circulates ocean waters both from deep to shallow and from West to East—potentially causing widespread decrease in ecosystem productivity and ocean CO\textsubscript{2} uptake, in addition to changes in global weather patterns. See IPCC Report, supra note 2, at 13.
2. The Rising Sea

As the climate warms from increased anthropogenic introduction of CO\textsubscript{2} and other greenhouse gases into the atmosphere, sea levels are expected to rise precipitously.\textsuperscript{60} This is due not only to increased freshwater releases from terrestrial ice sheets or increased flows from snowpack-fed rivers, \textsuperscript{61} but also to the simple molecular expansion that occurs in all substances when heated—an effect that has vast consequences when spread across an entire world of water.\textsuperscript{62} One estimate predicts that, should CO\textsubscript{2} and other greenhouse emissions go unchanged, there could be as much as a one-foot rise in sea levels worldwide by the end of the century solely as a result of thermal expansion.\textsuperscript{63} Whatever the additional rise in sea level because of melting land ice,\textsuperscript{64} even a one-foot rise will result in increased beach erosion, destruction of coastal dune and intertidal habitats, and heightened salinity of estuarine deltas.\textsuperscript{65}

Increased beach erosion will harm the habitats of several coastal species.\textsuperscript{66} Dunes and sandy areas above the high tide line will be particularly vulnerable, as increased severe weather and flooding is expected to impact these loosely packed areas severely.\textsuperscript{67} Reduced

\textsuperscript{60} See Nw. Envtl. Advocates v. Nat’l Marine Fisheries Serv., 460 F.3d 1125, 1161 n.10 (9th Cir. 2006) (Fletcher, J., dissenting); Oversight Hearing, supra note 2, at 1–2 (statement of Del. Madeline Z. Bordallo, Chairwoman); id. at 91–92 (statement of Dr. Ken Caldeira); see also IPCC Report, supra note 2, at 13 (“Contraction of the Greenland ice sheet is projected to continue to contribute to sea level rise . . . .”).

\textsuperscript{61} See Oversight Hearing, supra note 2, at 91–92 (statement of Dr. Ken Caldeira); IPCC Report, supra note 2, at 13.

\textsuperscript{62} See Oversight Hearing, supra note 2, at 91–92 (statement of Dr. Ken Caldeira).

\textsuperscript{63} See id. (referring to such a rise as far more certain than projected amounts of sea-level rise from melting ice this century). A two-foot level rise would wipe out 10,000 square miles of coastal land and habitat. See id. at 92.

\textsuperscript{64} Complete elimination of the Greenland ice sheet could result in a sea level rise of seven meters; the good news, though, is that for this to happen, warming would need to continue for millennia at warming between approximately two and 4.5 degrees Celsius above pre-industrial temperatures. See IPCC Report, supra note 2, at 13.

\textsuperscript{65} See Nw. Envtl. Advocates, 460 F.3d at 1161 n.10 (Fletcher, J., dissenting); Oversight Hearing, supra note 2, at 92 (statement of Dr. Ken Caldeira); id. at 142 (statement of Dr. John T. Everett, President and Consultant, Ocean Associates, Inc.); id. at 160 (statement of The Nature Conservancy); IPCC Report, supra note 2, at 13. Scientists also expect flooding of low-lying coastal wetlands and sea grass prairies. See Oversight Hearing, supra note 2, at 49 (statement of Dr. J. Christopher Haney).

\textsuperscript{66} See Oversight Hearing, supra note 2, at 92 (statement of Dr. Ken Caldeira); id. at 160 (statement of The Nature Conservancy); see also Endangered and Threatened Wildlife, 50 C.F.R. § 17.11(h) (2007) (listing coastal habitats for threatened western snowy and piping plovers).

\textsuperscript{67} See Oversight Hearing, supra note 2, at 92 (statement of Dr. Ken Caldeira).
beaches would mean a smaller feeding and nesting ground for shore birds like the piping plover, a threatened species on the Atlantic coast, and the western snowy plover, a threatened species on the Pacific coast. Though such erosion is an ongoing process, the natural response has been to slowly move the beach and coastal habitats inland. With human development along the coasts, however, habitats have no room to recede, and can be easily lost.

3. Shore Birds: The Western Snowy Plover and the Piping Plover

Two species that are particularly sensitive to rising oceans are the threatened Pacific coast population of western snowy plovers, and the threatened Atlantic coast population of piping plovers. Both species of plover nest and feed on the coasts: the western snowy plover's range extends from mid-Washington all the way into Mexico; piping plovers range from the Canadian Maritime Provinces to North Carolina, with wintering habitats in the Gulf of Mexico. Both species breed and nest on sandy beaches above the high tide line, on flats, or on shallow-sloping foredunes. While new broods of both species


69 See Oversight Hearing, supra note 2, at 92 (statement of Dr. Ken Caldeira).

70 See id.


72 See Hecht et al., supra note 71, at 2; Hornaday et al., supra note 71, at 2.

73 Hecht et al., supra note 71, at 6; Hornaday et al., supra note 71, at 11–12.
generally do not stay in the nest area after hatching, they will typically range along the shore in habitats similar to their natal areas. They use Drift-wood, seaweed, and light vegetation—in combination with natural cryptic coloration—are used by chicks and adults of both species for cover from predators, as well as for other sheltering purposes. Plovers of both species feed on insect larvae, mollusks, and other invertebrates in the moist intertidal sands, in kelp and other organic detritus at the wrack-line, and in washover areas where storm surges have washed between dunes. As such, much of the threatened plovers’ breeding, feeding, and sheltering habitat and habits are vulnerable to the expected sea-level rise and increase in severe weather from climate change.

As waters rise, oceans and skies warm, and coastal habitat goes the way of the dodo, conservationists, policymakers, and concerned citizens will need legal avenues to enjoin activities that harm species native to these habitats. The Endangered Species Act comes ready-equipped with some of the tools necessary to achieve such protection.


The early 1970s saw a marked increase in the amount of environmental legal activism in the United States. In his first State of the Union Address following his reelection, President Richard M. Nixon called

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74 See Hecht et al., supra note 71, at 8–9; Hornaday et al., supra note 71, at 14–15.
75 Hecht et al., supra note 71, at 11; Hornaday et al., supra note 71, at 12.
76 Hecht et al., supra note 71, at 11; Hornaday et al., supra note 71, at 17–18. A wrack-line is the line of seaweed and debris deposited on a beach by tidal movement. Hecht et al., supra note 71, at 11 n.1.
77 See Oversight Hearing, supra note 2, at 92 (statement of Dr. Ken Caldeira), 161–62 (statement of The Nature Conservancy); Endangered and Threatened Wildlife, 50 C.F.R. § 17.11(h) (2007); Hecht et al., supra note 71, at 6–11; Hornaday et al., supra note 71, at 11–18; IPCC Report, supra note 2, at 1, 11–12.
78 See, e.g., Oversight Hearing, supra note 2, at 37 (statement of Monica Medina, Acting Director, International Fund for Animal Welfare) (“[T]he government must use the . . . [ESA] to begin to take actions that will conserve these animals and their habitat.”).
for strengthening regulations for the protection of endangered species.\textsuperscript{81} Support in Congress for what became the Endangered Species Act (ESA) was overwhelming,\textsuperscript{82} as judged by the dearth of dissent and discussion regarding the original bills.\textsuperscript{83} The only substantive debate in each house addressed the potential division of responsibilities between the National Marine Fisheries Service (NMFS) and the Fish and Wildlife Service (USFWS).\textsuperscript{84} As he signed the final bill, President Nixon stated, “[t]his legislation provides the Federal Government with needed authority to protect an irreplaceable part of our national heritage—threatened wildlife.”\textsuperscript{85}

The ESA has been described as one of the most effective environmental statutes ever passed by Congress, largely because of its absolutist stance.\textsuperscript{86} Its most powerful provisions strictly forbid certain actions,\textsuperscript{87} while others absolutely require action,\textsuperscript{88} regardless of cost or convenience.\textsuperscript{89} For instance, whether or not Congress realized exactly how strong a statute it was creating, the authorizing conference committee added the low-threshold term “harm” to the statutory definition of “take,” the prohibited act of killing or otherwise harassing an endangered species.\textsuperscript{90} While Congress certainly intended to protect widely-recognized charismatic megafauna,\textsuperscript{91} they probably were not thinking about diminutive, widely—but thinly—dispersed, uncharismatic creatures.\textsuperscript{92}

\begin{thebibliography}{99}
\bibitem{2} See \textit{Stan. Envtl. Law Soc’y, supra note 81}, at 21; \textit{Coggins, supra note 24}, at 3; see also \textsection 1532(19) (defining “take”); \textsection 1538(a)(1) (prohibiting “take”).
\bibitem{3} See \textit{Stan. Envtl. Law Soc’y, supra note 81}, at 21–22; \textit{Coggins, supra note 24}, at 3.
\end{thebibliography}
The ESA yields many protections of—and suits based on—small, less conventionally charismatic species. As an early case—Tennessee Valley Authority v. Hill—noted, the plain language of the ESA requires that priority be given to the endangered species, regardless of its stature or the pressing equities against its preservation. Additionally, in Babbitt v. Sweet Home Chapter of Communities for a Great Oregon—a Supreme Court case pitting significant family-owned and corporate timber interests against an endangered woodpecker and a threatened owl—the Court upheld a broad regulatory definition of “harm,” part of the “take” provisions, based on clear congressional intent. The forest-products companies challenged the regulation facially, likely fearing an injunction under the ESA against their activities should they threaten the designated endangered or threatened species. The Court cited both Senate and House reports that explicitly stated that “take” is to be defined to have the “broadest possible” meaning and effect, and upheld the regulation. This case introduces several important concepts in endangered species law: listing of species, prohibition against take, and the remedy of injunction.


94 Tenn. Valley Auth., 437 U.S. at 184, 194–95 (“The plain intent of Congress in enacting [the ESA] was to halt and reverse the trend toward species extinction, whatever the cost.”) (emphasis added); see § 1531(c) (policy); § 1532(3) (definition of “conserve” and related variants); § 1536; STAN. ENVTL. LAW SOC’Y, supra note 81, at 22. Though the Hill decision focused on the agency-related section 7 of the ESA, and this Note focuses on the protections in section 9, courts looking at section 9 protections have heeded the Hill Court’s admonition regarding priorities. See Sweet Home, 515 U.S. at 698–99 (“Although the [section] 9 ‘take’ prohibition was not at issue in Hill, we took note of that prohibition, placing particular emphasis on the Secretary’s inclusion of habitat modification in his definition of ‘harm.’”) (citing Hill, 437 U.S. at 184 n.30); Strahan v. Coxe, 127 F.3d 155, 167–68 (1st Cir. 1997) (including the strong language of Hill in its discussion of preemption, section 9, and the Marine Mammals Protection Act).

95 See Sweet Home, 515 U.S. at 704–05.

96 See id. at 692–93; Marbled Murrelet, 83 F.3d at 1068 (remedy of injunction).

97 See Sweet Home, 515 U.S. at 704 (citing S. REP. No. 93-307, at 7 (1973) and H.R. REP. No. 93–412, at 15 (1973)).

98 § 1533(a)(1) (section 1533 is generally referred to as section 4, based on the original Act’s numbering); see also discussion infra Part II.A.

99 § 1538(a)(1)(B)–(C) (section 9); see § 1532(19) (defining “take”); Boudreaux, supra note 24, at 739–43 (introducing the concept of “take”).
The ESA provides separate sections for congressional findings, statutory definitions, and listing of species.\(^{101}\) Analyzing the possibility of an injunction against CO\(_2\) emissions through an ESA suit requires an examination of sections 4, 9, and 11 of the Act. Section 4 provides for the listing of species as either endangered or threatened.\(^{102}\) Section 9 sets out prohibitions on certain actions with regard to those listed species.\(^{103}\) Section 11 provides wide private empowerment through its citizen-suit provisions.\(^{104}\)

A. Section 4: Listing of Endangered and Threatened Species

Section 4 of the ESA provides the framework for how a species gains its special protected status.\(^{105}\) Under section 4, the designated Secretary—Interior or Commerce—may list a species either at the initiative of USFWS or NMFS, or in response to a petition by an interested party.\(^{106}\) The procedure is similar for either route, with the citizen petition receiving a ninety-day review to screen for a lack of “substantial scientific or commercial information indicating that the petitioned action may be warranted.”\(^{107}\) According to the ESA:

The Secretary shall . . . determine whether any species is an endangered species or a threatened species because of any of the following factors:

(A) the present or threatened destruction, modification, or curtailment of its habitat or range;

(B) overutilization for commercial, recreational, scientific, or educational purposes;

(C) disease or predation;

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\(^{101}\) See § 1540(g)(1)(A); *Marbled Murrelet*, 83 F.3d at 1068 (citing Forest Conservation Council v. Rosboro Lumber Co., 50 F.3d 781, 783 (9th Cir. 1995)); Boudreaux, *supra* note 24, at 750–52 (“[T]he Court of Appeals for the species-rich Ninth Circuit[ ] has concluded that the ESA entitles a plaintiff to an injunction against conduct that is expected to cause a take in the imminent future.”).

\(^{102}\) § 1531 (section 2 findings); § 1532 (section 3 definitions); § 1533 (section 4 listing).

\(^{103}\) § 1533.

\(^{104}\) *Id.* Section 7 also provides protections through requirements for federal agencies. § 1536. Additionally, section 10 builds exceptions, permit programs, and conservation plans into the statutory scheme. § 1539.

\(^{105}\) § 1540(g).

\(^{106}\) See generally § 1533(a)–(b) (providing for listing of threatened or endangered species).

\(^{107}\) See § 1533(a) (1), (b) (3); Stan. Envtl. Law Soc’y, *supra* note 81, at 38–39.

\(^{108}\) § 1533(b) (3) (A); see Stan. Envtl. Law Soc’y, *supra* note 81, at 38–39.
(D) the inadequacy of existing regulatory mechanisms; or 
(E) other natural or manmade factors affecting its continued existence.\textsuperscript{108}

By declaring the species endangered, the relevant Service has decided that the species is “in danger of extinction throughout all or a significant portion of its range.”\textsuperscript{109} A threatened species is one that is “likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.”\textsuperscript{110}

In deciding whether to list a species, economic considerations are not to enter into the determination, as the purpose of listing is solely the preservation or recovery of the species.\textsuperscript{111} Indeed, Congress inserted the words “solely on the basis of the best scientific and commercial data available”\textsuperscript{112} to remove any other factors from consideration of listing.\textsuperscript{113} Species are not protected by the ESA until they have been listed, and any positive finding—a finding that a species should be listed as either endangered or threatened—is not reviewable by a court.\textsuperscript{114}

B. Section 9: Prohibition Against Take

1. Definitions and Hurdles

While the ESA provides some protection in section 7 through a requirement of consultation and study before most government actions might impact an endangered or threatened species,\textsuperscript{115} it is the

\textsuperscript{108} § 1533(a)(1).
\textsuperscript{109} § 1532(6).
\textsuperscript{110} § 1532(20).
\textsuperscript{112} § 1533(b)(1)(A). This is also reflected in USFWS regulations. See Factors for Listing, Delisting, or Reclassifying Species, 50 C.F.R. § 424.11(b) (2007).
\textsuperscript{114} Bldg. Indus. Ass’n v. Babbitt, 979 F. Supp. 893, 904 (D.D.C. 1997); Stan. Envtl. Law Soc’y, supra note 81, at 49; see § 1533(b)(3)(C)(ii) (“Any negative finding . . . shall be subject to judicial review.”). At the same time that USFWS determines a species is endangered or threatened, Congress requires a designation of a critical habitat for the species, to the “maximum extent prudent and determinable.” § 1533(a)(3).
\textsuperscript{115} See generally § 1536 (interagency cooperation); Stan. Envtl. Law Soc’y, supra note 81, at 78–103 (discussing section 7 requirements for federal agencies); Christopher H. M. Carter, Comment, A Dual Track for Incidental Takings: Reexamining Sections 7 and 10 of the Endangered Species Act, 19 B.C. Envtl. Aff. L. Rev. 135, 136 (1991).
Act’s section 9 that provides most of the bite for private citizens. \[116\] Section 9 prohibits any person to “take” endangered or threatened species, either within the United States or its territorial seas, or “upon the high seas.” \[117\] “Person” is broadly defined as any “individual, corporation . . . or any other private entity; or any officer [or] employee . . . of the Federal Government, of any State . . . or political subdivision . . . or . . . foreign government . . . subject to the jurisdiction of the United States.” \[118\]

“Take” is a somewhat unfortunate term, both because of occasional confusion with the concept of a Fifth Amendment “taking,” when both concepts are implicated in the same paper or pleading, \[119\] and because of how much is meant to be encompassed in just one short word. \[120\] As defined by the ESA, the provision forbids persons to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt” to do any such violence to an endangered species. \[121\] Regulations extend such protection to threatened species as well. \[122\]

The prohibition against take further protects endangered and threatened species through regulatory definition of the word “harm.” \[123\] While most of the other prohibited acts under “take” are more direct, “A does X to B” acts, like hunting or harassing, “harm” allows for a more attenuated causal connection between a person’s action and the effect on the species. \[124\] The Supreme Court, in its
Sweet Home decision, upheld the Department of the Interior’s regulation defining “harm” to include acts that “actually kill[] or injure[] wildlife . . . . Such act[s] may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.”\footnote{125} Indeed, the Court’s examination of Senate and House reports affirmed its interpretation that “take” ought to be defined to have the “broadest possible” meaning and effect.\footnote{126} Additionally, though the regulation seems to require evidence of death or injury, the U.S. District Court for the District of Hawaii found in Palila v. Hawaii Department of Land and Natural Resources (Palila II), that regulations do not first require a “finding of death to individual species members” before finding or acting on a take.\footnote{127}

If harm has not already occurred, a take can still be proven by demonstration of “a reasonable certainty of imminent harm.”\footnote{128} Following the Sweet Home decision, the Court of Appeals for the Ninth Circuit reaffirmed its Forest Conservation Council v. Rosboro Lumber Co. holding, stating that “a reasonably certain threat of future harm is sufficient to support a permanent injunction under the ESA.”\footnote{129} However, the Palila II court declined to require imminence, noting that all that is required is “[h]abitat destruction that prevents the recovery of the species by affecting essential behavioral patterns,” which, in turn,
causes actual injury to the listed species. The court emphasized that a showing of harm “does not require a decline in population numbers.” The court contended that, otherwise, such a wait-and-see attitude towards species extinction would be “shortsighted.”

2. Causation

The definition and interpretation of harm bring into question the traditional tort concept of causation, both cause-in-fact and proximate cause. ESA harm cases should generally be no different from a normal torts case in that—in addition to a harm and an action—one must show cause-in-fact as well as proximate cause linking the action to the harm. Cause-in-fact looks to see if a harm would be avoided, but for the actions of a defendant. Proximate cause, as in tort, is judged by the foreseeability harm arising from a given action. So long as the actions are not severed from the causal chain by the subsequent, intervening acts of a third party, a defendant can be held to have proximately caused the harm, leading to liability under the ESA.

C. Section 11 and Litigation Issues: Parties, Standing, Justiciability, and Injunction

Under section 11 of the ESA, “any person may commence a civil suit on his own behalf to enjoin any person . . . who is alleged to be in violation of . . . [the Act] or regulation issued under the authority thereof.” ESA suits commence in the federal district courts within

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130 649 F. Supp. at 1075.
131 Id. at 1077.
132 See id. at 1075; Stan. Envtl. L. Soc’y, supra note 81, at 112.
133 See Sweet Home, 515 U.S. at 697–98 (rejecting reading “directly” caused into the definition of harm); id. at 699 (characterizing as “strong” respondent Sweet Home’s arguments that “unforeseeable” harm would not violate the harm provision); id. at 708–09 (O’Connor, J., concurring) (limiting application of the harm provision to cases where proximate cause can be shown); see also Cheever, supra note 120, at 179–184.
134 See Sweet Home, 515 U.S. at 700 n.13; Stan. Envtl. L. Soc’y, supra note 81, at 109; Boudreaux, supra note 24, at 748–50; Ruhl, supra note 51, at 40.
137 See Bennett v. Spear, 520 U.S. 154, 168–69 (1997); Rasband, supra note 135, at 598.
138 Endangered Species Act, 16 U.S.C. § 1540(g)(1), (g)(1)(A) (2000). See Coggins, supra note 24, at 3 (“[T]he ESA so far has turned out to be a triumph for the rule of law as enforced through citizen suits by private attorneys general.”) In addition to this provision,
the judicial district of the alleged violation. A plaintiff must first give sixty days notice to the alleged violator and the appropriate Secretary before commencing suit. Despite these generous provisions, an action brought to an Article III court must also satisfy basic constitutional requirements, including standing and justiciability. As the case law shows, getting into court can be harder than it sounds.

1. Parties

Because of standing requirements discussed infra, choice of plaintiffs and defendants for ESA litigation must be delicately considered. Environmental groups like the Natural Resources Defense Council (NRDC) are reasonably successful at bringing suits alleging injury to members, both because of their extensive experience in such litigation and relatively high financial assets. Private citizens, naturalists, and scientists can also make good plaintiffs, in that they can easily demonstrate their aesthetic and scientific injuries. States have also gained wide standing rights in environmental suits. Because choice of plaintiffs is intricately bound up with the concept of injury as part of standing requirements, a separate section infra is devoted to this concept.

there are also two additional avenues for citizen enforcement, both of which would compel the relevant secretary to act, either under section 9 or section 4. See § 1540(g)(1)(B)–(C).

139 § 1540(g)(3)(A).
140 § 1540(g)(2)(A).
141 See U.S. Const. art. III, § 2 (ability to hear cases or controversies); § 1540(g) (penalties and enforcement, citizen suits); Massachusetts v. EPA, 549 U.S. 497, 516 (2007); Lujan v. Defenders of Wildlife, 504 U.S. 555, 560–61 (1992); Defenders of Wildlife v. Hodel, 851 F.2d 1035, 1038–39 (8th Cir. 1988).
143 See, e.g., Lujan, 504 U.S. at 562–64; Hawaiian Crow, 906 F. Supp. at 551–52; see also Stan. Envtl. L. Soc’y, supra note 81, at 203 (considering animal standing).
145 See Lujan, 504 U.S. at 562–64; see also discussion infra, Part II.C.2.a–c.
146 See generally Massachusetts v. EPA, 549 U.S. 497 (granting states wider standing in environmental suits).
147 See id.; discussion infra Part II.C.2.a.
The issue of choice of defendants is also bound up with the ideas of standing. In *Marbled Murrelet v. Babbitt*, the Ninth Circuit Court of Appeals reviewed a permanent injunction granted to an environmental organization against a forest-products company to prevent logging in an old-growth forest used by the marbled murrelet for nesting. Appellants argued that the district court had erred in finding a violation of the take provisions, since no logging had yet occurred, and therefore no harm had yet befallen the murrelet. The circuit court rejected this argument, saying the future harm to come from their logging was sufficient to support the take finding, since the destruction of habitat was a “reasonably certain threat of imminent harm” that would cause a disruption of essential behavioral patterns, including breeding, sheltering, and nesting.

2. Standing

As explained in *Lujan v. Defenders of Wildlife*, the Supreme Court has developed a three-part test to satisfy the standing requirement present in all civil suits, whether or not under the ESA. First, the plaintiff must establish injury in fact. A plaintiff must next show a causal nexus between her harms and the defendant’s conduct. Finally, a plaintiff must show that her injury is likely to be redressed by

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149 *Marbled Murrelet v. Babbitt*, 83 F.3d 1060, 1062 (9th Cir. 1996). *Forest Conservation Council v. Rosboro Lumber Co.* had previously held that the very purpose of the ESA required that injunction be available to prevent imminent threats of harm. 50 F.3d 781, 785 (9th Cir. 1995).
150 *Marbled Murrelet*, 83 F.3d at 1064 (noting appellants’ contention that *Sweet Home* required actual harm before a court could find a take to have occurred).
151 Id. at 1064–66 (citing Babbitt v. Sweet Home Chapter of Cmty. for a Great Or., 515 U.S. 694 (1994) and *Rosboro Lumber*, 50 F.3d at 781). Relatedly, in *American Electric Power Co.*, defendants—being sued to abate the public nuisance caused by their contribution to climate change—were a group of power companies, who together emit twenty-five percent of power industry emissions and a full ten percent of anthropogenic CO₂ emissions in the United States. 406 F. Supp. 2d at 268. Though the court dismissed the case for presenting a nonjudiciable political question, the choice of defendants was particularly well-made, because the group of defendants together allegedly contributes so significantly to the problem complained of. See id.; Brief for Plaintiffs-Appellants at 8, Connecticut v. Am. Elec. Power Co., No. 05-5104cv (2d Cir. Dec. 15, 2005); Complaint of State Plaintiffs at ¶¶ 2, 100, Connecticut v. Am. Elec. Power Co., No. 04 Civ. 5669 (S.D.N.Y. Jul. 21, 2004).
153 Id. at 560; see STAN. ENVTL. L. SOC’Y, supra note 81, at 206.
154 *Lujan*, 504 U.S. at 560.
the relief requested of the court. These requirements are in place to assure that sufficiently interested parties take part in suits to “ensure the proper adversarial presentation . . . .”

a. Injury in Fact

Plaintiffs must show particularized injury in fact, whether actual or imminent. Harms shared equally by a large number of the general public would not satisfy this requirement. However, Massachusetts v. EPA explained that, at least for State plaintiffs, a generalized, widespread harm would not preclude standing because, at the state level, such seemingly widespread harm—loss of wide swaths of coastal land—is actually a particularized injury to the state as a landowner. The Court also noted that the increasing severity of the injury over the next century could lead to severe economic injury in terms of remediation and protection costs.

In Lujan, plaintiff-naturalists claimed that they were injured by overseas harm to endangered species because they had once and would one-day again travel to visit the imperiled species. The Court found the alleged harm to lack the imminence of injury required, absent concrete plans that were or would be thwarted. That is, had the plaintiff-naturalists already bought plane tickets and planned itineraries including visiting the imperiled species, Justice Scalia suggested that this case could have come out the other way. The Ninth Circuit Court of Appeals has similarly ruled on visitor standing, holding in Idaho Farm Bureau Federation v. Babbitt that plaintiff-intervenors

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155 Id. at 561.
157 Lujan, 504 U.S. at 560.
158 Id. at 560–62; see Massachusetts v. EPA, 549 U.S. at 522.
159 Massachusetts v. EPA, 549 U.S. at 522 (“[W]here a harm is concrete, though widely shared, the Court has found injury in fact.”) (citing Fed. Election Comm’n v. Akins, 524 U.S. 11, 24 (1998)) (internal quotations omitted). Such coastal land is also piping plover habitat. See Endangered and Threatened Species, 50 C.F.R. § 17.11(h) (2007); Hecht et al., supra note 71, at 2, 6.
160 See Massachusetts v. EPA, 549 U.S. at 522.
161 Lujan, 504 U.S. at 563–64.
162 See id. at 564; STAN. ENVTL. L. SOC’y, supra note 81, at 206. But see Lujan, 504 U.S. at 582 (Stevens, J., concurring in judgment) (“[A] person who has visited the critical habitat of an endangered species has a professional interest in preserving the species and its habitat, and intends to revisit them in the future has standing to challenge agency action that threatens their destruction.”).
163 See Lujan, 504 U.S. at 564.
satisfy the injury-in-fact requirement “by showing that group members have direct contact with the environmental subject matter . . . ”.164

b. Causation

To satisfy standing, a plaintiff must next show a causal connection between her injury and the defendant’s conduct.165 Though this is not as stringent a requirement as the eventual proximate cause inquiry that a court must execute, the plaintiff must demonstrate that her injury is “fairly traceable” to the defendant’s actions.166 For example, the appellant lumber companies’ planned lumbering in Marbled Murrelet was fairly traceable to the injury complained of, namely that deforestation would harm the species’ breeding and sheltering—that is, deforestation would harm the species.167 At this early point in ESA litigation, plaintiffs need only show that there is a substantial likelihood that the harm is caused by the defendant’s actions.168

c. Redressability

Finally, a plaintiff must show that the relief requested will, to a significantly likely degree, ameliorate the injury complained of.169 Justice Scalia wrote for the plurality in Lujan that a requested injunction would have limited usefulness due to actors outside the reach of the Court, thus finding that plaintiffs lacked standing because of a failure of redressability.170 However, in a concurring opinion, Justice Stevens opined that, though the immediate harm would not necessarily be reached, the Court’s influence on agency heads would lead to influence internationally, as foreign projects would conform to the re-

164 Idaho Farm Bureau Fed’n v. Babbitt, 58 F.3d 1392, 1398 (9th Cir. 1995).
165 Lujan, 504 U.S. at 560–61. Traditionally, the Supreme Court dealt with both causation and the next requirement, redressibility, as one analysis. Erwin Chemerinsky, Constitutional Law: Principles and Policies 75–76 (3d ed. 2006). Originally, the Court considered that the purpose of the causation requirement was to make sure that any action taken to limit a defendant’s activities would actually redress the injury, thus conflating the two requirements. See id. Recent case law, however, suggests that they ought to be considered to be separate functions of the standing requirement, each deserving of its own inquiry. See id. (citing Allen v. Wright, 468 U.S. 737, 751 (1984)).
166 Bennett v. Spear, 520 U.S. 154, 168–69 (1997); Lujan, 504 U.S. at 560–61; STAN. ENVTL. L. SOC’Y, supra note 81, at 207.
167 Marbled Murrelet v. Babbitt, 83 F.3d 1060, 1062 (9th Cir. 1997).
168 STAN. ENVTL. L. SOC’Y, supra note 81, at 207 (citing Fla. Key Deer v. Stickney, 864 F. Supp. 1222, 1226 (S.D. Fla. 1994)).
169 See Massachusetts v. EPA, 549 U.S. 497, 525–26 (2007); Lujan, 504 U.S. at 561; STAN. ENVTL. L. SOC’Y, supra note 81, at 207–08.
170 Lujan, 504 U.S. at 568–71 (plurality opinion).
requirements of U.S. law in order to keep their American contracts. As such, Justice Stevens believed the plaintiff’s harms were redressible by the Court, and would have found that the plaintiffs had satisfied this prong of the standing requirements.

Massachusetts v. EPA highlighted the common-sense idea that, though a harm could not be completely redressed by the Court’s action, a plaintiff would not be barred from pursuing his suit. There, the Court held that though “regulating motor-vehicle emissions will not by itself reverse global warming, it by no means follows that we lack jurisdiction to decide whether EPA has a duty to take steps to slow or reduce it.” The Court held that though a complete amelioration is impossible, it could still offer relief from some portion of the harm. In fact, the Court concluded, “a plaintiff satisfies the redressability requirement when he shows that a favorable decision will relieve a discrete injury to himself. He need not show that a favorable decision will relieve his every injury.” Justice Stevens also eviscerated the EPA’s attempt to hide behind India and China, refuting its claim that because the newly industrialized countries will produce an increasing amount of greenhouse gases, regulation at home would do little to redress Massachusetts’s injury. Noting that “[a] reduction in domestic emissions would slow the pace of global emissions increases, no matter what happens elsewhere,” thus at least partially ameliorating the risk of “catastrophic harm” to the Massachusetts coast, the Court held that plaintiffs satisfied the redressability requirement.

3. Justiciability and the Political Question Doctrine

Environmental cases can implicate hard decisions in waters the courts despair of dipping their toes. Global warming cases in particular have, until recently, frightened the federal courts away from

171 See id. at 584–85 (Stevens, J., concurring in judgment).
172 See id. (Stevens, J., concurring in judgment).
173 See Massachusetts v. EPA, 549 U.S. at 525.
174 Id.
175 See id.
176 Id. (quoting Larson v. Valente, 456 U.S. 228, 244 n.15 (1982)).
177 See id at 525–26.
178 Id. at 526. It is important to note, though, that this opinion has muddied the waters slightly, because in its section on injury, the injury was the loss of coast line. See id. at 522–23. In its redressibility section, the Court speaks of the injury as the “risk of catastrophic harm,” not the harm itself. See id at 525–26.
coming to potentially far-reaching decisions, or have taken a back seat to more immediate, pressing interests.\textsuperscript{180} Though \textit{Massachusetts v. EPA} certainly seems to have put this issue to rest with regard to climate change, there is still the possibility that a suit involving climate change could trigger an argument that the suit presents a nonjusticiable political question.\textsuperscript{181}

The political question doctrine is steeped in the notion of separation of powers.\textsuperscript{182} When a question arises that is best left to the political branches because of their constitutionally granted authorities, general expertise, or fact-finding powers beyond those of the courts, the question is to be left to those branches to take up at their discretion.\textsuperscript{183} Though the Court in \textit{Baker v. Carr} set out a list of six instances where a political question may be implicated, only two are relevant here: “a lack of judicially discoverable and manageable standards for resolving [the suit]; [and] the impossibility of deciding without an initial policy determination of a kind clearly for nonjudicial discretion . . . .”\textsuperscript{184} These instances are relevant because they are the two most likely to exclude a climate change suit—whether under the ESA or otherwise—because of the far-reaching, economically tied causes and effects.\textsuperscript{185}

The Supreme Court has applied the political question doctrine in limited, discrete areas: “[T]he republican form of government clause and the electoral process, foreign affairs, Congress’s ability to regulate its internal processes, the process for ratifying constitutional amendments, \textit{instances where the federal court cannot shape effective equitable relief}, and the impeachment process.”\textsuperscript{186} The penultimate of these, “instances where the federal court cannot shape effective equitable relief,” is the

\begin{footnotesize}

\textsuperscript{181} See \textit{Massachusetts v. EPA}, 549 U.S. at 516; \textit{Am. Elec. Power Co.}, 406 F. Supp. 2d at 271–73.


\textsuperscript{183} See \textit{Baker}, 369 U.S. at 210–11; \textit{Chemerinsky}, \textit{supra} note 165, at 132.

\textsuperscript{184} \textit{Baker}, 369 U.S. at 217; see \textit{Am. Elec. Power Co.}, 406 F. Supp. 2d at 271–73. Though this list is often quoted in political question cases, scholars bemoan its limited usefulness. See \textit{Chemerinsky}, \textit{supra} note 165, at 131.


\textsuperscript{186} \textit{Chemerinsky}, \textit{supra} note 165, at 131 (emphasis added).
\end{footnotesize}
instance of the doctrine that climate change litigation would be most likely to implicate, as it did in one recent case.\textsuperscript{187} In Connecticut v. American Electric Power Co., several states, a city, and land trusts brought suit against major emitters of greenhouse gases to abate the public nuisance of global warming.\textsuperscript{188} The court, sitting essentially in equity, considered that it had to “strike a balance between interests seeking strict schemes to reduce pollution rapidly to eliminate its social costs and interests advancing the economic concern that strict schemes [will] retard industrial development with attendant social costs.”\textsuperscript{189} The court claimed that it could not commit such a balancing without first coming to an “initial policy determination” regarding the relative weight of those interests.\textsuperscript{190} Citing the defendants’ memorandum, the court noted several of the initial policy determinations that would need to be made by the court:

\begin{quote}
[G]iven the numerous contributors of greenhouse gases, should the societal costs of reducing such emissions be borne by just a segment of the electricity-generating industry and their industrial and other consumers?

Should those costs be spread across the entire electricity-generating industry (including utilities in the plaintiff States)? Other industries?

\ldots

What are the implications for the nation’s energy independence and, by extension, its national security?\textsuperscript{191}
\end{quote}

Additionally, the court seemed to implicate congressional and executive inaction, noting that statements made by executive and congressional officials regarding a policy of greenhouse gas reduction did not constitute clear statements of policy, as “policy is expressed by statutes not press releases.”\textsuperscript{192}


\textsuperscript{188} 406 F. Supp. 2d at 267.

\textsuperscript{189} Id. at 272 (quoting Chevron U.S.A., Inc. v. Natural Res. Def. Council, 467 U.S. 837, 847 (1984)).

\textsuperscript{190} Id.

\textsuperscript{191} Id. at 273; see also Chemerinsky, supra note 165, at 133 (“The argument is that in certain cases an effective remedy would require judicial oversight of day-to-day executive or legislative conduct.”).

\textsuperscript{192} Am. Elec. Power Co., 406 F. Supp. 2d at 274; Borissov, supra note 187, at 447. However, as this is a relatively stale case in light of Massachusetts v. EPA—and has since been appealed—it is possible that current congressional and executive hearings, statements, and
III. A Suit Enjoining an Increase in and Ordering a Reduction of CO\(_2\) Emissions Under Section 9 of the Endangered Species Act

The ESA is a powerful species-protection tool that can be used both prospectively to enjoin future harm, and retrospectively to halt prior and ongoing harm.\(^{193}\) Harm to endangered and threatened species is to be prevented without regard to cost of implementation or other balancing of conflicting policies.\(^{194}\) As such, local private citizens and naturalists should be able to successfully bring suit against those contributing to rapid anthropogenic climate change through the release of CO\(_2\) on the basis that such climate change harms or risks harming coastal threatened species—specifically, the western snowy plover and the piping plover—in the habitat-rich states of California, Oregon, Washington, and Massachusetts.\(^{195}\) The suit should seek both to enjoin increases in CO\(_2\) emissions caused by bringing online new dirty power plants or increasing production at existing even statutes could give a case based on the ESA’s sweeping take provisions and harms caused by climate change its day in court. See Energy Independence and Security Act of 2007, Pub. L. No. 110-140, 121 Stat. 1492 (codified in scattered sections of 2, 15, 40, 42, and 46 U.S.C.); Massachusetts v. EPA, 549 U.S. 497, 525–26 (2007); Am. Elec. Power Co., 406 F. Supp. 2d at 265. See generally Oversight Hearing, supra note 2 (providing testimony and congressmen’s statements regarding climate change); H.R. 6 Press Release, supra note 8 (containing President Bush’s remarks on a future “cleaner” nation). Massachusetts v. EPA also “attach[ed] considerable significance to EPA’s ‘agree[ment] with the President that “we must address the issue of global climate change,”’” suggesting a willingness to count executive and administration statements as declarations of policy. 549 U.S. at 526 (quoting Control of Emissions from New Highway Vehicles and Engines, Notice of Denial of Petition for Rulemaking, 68 Fed. Reg. 52,922, 52,929 (Sept. 8, 2003)).

\(^{193}\) See Marbled Murrelet v. Babbitt, 83 F.3d 1060, 1068 (9th Cir. 1996) (prospective); Palila II, 649 F. Supp. 1070, 1082–83 (D. Haw. 1986), aff’d, 852 F.2d 1106, 1110 (9th Cir. 1988) (retrospective and ongoing harm); Boudreaux, supra note 24, at 750–52 (“The teeth of the ESA’s section 9 . . . are found in its empowerment of plaintiffs to enjoin conduct before it occurs.”).


\(^{195}\) See § 1538(a)(1)(B); Lujan v. Defenders of Wildlife, 504 U.S. 555, 564–66 (1992); Marbled Murrelet, 83 F.3d at 1064; Idaho Farm Bureau Fed’n v. Babbitt, 58 F.3d 1392, 1395, 1398 (9th Cir. 1995); Forest Conservation Council v. Rosboro Lumber Co., 50 F.3d 781, 785 (9th Cir. 1995); Endangered and Threatened Wildlife and Plants, 50 C.F.R. § 17.3 (2007) (definition of “harm”); § 17.11(h) (listing range of threatened western snowy plovers as Pacific Coast; range of threatened piping plovers as Atlantic Coast); STAN. ENVTL. L. Soc’y, supra note 81, at 202–04 (discussing bringing suit and categories of causes of action). There are likely as many such ESA suits as there are coastal endangered or threatened animal species. See 50 C.F.R. § 17.11(h); discussion infra Parts III.A–D.
plants, and order a reduction in such emissions by the defendant power-producers throughout the United States.\footnote{196 See Connecticut v. Am. Elec. Power Co., 406 F. Supp. 2d 265, 268–69 (S.D.N.Y. 2005); Oversight Hearing, supra note 2, at 62 (statement of Bill McKibben) (regarding 150 new coal-fired power plants in some stage of development in the United States); STAN. ENVTL. L. SOC’Y, supra note 81, at 109 (discussing the form of an ESA case based on the harm vein of the take provisions); Boudreaux, supra note 24, at 750–52.}

A. Parties to the Litigation

Such a suit, under the take provisions of section 9 and citizen suit provisions of section 11 of the ESA\footnote{197 §§ 1538(a)(1)(B), 1540(g)(1)(A) (respectively).} could have a number of plaintiffs, as well as myriad defendants.\footnote{198 See, e.g., Massachusetts v. EPA, 549 U.S. 497, 522 (2007); Green Mountain Chrysler Plymouth Dodge Jeep v. Crombie, 508 F. Supp. 2d 295, 300–01 (D. Vt. 2007); Am. Elec. Power Co., 406 F. Supp. 2d at 268–69.} Private individuals, particularly those studying or accustomed to observing the plovers, are especially well-positioned to act as plaintiffs.\footnote{199 See Lujan, 504 U.S. at 582 (Stevens, J., concurring) (suggesting that visitors of threatened wildlife could be plaintiffs in an ESA suit); Idaho Farm Bureau, 58 F.3d at 1395, 1397–99 (holding a group of intervenors could show injury based in living in the state of the species, visiting the specific area of the species, or studying the species); STAN. ENVTL. L. SOC’Y, supra note 81, at 206–07 (citing Idaho Farm Bureau). Though states—for example California, Oregon, Washington, and Massachusetts—could also make good plaintiffs, as could environmental or bird watcher organizations, this Note will focus on taking advantage of many similarly situated local, private attorneys general. See Massachusetts v. EPA, 549 U.S. at 522–23 (state standing in climate change suit); Lujan, 504 U.S. at 564 (citizen suits); Nw. Envtl. Advocates v. Nat’l Marine Fisheries Serv., 460 F.3d 1125, 1161–62 (9th Cir. 2006) (conservation organizations); NRDC v. Kempthorne I, 506 F. Supp. 2d 322, 328–29 (E.D. Cal. 2007); 50 C.F.R. § 17.11(h); see also NRDC: Our Conservation Victories, supra note 144.} Thus, birdwatchers, habitat-visitors, and naturalists should join the suit, both in the west-coast habitats of the snowy plover and in the Massachusetts habitat of the piping plover.\footnote{200 See Lujan, 504 U.S. at 562; Idaho Farm Bureau, 58 F.3d at 1398; 50 C.F.R. § 17.11(h); HECHT ET AL., supra note 71, at 6–7; HORNADAY ET AL., supra note 71, at 7–8.}

As power generation accounts for much of the CO₂ expelled into the atmosphere,\footnote{201 Green Mountain Chrysler, 508 F. Supp. 2d at 309; IPCC Report, supra note 2, at 4–5.} utility companies are an obvious target of this type of litigation.\footnote{202 See, e.g., Am. Elec. Power Co., 406 F. Supp. 2d at 268–69.} Targeting groups of power producers that generate a
large share of the nation’s energy and, therefore, CO₂ emissions, would allow plaintiffs to draw connections to the destructive harm occurring on the coasts, where the effects are particularly pronounced.²⁰³

B. Allegations, Remedies Requested, Venue and Jurisdiction

In bringing a suit under sections 9 and 11 of the ESA, plaintiffs will have to allege a take of endangered or threatened species, specifically, the western snowy plover and the piping plover.²⁰⁴ For purposes of this suit, the term “take” should focus on its definition as “harm” to an endangered or threatened species.²⁰⁵ Harm, as defined by regulation and confirmed by Supreme Court and circuit court decisions, means “an act which actually kills or injures wildlife.”²⁰⁶ The suit should focus on “harm” where acts “include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.”²⁰⁷

Specifically, plaintiffs should allege that actions taken by defendant power companies have constituted a take of threatened plover species, since by their contribution to anthropogenic climate change and resulting sea-level rise, these companies have harmed, or threaten imminent harm to, the plovers by significantly impairing their ability

²⁰³ See id.; Oversight Hearing, supra note 2, at 62 (statement of Bill McKibben); IPCC Report, supra note 2, at 4–5; Complaint of State Plaintiffs at ¶¶ 98–100, Connecticut v. Am. Elec. Power Co., No. 04 Civ. 5669 (S.D.N.Y. Jul. 21, 2004); see also Hecht et al., supra note 71, at 2, 6; Hornaday et al., supra note 71, at 2, 7–8. Whether automobile and truck manufacturers could be added to the suit, or whether Congress’s recent regulation constitutes an occupation of the field that could trigger a nonjusticiable political question is not considered in this Note. See Energy Independence and Security Act of 2007, Pub. L. No. 110-140, 121 Stat. 1492 § 102(b)(2) (codified in scattered sections of 2, 15, 40, 42, and 46 U.S.C.) (setting corporate average fuel economy standards at thirty-five miles per gallon by model-year 2020); Baker v. Carr, 369 U.S. 186, 217 (1961) (“[T]extually demonstrable constitutional commitment of the issue to a coordinate political department” yields a nonjusticiable political question.); Chemerinsky, supra note 165, at 131, 147–48 (discussing a limit on judicial oversight under the political question doctrine where review would unnecessarily interfere with the political branches’ powers).


²⁰⁵ See § 1532(19); Oversight Hearing, supra note 2, at 91–92 (statement of Dr. Ken Caldeira); 50 C.F.R. § 17.11(h); IPCC Report, supra note 2, at 9, 12.

²⁰⁶ 50 C.F.R. § 17.3 (definitions); see Babbitt v. Sweet Home Chapter of Cmty’s. for a Great Or., 515 U.S. 687, 704–05 (1995); Palila II Aff., 852 F.2d 1106, 1110–11 (9th Cir. 1988).

²⁰⁷ See 50 C.F.R. § 17.3 (definition of “harm”) (emphasis added).
to breed, feed, or shelter in their traditional habitats.\textsuperscript{208} Inundation of traditional plover habitat on both coasts by rising waters, coupled with shorelines so developed as to prevent adequate adaptation, will destroy plover habitat, thus injuring their ability to breed, feed, and shelter.\textsuperscript{209}

To help avoid such a fate for the threatened plovers, plaintiffs should request an injunction against the defendant power companies requiring them to reduce their CO\(_2\) emissions.\textsuperscript{210} Such an injunction would include an order not to increase power production from high-CO\(_2\)-emitting plants, and also a prohibition against bringing new coal-powered plants online, as both of these would continue to fuel anthropogenic climate change, harming the coastal plovers.\textsuperscript{211}

\begin{footnotesize}
\textsuperscript{208} See 16 U.S.C. § 1538(a)(1)(B); Sweet Home, 515 U.S. at 704–05; Forest Conservation Council v. Rosboro Lumber Co., 50 F.3d 781, 785 (9th Cir. 1995); \textit{Palila II}, 649 F. Supp. 1070, 1075–76 (D. Haw. 1986), aff’d, 852 F.2d 1106 (9th Cir. 1988); \textit{Oversight Hearing}, supra note 2, at 91–92 (statement of Dr. Ken Caldeira); 50 C.F.R. § 17.3; \textsc{Hecht et al.}, supra note 71, at 6, 11 (noting coastal habitat between dunes and high-tide line for sheltering and breeding, and intertidal beaches and wrack-lines for feeding); \textit{IPCC Report}, supra note 2, at 9, 12.

\textsuperscript{209} See Massachusetts v. EPA, 549 U.S. 497, 522–23 (2007) (noting the concrete harm of loss of coastal land); \textit{Oversight Hearing}, supra note 2, at 92 (statement of Ken Caldeira) (noting that the built-up coasts leave coastal ecosystems no retreat from the pounding surf); 50 C.F.R. § 17.11(h) (listing piping plover’s habitat in coastal Atlantic states); \textsc{Hecht et al.}, supra note 71, at 2, 6.

\textsuperscript{210} See \textsc{Connecticut v. Am. Elec. Power Co.}, 406 F. Supp. 2d 265, 270 (S.D.N.Y. 2005) (discussing the request for an injunction to abate a public nuisance, which was not decided because of the political question doctrine); \textsc{Stan. Envtl. L. Soc’y}, supra note 81, at 213–15 (citing \textit{Hill v. TVA}, 437 U.S. 153 (1978); \textit{Sierra Club v. Marsh}, 816 F.2d 1376, 1383 (9th Cir. 1987)).

\textsuperscript{211} See \textit{Oversight Hearing}, supra note 2, at 91–92 (statement of Dr. Ken Caldeira); \textsc{Hecht et al.}, supra note 71, at 2, 6; \textsc{Hornaday et al.}, supra note 71, at 2, 7–8; \textsc{Stan. Envtl. L. Soc’y}, supra note 81, at 213–15; \textit{IPCC Report}, supra note 2, at 9, 12. Whether plaintiffs could successfully also obtain a preliminary injunction to so enjoin defendants while the suit makes its way through the courts is outside the scope of this Note.

Additionally, there is a question of venue in such a suit: though plaintiffs are explicitly authorized to bring suit under the ESA in Federal District Court, the ESA allows suit in whichever district a harm occurs. See 16 U.S.C. § 1540(c), (g)(3)(A) (“Any suit under this subsection may be brought in the judicial district in which the violation occurs.”) (emphasis added). Since the Ninth Circuit Court of Appeals arguably has the most experience with ESA harm cases, and an enormous portion of the Pacific coast western snowy plover’s habitat falls within that circuit, it would behoove the plaintiffs to file suit in a California District Court. See § 1540(g)(3)(A); 50 C.F.R. § 17.11(h); \textsc{Hornaday et al.}, supra note 71, at 2, 7–8; \textsc{Boudreaux}, supra note 24, at 750–51. See \textit{generally Bennett v. Spear}, 520 U.S. 154 (1997) (Oregon); \textsc{Nw. Envtl. Advocates v. Nat’l Marine Fisheries Serv.}, 460 F.3d 1125 (9th Cir. 2006) (Washington); \textsc{Marbled Murrelet v. Babbitt}, 83 F.3d 1060 (9th Cir. 1996) (California); \textit{NRDC v. Kempthorne I}, 506 F. Supp. 2d 322 (E.D. Cal. 2007) (California). Whether this could open the suit to being split—with Massachusetts and claims relating to the pip-
C. Standing of the Plaintiffs

Plaintiffs should be able to satisfy standing to survive early motions to dismiss based on a lack of subject matter jurisdiction. As discussed supra, this will include alleging (1) injury in fact; (2) a causal nexus between that injury and the defendant’s actions; and (3) a significant likelihood that the injury complained of would be redressed by the relief requested.

1. Injury in Fact

The plaintiffs to this suit should have little difficulty showing injury in fact, both ongoing and imminent. A warming, rising sea is and will continue to inundate plover habitat, thus reducing the species’s ability to breed, feed, and shelter, potentially injuring individual specimens and the species’s ability to propagate a new brood.

Local, private birdwatchers or other conservationists should be able to show injury under Lujan. As the Lujan Court states, “the desire to use or observe an animal species, even for purely esthetic purposes, is undeniably a cognizable interest for purpose of standing.” Here, this “cognizable interest” would be observation or conservation of the threatened animal; as such, harm to the animal through habitat destruction directly thwarts this interest. To be sure to avoid the problem of the plaintiffs in Lujan—that is, failing to show imminent injury because of a lack of concrete plans to visit the endangered spe-

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214 See Massachusetts v. EPA, 549 U.S. at 522–23; Oversight Hearing, supra note 2, at 91–92 (statement of Dr. Ken Caldeira); Endangered and Threatened Species, 50 C.F.R. § 17.11(h) (2007); IPCC Report, supra note 2, at 9, 12.
215 See 50 C.F.R. § 17.3 (defining “harm” as an act that injures wildlife by “significantly impairing . . . breeding, feeding or sheltering”); Oversight Hearing, supra note 2, at 49 (statement of Dr. J. Christopher Haney) (“Projections of sea level rise from global warming range from 7 to 23 inches over the next century . . . .”); Hecht et al., supra note 71, at 2, 6; Hornaday et al., supra note 71, at 2, 7–8; IPCC Report, supra note 2, at 1, 9 (“Rising sea level is consistent with warming . . . .”).
216 See 504 U.S. at 564; Chemerinsky, supra note 165, at 69–70.
217 504 U.S. at 562–63.
218 See id.; Oversight Hearing, supra note 2, at 49 (statement of Dr. J. Christopher Haney); 50 C.F.R. § 17.11(h).
cies—the individuals should be locally based, with a documented history of visiting the plovers and a definite, demonstrable plan to continue doing so, but for their injury.\textsuperscript{219} Furthermore, as coastal Californians ostensibly enjoy the aesthetics of their rugged coast, with the various animals inhabiting the intertidal and dune zones, such people as plaintiffs should be able to show that an inundation of these zones harms their aesthetic enjoyment of plovers in their habitat.\textsuperscript{220}

Defendants’ best argument against Plaintiffs’ standing here is an argument against the alleged injury itself as harm comprising a take.\textsuperscript{221} That is, Defendants would likely argue that there is not yet documented harm or death to the plovers, and that, as such, no take could be committed and no injury to the Plaintiffs is possible.\textsuperscript{222} However, as \textit{Palila v. Hawaii Department of Land and Natural Resources (Palila II)} reminds us, no actual finding of death or even imminent harm is required to find harm, or therefore, a take.\textsuperscript{223} Thus, Plaintiffs ought to be able to show injury in fact, based on the pending or current harm to the plovers as their habitat is inundated, and they are prevented or hindered in breeding, feeding, or sheltering.\textsuperscript{224}

2. Causation

The various plaintiffs should also be able to show that their injuries are fairly traceable to the actions of the defendant power companies.\textsuperscript{225} The defendant power companies burn various fossil fuels to provide electricity.\textsuperscript{226} As Dr. Ken Caldeira noted in his statement to

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\item \textsuperscript{219} See \textit{Lujan}, 504 U.S. at 563–64.
\item \textsuperscript{220} See \textit{id.} at 562–64, 582 (Stevens, J., concurring); Idaho Farm Bureau Fed’n v. Babbitt, 58 F.3d 1392, 1395, 1397–99 (9th Cir. 1995) (injury based on living in the state of the species and visiting the specific area of the species, or studying the species); \textit{Hecht et al., supra} note 71, at 2, 6; \textit{Hornaday et al., supra} note 71, at 2, 7–8.
\item \textsuperscript{221} \textit{Babbitt v. Sweet Home Chapter of Cmtys. for a Great Or.}, 515 U.S. 687, 697–98 (1995); 50 C.F.R. § 17.3 (definitions).
\item \textsuperscript{222} See \textit{Sweet Home}, 515 U.S. at 697–98.
\item \textsuperscript{223} 649 F. Supp. 1070, 1075 (D. Haw. 1986), aff’d, 852 F.2d 1106 (9th Cir. 1988).
\item \textsuperscript{224} See \textit{Sweet Home}, 515 U.S. at 697–98; \textit{Palila II}, 649 F. Supp. at 1075; 50 C.F.R. § 17.3; \textit{Hecht et al., supra} note 71, at 2, 6; \textit{Hornaday et al., supra} note 71, at 2, 7–8; \textit{Stan. Envtl. Law Soc’y, supra} note 81, at 109–10.
\item \textsuperscript{225} See \textit{Massachusetts v. EPA}, 549 U.S. 497, 523–24 (2007) (“EPA does not dispute the existence of a causal connection between man-made greenhouse gas emissions and global warming.”); \textit{Oversight Hearing, supra} note 2, at 62 (statement of Bill McKibben); \textit{id.} at 90 (statement of Dr. Ken Caldeira); \textit{IPCC Report, supra} note 2, at 4–6.
\item \textsuperscript{226} Green Mountain Chrysler Plymouth Dodge Jeep v. Crombie, 508 F. Supp. 2d 295, 339 (D. Vt. 2007) (“Vermont . . . participat[es] in the Regional Greenhouse Gas Initiative . . . an agreement among nine Northeast and mid-Atlantic states to adopt a regional cap and trade program for \textit{GHG emissions associated with large stationary sources such as power
Congress, “[w]hen we burn coal, oil or gas, we release carbon dioxide into the atmosphere.”\textsuperscript{227} This, in turn, causes sea level rise through thermal expansion of the water itself and the melting of terrestrial ice sheets due to global warming.\textsuperscript{228} Such sea level rise causes the direct harm to plovers and inundates the coastlines, and as such is fairly traceable to the plaintiffs’ injuries.\textsuperscript{229}

Defendants would likely argue that it is not merely their emissions that contribute to the plaintiffs’ injuries, but rather all emitters world-wide.\textsuperscript{230} However, both the Supreme Court and the U.S. District Court for the District of Vermont have declared that even incremental steps to alleviate a harm are sufficient to support the requisite causal nexus for standing.\textsuperscript{231} Since power producers make a “meaningful contribution to greenhouse gas concentrations and hence . . . to global warming,” and since such warming causes the sea-level rise that causes the injuries that plaintiffs complain of, plaintiffs should be able to demonstrate a fairly traceable nexus.\textsuperscript{232}

\textsuperscript{227} Oversight Hearing, supra note 2, at 90 (statement of Dr. Ken Caldeira).

\textsuperscript{228} Id. at 64 (statement of Bill McKibben) (“[T]he natural world was fairly well balanced for carbon before the injection of anthropogenic CO\(_2\) . . . .”); id. at 91–92 (statement of Dr. Ken Caldeira) (predicting sea-level rise due to thermal expansion and melting ice sheets); IPCC Report, supra note 2, at 1 (“Rising sea level is consistent with warming . . . .”); see discussion supra Part I.B.2.

\textsuperscript{229} See Massachusetts v. EPA, 549 U.S. at 523–26; Bennett v. Spear, 520 U.S. 154, 168–69 (1997); Oversight Hearing, supra note 2, at 90–92 (statement of Dr. Ken Caldeira).

\textsuperscript{230} See, e.g., Massachusetts v. EPA, 549 U.S. at 525–26; Am. Elec. Power Co., 406 F. Supp. 2d at 273 (regarding segment of power industry bearing costs of global emissions); Oversight Hearing, supra note 2, at 90 (statement of Dr. Ken Caldeira).

\textsuperscript{231} Massachusetts v. EPA, 549 U.S. at 525–26 (“[The EPA’s] argument rests on the erroneous assumption that a small incremental step, because it is incremental, can never be attacked in a federal judicial forum.”); Green Mountain Chrysler, 508 F. Supp. 2d at 309 (“Moreover, the Court noted the legitimacy of small and incremental regulatory steps . . . .”) (citing Massachusetts v. EPA, supra). Though Green Mountain Chrysler speaks of regulation of auto emissions, the point remains valid for incremental steps and impacts. The Supreme Court noted that auto emissions represent less than one-third of the nation’s CO\(_2\) emissions, which alone would place the United States behind only Europe and China in terms of emissions; U.S. power plant emissions represent fully ten percent of worldwide anthropogenic emissions of all kinds. Massachusetts v. EPA, 549 U.S. at 524–26; Am. Elec. Power Co., 406 F. Supp. 2d at 268. Additionally, though the Massachusetts v. EPA Court attached significant importance to EPA being an agency, and therefore accustomed to working incrementally, there is no reason to believe that the power production industry couldn’t be expected to decrease its emissions company-by-company, thus achieving a similar incremental effect. See 127 S. Ct. at 1457–58; Am. Elec. Power Co., 406 F. Supp. 2d at 268.

\textsuperscript{232} See Massachusetts v. EPA, 549 U.S. at 524–25.
3. Redressibility

Plaintiffs to this suit should also be able to satisfy the final requirement for standing, that of redressibility.\textsuperscript{233} They will be able to show that their injuries will be redressed by the relief requested.\textsuperscript{234}

Specifically, the plaintiffs’ injuries—imminent harm to plover habitats from a rise in sea level caused by climate change—could be redressed—avoided or mitigated—by preventing additional coal-burning plants from coming online and requiring a diminution in carbon emissions from defendant power companies.\textsuperscript{235} Though all sources of CO\textsubscript{2} are in some way contributing to the rise in sea level—and as such defendant power companies are not alone in their contribution—the requested injunction need not \textit{reverse} climate change.\textsuperscript{236} As the \textit{Massachusetts v. EPA} Court explained, a favorable decision need not relieve a plaintiff’s “every injury.”\textsuperscript{237} The Court found that, as here, the relief requested would “to some extent” reduce the very real harm done to petitioners, both the already-extant rise in sea levels inundating the Massachusetts coast and the “risk of catastrophic harm.”\textsuperscript{238} That regulation of CO\textsubscript{2} would not “solve” global warming and the resulting catastrophic coastal injuries did not preclude finding redressibility.\textsuperscript{239} Here, then, there is no reason to preclude standing because the requested injunction would not cease all or most CO\textsubscript{2} emission.\textsuperscript{240}

\textbf{D. No Political Question Presented}

This case should not be barred under the political question doctrine as in \textit{Connecticut v. American Electric Power Co.}, because the plaintiffs would not be asking the court to make an initial policy decision, as warned against in \textit{Baker v. Carr}.\textsuperscript{241} In \textit{American Electric Power Co.}, the

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\item \textsuperscript{233} \textit{See id.} at 525–26.
\item \textsuperscript{234} \textit{See id.; Stan. Envtl. L. Soc’y, supra} note 81, at 207–09.
\item \textsuperscript{235} \textit{See Massachusetts v. EPA}, 549 U.S. at 525–26.
\item \textsuperscript{236} \textit{See id.}
\item \textsuperscript{237} \textit{Id.} (quoting Larson v. Valente, 456 U.S. 228, 244 n.15 (1982)).
\item \textsuperscript{238} \textit{Id.} ("[T]he rise in sea levels associated with global warming has already harmed and will continue to harm Massachusetts. The risk of catastrophic harm, though remote, is nevertheless real. That risk would be reduced to some extent if petitioners received the relief they seek.").
\item \textsuperscript{239} \textit{Id.}
\item \textsuperscript{240} \textit{See id.} The Court also found it particularly relevant that EPA had already noted the pressing concerns of global warming, and its support of voluntary emission-reduction programs to strengthen its decision that EPA could redress the problem. \textit{Id.}
\item \textsuperscript{241} \textit{See Baker v. Carr}, 369 U.S. 186, 217 (1962) (listing six criteria which may trigger a finding of a nonjudiciable political question); \textit{Connecticut v. Am. Elec. Power Co.}, 406 F.
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court decided that it could not consider the case because it would be forced to balance economic, environmental, foreign policy, and national security interests, deciding that such balancing implicated the political question doctrine.\textsuperscript{242} Under the ESA, however, no such balancing is supposed to take place.\textsuperscript{243} In passing the ESA, Congress made clear that “the balance has been struck in favor of affording endangered species the highest of priorities . . . .”\textsuperscript{244} As such, the balance that the Southern District of New York feared it was unable to strike in \textit{American Electric Power Co.} has been clearly struck in favor of endangered or threatened species.\textsuperscript{245} Therefore, no initial policy determination as to the priority given defendant power companies versus the plaintiffs and the threatened plovers is required.\textsuperscript{246} The case should therefore not be barred as a nonjusticiable political question.\textsuperscript{247}

Defendants could also argue that such a determination unduly interferes with the coordinate branches of the government, making the far-reaching policy decisions based on the ESA outside of its Article III powers.\textsuperscript{248} Plaintiffs should respond that the court is merely

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\textsuperscript{244} \textit{Hill}, 437 U.S. at 194.

\textsuperscript{245} \textit{Id.}; \textit{Am. Elec. Power Co.}, 406 F. Supp. 2d at 274.


\textsuperscript{248} \textit{See U.S. Const.} art. III; \textit{Am. Elec. Power Co.}, 406 F. Supp. 2d at 274.
deciding a case, its particularized result impacting only the parties to the matter.249 Defendants, through their lobby, would then be at their leisure to petition the administration to equalize the rest of the industry’s emissions with their own.250

E. Causation Satisfiable

After passing all of the constitutional hurdles to bring the suit, plaintiffs still need to show that the defendant power producers’ actions are both the actual and the legal cause of their injuries.251 Traditionally, plaintiffs would need to show that, but for the defendants’ actions, the harm to plovers—destruction of the plovers’ habitat through coastal inundation caused by sea-level rise—would not occur.252 However, *Massachusetts v. EPA* acknowledges that even a preliminary, tentative step toward remediation exposes links in the causal chain and therefore traces the harm to the defendant.253 Thus, in a case involving plovers, the fact that but for Defendant’s actions, harm would still befall the plovers does not necessarily defeat cause-in-fact, as some movement toward remediation is sufficient.254

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249 See U.S. Const. art. III; Chemerinsky, *supra* note 165, at 75 (discussing redressibility as having the desired impact on the parties); Borissov, *supra* note 187, at 445 (“[A] judicial determination of whether defendants’ [CO₂] emissions amount to an unreasonable interference with a public right does not impinge upon the executive or legislative branches. Such a decision would apply only to the specific parties in the case, and any relief would likewise be limited.”).


251 See Babbitt v. Sweet Home Chapter of Cmty’s for a Great Or., 515 U.S. 687, 697–98 (1995); id. at 708–09 (O’Connor, J., concurring) (limiting application of the harm provision to cases where proximate cause can be shown); see also Cheever, *supra* note 120, at 179–84.

252 See Rasband, *supra* note 135, at 599.

253 See *Massachusetts v. EPA*, 549 U.S. 497, 523–24 (2007) (discussing even incremental contribution to climate change as sufficiently traceable to defendants and justiciable as cause-in-fact). Though this discussion was in relation to agency action, which moves incrementally by nature, it is not at all inappropriate to bring this interpretation to ESA citizen suits, where citizens are encouraged to act as private attorneys general. See Stan. Envtl. L. Soc’y, *supra* note 81, at 202 (citing Bennet v. Spear, 520 U.S. 154, 164 (1997)). But see Polar Bear Press Release, *supra* note 10, at 6 (noting that USFWS Director Dale Hall is to issue guidance to his staff that “the best scientific data available today cannot make a causal connection between harm to listed species or their habitats and greenhouse gas emissions from a specific facility, or resource development project or government action.”) (emphasis added). Since the action proposed in this Note speaks of aggregate CO₂ emissions from several power producers, and not from a “specific facility,” Director Hall’s guidance is probably only mildly relevant. See id.; *supra* Part III.A.

Furthermore, the take of the plovers through the harm to their habitats is a foreseeable consequence of defendants’ actions in contributing to climate change through their CO₂ emissions from power production, thus also satisfying the proximate cause requirement. While defendants may be able to argue—perhaps straight-facedly—that current sea level rise was not a foreseeable consequence of CO₂ emissions because of ongoing debate over causes of climate change and attendant environmental effects, they will be hard-pressed to argue that bringing additional coal-burning plants online, increasing production, or failing to reduce CO₂ output will not foreseeably contribute to sea level rise. As such, plaintiffs should be able to show defendants’ actions are proximate causes of the harm befalling coastal plover habitat.

Conclusion

A suit under the ESA with the intent of limiting CO₂ emissions is an admittedly crude tool that would require a liberal activist court to succeed fully. Surely, the political branches should take real action to force reduction in emissions of all greenhouse gases. While we have seen some small steps towards this goal, our politically responsible national leaders must do more if they are to prevent widespread harm to this and other countries. Since the political branches have not yet done so, the ESA provides ample opportunity for citizen attorneys general who are serious about combating causes of the very real, very imminent scourges of anthropogenic climate change.

255 See Sweet Home, 515 U.S. at 700 n.13; Oversight Hearing, supra note 2, at 62 (statement of Bill McKibben); id. at 90–92 (statement of Dr. Ken Caldeira); IPCC Report, supra note 2, at 1, 9; Stan. Envtl. L. Soc’y, supra note 81, at 109; Boudreaux, supra note 24, at 748–50; Rasband, supra note 135, at 598–99; supra Part III.C.1.


257 See Massachusetts v. EPA, 549 U.S. at 516–19; Oversight Hearing, supra note 2, at 62 (statement of Bill McKibben); id. at 90–92 (statement of Dr. Ken Caldeira); Hecht et al., supra note 71, at 2, 6; Hornaday et al., supra note 71, at 2, 7–8; IPCC Report, supra note 2, at 1, 9.